

Alexander von Humboldt
From the Americas
to the Cosmos

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The Graduate Center, The City University of New York

Cataloging-in-Publication Data

Alexander von Humboldt: From the Americas to the Cosmos, 2005—
Raymond Erickson, Mauricio A. Font, and Brian Schwartz, coordinators.
Selected papers, Humboldt Bicentennial: An Interdisciplinary Conference
October 14-16, 2004, The Graduate Center, CUNY. New York: Bildner
Center for Western Hemisphere Studies, rev. ed. 2017.

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Acknowledgments

The Bildner Center for Western Hemisphere Studies is grateful to the many individuals and organizations who were involved in this online publication as well as in the international symposium on which it is based—"Alexander von Humboldt: From the Americas to the Cosmos," held at The Graduate Center of the City University of New York on Oct. 14-16, 2004. We thank all contributors and participants for their papers and comments, as well as for their patience in the effort to convert the conference proceedings to publishable form. Neither the conference nor the publication would have been possible without the generous support of the Alexander von Humboldt Foundation, the German Academic Exchange Service (DAAD), Mr. Albert Bildner, the German Consulate in New York, the Consulate General of Mexico, the General Consulate of Venezuela in New York, the Festo Corporation, Pontificia Universidad Católica del Perú, the Goethe Institute and Dr. Sylvia Kahan. Many within the City University of New York system also played important roles in the success of the endeavor, especially the Office of the Dean of Arts and Humanities at Queens College, the Office of the President at Queens College, the Aaron Copland School of Music at Queens College and the Ph.D./D.M.A. Program in Music at The Graduate Center. Special thanks goes to Dr. Brian Schwartz and the CUNY Office of Sponsored Programs for their gracious assistance. Also deserving of great thanks are the singers and instrumentalists of the Aaron Copland School of Music at Queens College and the Doctor of Musical Arts program at the CUNY Graduate Center who, under the directorship of Maestro James John, performed the American premiere of the Mendelssohn cantata commissioned by Humboldt.

The staff at the Bildner Center also played an enormous role in the successful execution of the conference and publication. Danielle Xuereb coordinated the conference with a steadfast hand, and she artfully performed the tasks of layout and design. Scott Larson put in countless hours organizing the conference and editing these texts. Interns Michael Landis, Steve Perez and Carlene Buchanan helped insure the smooth running of the conference, and Sandra Black was instrumental in the early stages of putting it on track.

This online publication and the conference on which it was based advance the Bildner Center's mission of bringing together scholars, policy makers, civil society leaders and others to further understanding and policy-oriented research concerning the governance, security and economic well-being of peoples in the Americas. In that spirit, the authors are responsible for their own views; their positions do not necessarily represent those of the Bildner Center. Our hope is that by offering different views, by confronting theory

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with evidence, the Bildner Center can help shed light on key issues of our times.

Mauricio A. Font

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Preface

In 1804, Alexander von Humboldt concluded a five-year journey of exploration and discovery through South America, New Spain (Mexico) and Cuba with a visit to the United States at the invitation of President Thomas Jefferson. This extraordinary expedition thrust Latin America into the Old World's imagination and established Humboldt as the most famous explorer of modern times. From October 14-16, 2004, 127 scholars and Humboldt enthusiasts from 14 countries gathered at The Graduate Center of the City University of New York to commemorate the bicentennial of this momentous journey and to celebrate the remarkable legacy of an extraordinary human being.

Hosted by the Bildner Center for Western Hemisphere Studies, the three-day celebration featured a multidisciplinary conference at which 89 scholarly papers were presented; the American premiere of "Begrüssung" ("Greeting"), a cantata Humboldt commissioned from the 18-year-old Felix Mendelssohn-Bartoldy for the opening of a scientific conference in Berlin in 1828; a series of films on exploration and discovery in the Americas; and the first performance of 'Wide World,' a play written by Lauren Gunderson and commissioned specifically for the event. Among the distinguished Humboldt scholars to participate were Ottmar Ette, chair of the Romance Literature Department at the University of Potsdam; Manfred Osten, retired Secretary General of the Alexander von Humboldt Foundation; Jaime Labastida, author of *Humboldt: Ciudadano Universal*; Laura Dassow Walls, professor of English at the University of South Carolina and Frank Baron, of the Humboldt Digital Library project and the University of Kansas.

This volume is a compilation of the proceedings from this truly remarkable event. The papers which appear here, and which represent a portion of those presented at the conference, are a testament to Humboldt's vision, his achievements and the lasting legacy of his work in various fields of human inquiry and creative activity. Organized into four thematic sections, they critically explore his personal and professional relationships, as well as his influence on literature and the arts, on culture and society in the New World and, ultimately, on the creation of knowledge.

The last of the great European polymaths, Humboldt was important to the development of many intellectual disciplines. His interests ranged from geographic and scientific exploration to engineering, ancient and modern languages, painting and the advocacy of human rights. His uniquely holistic view of the natural world—which recognized the interdependence of all things on the planet—led to his designation as the first ecologist, and he shared with Goethe the belief that "true knowledge depend[s] on an intense collaboration between art and science."

Humboldt's American explorations started in what is now Venezuela and proceeded across the Andean Highlands to Colombia, Ecuador and Peru. He also made trips to Cuba and Mexico. Papers in this volume examine many aspects of these journeys, including Humboldt's observations on emerging society in colonial regions, his views on the mining of the New World's mineral riches, and his observations regarding the many geographic and natural wonders he encountered. Others analyze the written records he kept of his experiences, exploring in detail the words and stylistic approaches he took in crafting works such as *Ansichten der Natur* (*Aspects of Nature*), *Vues de Cordillères en monumens des peuples indigenes de l'Amérique*, *Personal Narrative* and the seminal *Kosmos*.

The fame and influence that followed from Humboldt's voyages and writings were truly enormous; in the early nineteenth century he was quite literally one of the most famous people in the world. His celebrity, both at home in Europe and in the Americas, is the focus of several essays. Still others explore his literary legacy and the influence of his ideas on major artistic figures, from Henry David Thoreau and Cuban writer Alejandro Carpentier to landscape painters Frederick Edwin Church and Wolfgang Paalen. Humboldt is still revered for his science as well as his empathy with the sufferings of exploited peoples. A number of essays touch on the monumental impact Humboldt's writings had on important debates of his day, including slavery and early autonomist movements. His views, as expressed in works such as *Essai Politique sur l'île de Cuba*, made him an icon to the oppressed, prompting Simon Bolívar to declare, "The real discoverer of South America was Humboldt, since his work was more useful for our people than the work of all conquerors." That many of these ideas still resonate, only confirms Humboldt's lasting relevance.

Within the scientific world, Humboldt is equally revered. Still today, his name is appears not only on the Humboldt Current that runs along South America's Pacific coast, but also on mountains, streets, schools, research centers, glaciers, plants and animals throughout the Americas. Contributions celebrate Humboldt's "deep appreciation of magnificent, abundant nature," and argue the case for including him among the earliest environmental scientists. Humboldt's influence on a range of scientific figures—from Charles Darwin to British geophysicist John Herschel and explorer J.N. Reynolds—is a major component of this collection.

Just as Humboldt inspired the writers, artists, scientists and thinkers of his time, he continues to motivate scholars and "enthusiasts of extreme experience" today. The works included here are a fitting tribute to this singular figure, this scientist, writer, naturalist and humanitarian who stood at the crossroad between two worlds and shared the view with the rest of us.

Part I
The Welcome! Cantata

*Humboldt, Mendelssohn,
and Musical Unity*

R. Larry Todd

If a scholar of unusual interdisciplinary breadth—I suspect there are some in attendance today—were to write a comparative monograph about prominent historical figures who happened to be polymaths, surely one full chapter would concern the remarkable life of Alexander von Humboldt. Often described as the last great universalist, Humboldt traversed with a facility that strains credulity an astonishing number of disciplines—astronomy, geology, botany, zoology, climatology, meteorology, oceanography, anthropology, geography, cartography, and political science, and the list could continue. His overarching purpose—to study the interconnectedness of phenomena, to lay bare the underlying unity of nature—inspired his prolific output as an author, including the *Personal Narrative of Travels to the Equinoctial Regions of America*, the popular account of Humboldt’s New World expedition (1799 to 1804), the bicentenary of which we are celebrating. His life’s work culminated in the colossal, five-volume *Kosmos*, over which the scientist ruminated for decades before releasing in 1845 its first volume, with the unassuming subtitle, *Entwurf einer physischen Weltbeschreibung*, or *Sketch of a Physical Description of the World*. In the preface, Humboldt acknowledged his purpose—“the earnest endeavor to comprehend the phenomena of physical objects in their general connection, and to represent nature as one great whole, moved and animated by internal forces” (*Cosmos: A Sketch of A Physical Description of the Universe*, trans. E. C. Otté, London, 1849: I, ix). Invoking classical authority, Humboldt placed on the title page an apposite quotation from the *Naturalis Historia* of Pliny the Elder, who centuries before in his *Natural History* had compiled an elephantine compendium of knowledge. Humboldt found his theme near the beginning of Pliny’s seventh book, where, after concluding a six-volume description of the natural world, the Roman paused before taking up human

kind to comment, “Indeed, everywhere the power and majesty of the nature of the universe defies belief if one contemplates only parts of it and not the whole” (Pliny, *Naturalis Historia*, vii: 6).

The German states of Humboldt’s time produced few other polymaths worthy of comparison. One who springs to mind is Goethe, who in addition to his undisputed role as the reigning German literary laureate cultivated a wide variety of interests, including, with Humboldt’s encouragement, the sciences. Another was the composer Felix Mendelssohn Bartholdy (1809-1847), grandson of the Jewish Enlightenment philosopher Moses Mendelssohn, son of the banker Abraham Mendelssohn Bartholdy, and through his family befriended with Alexander and his older brother Wilhelm. While the composer is usually remembered as a musical genius whose precocity rivaled if not surpassed that of Mozart, Felix possessed a vigorous intellect that ranged comfortably over many musical and non-musical fields (see most recently, the new biography, R. Larry Todd, *Mendelssohn: A Life in Music*, N. Y., 2003). In addition to his international stature as a composer, pianist, organist, and conductor, Mendelssohn was also an accomplished violinist, and a skilled draughtsman and painter whose watercolors impressed his nemesis Richard Wagner as products of a “landscape-painter of the first order” (Eduard Dannreuther, “Wagner,” *Grove’s Dictionary of Music and Musicians*, London, 1893: IV, 369). Mendelssohn was a polyglot who spoke several languages fluently, a classical scholar, poet and translator, and a polished prose stylist whose vivid letters rival in imagination the writings of his contemporaries, Robert Schumann and Hector Berlioz, both professional music critics. Deeply religious and well versed in theology, Mendelssohn took an active part in preparing and editing the libretti of his two major oratorios, *St. Paul and Elijah*, and described himself as a disciple of the Protestant theologian Schleiermacher, whose sermons Mendelssohn heard in Berlin. The composer’s career, which unfolded principally in Berlin and Leipzig between 1829 and 1847, overlapped with Humboldt’s return in 1827 to Berlin, where he served two Prussian monarchs, Frederick William III and IV, as court chamberlain and cultural advisor. But despite the many connections between Humboldt and Mendelssohn’s family, there has been relatively little inquiry into the question of whether Humboldt’s work influenced the composer in any substantial way. Today I shall review their relationship, introduce the cantata Mendelssohn composed for Humboldt in 1828, and briefly propose a connection between Humboldt’s search for cosmological unity and Mendelssohn’s treatment of musical unity in his larger compositions.

How Humboldt first met the Mendelssohns is cloaked in some mystery. According to Meyer Kayserling, the nineteenth-century biographer of Moses Mendelssohn (*Moses Mendelssohn: Sein Leben und seine Werke*, Leipzig,

1862), the philosopher played a decisive role in educating the adolescent Humboldt brothers. In 1785 Moses published the *Morgenstunden* (Morning Hours, or Lectures on the Existence of God), seventeen lectures in dialogue form offering justifications of God. Kayserling claimed that Alexander and Wilhelm attended these lectures, designed by Moses for the religious education of his fifteen-year-old son, Joseph. Though recent research has challenged Kayserling's assertion (see Peter Honigmann, *Der Einfluß von Moses Mendelssohn auf die Erziehung der Brüder Humboldt*, *Mendelssohn Studien*, 7 [1990]: 39-76), we do know that the seventeen-year-old Alexander attended the funeral of Moses Mendelssohn in 1786, and that early on Joseph and Abraham Mendelssohn numbered among Alexander's childhood friends. We may offer today a new, confirming piece of evidence: in an unpublished condolence letter Alexander wrote to Felix on December 7, 1835 after the death of Abraham, Alexander states unambiguously that like Joseph, Abraham was a friend from the earlier years of the scientist's youth ("er war, wie Joseph, der Freund meiner ersteren Jugendjahre;" Oxford, Bodleian Library, M. Deneke Mendelssohn Collection, Green Books, IV, 177).

In 1806, having returned to Paris from his voyage to the Americas, Alexander helped secure funding for the engineer Nathan Mendelssohn, Moses Mendelssohn's youngest son, who established a Berlin workshop to develop astronomical and geodetic instruments. Three years later, the Hamburg banking firm of Joseph and Abraham, Gebrüder Mendelssohn & Co., provided a line of credit to shore up Alexander's own finances, considerably weakened by the costs of his expedition and various publication projects. Strained relations and hostilities between Prussia and France during the Napoleonic period and culminating German War of Liberation of 1813 curtailed meetings between Alexander and the Mendelssohns, but the post-1815 Restoration afforded new opportunities to renew the old friendship, as did Humboldt's return to Prussia in 1827, and he soon became a regular visitor at the Mendelssohns' residence. Alexander was among the contributors to the *Gartenzeitung* (*Garden-Times*), a mock literary journal founded by Felix and his friends in August 1826, just weeks after he finished, at age seventeen, the *Midsummer Night's Dream Overture*. According to the young theology student Julius Schubring, Humboldt's conversations were especially prized: a circle would form around him, and "he could go on, for hours together, without a pause, relating the most attractive facts from out the rich stores of his experience" (Julius Schubring, *Reminiscences of Felix Mendelssohn-Bartholdy* [1866], in R. L. Todd, ed., *Mendelssohn and his World*, Princeton, 1991: 222).

We can document several more ties between Humboldt and Felix's family during the late 1820s. Between November 1827 and April 1828, the scientist

gave sixty-one weekly lectures on the physical sciences at the University of Berlin, highly fêted events that strengthened his resolve to undertake the writing of the *Kosmos*. By popular demand Humboldt condensed and repeated the lectures before an audience that included not only Prussian royalty but commoners of various socio-economic classes and—most unusual for the time—women. Felix, who had matriculated in 1827 at the University of Berlin (his professors included the philosopher Hegel), attended the lectures there, while his sister Fanny, like Felix a musical prodigy, was among the audience for the simplified versions delivered twice a week at the Berlin Singakademie, the same hall where in 1829 Felix would conduct for the first time in one hundred years J. S. Bach's St. Matthew Passion, the seminal event that triggered the modern Bach Revival. Reporting to a friend about Humboldt's lectures, Fanny observed how they were attended "by everybody who lays any claim to good breeding and fashion, from the king and the whole court, ministers, generals, officers, artists, authors, beaux esprits (and ugly ones, too), students, and ladies, down to your unworthy correspondent." And then, in defense of her sex, "Gentlemen may laugh as much as they like, but it is delightful that we too have the opportunity given us of listening to clever men" (Fanny to Karl Klingemann, December 23: 1827, Mendelssohn Family, I, 151). According to Felix, a thousand auditors were entertained by Humboldt's engaging accounts of fire-spewing volcanoes and "loathsome animals"—i.e., seals. And, Felix continued, when a Berlin mädchen tried to buy some material for a ribbon, and the clerk asked her to specify the size, she answered with an unusual astronomical measurement—two widths of the star Sirius (Felix to Klingemann, February 5, 1828, in Karl Klingemann, Jr., ed., *Felix Mendelssohn-Bartholdys Briefwechsel mit Legationsrat Karl Klingemann in London*, Essen, 1909: 47).

In September 1828 Humboldt convened an international conference of naturalists and physicians. Presiding over this early example of scientific collaboration, he welcomed six hundred colleagues converging on Berlin, including the Englishman Charles Babbage, who in 1833 would design his prototypical calculator, and the great mathematician Carl Friedrich Gauss. From Warsaw came the Polish zoologist F. P. Jarocki, accompanied by a young, introverted pianist, Frédéric Chopin. At the opening session, Humboldt gave an address on the social utility of science, and Mendelssohn conducted a new cantata commissioned by Humboldt for the event, and heard in its belated American premiere this evening.

To approach the cantata, I shall begin with its most striking feature, the unusual orchestra that supports the chorus and soloists. In lieu of a conventional orchestra with full complements of woodwinds, brass, and strings, Felix scored for a considerably reduced ensemble that conspicuously avoids

flutes, oboes, bassoons, violins, and violas. What is more, the chorus calls for only tenors and basses. Fanny mused about the omissions in gender-specific terms: “As the naturalists follow the rule of Mahomet and exclude women from their paradise, the choir consists only of the best male voices of the capital; and as Humboldt, whose forte music is not, has limited his composer as to the number of musicians, the orchestra is quite original; it consists only of double-basses, violoncellos, trumpets, horns, and clarinets” (Fanny to Klingemann, September 12: 1828; Sebastian Hensel, *The Mendelssohn Family*, I, 162). We should note one small correction—there is in addition a part for two timpani. Mendelssohn’s use of the male choir seems designed to invoke the sounds and traditions of male singing societies then popular in Prussia, and associated since the Napoleonic wars with German nationalism. Whether the male chorus might in some way signal Humboldt’s preference for male companionship must remain open to conjecture. But it is fair to say that the unusual, reduced orchestra under girds the male tessitura of the chorus and soloists, and not infrequently presents musical figures of speech that in the culture of the time would have been understood to connote masculine imagery—e.g., fanfares for the horns, trumpets, and drums, which sound vaguely militaristic but also stately and ceremonial, and horn calls, associated in German musical romanticism with male hunters in natural, open-air settings.

The text of Mendelssohn’s cantata is by Ludwig Rellstab (1799-1860), a music critic and poet who in 1819 had founded with Mendelssohn’s former piano instructor, Ludwig Berger, a male singing society in Berlin. Rellstab’s music criticism shows a distinct bias for the German romantic opera of Carl Maria von Weber, in particular *Der Freischütz*, premiered in Berlin in 1821, and teeming with images of the hunt, forests, the supernatural, and the conflict between the diabolical and divine. Weber’s romanticism left a strong mark as well on the forming style of the young Mendelssohn, and emerges in several pages of the Humboldt Cantata, especially in the choruses reminiscent of the German part-song tradition.

Though Rellstab’s verses for the cantata may impress few as poetry of the first order, he did win considerable fame for supplying Schubert with several texts, including seven poems which the terminally ill Viennese composer set in his proto-cycle *Schwanengesang* of 1828, indeed, at about the same time when Humboldt’s scientific colleagues were gathering in Berlin. And, we should note, it was Rellstab who in the 1840s would compare the opening movement of Beethoven’s Op. 27 No. 2 to a moonlit scene on Lake Lucerne, thereby transforming what Beethoven viewed as a non-descript piano sonata into the immortalized “Moonlight” Sonata.

Rellstab’s cantata text treats a familiar theme that would have resonated with Humboldt and his circle—the progress of the natural world from chaos

to unity. Earlier composers had already explored this topic, most notably Haydn in his oratorio “The Creation” (1798), which begins not with a traditional overture but an extraordinary orchestral depiction of chaos (*Vorstellung des Chaos*) that explodes eighteenth-century musical conventions before the opening choral pronouncement from Genesis, “And there was light,” reintroduces the boundaries of Viennese classicism as a kind of musical corrective. The progression from darkness to light preoccupied as well the young Beethoven, who in his cantata on the death of the Emperor Joseph (1790) used the metaphor to compare the Austrian monarch to an enlightened philosophe contending with the destructive forces of fanaticism. The darkness/light polarity also seems to have inspired, albeit in abstract, purely instrumental terms, the last two movements of Beethoven’s Fifth Symphony (1808), with which Rellstab and Mendelssohn of course would have been familiar. But Rellstab’s text reads as though he were an avid member of the audience attending Humboldt’s 1828 lectures. Thus, after a celebratory chorus of welcome to the conference delegates, the text begins by sketching the disarray of the elements, in which fire, wind, and waves are in unrestrained conflict. Toward the center of the cantata, we suddenly encounter the sound of a new voice, as the raging discord subsides, and the “wondrous clarity of light bursts forth from ethereal dreams.” In the second half, the “kindred forces” (*verschwisterte Kräfte*) and “united powers” (*vereinte Kraft*) form the “glorious” world, and a higher, radiant purpose (*leuchtend hohes Ziel*) resolves the previous dissonance into unity (*Einheit*). The text concludes with an invocation to God to bless the creation, and a doxology-like verse of praise.

Mendelssohn appears to have composed the music for the cantata in considerable haste; the autograph (*Staatsbibliothek zu Berlin, Mendelssohn Nachlass*, 48) is dated September 12, 1828, only six days before its performance at the conference, and is fraught with corrections, as though the composer were working quickly against the looming deadline. To be sure, Felix did not exhaust his most inspired efforts on the music, which, though through-composed, and thus performed without breaks between individual movements, in the main alternates somewhat predictably between choral movements and solo numbers, including recitatives and an *arioso*. And there is no evidence in his surviving correspondence that he later gave serious thought to revising or publishing his score. For Mendelssohn the cantata was simply an occasional work, and once the occasion had passed, he evidently lost interest in the composition.

Nevertheless, the careful listener will discern how the music parallels the binary, chaos/unity division of the text, and how Mendelssohn imposed upon the composition an overarching musical plan (see Table 1-1). After the

brightly scored opening choral movement, in D major, he introduces two minor keys, G minor (bass solo) and D minor (chorus), and a good bit of rather obvious storm imagery to depict the natural strife; in addition, the D-minor chorus contains passages of fugal writing, in which the voices musically contend with one another. The dramatic interruption of the tenor recitative shifts the music from the minor to major mode, and prepares the following two movements, for tenor solo and for tenor answered by the chorus. Here the palette of keys brightens to A major and E major, as Mendelssohn exploits the minor vs. major tonalities as musical counterparts to the progression from chaos to unity (concomitantly, the earlier dissonance level of the music now drops considerably). In the penultimate movement, the D major chords that had heralded the opening bars of the work return, and lead into the finale. Here Mendelssohn introduces a fresh fugal subject, and then recalls that of the earlier D-minor chorus, now woven into the celebratory conclusion. Through the technique of thematic recall Mendelssohn thus brings together different musical strands from the first half of the score in order to effect in the closing pages a new musical order and unity, in keeping with Rellstab's text and Humboldt's vision.

The 1828 Berlin conference brought Humboldt into closer contact with the Mendelssohns in another way. When the mathematician Gauss urged his friend to continue his geomagnetic experiments, Humboldt had a copper hut constructed in the garden of the Mendelssohn mansion on Leipzigerstraße. Here, in 1829, while the composer rehearsed Bach's St. Matthew Passion, Humboldt made his meticulous recordings, all part of a grander scheme to chart the earth's magnetic field. The recently published diaries of Fanny Hensel confirm the experiment: according to one entry, on January 31, 1829, Humboldt supped with the Mendelssohns and then excused himself to observe, that is, make hourly measurements in his hut between 3:00 P.M. and 7:00 A.M. (Fanny Hensel, "Tagebücher", ed. H.-G. Klein and R. Elvers, Wiesbaden, 2002, 6).

There remains for brief consideration the question of whether Humboldt's theories about natural unity could have influenced in a general way Mendelssohn's approach to musical form. Though regrettably the composer left no detailed reactions to Humboldt's lectures, we do know that Mendelssohn was especially drawn to the work of the geographer Carl Ritter (E. Devrient, *My Recollections of Felix Mendelssohn Bartholdy and His Letters to Me*, trans. Natalia Macfarren, London, 1869, 33), Humboldt's friend and colleague at the University of Berlin, whose massive *Erdkunde (Geography)*, begun in 1822 and destined by 1859 to fill some 20,000 pages, presented a vision of the globe in which "the winds, waters, and landmasses" acted "upon one another like animated organs, every region having its own function to per-

form, thus promoting the well-being of all the rest” (W. L. Gage, *The Life of Carl Ritter*, N.Y., 1867: 208). It is surely not insignificant that in 1827, 1828, and 1829, that is, the years of Mendelssohn’s matriculation at the University, and the height of his association with Humboldt and Ritter, he composed or conceived a series of instrumental compositions that reveal “organic” approaches to musical form. Furthermore, two of these works, the concert overtures *Calm Sea and Prosperous Voyage* (1828) and the *Hebrides* (1829), concern natural phenomena, in the case of the former, Goethe’s description in two short poems of a becalming at sea; in the latter, Mendelssohn’s own impressions of the Hebridean islands of Mull, Iona, and Staffa (Fingal’s Cave), with its extraordinary formations of plicated, hexagonal basaltic columns. Among Humboldt’s circle was the young mathematician Gustav Lejeune Dirichlet, now remembered for his work on number theory (see, most recently, John Derbyshire, *Prime Obsession: Bernhard Riemann and the Greatest Unsolved Problem in Mathematics*, N. Y., 2003, passim). After Humboldt introduced him to the Mendelssohns in 1828, Dirichlet became enamored of Felix’s younger sister, Rebecka, and a few years later married her (Dirichlet, by the way, would later fill Gauss’s position at the University of Göttingen after his death in 1855). In 1829 Humboldt brought to the Mendelssohns the news of Wilhelm Hensel’s appointment as a Hofmaler, or court painter, clearing the way for his marriage to Felix’s sister Fanny. And finally, it was likely Humboldt who advised Frederick William IV to award Felix in 1842 the *Ordre pour le mérite*, an honor also accorded Franz Liszt. But perhaps the most remarkable testament to Humboldt’s friendship with the Mendelssohns came in 1844. When Humboldt’s landlord decided to sell his property, and thereby threatened to displace the scientist, Felix’s uncle Joseph Mendelssohn quietly bought the residence, so that Humboldt could continue his research undisturbed. We do not know for certain, but it seems likely that Humboldt was among the many mourners who thronged to Felix’s funeral, when he was interred at the Berlin cemetery of Trinity Church on November 8 1847; only a few months later, in March 1848, after the outbreak of the Revolution in Berlin, Humboldt would lead a procession mourning the first casualties of the barricades.

Each of these compositions begins with a compact motive which, subjected to continuing repetition, development, and transformation, forms the basis for the thematic complex of the entire composition and acts as a unifying agent. To be sure, theories of organicism in the arts abounded in early nineteenth-century German critical thought, in the writings of Novalis, Wackenroder, Goethe, and in the music criticism of E. T. A. Hoffmann (see most recently, Holly Watkins, “From the Mine to the Shrine: The Critical Origins of Musical Depth,” in *19th Century Music* 27 [2004]: 179-207). But

in Mendelssohn’s overtures is it too much to imagine that the relationship between the particular and the general, between the individual musical gesture and the overarching musical design owed something to Humboldt’s determination to discover in natural phenomena the keys to unlocking a vision of a comprehensive unity? Indeed, Humboldt’s vision may be seen to have transcended science to embrace art, an idea that he proposed on the very first page of the first chapter of the *Kosmos*, which Mendelssohn may well have read in 1845: “May the immeasurable diversity of phenomena which crowd into the picture of nature in no way detract from that harmonious impression of rest and unity, which is the ultimate object of every literary or purely artistic composition” (*Cosmos*, I, 62.). Thus the genius of one polymath may well have touched that of another.

TABLE 1-1. Felix Mendelssohn Bartholdy, Humboldt Cantata (1828)

Chorus	Bass recit.	Chorus	Tenor recit.	Tenor & chorus	Bass & tenor
Chorus					
			& arioso		recit.
Chords					Chords
		Fugato			
Double fugato with recall					
D major	G minor	D minor	A major	E major	D major
D					

CHAPTER 2*Willkommen!*

Text by Ludwig Rellstab

Chorus

Willkommen! rufen wir euch froh entgegen,
der Gruß der Freundschaft ist's, der euch erklingt.
Es waltet über diesem Fest ein Segen,
der uns mit hoher Weihe Kraft durchdringt.
Mit Stolz und Rührung muss es uns bewegen,
das Heil, das des Beherrschers Huld uns bringt.
So mög' ihm denn des Dankes Gruß ertönen,
dem Schirmer alles großen Guten, schönen

Welcome! We gaily call to you,
it is friendships' greeting ringing out to you.
A blessing rules over this festival,
ordained with the power to reach out to us.
With pride and emotion we are bound to be moved
by the salvation brought to us by the ruler's benevo-
lence.
So, then let the thankful greeting ring out to the
protector of all that is good and beautiful.

Recitative

Aus alter grauser Nacht des Chaos
entwindet mühsam sich der Elemente Kraft;
fest stellte sich die Erde; starr und trotzig
bot sie dem Sturme stolze Gipfel
und warf des Ufers Felsenbrust dem Meer entgegen.
Feu'r Luft und Wogen bekämpften sich voll Wut

Out of the dreaded night of chaos
the power labors to wrest itself from the elements;
The earth stood firm; rigid and defiant
she presented the storm with proud peaks
and thrust the shore's cliff-breast towards the ocean.
Fire, air, and waves fought a raging battle.

Aria

Es bricht der Sturm die mächt'gen Blöcke aus dem
Lager
und donnernd stürzen sie zu Tal hinab,
die Woge schäumt voll Ingrimm an den Damm der
Berge
und wühlt sich tiefe Klüfte aus,
und furchtbar dringt des Feuers wilde Kraft
zerstörend ein bis zu der Tiefe Schoß

The storm breaks mighty blocks loose
and they thunder down into the valley below.
The waves foam full of wrath at the mountains' bar-
rier
and carve themselves out deep chasms.
And dreadful is the wild force of the fire as its
destruction
penetrates to the womb of the deep.

Chorus

Laut tobt des wilden Kampfes Wut,
die Zwietracht bringt Zerstörung,
es drohen Flammen, Sturm und Flut
mit grimmiger Verheerung.
Was Gott erschuf in weiser Macht,
Sinkt wieder in die alte Nacht!

Loud is the fury of the savage battle,
discord causes destruction.
Flames, storm, and flood
are threatening grim devastation.
What God created in the power of his wisdom,
is sinking back into dark night!

Recitative

Halt ein! – tönt einer Wunderstimme Klang,
und plötzlich ist der Elemente Zorn gefesselt.
Sturm und Wogen ruhn;
Zur stillen Glut senkt sich das Flammenmeer

Cease! - the sound of a wonderful voice rings out
and suddenly the elements' anger is fettered.
Storm and waves hold still;
the sea of flames sinks down to peaceful embers.

Arioso

Da bricht des Lichtes wunderbare Klarheit
aus Ätherträumen segensreich hervor,
hellestens kundig allen wird die Wahrheit,
versöhnt ist jetzt der Elemente Chor.

Then the wonderful clarity of light, full of blessings
breaks through the ether dreams.
And shining bright the truth is clear to all,
the chorus of the elements is now reconciled.

Gemeinsam wirkt der Kräfte eifrig Streben,
denn Eintracht nur kann wahres Heil ergeben.

Together the powers' keen striving has effect,
as only concord can bring forth true salvation.

Duet and Chorus

Jetzt wirken und schaffen verschwisterte Kräfte
und bilden imd bauen die herrliche Welt.
Es pranget die Erde, es schimmert das Feuer
und liebliche Lüfte bewegen die Flut.
Hoch wölbt sich der Äther und blinkende Sterne
zieh'n goldener Kreise sanft strahlende Bahn.

Now the related powers take effect and work to form
and build the most marvelous world.
The earth is resplendent, the fire gleams,
and sweet breezes move the flood.
The ether arches up high and twinkling stars gently
draw golden circles in their shining path.

Recitative

Und wie der große Bau der Welt sich ordnet,
so bildet sich's auch in des Menschen Brust!
Es wohnt die wilde Kraft der Erde
in seiner Seele, die verderblich wirkt,
wenn nicht ein großes, leuchtend hohes Ziel
in Einheit schlichtet unsrer Kräfte Zwist.

And as the mighty building of the world is formed,
so, too it is formed in the human breast!
The savage power of the earth lives
in the soul with a ruinous effect,
unless a shining high goal overcomes the quarrel
of our powers with unity.

Denn mag der Trieb nach allen Seiten schwellen:
zu einem Stamm gehören alle Zweige,
und der Erkenntnis segensreicher Baum
wird prangend in der vollen Blüte steh'n.
Und segnend wird der Himmel ihn beschützen.

For although the shoots swell on all sides:
every branch belongs to the trunk,
and the tree blessed with knowledge
will be resplendent in full bloom
and heaven will protect it with its blessing.

Chorus

Ja segne Herr, was wir bereiten,
was die vereinte Kraft erstrebt,
dass in dem flücht'gen Strom der Zeiten
das Werk fest gleich den Felsen steht.

Und wie sich's hebt und türmt in Würde,
Macht und Herrlichkeit,
so wird es nur dich selber loben,
denn deiner Größe ist's geweiht.
Willkommen!

Oh Lord, bless what we are doing,
what the united power strives for,
so that in the fleeting stream of time,
the work may stand solid as a rock.

And as it rises up and towers above in honour,
power, and glory,
so will it praise only you, for it is consecrated to your
greatness.
Welcome!

Part II
Culture and Society
in the New World

José Gabriel Brauchy

The Spanish priest and journalist Jose Maria Blanco White (1775-1841) promoted an important debate in Europe about the Catholic Church's domination of Spanish society. Drawing upon the Spanish experience, he also advocated the independence for the colonies.

With Blanco's major works, *A letter upon the mischievous influence of the Spanish Inquisition: as it actually exists in the present* (1811), *Slave trade report: moral, political and Christian remarks on this trade* (1814) (*Bosquexo del comercio en esclavos: y reflexiones sobre este tráfico considerado moral, política y cristianamente*); and *The life of the reverend Joseph Blanco White written by himself; with portions of his correspondence* (1845), along with Alexander von Humboldt's *The Spanish America in 1800* (*L'Amérique espagnole en 1800*), this paper attempts a reading of how Blanco and Humboldt understood the use of faith in the Spanish conquests and the limits and ambiguities of their own arguments about the achievement and consequences of the conquering civilization.

Conquest in the name of faith

The bishop of Chiapas, Friar Bartolomé de Las Casas (1474-1566), was the first Catholic chronicler to denounce violence against indigenous peoples.

Las Casas raised a key point on the conquest and colonization process: the servitude of indigenous peoples and the political and theological legitimization of the principles of the discovery of the New World. On the one hand, he recognized indigenous peoples as vassals of the king, a condition established by baptism. But at the same time, by legitimizing their religious conversion, he integrated them into the Catholic Church's celestial order.

As Eduardo Subirats says (1994), Las Casas' theological-political argument against violence and advocacy for the salvation of indigenous peoples was constructed around the fundamental constitutive principle of the Spanish colonization, that is, the Christian ideal of propagation of the faith, conversion and salvation (the Spanish chimera).

Las Casas used three arguments to legitimize the colonization. One is the strong rhetorical denunciation of the cruelty of the conquerors. Las Casas built a theological and jurisdictional framework for a radical, democratic liberation of indigenous peoples. He reformulated conquest and colonization and transformed the conversion principle, previously associated with violence, into a new process: conversion was the ultimate means of protection of indigenous peoples against conquerors.

Las Casas called for punishment of the oppressors of the indigenous peoples. He argued that they should not be given to individual Spaniards in commission (1542) because they belonged to the Crown. Las Casas called on the king to establish laws to incorporate the indigenous peoples into the Kingdom as subjects and free vassals, to create inviolable constitutional impediments to their removal from the Kingdom. By doing so, Las Casas did not question the underlying principle, or the concept of discovery. He redefined discovery, as a messianic enterprise, as an act in the spirit of "Orbis Christianus."

Neither give them as vassals, nor entrust, nor give them as serfs, nor in commission, no in deposit nor by any other title (ni dadlos a nadie por vasallos ni encomendados, ni dadlos en feudo, ni en encomienda, ni en depósito ni en otro ningún título) (my translation, "Christianity and defense of the Indian American" p. 30).

Las Casas' second reason for supporting the incorporation of indigenous peoples as free vassals into the Crown was the need for their peaceful religious conversion. However, such a peaceful conversion only changed the external aspect of the conquest; it did not touch its internal principle.¹

The predication and foundation of their faith and their conversion through knowledge of Christ (La predicación y fundación de la fe en ellas y su conversión de conocimiento de Cristo) (my translation, p. 31).

Las Casas alerted the Crown to the avarice and greed of the Spaniards, who did not allow the priests to enter the towns of indigenous peoples who had been converted. He denounced the violence as he understood the strategic importance and use of the indigenous people.

1. Subirats, Eduardo. 1994. *El continente vacío. La conquista del Nuevo Mundo y la conciencia moderna*. Madrid: Anaya y Mario Muchnik.

Emancipation in the Name of Reason

Both Humboldt and Blanco raised new questions about the violence directed against indigenous peoples. They denounced the connection between the instrumental use of the indigenous people and religious conversion. Humboldt strongly criticized the Jesuits for their responsibility in the violent religious conversion of indigenous peoples. For him, the real interest of the Jesuits was not to protect them but to set the stage for the conquest of their souls. He described the despotism of Spanish soldiers who in their *entradas* destroyed all resistance, imprisoning indigenous peoples far from their hometowns; although this practice was forbidden, it was the best way to assure the expansion of the Jesuit Order.

Although this violent means to conquer souls was prohibited by Spanish law, it was still accepted by the civil governments and considered necessary by religious authorities for the expansion of the Jesuit mission... These principles that degrade humankind undoubtedly were not shared by the entire society that has made their steps to civilization, but society that in the New World remains exclusively in the hand of priests. But the *entradas*, the spiritual conquest with bayonets was an inherent vice of the regime that resulted the rapid expansion of their missions. (Ce moyen violent de conquérir des âmes, quoique prohibé par les lois espagnoles, était toléré par les gouverneurs civils, et vanté comme utile à la religion et à l'agrandissement des missions par les supérieurs de la Compagnie... Ces principes, qui dégradent l'humanité n'étaient point partagés sans doute par tous les membres d'une société qui, dans le Nouveau Monde et partout où l'éducation est resté exclusivement entre les mains des moines, a rendu des services aux lettres et à la civilisation. Mais les *entradas*, les conquêtes spirituelles à l'aide des baïonnettes, étaient une vice inhérent à une régime qui tendait à l'agrandissement rapide des missions) (my translation *L'Amérique espagnole*, p. 83-84).

In June of 1810, Blanco published his most critical essay on the Spanish American colonies: *An examination of the work entitled Essay on the Kingdom of the New Spain (Examen de la obra intitulada Essai sur le Royaume de la Nouvelle Espagne)* in which he presented a partial translation of and response to Alexander von Humboldt's *The Spanish America in 1800 (L'Amérique espagnole en 1800)* for a Spanish-speaking audience.

Blanco's paper acknowledged that Humboldt's essay raised several issues: the brutal exploitation and perpetual enslavement of indigenous peoples and the chiefs' revolts in the Spanish American colonies. He argued that slavery had no commercial nor historical justification. But the most important contribution of Humboldt was, according to Blanco, his view of the colonial social structures built on religious dogmatism and despotism.

Blanco recognized the ideological dimensions of Humboldt's work in providing an extensive description of the Spanish American colonies. For Blanco, Humboldt's analysis went far beyond the traditional priests' chronicles that consistently ignored the internal composition of the colonies:

It goes beyond the miserable volumes of ecclesiastical history written by friars and other ignorant church scribes...by writers who ignored the internal state of the colonies or who abstained from publishing their news due to political constraints.(va más allá de los miserables volúmenes de la historia eclesiástica, escritos por frailes, y otros eclesiásticos ignorantes...de escritores que ignoraban el estado interno de las colonias, o se abstuvieron de publicar sus noticias, contenidos por consideraciones políticas) (my translation, *El Español* 30 de julio 1810- 240-144).

Blanco said that both religious dogmatism and despotism were the two supports of the social organization of the Spanish America colonies, along with the legal modalities on the protection of indigenous peoples.

Later in Blanco's *A letter upon the mischievous influence of the Spanish Inquisition: as it actually exists in the present* (1811), he attacked religion even more directly. In the context of the revolution in Spain (1808-1814) he argued that there could be nothing more barbarous than to oblige the studious youth of a nation to choose between immorality and ignorance. With such a statement, Blanco distinguished between a well-informed and enlightened people, and the veneration of religious principles.

I must in truth confess to you that I should consider the fruits of the glorious Revolution of Spain as for the most part lost if, after liberating herself from the French, the Inquisition were again to be established, even on the same footing as it has stood in recent years. (6)

With such an argument, Blanco anticipates the distinction between Catholicism and Enlightenment secularism of the contemporary debate. Spain does not know what a critical Enlightened epistemology means,² that is to say, Enlightenment as criticism and reflexive knowledge with an hermeneutical dimension and social content (Subirats).

In an article he wrote for the African Institute, *Slave trade report: moral, political and Christian remarks on this trade* (1814) (*Bosquexo del comercio en esclavos: y reflexiones sobre este tráfico considerado moral, política, y cristianamente*) Blanco argued against the justification of slavery by reference to the supposed barbarism of African people. He rejected the assumed authority of Europeans *to go hunting in Africa* and thus went beyond the abolitionist essays. He carefully traced the reasons to challenge the paradigm of

2. Subirats, Eduardo. 1993. *Después de la lluvia. Sobre la ambigua modernidad española*. Madrid: Temas de Hoy; Sánchez-Blanco, Francisco. 1999. *La mentalidad ilustrada*. Madrid: Taurus.

civilization versus barbarism and more importantly questioned Las Casas and the principle that legitimized the conquest. This article is an invitation to reopen the debate on the European emancipation project or Enlightenment.

For both Humboldt and Blanco, progress is based on knowledge, that is to say, the instrumental reason (everything that responds to the criteria of efficiency—means-ends), the systematization of what is useful for the enrichment of a society, and the arts. In a synthesis of Western history, tracing the progress from early times (barbarism) to societies with organized civil structures, Africa was, for Blanco, an example of the internal limits of civilization. Africa had contact with the civilized world (Europe), but this contact did not benefit for the continent itself; instead, it meant:

To plunder and to suppress its knowledge, and if it can be said in one new word...we could say, to barbarize it. (para depravarla y oscurecer sus entendimientos, y si puede usarse una palabra nueva...diremos, que para barbarizarla) (my translation, p. 43-44).

Blanco argued that Cuba's claim to increase the slave trade was immoral; he questioned the Royal License of 1789 to import slaves to Cuba and regretted the suppression of the 1811 bill that outlawed the slave trade. Although his arguments are constructed within the tradition of denunciation of violence against indigenous peoples (Las Casas), Blanco recognized the deep contradictions of this tradition. For him, any sort of paternalism was questionable because it retarded the progress of peoples.

Addressing the internal state of the Spanish American colonies, Blanco criticized the fragility of their organization and blamed Spain for this. Under the prolongation of exploitation of indigenous peoples lies the abuse of authority and injustice: his denunciation of slavery is both applicable in Africa and in the colonies.

Blanco acknowledged Humboldt's comments on the state of the population of the Spanish America colonies and his denunciation of the conversion violence. He advocated the rights of the vassals in the name of a secular reason. His teleological-political argument for the progress of indigenous peoples was constructed in a fundamental constitutive principle of that reason, that is, civilization. However, he did not understand that underneath Humboldt's critical testimonies on the experience of the native towns confronting modern civilization lay another colonialist will. Humboldt's contribution to the study of what is called contemporary ethnology (Labastida),³ was always accompanied by a compromise with the colonial perspective seeking to maximize the utility for the Spanish American colonial empire.

3. Labastide, Jaime. 1999. *Humboldt, ciudadano universal*. Ciudad de México: Siglo XXI.

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Humboldt en la Nueva España

Jaime Labastida

La presencia de Alejandro de Humboldt en la Nueva España, en los primeros años del siglo XIX, marca un claro punto de inflexión en las investigaciones científicas que se realizan en nuestro país, por el rigor de su trabajo, por la variedad de sus objetos y, sobre todo, por el método que despliega. Podría estudiarse la influencia que ejerció su obra sobre los científicos, los políticos y los economistas de la Nueva España, primero y de México, después, de acuerdo con dos criterios, que no se oponen sin embargo: la influencia directa que su presencia tuvo en algunos de ellos (particularmente en el campo de la minería) y, luego, la recepción de su obra (publicada o no): se abre así, de súbito, un abanico de interpretaciones posibles.

Me gustaría subrayar que una de las diferencias importantes entre el trabajo realizado por Humboldt y el que desplegaron, a lo largo de la segunda mitad del siglo XVIII los científicos hispanos que visitaron diversos sitios de la América española, estriba en que todos esos trabajos (entre los que cabe contar los de José Celestino Mutis y Francisco José de Caldas en el Nuevo Reino de Granada; los de Martín de Sessé y José Mariano Mociño en el interior de la Nueva España y en sus límites septentrionales o los de Alejandro Malaspina en el Océano Pacífico), fueron para uso exclusivo de los funcionarios de la Corona y se guardaron con celo en los Archivos. Por el contrario, la obra de Humboldt estuvo a la disposición del mundo culto y de los científicos de la época: Humboldt no reparó en gastos y pagó de su peculio la edición de una obra de magnitud pocas veces igualada, en la que se dan la mano el rigor científico y la belleza y la pulcritud tipográfica: los treinta títulos que forman el *Voyage au régions équinoxiales du Nouveau Continent* se pueden comparar tan sólo con la gran *Encyclopédie* de Denis Diderot.¹

Humboldt llega a la América española en 1799 y recorre los vastos territorios que hoy integran seis países de lo que conocemos con el nombre de

América Latina: Venezuela, Colombia, Ecuador, Perú, Cuba y México. Abandonará América cinco años después, en 1804. Jamás volverá. Sus primeras indagaciones estarán centradas en casi todas las ciencias naturales. Le interesa no sólo el estudio de los volcanes, sino el de los perfiles de las montañas, de manera que, incluso los paisajes que forman parte del gran *Atlas pintoresco*, son cuadros en que se unen la ciencia y el arte: son paisajes científicos o dibujos rigurosos, en los que se miden de modo trigonométrico los ángulos y las anfractuosidades de las cordilleras. Herboriza (se ha calculado que Bonpland y él recogen tal vez la sexta parte de la flora del planeta); se sabe: no sólo recolectan la especie, sino que la clasifican, le otorgan nombre científico de acuerdo con el sistema binario de Linneo y la sitúan en la altura, la latitud y la longitud en que la hallan. El conjunto de esas amplias investigaciones permite a Humboldt escribir un libro por varios rasgos notable, el primero de los treinta volúmenes que integran el *Voyage...*, es decir, el *Essai sur la Géographie des plantes*.²

Eso no es todavía bastante. Humboldt determina las latitudes y las longitudes de cuanto sitio visita. Así, ratifica o rectifica (casi siempre lo segundo) las anteriores determinaciones. Estará sólo tres días en el puerto de Acapulco: será tiempo suficiente para hacer las excavaciones que le permitan dar cuenta de que las mismas capas sedimentarias se encuentran en toda la superficie del planeta: tanto en uno como en otro hemisferio; lo mismo al norte que al sur del Ecuador (por ello mismo, le dará a Georges Cuvier el esquema de las capas sedimentarias que a éste le permiten redactar su *Ensayo sobre las revoluciones en la superficie del globo*). Por esto, lo que descubre de las capas sedimentarias destruirá para siempre las tesis sin base de De Buffon, De Pauw y de todos aquellos que dieron pie a lo que Antonello Gerbi llama *La disputa del Nuevo Mundo*.³

1. Los treinta volúmenes empezaron a publicarse a partir de 1805. El último de los volúmenes vio la luz en 1836. Todos los volúmenes fueron publicados en París, en francés, en diversas imprentas (Schoell, Dufour, Maze y Gide). Todos reconocen como autores a Humboldt y Bonpland. Pero lo cierto es que Bonpland, excelente compañero de viaje y magnífico investigador de campo, no fue tan activo, en cambio, como trabajador de gabinete: sus aportaciones se reducen a la botánica, en donde, sin embargo, Segismund Kunth redactó varios volúmenes. Así, pues, casi todos los textos fueron escritos por Humboldt, salvo aquellos en los que participaron otros científicos, más aptos que el propio Humboldt en algún campo específico. A éstos, Humboldt les proporcionó la materia prima que obtuvo en el viaje. Así, por ejemplo, Jean Lamarck escribió una memoria de carácter biológico; a su vez, Jabbo Oltmanns corrigió y calculó nuevamente las observaciones astronómicas de Humboldt: los dos volúmenes fueron redactados por él.

2. Chez Levrault, Schoell et Compagnie, París, año XIII de la Revolución, 1805. Hay una reciente edición española del *Ensayo sobre la geografía de las plantas*, con Prólogo de José Sarukhán, Siglo XXI Editores, México, 1997.

3. Ver: Gerbi, Antonello. 1960. *La disputa del Nuevo Mundo*, traducción de Antonio Alatorre, Fondo de Cultura Económica, México.

Hace mapas, pero de una precisión y un rigor tales, que aún hoy nos causan asombro. Nada de esto es aún suficiente: los mapas de Humboldt poseen una característica especial, puesto que sirven para establecer escalas y comparaciones universales (por esa causa, un gran historiador moderno de la ciencia los ha llamado *isomapas*, o sea, mapas en los que se vacía una información congruente, que guarda la mayor semejanza entre sí).⁴ Se interesa en la electricidad y la respiración de los animales: disecciona gimnotos eléctricos (de los que se provee en el pequeño poblado de Calabozo, en Venezuela). Todavía lo animan los experimentos de Galvani y desconoce la pila eléctrica de Volta, que éste ha de inventar en el curso del viaje de Humboldt por América. Examinará la laringe y el hueso hioides de cocodrilos, monos y pájaros. Disecciona una serpiente de cascabel que encuentra en Cumaná y halla en su vientre un verme desconocido. Colecciona simios de las selvas del Orinoco; además de su nombre vulgar, les otorga otro, científico; los lleva a Europa; los describe y dibuja; si mueren, los disecciona: *simia leonina*, *simia melanocephala*, *simia satanas*, *simia ursina*.⁵ También hace una visita a la famosa cueva del Guácharo: le interesa conocer el ave que proporciona el aceite a Venezuela.⁶ El primer impacto que produce su viaje en la Europa culta, que lo sigue a través de las publicaciones periódicas, se debe a la audacia del mismo: desciende a las minas; atraviesa los Andes a pie, seguido por las grandes bestias domésticas que cargan su preciso instrumental científico: telescopio, microscopio, sextante y barómetro, teodolito e higrómetro. Se hace llevar aguas arriba del Orinoco, en un viaje que es a un mismo tiempo distinto y similar al que siglo y medio más tarde emprenderá, en *Los pasos perdidos*, el novelista cubano Alejo Carpentier. Ascende al Chimborazo con su instrumental científico a cuestras (sin ropa ni botas para la nieve); en todas partes mide los gases y, con un cianómetro, el azul del cielo. En una de las márgenes del Orinoco, encuentra el cementerio de un pueblo extinguido.⁷ Europa lo celebra como explorador atrevido y valiente, antes que como científico. En Colombia, en el lomo de las cordilleras andinas, advierte, no

4. Ver: Cannon, Walter F. *Humboldt or Baconianism? A Defense of American Science in the First Half of the 19th Century*, ponencia presentada al Department of the History of Science, agosto de 1969 (traducción de J. A. Shelley y Jaime Labastida, Revista de la Universidad de México, UNAM, noviembre de 1971).

5. En *El Humboldt venezolano*, recopilación de Miguel S. Wionczeck, con prólogo, notas y traducción de Jaime Labastida (Banco Central de Venezuela, Caracas, 1974), se incorporan muchos artículos y memorias sobre diversos aspectos, que denuncian los intereses de Humboldt.

6. Humboldt le da el nombre científico de *Steatornis caripensis*, pues la cueva está cerca de Caripe.

7. Para todos estos asuntos, ver Charles Minguet, *Alexandre de Humboldt, historien et géographe de l'Amérique espagnole (1799-1804)*, Maspero, París, 1969; Hanno Beck, *Alexander Von Humboldt*, traducción de Carlos Gerhard, FCE, México, 1971. También *El Humboldt venezolano*, *op. cit.*; por último, Jaime Labastida, *Humboldt, ese desconocido*, Sep-Setentas, México, 1975 y *Humboldt, ciudadano universal*, Siglo XXI Editores, México, 1999.

sin asombro, que en la América prehispánica floreció una civilización de la que sólo tenía una fugaz noticia. Confirma el dato al arribar al Ecuador. Más tarde, en Perú, ve en diversos sitios las ruinas de la civilización incaica; por último, al llegar a la Nueva España, le asombra el espectáculo grandioso a la vez que trágico de las civilizaciones de Mesoamérica (a las que engloba, empero, en un solo concepto: el de cultura mexicana).⁸

En Venezuela, Cuba y la Nueva España, Humboldt empieza a cobrar conciencia de los problemas sociales y se interesa cada día más por los problemas políticos y económicos (de ello dan sobrada prueba sus dos *Ensayos políticos*: uno, el que ofrece sobre el reino de la Nueva España—1808—, y otro, el que dedica a la isla de Cuba—publicado en el tercer volumen de su *Relation historique...*, diez y siete años más tarde—1825—; además de las múltiples observaciones que contiene la propia *Relation historique...*).⁹ Humboldt nunca abandona, desde luego, su preocupación por las ciencias que el día de hoy se llaman duras (puede advertirse con claridad, en tanto que el ensayo sobre Cuba, en su primera edición española, se abre con un mapa preciso de la isla; y en los planos y los mapas de la Nueva España). Pero no es menos cierto que sus preocupaciones poco a poco se amplían y abarcan, desde entonces, además de los aspectos naturales, todos los temas sociales: desde lo militar, lo histórico, lo lingüístico, lo económico, lo demográfico, hasta lo arqueológico y lo político.¹⁰ Se puede afirmar que Humboldt, sin abandonar jamás su claro interés por la astronomía, la meteorología, la orografía, la botánica, la mineralogía, la hidrografía o la zoología (ciencias que van del cielo al centro de la tierra; de los astros y la atmósfera a los seres vivientes y la estructura subterránea); sin abandonar todo lo que es competencia de las ciencias naturales, se siente cada día más inclinado a prestar su atención a las ciencias históricas y sociales. Ese interés humboldtiano nace, a mi juicio, a su paso por los países andinos; pero se intensifica en Cuba y la Nueva España.

Así, la vasta obra americana de Humboldt se puede examinar desde diversos ángulos. Por lo general, se destaca en ella apenas lo que sirve para la gloria particular de un país americano, de manera que se le convierte en el héroe

8. *Vistas de las cordilleras y monumentos de los pueblos indígenas de América*, traducción, notas y prólogo de Jaime Labastida, Siglo XXI Editores, México, 1995.

9. *Essai politique sur le Royaume de la Nouvelle Espagne*, Schoell, París, 1808-1811 y *Relation historique du Voyage aux régions équinoxiales du Nouveau Continent*, volumen III, Smith et Gide, París, 1825 (el *Essai politique sur l'île de Cuba* va de la página 345 a la 501). Cabe aclarar que Humboldt publicaba sus libros por pliegos que después reunía en volumen; de allí que las fechas de publicación de varios de los tomos abarque tres o más años.

10. Ver *Ensayo político sobre la Isla de Cuba, con un mapa*, traducción de D. J. B de V. y M., Casa de Jules Renouard, París, 1827. El título más notable en este sentido es, sin duda, la *Relation historique*. (Los tres volúmenes fueron editados en fechas muy distantes entre sí: el primero en 1814, en la Imprenta de Dufour; el segundo, en 1819, en la Imprenta de Maze y el tercero en 1825, en la Imprenta de Smith y Gide, los tres en París).

intelectual, respectivamente cubano, venezolano, peruano, colombiano o mexicano (aunque en México, a partir de las tesis denigrantes de Juan Ortega y Medina, se tienda a denostarlo).¹¹ Desde este enfoque, la tarea científica de Humboldt sólo parece adquirir relevancia en virtud del objeto (nacional) de su investigación. Pero hay otro aspecto que también se pone en relieve y es el que se relaciona con los objetos particulares de sus libros: la historia, por un lado; la geografía o la botánica, por el otro; en fin, la cartografía o la vulcanología: así, es el objeto de su estudio (y no el método), lo que destacan algunos historiadores de la ciencia.

En todos esos trabajos, la obra de Humboldt es vista como si se tratara de una construcción científica sin fisuras, homogénea, sin un solo corte en su interior; en suma, se la examina desde el ángulo sincrónico. Queda en la sombra el lento proceso diacrónico que le condujo a sus conclusiones. Por el contrario, creo que, a la luz que arrojan los tres gruesos volúmenes de su *Relation historique...*, se puede advertir cómo hay un proceso, un cambio gradual de actitud en sus intereses. Por lo demás, todo lo que Humboldt realiza en los cinco años de su viaje, el conjunto de los materiales que recoge, se debe ver como un trabajo de campo que, en el curso de los treinta siguientes, habrá de ser digerido y examinado por el sabio prusiano, con la ayuda de sus amigos, los mejores científicos de la época: de Pierre Simon de Laplace a Joseph Gay-Lussac, de François Arago a Claude Louis Berthollet, de Jean Lamarck a Georges Cuvier, de S. Kunth a Jabbo Oltmanns. Por esta causa, los treinta volúmenes del *Voyage...*¹² deben ser vistos como un trabajo de equipo o como una vasta colaboración interdisciplinaria, un esfuerzo editorial artístico y científico a la vez. Lo que asombra es que esta vasta tarea se deba al esfuerzo y, desde luego, a los recursos económicos de un solo hombre. Humboldt sufragó de sus rentas, hasta agotarlas, la edición del *Voyage...* (veinte volúmenes *in folio* y diez en *gran in quarto*, con el mejor papel, en las mejores imprentas, todos encuadernados en piel, con grabados a color, obra de grandes artistas). Si gastó la totalidad de su herencia, hasta arruinarse, al publicar estos treinta títulos, diré que también pagó de su bolsa a dibujantes y grabadores que hicieron láminas de flores, simios, peces, mariposas, moluscos, aves, códices, mapas, pirámides y monumentos arqueológicos que llenan las páginas de libros, admirables por su belleza y precisión.

Cuando Humboldt arriba a la Nueva España dice que, “Entre las colonias sujetas al dominio del rey de España, Méjico ocupa actualmente el primer lugar, así por sus riquezas territoriales como por lo favorable de su posición

11. Ortega y Medina, Juan A. 1966. “Estudio preliminar” a *Ensayo político sobre el reino de la Nueva España*, Porrúa, México.

12. El primer volumen se publicó en 1805 (*Géographie des plantes*, del que ya di noticias); en 1836 el último, la *Histoire de la Géographie du Nouveau Continent et des progrès de l'astronomie nautique aux XV et XVI siècles comprenant la découverte de l'Amérique* (Gide).

para el comercio con Europa y Asia. No hablamos aquí sino del valor político del país, atendido su actual estado de civilización que es muy superior al que se observa en las demás posesiones españolas.”¹³ Además de advertir el alto grado que en la Nueva España habían alcanzado las investigaciones científicas (que se hacía expreso en instituciones del más alto nivel, como el Real Seminario de Minería, el Jardín Botánico y la Real Academia de Artes de San Carlos, o sea, las instituciones fundadas por Carlos III, las modernas, las opuestas a las escolásticas como la Universidad, por aquel entonces Real y Pontificia), Humboldt se da cuenta del nivel de desarrollo alcanzado por las altas culturas de Mesoamérica, indaga por la población del reino, somete a crítica y sujeta al mismo principio las estadísticas de la producción minera, el comercio interior y exterior, la producción agrícola y el estado de los caminos. En suma, Humboldt reduce cuanto dato obtiene a los patrones exactos y constantes que permitan valorarlo en sí mismo y en su evolución histórica. Así, se valdrá de un instrumento teórico, rico y preciso: la Economía política moderna; la Economía política inglesa, la ciencia fundada por Adam Smith y Robert Malthus, a los que una y otra vez cita de manera elogiosa.¹⁴ Pero nada de eso es, a mi juicio, lo que asombra más. Lo que en verdad resulta decisivo es ver que el sabio prusiano afina, de modo cada vez más acerado y llevado por su implacable celo por el rigor, su instrumento teórico.

¿Qué instrumento teórico, del que no se habrá de desprender jamás, será éste? Lo revela en el *Cosmos* y lo llama “un empirismo razonado.”¹⁵ “La naturaleza considerada racionalmente, es decir, sometida en su conjunto al trabajo del pensamiento, es la unidad en la diversidad de los fenómenos, la armonía entre las cosas creadas (que difieren por su forma, su constitución propia y las fuerzas que las animan), es el Todo (to pan), penetrado por un soplo de vida.” Más: “No se trata de reducir el conjunto de los fenómenos sensibles a un pequeño número de principios abstractos, que tengan por base la sola razón. La física del mundo, tal como aquí intento exponerla, no tiene la pretensión de elevarse a las peligrosas abstracciones de una ciencia puramente racional de la naturaleza. Es una *geografía física*, unida a la *descripción de los espacios celestes* y de los cuerpos que llenan estos espacios. Extraño a las profundidades de una filosofía puramente especulativa, mi ensayo sobre el Cosmos es la contemplación del universo, fundado sobre un empirismo razonado.”¹⁶ Humboldt se aparta de quienes se afanan por recoger

13. *Ensayo político sobre el Reino de la Nueva España*, traducción de Vicente González Arnao, edición facsimilar de la hecha en París, en Casa de Rosa, en 1822, Miguel Ángel Porrúa, México, 1985. Prólogo de Jaime Labastida. La cita viene de las págs. 8-9.

14. Juan A. Ortega y Medina, por razones que ignoro, hace de Humboldt ¡un fisiócrata!

15. *Cosmos. Essai d'une description physique du Monde*, traducción M. H. Faye y Ch. Galuski, Guérin, París, 1866-1867. El prólogo fue escrito por Humboldt, en francés, para esa edición.

16. *Cosmos, op. cit.*, págs. 3-4 y 35-36 del primer tomo.

tan sólo los *hechos*, sin integrarlos en un cuerpo sólido de doctrina, en un marco teórico que les otorgue coherencia, como de quienes realizan un trabajo *especulativo* (la referencia casi ofensiva a Hegel es de suyo evidente: acababa de publicarse la *Enciclopedia de las ciencias filosóficas*, cuya primera sección es la “Naturaleza”).¹⁷

Uno de los asuntos más importantes a los que Humboldt le dedicó su atención, al menos en el contexto en que deseo situar sus investigaciones ahora, es lo que realizó acerca de las altas culturas mesoamericanas; más concretamente, sobre el sistema calendárico de los antiguos nahuas. En la ciudad de México vio los códices que fueron de la colección Boturini. Su asombro es de tal modo vivo que de inmediato empieza a revolver los archivos y a leer todos los libros de historia que puede; trae ante sus ojos los más importantes monumentos mesoamericanos: hace que sea desenterrada, otra vez, la Coatlicue, que la autoridad virreinal había sustraído a la atención del público; reproduce las pirámides de Mitla y de Xochicalco; por encima de todo, examina con atención el calendario de los antiguos mexicanos, tal como lo halla plasmado en la así llamada Piedra del Sol. Su interés, despierto en la Nueva España, cobra nuevo ímpetu al volver a Europa. Allí, rebusca en los archivos. En Roma, en los del Vaticano y Veletri (donde rescata el Códice Borgia); en Viena reencuentra el Vindobonensis; en Dresden, el Códice que lleva ese nombre y reproduce varias de sus láminas; en suma, llama otra vez la atención de los sabios europeos sobre las antiguas altas culturas del Nuevo Continente y reanuda una tradición que se había perdido en la época del racionalismo. Añado que su interés no se plasmó en observaciones precisas, sino que reprodujo varias láminas (unas a color; en blanco y negro otras), realizadas en Italia, Prusia y Francia por grandes grabadores europeos. Todo cuanto halló en Europa o se llevó de aquí fue objeto de su curiosidad (eso pasó con el Códice de su nombre, depositado en el Gabinete del Rey de Prusia).

Debo decir que sus investigaciones naturales y el ejemplo de su viaje, en el aspecto estrictamente científico, fueron un impulso decisivo para el joven Charles Darwin (quien lo cita con respeto y aun con entusiasmo¹⁸). Humboldt despertó, por lo mismo, el interés del benemérito Lord Kingsborough en Inglaterra, así como de los antropólogos y arqueólogos alemanes. Si toda Europa está llena de monumentos egipcios y griegos; si los obeliscos egipcios llenan las plazas de Roma y de París, lo cierto es que Alemania posee, al lado de ejemplos de esas culturas, gran cantidad de piezas arqueológicas

17. Georg Friedrich Wilhelm Hegel, *Enciclopedia de las ciencias filosóficas*, traducción de Eduardo Ovejero y Maury, Ediciones Libertad, Buenos Aires, 1944.

18. Ver Charles Darwin, Carta a J. A. Hooker, del 10 de febrero de 1845. Sarukhán, por lo demás, se ocupa ampliamente de este asunto en el prólogo a *Geografía de las plantas*, ya citado.

mesoamericanas. El impulso inicial por estas culturas amerindias lo dio Alejandro de Humboldt. Podría decir que hay una clara línea de investigación antropológica y arqueológica alemana, que arranca de Humboldt y que culmina en los trabajos de Eduard Seler y Konrad Theodor Preuss. Es necesario señalar una línea de investigación rigurosa que va de Bernardino de Sahagún y llega a Humboldt y de éste a nuestros días. ¡Asombroso! El año que se conmemoró el V Centenario del nacimiento del fraile agustino y el bicentenario del arribo de Humboldt a tierras de América fue el mismo: 1999.

Humboldt es un investigador de primer orden en este campo, el de la antropología y la comparación razonada de las antiguas altas culturas de uno y otro hemisferio, terreno que apenas empezó a explorarse en su tiempo. Humboldt es, por esta causa, al lado de Sahagún, uno de los pilares fuertes de la antropología científica. Me atrevo a decir que el desarrollo de la investigación sobre las culturas amerindias debe ser indicado por un antes y un después; o sea, un AH (antes de Humboldt) y un DH (después de Humboldt).

Me explico. No me refiero sólo al hecho, evidente, de cómo Humboldt acelera el proceso de investigación y lo decanta. Si antes de él, a todos los investigadores los detiene un prejuicio (digo, el de no contradecir las Sagradas Escrituras), Humboldt rompe con todas estas ataduras. Bernardino de Sahagún, Andrés de Olmos, Joseph de Acosta, Carlos de Sigüenza o Lord Kingsborough se preocupan por hacer compatibles el hallazgo del Nuevo Mundo con lo que ha sido establecido en las Sagradas Escrituras. Humboldt, en cambio, sigue un método luminoso: el de las comparaciones universales. Ya dije: Humboldt compara la lengua y el calendario de los nahuas con las lenguas y los calendarios de los pueblos del Antiguo Continente. Su intento es válido en nuestros días, cuando vemos que la mayor parte de los investigadores cierra el abanico y permanece en lo que se debería llamar concepción endógama de las culturas amerindias, como si el desarrollo de todos los pueblos del mundo no siguiera un curso en lo fundamental uniforme. Los investigadores modernos asumen una idea cerrada: los conceptos que usan son sólo válidos para este continente y esta cultura; ni siquiera hacen comparaciones entre la mitología de un pueblo y otro. Se limitan a describir mitos mesoamericanos. Humboldt no procede así. Por el contrario, sobre la base del calendario nahuatl, intenta una comparación llena de luz entre las civilizaciones de este y del otro lado del Atlántico. Esta es la causa de que Paul Kirchhoff haya dicho, no sin razón, que estas investigaciones de Humboldt eran un reto, aún no superado.¹⁹

¿En qué sentido estimo que la aportación de Humboldt a las ideas nahuas del tiempo no ha sido superada? En un sentido, tal vez por encima de otros:

19. Kirchhoff, Paul. 1962. "La aportación de Humboldt al estudio de las antiguas civilizaciones americanas: un modelo y un programa," *Ensayos sobre Humboldt*, UNAM, México.

Humboldt advierte que la idea que del tiempo poseían los pueblos mesoamericanos era indisoluble de su idea del espacio. Lo diré de otra manera: Humboldt advierte que los nahuas medían simultáneamente el tiempo y el espacio. Puedo aún decirlo de otro modo: los amerindios no habían escindido en dos conceptos el tiempo y el espacio. ¿Cómo capta Humboldt el hecho? Porque ve que las medidas del espacio son también medidas del tiempo. ¿De qué modo lo advierte? Al examinar el zodíaco del pueblo nahuatl y advertir que en él se plasman los animales que indican las casas del Sol. Los pueblos mesoamericanos carecían del concepto abstracto de tiempo; no medían el tiempo considerado en sí mismo. Dije en otro lugar que los pueblos mesoamericanos veían el tiempo con los ojos: podrá preguntarse si es posible tal cosa. Respondo que sólo si se ve cómo pasa el Sol, a lo largo del año, por las casas del cielo; si se ven y se dibujan los pasos o las huellas *de los pies del Sol* en la bóveda celeste: así se divide el cielo en segmentos espaciales que corresponden a la superficie de la tierra: el espacio sagrado de la ciudad guarda una estricta correspondencia con la bóveda celeste. El concepto heleno de templo, que se apoya en el verbo *temnw*, nos explica bien el asunto. *Temnw* significa *cortar, dividir*. ¿Qué se corta? Se trata en verdad de la delimitación sagrada: se establece el límite o la frontera, el recinto donde reside el dios. Para los nahuas, ese recinto, ese templo no era, como el templo griego o el cristiano, un lugar cerrado: era el gran espacio abierto del centro ceremonial. El concepto decisivo es el de *gnwmwn*, el instrumento astronómico que permite medir (sin que haya posibilidad de ningún error, pues se trata de una máquina solar precisa) el movimiento del Sol por equinoccios y solsticios (por sus casas). Si los egipcios y los griegos construyeron sus relojes solares con varillas de diversos tamaños, los amerindios usaron una máquina solar de asombrosa precisión: la ciudad ceremonial era un organismo por el que se veía cómo el Sol se ponía o elevaba en un sitio determinado el 21 de diciembre (solsticio de invierno) y en otro, en el extremo opuesto del centro ceremonial, el 21 de junio (solsticio de verano). El Sol se situaba a la mitad de aquella enorme ciudad en los equinoccios de primavera (21 de marzo) y otoño (21 de septiembre). Mesoamérica dispuso de calendarios de una extrema precisión.²⁰ Esos calendarios solares no fueron el fruto, a mi juicio, de un cálculo mental abstracto, sino de una observación directa. La corrección del calendario ritual se hacía de conformidad con lo que establecía el año trópico. El año trópico de los pueblos mesoamericanos (como, en general, el de los pueblos que viven en el hemisferio norte) termina en el solsticio de invierno. Tras el 21 de diciembre se hacía la necesaria intercalación de días vanos (o *nemontemi*): un pequeño período de 4 o 5 días (un pequeño mes), que precede al inicio del calendario ritual.

20. Ver: Edmonson, Munro S. 1995. *El calendario mesoamericano*. UNAM, México.

Esto es lo que, en el fondo, establece con claridad meridiana el sabio prusiano, al examinar el calendario a través de la Piedra del Sol. Humboldt no sólo mostró el orden de los días y los meses (por series periódicas), sino que advirtió el modo como podían coincidir el calendario ritual y el solar (el año trópico, que se determina por el movimiento aparente del sol entre los dos trópicos—el de Cáncer, en el hemisferio norte y el de Capricornio, en el hemisferio sur). Humboldt comprende que el pueblo nahua necesita medir con rigor el movimiento del Sol para así establecer el tiempo de la siembra y la cosecha. Por esto, concluye que el calendario mexicano era el de un pueblo agrícola, como lo fue también el egipcio. Humboldt dice, con toda razón, que los pueblos nómadas miden el tiempo por las lunaciones, mientras que los pueblos agrícolas se rigen de acuerdo con el movimiento aparente del Sol: los nahuas eran sedentarios y medían el tiempo por el Sol y el cambio de las estaciones.

Humboldt también examinó el mito de Los Cinco Soles, que se conecta con el calendario y el nacimiento de un tiempo mítico a la vez que histórico. Se trata siempre del nacimiento de un pueblo y, por lo mismo también, del nacimiento de una ciudad (del centro ceremonial que determinará el movimiento riguroso del Sol que se mueve cerca, aquí, porque anda escondido entre las nubes, a su vez llenas de agua seminal, o metido en las fauces del Monstruo de la Tierra, en el inframundo, repleto de agua). El nacimiento mítico del cosmos ha de coincidir con el nacimiento del pueblo y la ciudad en donde el pueblo realiza sus sacrificios y ceremonias. Entendamos el concepto. El centro ceremonial era el ombligo y en la explanada, ya abajo del *teocalli*, el *tlahtoani* realizaba el sacrificio ritual (¿debo decir que, según el lingüista Émile Benveniste, la palabra *sacerdos* significa en su origen el que vuelve sagrado, por la muerte, a la víctima propiciatoria? El sacerdote es un hombre que lleva sobre sus espaldas un estigma; no puede ser tocado: es tabú, como lo era el *tlahtoani* nahuatl: tocarlo produce la muerte). El hombre nahuatl tenía prohibido matar: por la guerra florida obtenía los cautivos, las tortillas frescas para el comal del dios, como lo recuerda Miguel León-Portilla. En la gran explanada, el pueblo asiste, como testigo sobre quien recae la responsabilidad, al asesinato de que allá arriba es objeto el prisionero en la pirámide trunca donde se halla la casa del dios. La pirámide es un cerro, el punto mítico de contacto entre el cielo y la Tierra. Como los árboles y las plantas, la pirámide nace de la Tierra y se une a ella por sus cimientos. Para mantener el lazo mítico, el monolito tiene en su base el relieve de un dios, por caso, a Mictlantecuhtli, Señor del Inframundo o de la región subterránea; o a Tlaltecuhltli, el Señor de la Tierra. Estos tres espacios sagrados (la superficie terrestre, el inframundo y el cielo) entran en estrecho contacto entre sí: el ombligo es el centro de la Tierra y al tiempo el centro de la ciudad. Alrededor

del centro, el agua y el Sol giran (y producen el signo ritual del *nahui ollin*). De la bóveda celeste cae el agua, semen divino, licor que embriaga y fecunda: sangre y vida. Las pirámides son seres vivos que, como las plantas, necesitan de un espacio para respirar: ese espacio lo otorga el viento, que separa a los padres, el cielo y la Tierra. Todo cuanto digo, me lo hizo notar Humboldt. Mi proposición desarrolla sus tesis. Racionalista como era, Humboldt, no podía comprender una visión mítica de la vida y del cosmos, pero en su tesis está, en germen, lo que aquí he dicho.

Ahora bien, creo que es necesario preguntar cuál Humboldt, de entre los varios que su misma obra contiene, influyó (y cómo lo hizo) en los sabios novohispanos, primero, y en los científicos y los políticos del México independiente, luego. El barón prusiano entró en contacto con los ilustrados de la Nueva España, en el año escaso que radicó en ella: los ilustrados hallaron en él a un interlocutor de primer nivel. ¿A quiénes cita, con quiénes convive? Diré de entrada que, para él, no existe diferencia sensible entre españoles criollos y peninsulares ni advierte síntoma alguno de los graves gérmenes que incubarán la posterior (ya inminente) guerra de independencia. Al contrario, dice en la Introducción al primer volumen de la *Relation historique...*: “Desde que abandoné América, una de esas grandes revoluciones que agitan de tiempo en tiempo a la especie humana ha estallado en las colonias españolas; parece que ha de preparar nuevos destinos a una población de catorce millones de habitantes, al propagarse del hemisferio austral al hemisferio boreal; desde las riberas del río de La Plata y Chile hasta el norte de México. Odios profundos, provocados por la legislación colonial y sostenidos por una política desconfiada, han hecho correr la sangre en países que gozaban desde tres siglos atrás, no diré que de la felicidad, pero sí de una paz nunca interrumpida.” Luego añade, con dolor no fingido (puesto que evoca a su amigo Carlos Montúfar): “Ya han perecido en Quito, víctimas de su devoción por la patria, los ciudadanos más virtuosos y más esclarecidos.”²¹

Humboldt percibe en la América española la presencia de una legislación incorrecta, junto a una política desconfiada (obvio que frente a los españoles criollos, ya que son éstos los que desatan la guerra de independencia). Eso es todo. En el *Ensayo político sobre el reino de la Nueva España*, que dedica al rey Carlos IV, no se hace en ninguna parte mención de los peligros posibles; tampoco en los diarios de viaje. Lo que llama la atención del barón prusiano es que las ideas modernas llegan con mayor facilidad a los puertos que al interior del continente. Se ve que Humboldt, antes de 1810, no percibe ningún germen de la independencia; que, vistos desde un ángulo diacrónico, sus críticas políticas empiezan a perfilarse en los tres volúmenes de la *Rela-*

21. Humboldt, Alexander Von. 1814. *Relation historique du Voyage au régions équinoxiales du Nouveau Continent*, volumen I, Dufour, París (sigo la edición facsimilar hecha por Brockhaus, Stuttgart, 1970, pág. 36).

tion historique... (aunque elementos de crítica, económica sobre todo, se perciban en el *Ensayo político sobre el reino de la Nueva España*, de 1808 a 1811).

Así, aquellos ilustrados a los que cita con respeto son, todos, peninsulares: los químicos y mineralogistas Manuel Andrés del Río y Fausto de Elhúyar; el arquitecto Manuel Tolsá; el pintor Rafael Ximeno y Planes; los intendentes de Puebla, Manuel de Flon y de Guanajuato, Juan Antonio Riaño; los obispos de Valladolid de Michoacán, Antonio de San Miguel y Manuel Abad y Queipo... Lo que decide su juicio, favorable o desfavorable, es el carácter de sus ideas: si son modernos o atrasados; si liberales o conservadores, no el hecho de que sean criollos o peninsulares: sabe que tanto unos como otros son de nacionalidad española. En la capital de la Nueva España deja tres documentos de primera importancia: el mapa del vasto territorio que, a petición de Elhúyar, hizo dibujar para el uso de la Real Escuela de Minas (el original lo conservó consigo; luego permitió que en Estados Unidos se le hiciera una copia; finalmente lo publicó en su *Atlas géographique et physique du Royaume de la Nouvelle-Espagne*, 1812);²² apéndice al *Tratado de Orictognosia*, de Manuel Andrés del Río²³ y las *Tablas geográficas políticas del Reyno de la Nueva España*, cuyo manuscrito es conservado en el Archivo General de la Nación, de México.²⁴

¿Qué destaque aquí? Un hecho decisivo. Humboldt cita a sus pares, sin duda; pero el primer escritor que en la Nueva España cita a Humboldt, hasta donde mis conocimiento alcanzan, es el obispo de Michoacán, Manuel Abad y Queipo, en uno de los escritos que le dirige a la Corona española para defensa de los campesinos de la Nueva España.²⁵ ¿Qué cita Abad del barón de Humboldt? ¿Acaso algún pasaje del *Ensayo...*? Imposible: aún no había sido publicado. La cita tiene carácter económico y ha sido tomada del manuscrito de las *Tablas geográficas políticas del reyno de la Nueva España*, que obraban en poder del virrey José de Iturrigaray, un texto al que Abad tuvo

22. La primera edición la hizo Dufour, en París, en 1812. Hay edición española reciente en Siglo XXI Editores, México, 2003, con Introducción de Elías Trabulse y Apéndice de Jaime Labastida.

23. "Introducción a la pasigrafía geológica," apéndice al *Tratado de orictognosia*, de Manuel Andrés del Río, Imprenta de Mariano Zúñiga y Ontiveros, México, 1805 (hay edición facsimilar reciente en Alexander Von Humboldt, *Tablas geográficas políticas del reyno de Nueva España*, Siglo XXI Editores, México, 2003).

24. La primera edición facsimilar de las *Tablas...* fue hecha en 1999, en tiraje de 100 ejemplares, por el Archivo general de la Nación. La edición de Siglo XXI es más amplia e incluye las cartas de Humboldt sobre Nueva España y México, además del Diario de viaje (de Acapulco a Veracruz), así como la "Introducción a la pasigrafía geológica," en facsímil.

25. Abad y Queipo cita a Humboldt en el "Escrito presentado a D. Manuel Sixtos Espinosa, del consejo de estado..." en Madrid, el año de 1807 (*Colección de los escritos más importantes que en diferentes épocas dirigió al gobierno* D. Manuel Abad Queipo, Obispo electo de Michoacán, En la Oficina de Mariano Ontiveros, México, 1813 (el escrito va de la página 95 a la 112).

acceso directo. Corría el año de 1807 y, como ya dije, el manuscrito de Humboldt fue publicado, en su versión original, 195 después, en el Bicentenario de su viaje al continente americano. La obra política de Humboldt, en particular, el *Ensayo político sobre el reino de la Nueva España*, no tuvo, por lo tanto, la más mínima influencia sobre el curso de los acontecimientos sangrientos que, a partir de 1810, se desarrollaron en los territorios americanos que se hallaban sujetos al dominio de España. *El Ensayo político sobre el Reino de la Nueva España* fue publicado en español en 1823, pero con severos cambios, ya consumada la independencia, en París.²⁶

El segundo investigador que se apoya en Humboldt es José María Luis Mora: le interesa el Humboldt economista y político. La mención que Mora hace de Humboldt es profusa, particularmente en *Méjico y sus revoluciones*, editado en París en 1836. Allí, el Dr. Mora utiliza los juicios de Humboldt sobre el estado de las minas, la población del país y el conocimiento de las obras revolucionarias de los filósofos franceses.²⁷ Pero lo cita igualmente, a propósito del estado que guardaban las artes en la Nueva España, en sus *Obras sueltas*, también editadas en París el año de 1837.²⁸

El tercero es Lucas Alamán quien, en su carácter de Ministro de Relaciones Exteriores, invita a Humboldt a residir en México; lo cita luego en su *Historia de Méjico*, donde levanta una crítica que tendrá amplia repercusión: “El gobierno de Madrid, desestimando el recelo y precaución con que hasta entonces se había procedido, evitando que los extranjeros tuviesen conocimiento de las cosas de América, permitió que el barón de Humboldt visitase Venezuela, Nueva Granada, Perú y Méjico. Sus observaciones fueron no sólo astronómicas y físicas, sino también políticas y económicas, y su *Ensayo político sobre Nueva España* hizo conocer esta importante posesión a la España misma, en la que no se tenía noticia exacta de ella; a todas las naciones, cuya atención despertó y a los mejicanos, quienes se formaron un concepto extremadamente exagerado de la riqueza de su patria, y se figuraron que ésta, siendo independiente, vendría a ser la nación más poderosa del universo.”²⁹

26. *Ensayo político sobre el reino de la Nueva-España*, traducido al español por Vicente González Arnao, Casa de Rosa, París, 4 volúmenes, 1822 (hay edición facsimilar reciente, Miguel Ángel Porrúa, México, 1985, con Prólogo de Jaime Labastida).

27. José María Luis Mora, *Méjico y sus revoluciones*, Porrúa, México, 1950, especialmente en los dos primeros volúmenes (en los que se refiere a los temas citados).

28. José María Luis Mora, *Obras sueltas*, segunda edición, Porrúa, México, 1963, pág. 128 y ss. Mora se refiere a un pasaje de Vues des cordillères... en el que Humboldt habla de Tolsá y de la estatua ecuestre de Carlos IV (Lámina III, “Vue de la grande Place de Mexico”).

29. La carta de Alamán es del 21 de julio de 1824 (en la ya citada edición de *Tablas geográficas políticas...*, pág. 189). Ver, para la cita siguiente, *Historia de Méjico, desde los primeros movimientos que prepararon su independencia en el año de 1808 hasta la época presente*, Imprenta de Lara, México, 1849, I, pág. 141 y ss. (Modernizo la ortografía y concentro la cita.)

Es sintomático que tanto liberales como conservadores vean en Humboldt a la autoridad política y económica de máximo nivel: acaso sea un índice de la contradicción interna de su pensamiento.

A partir de la segunda mitad del siglo XIX, otro Humboldt empieza a ocupar un lugar destacado en nuestra historiografía: es el Humboldt historiador, lingüista y antropólogo, el autor de *Vues des cordillères et monumens des peuples indigènes de l'Amérique*.³⁰ En ese campo destaca, antes que ninguno, Joaquín García Icazbalceta, dueño de una edición *princeps*, en dos volúmenes, del título citado. Luego, Manuel Orozco y Berra y Alfredo Chavero, en el tiempo inmediatamente posterior,³¹ tienen conocimiento amplio de la obra, vasta y múltiple, de Humboldt y no se limitan al *Essai politique sur le Royaume de la Nouvelle-Espagne*. Por ejemplo, Orozco y Berra, en su *Historia antigua y de la conquista de México*, cita lo mismo el *Essai politique* que el *Examen critique de la l'Histoire de la Géographie du Nouveau Continent* o las *Vues des cordillères...* Por otra parte, en *Apuntes para la historia de la geografía en México*, Orozco y Berra utiliza constantemente la obra política, geográfica y económica de Humboldt, a quien cita no menos de 44 ocasiones³².

Por último, destaco la atención que a la obra del barón prusiano le concedió Alfredo Chavero. En *Historia antigua y de la conquista*, afirma: “Humboldt estudia los jeroglíficos que encuentra en los museos de Europa, viene y examina nuestros monumentos, y su poderoso genio abarca, ya no los relatos de los cronistas, sino la comparación y la historia de las civilizaciones;” nos enseña que los estudios de las antigüedades mexicanas deben apoyarse en “fuentes primitivas”; así, “abrió nuevos caminos a nuestros estudios.”³³

Humboldt fue un científico de dimensión universal, tal vez el más importante de los científicos de la primera mitad del siglo XIX (antes de Darwin, fueron las tesis y el método de Humboldt los que influyeron más sobre los hombres de ciencia). Es mezquina la tesis que le reprocha haber plagiado a los sabios novohispanos o haber silenciado sus aportaciones, cuando lo que hizo fue discriminar tan sólo sus fuentes de información. El mejor homenaje

30. La primera edición de estos dos volúmenes se hizo en 1810. Hay edición española en Siglo XXI Editores, México, 1995 (traducción, notas y Estudio preliminar de Jaime Labastida).

31. Diré que el ejemplar del que traduje *Vistas de las cordilleras...* fue propiedad de estos enormes historiadores de México: en sus guardas se conservan sus *ex libris*.

32. Manuel Orozco y Berra, *Historia antigua y de la conquista de México* (primera edición, Tipografía de Gonzalo A. Esteva, México, 1880; sigo la edición preparada por Ángel María Garibay y Miguel León-Portilla, Porrúa, México, 4 volúmenes, 1960). Los *Apuntes para la historia de la geografía en México* han sido reproducidos facsimilarmente por la Fundación Miguel Alemán, México, 1993.

33. Alfredo Chavero, *Historia antigua y de la conquista*, tomo I de *México a través de los siglos*, bajo la dirección de Vicente Riva Palacio, México, 1884, págs. LVII-LVIII.

que se le debe hacer hoy, en el siglo XXI, es ahondar en sus huellas y desarrollar, con rigor, lo que él apenas empezó a desbrozar.

Humboldt no fue un espía, que hubiera puesto en las manos de Thomas Jefferson, el presidente de Estados Unidos, el mapa que 43 años más tarde serviría para que México fuera invadido. Lo que Humboldt entregó a Jefferson lo había entregado a las autoridades novohispanas y lo publicó sin restricciones luego, para uso de todos los hombres de ciencia.³⁴ Humboldt debe ser estudiado, antes que admirado; ser objeto de análisis serios, antes que de diti-rambos por parte de sus partidarios o de diatribas por parte de sus enemigos.

34. Mi ensayo "Humboldt, México y Estados Unidos. Historia de una intriga," en el *Atlas* (*op. cit.*).

A ‘Romantic’ Encounter with Latin America

Elizabeth Millán-Zaibert

In a curious German text from 1796, an impassioned plea (not unrelated to a certain revolutionary enthusiasm that marked this period of German thought) was made to unite science and poetry. The text’s title, “The Earliest Program for a System of German Idealism,” is misleading, for the text does not really set out to deploy German Idealism, but it rather calls, in piecemeal fashion, for a move away from mechanistic models of understanding natural and social reality—invoking a new mythology that will join science and art, lawfulness and freedom.¹ According to the text, “the highest act of reason is an aesthetic act,” and so “the philosopher must possess as much aesthetic power as the poet.”² Those individuals lacking in aesthetic sense will remain limited beings, “in the dark when it comes to anything beyond graphs and charts.”³ In other words, those people who do not know how to handle ideas will be limited to the mechanistic realm of the quantifiable. With its focus on the intimate relation between poetry and philosophy, and the move to provide culture with an aesthetic point of orientation, this short, pithy piece can be read as a kind of romantic manifesto.

It would seem, at first glance, that no reputable scientist would want to be associated with the goals of such a manifesto, for scientists strive to orient culture via laws of nature, and laws are subject to strict rules, and put together into theories (not myths) supported by the data of those despised “graphs and charts” to which the author of the text makes reference. In con-

1. The misleading title was provided by Franz Rosenzweig, who found and published the manuscript in 1917. The text was found in the handwriting of Hegel, yet scholars still disagree about the identity of the text’s author (Hegel, Hölderlin, and Schelling are each viable candidates).

2. “Earliest Program for a System of German Idealism,” in *Theory as Practice. A Critical Anthology of early German Romantic Writings*, translated and edited by Jochen Schulte-Sasse “et al.” (Minneapolis: University of Minnesota Press, 1997): 72-73, p. 72.

3. *Ibid.*, p. 73.

trast, art is the product of freedom and comes into being precisely as it moves beyond established laws, beyond the quantifiable—one does not measure beauty: one appreciates it. What connection could there be between a call to move beyond the “charts and graphs” of the empirical scientists and the serious work of a scientist such as Alexander von Humboldt? In what follows I shall argue that there is an important connection.⁴

The best way to explain this connection is to explore the link between Humboldt’s work and a philosophical movement that highlighted the aesthetic and historical dimensions of reality. I refer to early German Romanticism, a movement that flourished in Jena and Berlin between the years of 1794 and 1808, which included thinkers such as brothers August Wilhelm and Friedrich Schlegel, Friedrich von Hardenberg (Novalis), Friedrich Schleiermacher, Dorothea Mendelssohn Schlegel, and Caroline Schlegel Schelling. In order to analyze the relation between Romanticism and Humboldt’s work, I will focus upon the connections between some features of his approach to understanding the world and the central insights of Friedrich Schlegel, the leading philosopher of the early German Romantic Movement. The romantic connection that I shall explore will shed light on Humboldt’s contribution to the development of “Naturphilosophie,” a contribution that has too long been overlooked by philosophers in Europe and the United States.

In Latin America there is no such neglect of Humboldt’s work, but rather a long tradition of taking Humboldt seriously, not only as a scientist but as a humanist whose vast knowledge of the region helped to promote progress there and also led to a more enlightened image of Latin America in Europe. As a result of Humboldt’s serious engagement with the land, people, and political structures of Latin America, he has been heralded by intellectuals there as the first great thinker of modernity, a father of the independence movements, and (somewhat problematically) as the “scientific discoverer” of America.⁵

Humboldt’s long relation with Latin America began when he and his traveling companion, the French botanist, Aimé Bonpland were given permission by the Spanish Crown to explore the Spanish colonies of the New World. On June 5, 1799, they sailed from Spain in a ship called the “Pizarro,” stopped off at the Canary Islands, and arrived in Cumaná, Venezuela on July 16, 1799.⁶ They explored the coast and then penetrated inland, to the Orinoco and

4. In his introduction to the edited collection of Humboldt’s writings, *Alexander von Humboldt: Über die Freiheit des Menschen* (Frankfurt a.Main: Insel, 1999), Manfred Osten also makes a connection between this text and Humboldt’s work in order to analyze the central role that the idea of freedom played in shaping Humboldt’s thought.

5. See, for example, Leopoldo Zea, “Humboldt en la modernidad,” “Cuadernos Americanos” 4, Nr. 76 (1999): 11-15; Ibid., “Humboldt y el otro descubrimiento,” “Cuadernos Americanos” 6, Nr. 78 (1999): 11-19.

Rio Negro rivers, collecting data as they went. In Caracas, Humboldt met with individuals who would prove to be critical political and intellectual figures of the period, such as Andrés Bello and Simón Bolívar. Humboldt and Bonpland's travels took them to Cuba, Colombia, Ecuador, Peru, Mexico, and to the United States (where Humboldt met Thomas Jefferson and began a lifelong friendship with him). They returned to Europe (Bordeaux) on August 3, 1804, and Humboldt began work on his narrative of the five-year voyage to the equinoctial regions of the earth, a project that was to consume his time and his finances for most of the rest of his life. The published work consisted of 30 folio volumes, with the last volume published in 1834.⁷

Humboldt was widely admired by influential figures of Latin America during his own lifetime. As early as 1815, Simón Bolívar praised Humboldt's "encyclopedic theoretical and practical knowledge" of Venezuela (in his "Carta de Jamaica").⁸ Long after Humboldt's death, this admiration is still very much alive. Recently, the prominent Mexican philosopher, Leopoldo Zea, contrasted Humboldt's views of the inhabitants of the Spanish colonies to those of his contemporaries. Zea uses these contrasts to convincingly show that Humboldt, unlike other prominent European thinkers of the period, such as Cornelius de Pauw or Comte de Buffon (the first of the anti-Americans), was able to overcome a view of non-Europeans as necessarily inferior. Zea argues that in overcoming racially hierarchical views, Humboldt was able to arrive at an appreciation of diversity that was ahead of its time. Humboldt's open, accepting attitude towards the cultures and peoples he encountered in the New World was the result of what Zea calls a "romantic attitude:"

"Humboldt was one of those to whom Hegel referred when he spoke of those who were fed up, tired of the historical museum that Europe had become. For precisely this reason, Humboldt is a Romantic."⁹

To call Humboldt a Romantic merely because of his being "fed up" with Europe is to do a disservice both to Humboldt's innovative scientific approach and to early German Romanticism. I agree with Zea that Humboldt is a Romantic (and he most certainly would have been not only bored, but

6. The "Pizarro" was supposed to dock in Havana, Cuba, but an outbreak of typhoid fever on board made it necessary to land at Cumaná.

7. "Voyages aux régions équinoxiales du Nouveau Continent, fait en 1799, 1800, 1801, 1802, 1803, et 1804."

8. In "Selected Writings of Simón Bolívar," "Reply of a South American Gentleman of this Island [Jamaica]." This document is generally referred to as "La carta de Jamaica", and is one of Bolívar's earliest writings on political and international affairs. Given the general tone of disdain towards the leaders Europe, it is significant that he cites Humboldt in reporting on various statistics regarding the lands of the New World. Humboldt was generally perceived by the "criollo" leaders of the emerging Latin American nations as one of the few Europeans who appreciated their culture.

9. "Humboldt es uno de los hastiados de los que hablaba HEGEL, cansado del museo histórico que era ya Europa. Humboldt es por eso mismo, un romántico" ("Humboldt y el otro descubrimiento" in "Cuadernos Americanos," 6, Nr. 78 (1999), p. 12).

angered by views typical of many Europeans of the period), but I shall show that he is a Romantic for reasons far deeper than any ennui he may have had with the historical museum that Europe had (or had not) become.

In what follows I shall argue that Humboldt is a Romantic because of the particular way in which he approached his understanding of “all” living forces, human as well as plants, nations as well as individuals.¹⁰ Humboldt privileged the living, changing elements of nature and the method he developed to capture nature in its change, was one that involved moving “beyond charts and graphs,” that is, beyond the merely quantifiable aspects of nature. The scientific method of Humboldt included an aesthetic-historical approach to the phenomena of nature. I shall make the case that it precisely these aspects of Alexander von Humboldt’s work make him and his approach “romantic.”¹¹ My interest in bringing to light Humboldt’s connections to early German Romanticism stems from my conviction that it is precisely the romantic aspect of his thought that paved the way for his open, appreciative attitude toward the cultures he encountered in America, a land described by most of his contemporaries as a degenerate, sinister place, nothing more than a natural and cultural wasteland.

Humboldt and the Break from Eurocentrism

Humboldt certainly did not see America as any sort of wasteland. He spent an important portion of his life in the New World collecting data and plant and mineral samples to send back to Europe for further investigation, and he was impressed with the wealth of biodiversity he encountered there. Yet it is critical to keep in mind that his conception of his work’s importance was not limited to helping the cause of science understood as the mere amassing of data, but always also included the cause of “human” organization and progress. Unfortunately, Humboldt’s dedication to the alleviation of conditions which gave rise to social inequalities has been overlooked by some contemporary scholars. Consider, for example, the claim made by Mary Louise Pratt: “Humboldt’s eye depopulates and dehistoricizes the American landscape even as it celebrates its grandeur and variety.”¹²

10. I borrow this way of describing Humboldt’s task from an essay on history by his brother, Wilhelm von Humboldt. In “On the Historian’s Task”, Wilhelm emphasizes the importance of paying due attention to all living forces: “All living forces, men as well as plants, nations as well as individuals, mankind as well as individual peoples, have in common certain qualities, kinds of development, and natural laws” in, “On the Historian’s Task” in *The Theory and Practice of History: Leopold von Ranke*, edited with an introduction by Georg G. Iggers and Konrad von Moltke (Indianapolis: The Bobbs-Merrill Co., 1973), p. 17.

11. Humboldt’s connections to Romanticism are traced by Robert Richards in, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (Chicago: University of Chicago Press, 2002).

Humboldt did indeed celebrate the grandeur and variety of the American landscape, yet it is simply false to claim that his eye depopulated and dehistoricized that landscape. In his hallmark work on America, "Voyages aux régions équinoxiales du Nouveau Continent", Humboldt was primarily interested in providing an account of nature, yet, never without concern for those who lived amidst the scenes he was describing. In his "Essai sur la géographie des plantes," Humboldt explores the issue of how the appearance of nature affects the customs and sensibility of the people of a given region. This text provides abundant counterexamples to Pratt's claim that Humboldt's eye depopulates landscapes. Moreover, in his political essays, concern for human political structures and the inequalities suffered by the Americans under colonial rule are the central issues. In his "Political Essay on the Kingdom of New Spain," he described Mexico quite trenchantly (and not without risk of punishment from the Spanish Crown) as "the land of inequality".

There is no hint in any of Humboldt's work that he wants to "dehistoricize" anything. Quite the contrary, Humboldt incorporated history into his scientific approach in a comparative way that allowed him to free his observations of the cultural (and racial) bigotry that plagued the work of most of his contemporaries. In the "Political Essay," rather than subsume all he finds in the New World to what he already knows, e.g., the indigenous "barbaric" ways under the European "civilized" ways, that is, rather than using the term 'European' as the universal standard by which to measure the degree of civilization that the American cultures possessed, Humboldt "compared" the American and European cultures, without appealing to European culture as the standard. He looked critically at "both" Europe and America. For example, Humboldt argues that in order to judge the worth of the indigenous cultures of New Spain (or Mexico, as the region came to be known after the colonial period), we must first make a proper comparison:

How shall we judge, from these miserable remains of a powerful people, of the degree of cultivation to which it had risen from the twelfth to the sixteenth century and of the intellectual development of which it is susceptible? If all that remained of the French or German nation were a few poor agriculturists, could we read in their features that they belonged to nations which had produced a Descartes and Clariaut, a Kepler and a Leibniz?¹³

Humboldt was well aware that in order to understand the indigenous cultures and to judge their merits, present quantifiable data was not enough, we must be presented with a proper sampling of evidence of their past achieve-

12. "Humboldt and the Reinvention of America" p. 592 of *Amerindian Images and the Legacy of Columbus*, edited by René Jara and Nicholas Spadaccini (Minneapolis: University of Minnesota Press, 1992): 585-606.

13. Alexander von Humboldt, *Political Essay on the Kingdom of New Spain*, translated by John Black, edited by Mary Maples Dunn (Norman, Oklahoma: University of Oklahoma Press, 1988), p. 54.

ments. A proper sampling to make a comparison with European intellectual culture would have to include the work of some of the leading intellectuals and scientists of the pre-colonial era, yet as most of the remains of the Indigenous culture have been destroyed, it is hasty for the Europeans to assume that there were no intellectual figures or scientists of note. Furthermore, the Indigenous people who survived the colonization have been oppressed, their character has been changed. Humboldt writes:

As to the moral faculties of the Indians, it is difficult to appreciate them with justice if we only consider this long oppressed caste in their present state of degradation. The better sort of Indians, among whom a certain degree of intellectual culture might be supposed, perished in great part at the commencement of the Spanish conquest, the victims of European ferocity...All those who inhabited the "teocalli" or houses of God, who might be considered the depositories of the historical, mythological and astronomical knowledge of the country were exterminated. The monks burned the hieroglyphic paintings by which every kind of knowledge was transmitted from generation to generation. The people, deprived of these means of instruction, were plunged in an ignorance so much the deeper as the missionaries were unskilled in the Mexican languages and could substitute few new ideas in the place of the old.¹⁴

Humboldt was not willing to simply assume the superiority of the European culture based on a comparison with the scant historical evidence of the contributions of the Aztec civilization left in the wake of the devastation caused by the Spanish "conquistadores." The charts and graphs drawn by most scientists looking at the indigenous cultures were not prepared with sufficient attention to the historical factors which may have accounted for the indigenous inhabitants "seeming" to be behind the Europeans in terms of intellectual contributions. Humboldt emphasizes the need to look beyond present empirical evidence to the historical circumstances that give rise to present data: if the leading intellectuals of a group are killed off, their scholarly contributions destroyed, with no teachers available to pass on knowledge, certainly it is unjust to conclude that the group is inferior, at most they are uneducated, and as Humboldt indicates, the blame for the lack of education in New Spain fell squarely on the Spaniards, "not" on the native Americans.

In our multicultural times, it seems a matter of course that a scientist, be she a natural or a social scientist, would not assume cultural superiority, yet this was not the case at the turn of the eighteenth century (and still by no means always the case even in our own times). Humboldt's attention to the history of the indigenous cultures as a necessary condition for making a meaningful comparison of European and American cultures is a remarkable

14. *Ibid.*, p. 53.

move, for it reveals an openness to acknowledging that the cultures of a continent that had been consistently labeled by Europeans as the dwelling place of beasts and barbarians, "deserved" more attention than they had received: the unfamiliar was not uncritically to be associated with the inferior.

The respect Humboldt expressed for the Spanish-American region and its culture may very well have fueled the anti-colonial sentiment that was already building and which led to the independence movements of the early 1800s.¹⁵ Humboldt saw a connection between scientific study and political change:

A reforming government ought, before every other object, to set about changing the present limits of the intendancies. This political change ought to be founded on the exact knowledge of the physical state and the state of cultivation of the provinces of New Spain.¹⁶

Humboldt linked the social inequality he observed in the region of New Spain to inequalities in land distribution, and he did believe (perhaps too optimistically), that a proper understanding of the territory in terms of its dimensions, and its richness, would enable political leaders to make more informed decisions on how to divide the territories of the region and how best to use the land to improve the lives of all of the inhabitants. Humboldt did not see himself as a narrow specialist, concerned only with amassing data on, say, the mineral deposits of New Spain, he wanted his observations to be used to improve the lives of the inhabitants of the region. One central strand of Humboldt's 'romantic' science is the attempt to bring distinct disciplines into conversation with one another.

As we shall see, just as the early German Romantics were not afraid to bring philosophy into the company of poetry, indeed, they saw the association as necessary for both disciplines, Humboldt saw great potential in the relation between science and social/political issues. Pratt's (mis)reading of Humboldt as "depopulating/dehistoricizing the landscape" is symptomatic of a general misunderstanding of his intellectual project and of its place in the history of ideas. Humboldt was committed to providing a historical context for understanding nature and to discussing its impact on human beings. To "depopulate and dehistoricize" "any" landscape would go against the very romantic method Humboldt endorsed. Now a few words on "romantic method" are in order.

15. For more on this, see, Michael Zeuske, "¿Padre de la Independencia? Humboldt y la transformación a la modernidad en la América española" in "Cuadernos Americanos," 78 (1999): 20-51.

16. *Ibid.*, p. 27.

Romantic Method

The early German Romantics employed unconventional forms for the expression of their ideas in order to challenge the general view of philosophy as something that should be modeled on the sciences.¹⁷ A central goal of the Romantics' project was to bring philosophy into closer contact with poetry and history, odd bedfellows in the wake of Kant's "Critique of Pure Reason", a work that celebrated philosophy's relation to the ahistorical sciences.

In Schlegel's "Letter on the Novel", which is arguably his most detailed statement on the meaning of the term 'romantic,' he claims that "romantic poetry rests entirely on historical grounds."¹⁸ As we learn in "Athenäum Fragment 116", "romantic poetry is a progressive universal poetry," it is an ideal, a poetry that is progressive because it is always in a state of becoming, never reaching completion. Historical grounds bring romantic poetry into conversation with the tradition of which it is a part. And like poetry, philosophy is also in need of history for orientation. Schlegel never tired of emphasizing this point, and he even went after Kant, the great critical philosopher himself, scolding Kant for his neglect of history and insisting that no critique can succeed without a history of philosophy.¹⁹

Humboldt also makes abundant references to tradition and history as guides, yet as guides not for the poet or philosopher, but for the scientist. He draws an analogy between (A) what can be accomplished with his holistic approach to nature, that is, his view that we must "recognize in the plant or the animal not merely an isolated species, but a form linked in the chain of being to other forms whether living or extinct"²⁰ and (B) that which is accomplished with historical composition²¹, that is, by placing the object of study into the historical context that will enable us to understand it:

17. "Das Athenäum" (1798-1800), a journal edited by Friedrich and August Wilhelm Schlegel became the most important literary vehicle of early German Romanticism. All references to Schlegel's work in German are to *Friedrich Schlegel Kritische Ausgabe* (KA), in 35 volumes, edited by Ernst Behler, *et al.* (Paderborn: Ferdinand Schöningh, 1958 ff.). The "Athenäum Fragments" as well as selections of the "Critical Fragments and Ideas" have been translated by Peter Firchow in *Friedrich Schlegel, Philosophical Fragments* (Minneapolis: University of Minnesota Press, 1991), and I have used, with minor modifications, his translations.

18. KA 2, p. 334.

19. See for example, KA II, p. 165, Nr. 1; KA II, p. 364; KA XII, p. 286; KA XVIII, p. 21, Nr. 35; KA XVIII, p. 21, Nr. 36; KA XIX, p. 346, Nr. 296. In these passages, Schlegel claims that a critique of philosophy cannot succeed without a history of philosophy, that an age which calls itself a critical age, must not leave the age itself uncriticized, that, in short, Kant's critical project did not go far enough.

20. Alexander von Humboldt, *Cosmos: A Sketch of the Physical Description of the Universe*, translated by E.C. Otté (Baltimore: The Johns Hopkins University Press, 1997), p. 42.

21. *Ibid.*, p. 49.

In interrogating the history of the past, we trace the mysterious course of ideas yielding the first glimmering perception of the same image of a Cosmos, or harmoniously ordered whole, which, dimly shadowed forth to the human mind in the primitive ages of the world, is now fully revealed to the mature intellect of mankind as the result of long and laborious observation.²²

Humboldt held that we must have some historical orientation point in order to understand nature. Just as a complete understanding and so appreciation of indigenous culture is impossible in the wake of the devastation of the historical records, an understanding and appreciation of nature is not possible if we dissect each part of nature and cease to see it as a "harmoniously ordered whole." The incorporation of historical analysis into his scientific method enables Humboldt to present nature in terms of its living, changing forces rather than as something to be interrogated as if it were a dead mass of quantifiable material. Humboldt's approach to understanding the world around him, whether Aztec culture or Andean mountain peaks, was never one of those scientists "in the dark when it [came] to anything beyond charts and graphs." What lies beyond the realm of the merely quantifiable? And why is it important for the scientist to go beyond this? For the merely empirical scientist, of course, nothing lies beyond the merely quantifiable, that is all we have. Yet, Humboldt was quite critical of the merely empirical approach to nature:

It is the special object of [Cosmos] to combat those errors which derive their source from a vicious empiricism and from imperfect inductions. The higher enjoyments yielded by the study of nature depend upon the correctness and the depth of our views, and upon the extent of the subjects that may be comprehended in a single glance.²³

The "higher enjoyments" are not yielded to the scientist who looks only for quantifiable facts in nature. Our experience of beauty or the sublime puts us in touch with something "measureless to man." Let us consider the *Ávila* in Caracas, a mountain Humboldt knew well: when we experience it as beautiful, we are taken beyond the merely physical characteristics of the mountain (its composition, its height, its location, etc.). The beautiful *Ávila* is something that cannot be measured by the scientist's instruments, yet, only under the influence of the vicious empiricism referenced by Humboldt would a scientist discount its importance. An aesthetic understanding of nature was critical for Humboldt, both to understand nature as a whole and to understand our own human finitude:

The earnest and solemn thoughts awakened by a communion with nature intuitively arise from a presentiment of the order and harmony pervading the

22. *Ibid.*, p. 24.

23. *Ibid.*, p. 39.

whole universe, and from the contrast we draw between the narrow limits of our own existence and the image of infinity revealed on every side whether we look upward to the starry vault of heaven, scan the far-reaching plain before us, or seek to trace the dim horizon across the vast expanse of the ocean.²⁴

Human experience of the tension between the infinite and the finite is something that Schlegel also emphasized. It is precisely this tension that gives rise to his claim that poetry and philosophy must come together, that “whatever can be done while poetry and philosophy are separate has been done and accomplished. So the time has come to unite the two.”²⁵ The beauty of art enables us to experience something whose meaning cannot be exhausted by thought and hence helps us to comprehend or grasp Being (although never exhaustively). Because philosophy is a kind of longing for the Absolute and art is an instrument that helps us to approximate the Absolute, Schlegel claims that philosophy is completed in and as art. This insight takes us to the heart of early German Romanticism. With the Romantics, aesthetic tools such as allegory, wit, irony, and the use of unconventional literary forms (esp. the fragment) take on philosophical relevance. The bulk of Schlegel’s work focuses upon the problem of the limits of our knowledge and the limitless of the Absolute, which in its very limitlessness propels us beyond our finite limits.²⁶ Schlegel characterizes the human condition in terms of a feeling of longing for the infinite, a longing for something that we as finite humans, can never possess, but which guides our search for knowledge and leads to the insight that the search is all we can hope for, not the possession.

Romantic Anti-foundationalism and Schlegel’s ‘Living Seed’

Schlegel’s move to unite philosophy and poetry changed the very conception of philosophy itself and its methods. One upshot of the romantic method for philosophy was that teleological and foundational approaches were rejected: Schlegel’s philosophical method granted more freedom to its subject matter than teleological or foundational approaches could. Hence Schlegel avoided problems like the ones described by Wilhelm von Humboldt:

Historical truth is, generally speaking, much more threatened by philosophical than by artistic handling, since the latter is at least accustomed to granting freedom to its subject matter. Philosophy dictates a goal to events. This search for final causes, even though it may be deduced from the essence of man and nature itself, distorts and falsifies every independent judgment of the charac-

24. Ibid., p. 25.

25. KA 2, “Ideen” Nr. 108, Firchow, p. 104.

26. Wilhelm von Humboldt, *On the Historian’s Task*, op. cit., p. 15.

teristic working of forces. Teleological history, therefore, never attains the living truth of universal destiny because the individual always has to reach the pinnacle of his own development within the span of his fleeting existence; teleological history can, for that reason, never properly locate the ultimate goal of events in living things but has to seek it, as it were, in dead institutions and in the concept of an ideal totality.²⁷

If philosophers are guilty of freezing living reality in their move to subsume changing, living reality under fixed, final causes, then the adjective 'philosophical' will indeed suggest a move away from change and life to the fixed, stable, or dead categories used to capture reality. The ideal of such philosophical methods is "some state of perfection," which, as we saw above was disavowed in Schlegel's emphasis on infinite becoming. As already stated, romantic poetry is an ideal, a poetry that is progressive because it is always in a state of becoming, never reaching completion. This view of the inherent incompleteness of poetry holds also for the romantic view of philosophy, and of knowledge itself.

Romantic philosophy is anti-foundationalist, and an understanding of the implications of this particular breed of anti-foundationalism enables us to appreciate a major contribution that the early German Romantics made to philosophy: their model of philosophy did not sacrifice living, changing reality to fixed, teleological categories, all in the name of systematic unity, but rather left the system open, incorporating change and flux into the very frame of philosophy itself. There is no concept of an ideal totality operative in the 'romantic' conception of philosophy. Romantic philosophy is not guilty of what Wilhelm von Humboldt accuses most philosophy, that is, of an inability to locate the goal of events in living things, fixated, as most philosophers are, by the concept of an ideal totality, which leads away from living things and toward dead institutions. There is also the danger, when a philosopher deals in teleological systems, of placing a cultural prejudice within the closed system itself, that is, of measuring all by a supposedly "universal" standard that is all too local. This may very well have been the cause of many a charge of inferiority that plagued and continues to plague interpretation of other cultures.

Romantic philosophy does not rest on firm foundations from which it spins a deductive web of certainty. In place of a closed, grand deductive system that would provide the first and last word on the foundations of knowledge, the romantic conception of philosophy breaks with the view that philosophy must rest upon any foundation at all. In this conception of philosophy, there is no attempt to keep uncertainty out of the picture, but rather a humble acceptance of the provisional nature of all of our claims to knowl-

27. *KA* 12, p. 328.

edge. It is worth emphasizing that anti-foundationalists need not abandon a conception of objective truth: romantic skepticism about foundations led to reflections about our epistemological limitations, but not to any rejection of objectivity or truth. Admitting epistemological limitations need not lead us down the path of denying the existence of a mind-independent reality. So, the “romantic approach” that I am attributing to Humboldt does not amount to relativism. Humboldt and the early German Romantics, with their emphasis on the critical roles that history and art have to play in educating humanity, do not shirk from critique, inquiry or deliberation (as the relativist, with his easy “anything goes” attitude often does).

Schlegel’s insistence that it impossible to do philosophy without doing the history of philosophy is intimately connected to his anti-foundationalism. He writes:

Our philosophy does not begin like the others with a first principle—where the first proposition is like the center or first ring of a comet—with the rest a long tail of mist—we depart from a small but living seed—our center lies in the middle.²⁸

A philosophy based on first principles would provide a perspective from the outside, that is, from a point that established all that followed from it. Such a position is foundational, and the first principle or foundation stands outside of the matter that it serves to explain. The first principle would be fixed, static and would presumably explain all the changing, living matter in the world. Schlegel’s reference to a “small but living seed” is not an unimportant metaphor. His particular breed of anti-foundationalism commits him to something like life as the framework for understanding reality. Schlegel himself describes his philosophical method as genetic or synthetic as opposed to deductive or syllogistic.²⁹ Schlegel’s genetic method is historical, he wants to understand philosophy, poetry, and reality in terms of their relation to what came before, in terms of their genesis. This commitment to life, to the organic, to a “living seed” also shapes Humboldt’s approach to understanding reality, though he uses a slightly different metaphor to describe his commitment.

Humboldt and the Breath of Life

Evidence of Humboldt’s focus on the living, the organic, the developing is found in most of his writings, both scientific and political, yet because of space limitations, I shall focus here upon his final publication, “Cosmos”, which is what I take to be the culmination of his romantic view of nature.

28. KA 12, p. 307.

29. Alexander von Humboldt, *Cosmos*, op.cit., p. 7.

Humboldt's romantic method enabled him to approach nature (in all of its "living" manifestations) not only quantitatively but also qualitatively.

Humboldt's own description of his life's work provides good evidence of his romantic approach:

Although the outward relations of life, and an irresistible impulse toward knowledge of various kinds, have led me to occupy myself for many years—and apparently exclusively—with separate branches of science, as, for instance, with descriptive botany, geognosy, chemistry, astronomical determinations of position, and terrestrial magnetism, in order that I might the better prepare myself for the extensive travels in which I was desirous of engaging, the actual object of my studies has nevertheless been of a higher character...The principal impulse by which I was directed was the earnest endeavor to comprehend the phenomena of physical objects in their general connection, and to represent nature as one great whole, moved and animated by internal forces.³⁰

Humboldt makes explicit reference to an underlying unity in the multiplicity of nature and the connections between his study of nature, politics, history, and the general progress of humankind. He goes on to emphasize the "mutual dependence and connection" existing between the various classes of phenomena, and speaks of "chain of connection" that links all natural forces.³¹ For both Humboldt and Schlegel, 'holism' is defined in terms of the denial of deducibility. Both thinkers posit a whole (reality) which must be postulated as something related to, yet not reducible to the sum of the individuals which comprise it. For Schlegel, nothing is known in isolation, but always as part of a greater whole with which it interacts (but "not" from which it is deduced). Likewise, for Humboldt, "one sole and indissoluble chain binds together all nature."³²

Humboldt calls for a rational consideration of nature, that is, a nature submitted to the process of thought, finding a "unity in diversity of phenomena, a harmony blending together all created things, however dissimilar in form and attributes; one great whole, animated by "the breath of life" [lebendiger Hauch]."³³ This breath of life is something that would be suffocated by a scientific method shaped only by empirical, quantitative methods. Wilhelm von Humboldt also emphasizes the importance of developing a method that would maintain nature's "breath of life:"

Even a simple depiction of nature cannot be merely an enumeration and depiction of parts or the measuring of sides and angles; there is also the breath

30. Ibid., p. 23.

31. Ibid., p. 27.

32. Ibid., p. 24.

33. Wilhelm von Humboldt, *On the Historian's Task*, op., cit. p. 7.

of life in the whole and an inner character which speaks through it which can be neither measured nor merely described.³⁴

A commitment to the living, changing aspects of reality, be those described in Humboldtian terms as a “breath of life,” or in Schlegelian as a “living seed,” informs the method that both thinkers use. The way in which Alexander von Humboldt fused history, aesthetics, and science is similar to the way in which Schlegel fused history, poetry, and philosophy. This fusion was not the result of an arbitrary whim, but rather the consequence of a commitment to “living” nature. Humboldt was dedicated to unveiling nature to human understanding, yet did not see the unveiling process as a mere interrogation of natural phenomena so that facts could be collected and recorded. The collection and recording of facts was only part of the scientific method.

If the goal is to find a “unity in diversity of phenomena, a harmony blending together all created things... one great whole, animated by the breath of life,” more than the charts and graphs of the empirical scientist are needed. The aesthetic-historical method of the Romantic protects the breath of life that animates the whole of nature. For Humboldt, the study of nature never amounted to merely an enumeration and depiction of parts or the measuring of sides and angles, for he was not a scientist wedded to strictly empirical methods, tied to the charts and graphs that would be suitable if nature were like a grand wind-up clock, but which were ill suited to maintain the “breath of life” animating all of nature, the living seed, the organic life forces that the romantic method was suited to capturing, however provisionally.

Conclusion

For more on this see “Lectures on Transcendental Philosophy” (delivered in Jena 1800-01) and the private lectures Schlegel delivered in Cologne (1804-05), KA 12. Manfred Frank gives a thorough analysis of Schlegel’s position on the relation between philosophy and poetry in his “Unendliche Annäherung. Die Anfänge der philosophischen Frühromantik”(Frankfurt a.Main: Suhrkamp, 1997). Both Humboldt and Schlegel see the task of understanding truths about the phenomena of nature as one that will ever come to an end: it is an infinite task, comprised of empirical, quantitative methods, but also, and just as importantly, of methods borrowed from art and history. Humboldt, the romantic scientist, did not find any tension between purely quantitative approaches to natures and qualitative (aesthetic-historical) ones. Humboldt’s romantic method freed science of the vicious empiricism which would petrify living organisms, and it did this by putting the charts and graphs of the scientist into dialogue with history and art, thereby introducing freedom and

34. Alexander von Humboldt, *Cosmos*, *op.cit.*, p. 24.

change into the scientific approach to nature. Humboldt's respect for freedom and change was widespread. It should, therefore, come as no surprise that he was one of the first Europeans to respect the cultures of Latin America, and that he would be admired by the very thinkers who introduced freedom and political change into the lands of the Spanish Empire.

César W. Astuhamán Gonzáles

La integral formación de Alexander von Humboldt le permitió analizar diversos aspectos de la realidad cultural y natural de América Latina. Uno de los objetivos de su viaje de exploración científica a América era elaborar, lo que actualmente se considera, una Arqueología comparada de las antiguas altas culturas de Europa, Asia y América (Labastida, 1999), para lograrlo aplicó rigurosamente el método comparativo derivado de su racionalismo empirista; buscó las diferencias, identificó las semejanzas entre dichas culturas y trató de explicarlas. El interés de Humboldt por los monumentos prehispánicos de América se debe a la importancia histórica que éstos encierran.

Al igual que los actuales arqueólogos, Humboldt estaba interesado en los creadores de la cultura material, que describió e ilustró, no en el objeto en sí mismo. Se diferencia de los viajeros y exploradores que le precedieron por sus objetivos y el método científico que utiliza, en él se integran el espíritu científico y romántico, el viajero, filósofo y naturalista. Y aunque en su tiempo no existía la Arqueología como disciplina, tal como hoy la conocemos, Humboldt debería ser considerado como el fundador de la Arqueología científica en América, su análisis y planteamientos acerca de la domesticación de plantas y animales (Moseley, 1993), y la Arquitectura Inca así lo demuestran. Humboldt no sólo describió los asentamientos Incas dispuestos a lo largo del Qhapaq Ñan (Gran Camino Inca), muchos de los cuales se encuentran actualmente destruidos, también estableció relaciones entre ellos, definiendo tipos de sitios y la jerarquía entre ellos. Así mismo comparó los asentamientos Incas con aquellos que él pudo observar en el Viejo Mundo, como la ciudad romana de Herculano, y estableció semejanzas entre ellos. También propuso una secuencia expansiva del Estado Inca en el Norte del Perú, a partir de la ubicación altitudinal del Qhapaq Ñan y los asentamientos.

Nuestra investigación arqueológica en la Sierra de Piura, Norte de Perú, coincidió espacialmente con la región que hace dos siglos Humboldt exploró.

Los Asentamientos Inca Registrados por Humboldt en 1802

Las referencias escritas acerca de la exploración de Humboldt en la Sierra de Piura y el Perú se encuentran en forma dispersa en distintas publicaciones del autor, pero principalmente en su diario de viaje, esta información ha sido recientemente objeto de análisis desde diversas perspectivas (Hampe, 1999; Astuhamán, 1999; Nuñez and Petersen, 2002; Zevallos, 2003). Gracias a dichos datos ha sido posible reconstruir el itinerario de Humboldt y contrastar sus reportes con nuestras propias observaciones en el campo.

A partir de los fríos páramos de Pasto, Humboldt y sus compañeros empezaron a observar los impresionantes vestigios del Imperio Inca, especialmente el camino y los asentamientos, estos últimos (conocidos como tambos, casas o palacios del Inca) se encontraban de trecho en trecho a lo largo del Camino Inca, el cual Humboldt siguió en gran parte. En Ecuador observaron, describieron e ilustraron los siguientes asentamientos: Callo, la Casa del Inca Huayna Capac o aposentos de Mulahalo, Paredones del Inca, Cañar, Latacunga, entre otros (Nuñez and Petersen, 1971: 35–36, 167–69).

Humboldt, acompañado de Aime Bonpland y Carlos Montufar, ingresó al Perú por la Sierra de Piura el 1° de Agosto de 1802 (Gráfico 6-1), cruzando el río Calvas que divide políticamente a Perú y Ecuador, recorrió las provincias de Ayabaca y Huancabamba hasta el 14 de Agosto. Durante estas dos semanas realizó importantes observaciones geográficas, botánicas, astronómicas y arqueológicas.

Durante su estadía en la sierra piurana registraron sitios Inca de diferentes características: Aypate, Chulucanas (Caxas), Guamaní, Xicate, Huancabamba, entre Chulucanas y Huancabamba identifican nueve sitios. Pero algunos de ellos, como Socchabamba, Yanta y Mandor, no se han conservado hasta el presente, constituyendo la información que Humboldt escribió en su diario de campo el único registro existente. Dejemos que sea el propio Humboldt quien nos transmita sus impresiones acerca de estos asentamientos:

Socchabamba:

Dos leguas al norte de Ayabaca, sobre las ruinas de un palacio de los incas en Socchabamba sobre un terreno algo desigual, los fundamentos de una casa de 140 pies [39.2 m.] de largo con 14 departamentos del mismo tamaño (Humboldt and Vegas [1802] 1991: 17).

Aypate:

Al este de Aypate está situada sobre la Cordillera una planicie llamada la plaza del Inga, con ruinas de un palacio y de todo un pueblo Peruano... Este palacio al este de Aypate está ciertamente situado en el camino que va del Azuay a Cajamarca y quizás al Cuzco (op. cit. p. 18).

FIGURE 6-1. Mapa de Piura. Fuente: Vallejos, 1925.



Yanta:

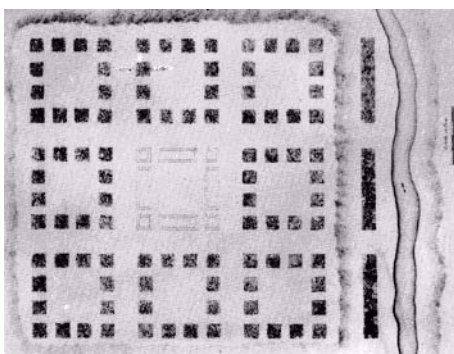
Cerca de Yanta, en los bordes sieníticos del Río Santa Rosa, las ruinas bastante conservadas de un palacio de los Incas (op. cit. p. 18).

Chulucanas:

Los baños del Inca, situados en medio del valle de Chulucanas a ambos lados del Río. Son algo de lo más bello. Son las más grandes ruinas de todas las que he visto. Ocupan más de 200 a 300 toesas [400 a 600 m.] de diámetro, no solamente a lo largo del valle, sino que suben por las colinas vecinas... A la izquierda del río se ve un barrio de una ciudad, donde se reconoce muy bien la distribución de las calles y las casas. Yo lo he copiado de un dibujo del ciudadano Bonpland (Gráfico 6-2). Se reconoce a lo largo del río una muralla con una zanja y dos entradas que corresponden a las calles principales. Las casas están distribuidas en 8 cuadrados, que están separados por cuatro calles cruzadas y que encajan un gran edificio que habría sido el del soberano. Cada cuadrado está constituido de 12 pequeñas casas simétricamente colocadas, pero cada una de las cuales no parece haber sido sino un solo departamento...El gran edificio del medio tiene dimensiones más extendidas y pie-

dras mejor talladas. Se distingue allí 4 grandes casas oblongas, separadas por 4 pequeños cuadrados que ocupan las esquinas, de manera que todo forma $96 + 8 = 104$ casas, colocadas sobre la pendiente de una colina...A la derecha del río se descubre un edificio que de lejos parece un anfiteatro...Más cerca del río que los últimos baños se descubre sobre una colina los bellos restos de un edificio que tiene las piedras maravillosamente bien talladas (op. cit. pp. 20-22).

FIGURE 6-2. Plano de un sector de Chulucanas (Caxas). Fuente: Bonpland, 1802.



Uno de los acompañantes de Humboldt, Carlos Montufar, reporta en su diario que:

...el día 7 [de agosto] dormimos en el paramo de Chulucanas, y el 8 fuimos al pueblo de Guancabamba, atravesando por siete caserías del Ynga que están en el camino la primera que es la mejor esta en el paramo mismo y la llaman los baños de Ynga, tiene mas de quatro quadras de ancho y otras tantas de largo, todos los edificios son de piedra, un pequeño rio atrabiesa por enmedio de las caserías... (Montufar, [1802] 1889: 15).

Guamaní:

El edificio en la cima del Guamaní (de hermoso pórfido como todo lo precedente) es muy espacioso y tiene todavía más de 4 pies [1.3 m.]. A pesar del frío que hace en Guamaní (tuvimos $7 \frac{1}{2}^{\circ}\text{R}$ [9.4°C]) la posición de ese palacio es muy bella, pintoresca. Se encuentra en la cima de los Andes y se goza allí de una vista inmensa sobre los llanos de Piura y Lambayeque, bordeados por el horizonte del mar pacífico... El páramo de Guamani divide las aguas entre el mar del sur y el océano Atlántico (Humboldt and Vegas, [1802] 1991: 24-25).

Xicate:

... las ruinas están en un país cálido, como las de Xicate, a 900 toesas [1800 m.s.n.m.]... pero el mejor conservado de todos es el edificio de Xicate saliendo de la Angostura de Guamaní, en un valle profundo. El tiene todavía más de 12 pies [4 m.] de alto, se ve allí las divisiones de los departamentos, las ventanas, los nichos... (op. cit. pp. 19-24).

Huancabamba:

En el mismo gran pueblo de Huancabamba se ve los restos de un palacio de los Incas que debe haber sido de los más espaciosos, pues no hay casas indias o españolas en el pueblo y en los alrededores no se descubre piedras talladas que se haya sacado de ese palacio. La iglesia situada sobre una colina recortada y rodeada de una muralla, sí contiene esas piedras... (op. cit. p. 24).

Mulamachay

La tradición, aunque confusa, indica que es esta casa la que ha dado lugar a la Justicia de los Incas cerca de la caverna de Mulamachay al Sud Este de Huancabamba hacia Sondorillo. Los indios habían construido un palacio en Huancabamba durante la ausencia de los Incas... El Inca se vio forzado a pasar la noche sobre el Machay, que no es sino un peñasco... Ya sea por temor de que el soberano pudiera pasar un día nuevamente por Mulamachay, se construyó allí una bella casa, de la cual se ve todavía las murallas y a la que se le denomina Horca o Justicia de los Incas (op. cit. pp. 24-25).

Mandor:

Los Incas tenían con esto sus tambos o palacios para pasar las noches. Se ve las ruinas de estos tambos en Mandor (donde las piedras están unidas con arcilla)... (op. cit. p. 27).

Luego de explorar la sierra de Piura, Von Humboldt y sus acompañantes registraron los sitios Inca ubicados hacia el Sur: Inгатambo, Huambos, Tambillo y Cajamarca, los restos de este último fueron estudiados minuciosamente e ilustrados, en especial los restos del Cuarto del Rescate de Atahualpa y conoció a sus propietarios (op. cit. pp. 53-57).

Los Asentamientos Inca Registrados en el Presente

Desde 1994 hasta el 2004 realizamos diversas prospecciones arqueológicas en la Sierra de Piura, inicialmente era el trabajo de campo para sustentar la tesis de licenciatura (Astuhumán 1998); durante el mes junio de 1999 exploramos el posible Camino Inca desde el sur de Ecuador (Calvas) hasta Cajamarca (San Felipe); hemos continuado investigando en la región hasta el mes de setiembre del 2004. En todas las temporadas de trabajo exploramos los asentamientos Inca que se encuentran a lo largo del camino y registramos

información en los sitios que Humboldt observó en 1802. A continuación presentamos nuestro reporte con la finalidad de contrastar sus datos con nuestras observaciones.

Socchabamba:

La comunidad de Socchabamba se localiza políticamente en el Distrito Ayabaca, Provincia de Ayabaca. Los lugareños refieren que los bloques de roca labrada del asentamiento fueron utilizados para edificar las paredes de la escuela del lugar y esparcidas cuando se allanó el terreno para construir una cancha deportiva.

La descripción proporcionada por Humboldt permite sugerir que posiblemente se trate de colcas o depósitos dispuestos en una o dos hileras, en el primer caso formado por 14 recintos, en el otro por siete, esto último es lo más probable. Cada depósito, asumiendo que eran de planta cuadrada, midió 2.80 m. de lado.

Aypate:

El cerro Aypate se ubica en una cadena montañosa desde donde se domina las subcuencas de los ríos Quiroz y Macará, que integran la cuenca del Chira. Altitudinalmente las evidencias se registran entre los 2640 y 2930 m.s.n.m. Políticamente se ubica en el Distrito de Ayabaca, Provincia de Ayabaca.

Las evidencias se encuentran en las faldas, planicie y cima del cerro. La planicie constituye la plaza Inca, alrededor de la cual se disponen el acclahuasi, la kallanka y el usnhu, todas ellas típicas edificaciones estatales presentes en las capitales provinciales Inca. Dirigiéndose a la cima del cerro se encuentran el templo del sol y los adoratorios. El Camino Inca conduce desde el portazgo o conjunto de depósitos hasta desembocar en la plaza. La extensión del asentamiento supera el kilómetro cuadrado.

Yanta:

Está localizado en la margen derecha del río Santa Rosa, subcuenca del Quiroz, en la comunidad de Yanta, Distrito de Ayabaca, Provincia de Ayabaca; altitudinalmente se encuentra entre los 1195 y 1200 m.s.n.m.

En la actualidad el asentamiento no se conserva, pero los ancianos del lugar refieren que habían “huaquillas” (posiblemente montículos), en las proximidades se localiza una cueva donde se hallan osamentas humanas y abundante material cerámico Inca, parte del cual se exhibe en el Museo Arqueológico de Ayabaca.

Chulucanas o Caxas:

Este impresionante asentamiento se extiende en ambos márgenes del río Rey Inca ocupando un área de más de dos kilómetros cuadrados (Gráfico 6-3), la margen derecha pertenece a la comunidad de Baños-Caxas (Chulucanas) y la

otra a la comunidad de La Quinua, ubicadas políticamente en las Provincia de Huancabamba. Se encuentra comprendido altitudinalmente entre los 2725 y 2850 m.s.n.m.

FIGURE 6-3. Reconstrucción hipotética de Caxas. Dibujo: C. Campos, 2003.



En la margen izquierda del río Rey Inca se localizan el portazgo, el acllahuasi (cuyo plano fue dibujado por Bonpland y se puede contrastar en la foto que ilustra el Gráfico 6-4), kallankas, conjuntos de depósitos y kanchas residenciales; en la otra margen se encuentra el templo del sol, la plaza, el ushnu y también kanchas. Las edificaciones anteriores caracterizan a una capital provincial. El Camino Inca pasa a un costado del portazgo y frente al acllahuasi.

FIGURE 6-4. Foto del acllahuasi de Caxas. Fuente: Bleyleben 1970.



Guamaní o Huancacarpa:

Geográficamente se sitúa en las faldas del cerro India Haragana o Buitrera, el cual constituye el punto de división tripartita de las cuencas del Quiroz, Piura

y Huancabamba. Altitudinalmente, el asentamiento se extiende entre los 3400 y 3450 m.s.n.m.. Políticamente se encuentra en tierras de la Comunidad de Huancacarpa Alto, en el Distrito de Huancabamba, Provincia de Huancabamba.

Está conformado por dos conjuntos de recintos dispuestos en forma de U, dos conjuntos de kallancas que encierran grandes espacios, una gran plaza y dos conjuntos de depósitos situados frente a frente sobre una llanura.

Xicate o Tambo de Jicate:

Geográficamente se ubica en la margen izquierda de la quebrada Angosturas, próximo a su unión con otra quebrada, en la cuenca del río Huancabamba. Altitudinalmente se halla a 2725 m.s.n.m. Políticamente se encuentra en terrenos de la Comunidad de Jicate Bajo, Distrito y Provincia de Huancabamba.

Tambo de Jicate es una típica Kancha Inca, integrada por tres recintos ubicados alrededor de un patio y cercados por un muro perimétrico, todos ellos edificados sobre un conjunto de terrazas dispuestas escalonadamente.

Huancabamba:

La actual ciudad de Huancabamba se encuentra entre los 1900 y 1975 m.s.n.m., debajo de ella se encuentra sepultada una importante capital de provincia Inca, era considerada por los cronistas una “cabecera de provincia.”

La iglesia de Huancabamba se halla bastante elevada con relación a la plaza del pueblo. Detrás del altar principal se aprecian cimientos elaborados con rocas de granito rosado, semejante a la cantería típicamente Inca. Según los ancianos del pueblo se encuentra roca labrada en las bases de los pilares de la iglesia y de casas antiguas. Creo que la iglesia San Pedro de Huancabamba se edificó sobre el Templo del Sol Inca, descrito por Humboldt, pues muchas de las iglesias coloniales fueron edificadas sobre templos prehispánicos. Sólo las excavaciones permitirán determinar en que otras partes de la actual ciudad de Huancabamba se hallaban las otras edificaciones Inca descritas por los cronistas, ahora sólo se observan restos de andenes en las proximidades del mercado (Hocquenghem, 1994).

Mulamachay o Mitupampa:

Mitupampa se localiza en las faldas del Cerro Saquir en el caserío de Mitupampa, distrito de Sondorillo, al Sur de la ciudad de Huancabamba, entre los 2800 y 2947 m.s.n.m.

Este importante asentamiento es una capital provincial Inca, ocupa por lo menos una extensión de 5 hectáreas y se encuentra próximo a un conjunto de peñascos o farallones. Es integrado por una plaza, el ushnu, una pequeña kallanka, el acllahuasi y varios conjuntos de kanchas (recintos alrededor de patios).

Esta variabilidad de los asentamientos Inca había sido reportada anteriormente por los cronistas y continúa siendo analizada, pues a lo largo del Imperio del Tahuantinsuyo no se construyeron dos sitios idénticos, éstos varían de acuerdo a su importancia, función, ubicación tamaño, edificaciones que lo integran y otros factores. Tempranamente un agudo observador como Cieza de León ([1550] 1973) distinguía los siguientes tipos de asentamientos: Cabeceras de Provincias, Templos, Pucaras, Postas.

Guamán Poma ([1606] 1987) distingue los siguientes tipos de asentamientos: Ciudad con Tambo Real, Pueblo con Tambo Real, Tambo Real sin Pueblo y Tambillo... Esta tipología expresa a la vez una jerarquización de los asentamientos. Menciona además la existencia de “otros Cusco,” posiblemente de mayor jerarquía que las Cabecera de Provincia mencionadas por Cieza.

Hyslop (1990) ha reconocido los siguientes tipos de asentamientos Inca: Cusco, “otros Cusco,” Centros Administrativos Ceremoniales, Tambos, Asentamientos Militares, Alojamiento de Chasquis y Depósitos.

Respecto a los principales centros Incas, basándonos en información etnohistórica y arqueológica, planteamos la siguiente tipología y los niveles jerárquicos que representan:

- El Cusco, capital del Imperio, era el paradigma de las capitales provinciales Inca. Le corresponde el nivel más alto de la jerarquía, que denominaremos Nivel 1.
- Los siguientes niveles están integrados por las capitales provinciales, que a partir de la información etnohistórica hemos clasificado en:
- Los “Otros Cusco,” mencionados por Guaman Poma (Quito, Tomebamba, Huánuco Pampa, Hatun Colla y Charcas) y el “Nuevo Cuzco” referido por Cieza (Inkawasi) constituyeron el Nivel 2 de la jerarquía. Creemos que Caxas constituye también “Otro Cusco.”
- Las “cabeceras de provincia,” eran las principales capitales provinciales, representarían al Nivel 3. Cieza ([1553] 1977, 75) denomina cabeceras o cabezas de provincias a aquellas que tenían mayor cantidad de edificaciones y depósitos, eran más elaboradas que las de otras capitales, éstas últimas estaban bajo su jurisdicción y sus habitantes acudían a tributar allí. Cieza indica que las cabeceras eran: Vilcas, Xauxa, Bombon (Pumpu), Caxamalca, Guancabamba, Tomebamba, Latacunga, Quito, Caranqui, Hatuncana, Hatuncolla, Ayaviri, Chuquiabo, Chucuito y Paria.
- Las capitales provinciales que no constituyeron “cabeceras de provincia” ni “otros Cuzco” conformaron el Nivel 4, serían los casos de Mitupampa (Mulamachay), Aypate y Calvas.

Los niveles jerárquicos por debajo del Nivel 4 son más difíciles de ser determinados debido a los criterios que se utilicen para definir los tipos de asentamientos, en cada provincia Inca existía una variedad de ellos, algunos de los cuales mantenían relaciones jerárquicas entre sí, especialmente los situados a lo largo del Camino Inca.

En los niveles inferiores de la jerarquía se sitúan los tambos, como Jicate o Yanta, que además de las funciones de hospedaje cumplían tareas administrativas. Otro tipo de asentamientos, que está vinculado al mantenimiento del orden y la seguridad en las provincias, lo constituyen los asentamientos militares como Huancacarpa, situados estratégicamente en los confines del Imperio Inca o en las divisorias de las cuencas hidrográficas. Los conjuntos de depósitos, p.e. Socchabamba, controlados por personal administrativo, constituyen otro tipo, estos depósitos pudieron o no estar asociados a tambos.

Planteamientos de Humboldt Acerca de la Arquitectura Inca

Luego de describir, comparar y analizar los asentamientos Inca en la sierra del Ecuador y la sierra norte de Perú, Humboldt define la esencia de la Arquitectura Inca: “Sencillez, simetría y solidez; he allí los tres rasgos característicos que distinguen de una manera ventajosa a todos los edificios peruanos”. Ésta es la más breve pero exacta definición que se haya planteado hasta la actualidad, destacando la perfección técnica de las edificaciones Inca antes de la elegancia y apreciándose la predilección de Humboldt por la Arquitectura Neoclásica (Hampe, 1999).

Adelantándose a su tiempo, Humboldt realizó el primer estudio de patrones de asentamiento en América, es decir delineó las características de la distribución de sitios contemporáneos entre sí en una región, elaborando una jerarquía y tipología de sitios a partir de la comparación entre los “palacios de los Inca.” La presencia de nueve asentamientos entre Chulucanas (Caxas) y Huancabamba, provocó la siguiente reflexión en él:

Este gran número de edificios en una tan pequeña distancia prueba bastante que el nombre de Palacio de los Incas es bastante vago. ¿Es posible que este soberano haya llevado el lujo hasta este punto?. Las más grandes construcciones, como las de los baños [Caxas] de Guamaní [Huancacarpa] y de Huancabamba serán solamente palacios de los Incas, rodeados de otras casas en forma de aldeas o ciudadelas; las otras construcciones dispersas, como la 1ra, 3ra, 6 – 8va. eran, según yo creo, habitaciones de grandes señores peruanos que gobernaron estas provincias (Humboldt and Vegas, [1802] 1991: 20).

En base a los criterios de ubicación altitudinal y aglomeración de edificaciones, mencionados en su diario, Humboldt establece una tipología de asentamientos Inca para la sierra de Piura: palacios rodeados de ciudades, palacios rodeados de aldeas, habitaciones dispersas y fortalezas.

Estas generalizaciones que Humboldt plantea, acerca de los asentamientos Inca en la Sierra de Piura, están sustentadas en la observación in situ y además en la comparación con otros asentamientos ubicados al norte o al sur

de la sierra piurana y con aquellos del Viejo Mundo. Así cuando describe las “casas” que integran el acllahuasi de Caxas (Chulucanas), prefiere utilizar el término habitaciones, a semejanza de las de Herculano (Humboldt 1968, 251). También cuando describe el Templo del Sol de Caxas, lo compara con el palacio de Sanssouci (Humboldt and Vegas, [1802] 1991: 21).

El aporte de Humboldt no se limita a la descripción de asentamientos, que ya de por sí es un gran aporte pues muchos de ellos no se conservan hasta la actualidad y su registro es el único que tenemos, sino que intenta establecer la función que tuvieron dichas edificaciones. Así luego de describir el ushnu de Caxas, reflexiona: “Para una fortaleza es bastante pequeña, sobre todo en el interior. ¿Era un adoratorio?” (op. cit. p. 23). De este modo se aproxima a la función que el estado actual de conocimientos le asigna a dicha edificación (Hyslop, 1990).

Humboldt destaca también la homogeneidad de los asentamientos Inca que registró durante su exploración:

Al examinar atentamente cualquier edificio del tiempo de los incas, se observa el mismo tipo en todos los otros que se hallan en las alturas de los Andes sobre una extensión de 7,000 Kms., desde mil a cuatro mil metros de altura sobre el nivel del mar. Se podría decir que un solo arquitecto ha construido tan gran número de monumentos. (Nuñez and Peterson 1971, 169).

Tras describir Xicate (Tambo de Jicate) refiere que “...La construcción es tan uniforme en las casas que uno se repite describiéndolas” (Humboldt and Vegas, [1802] 1991: 24).

El proceso de expansión de los Incas, desde el Cuzco hacia el Norte también es planteado por Humboldt, quien propone lo siguiente: “Dad una lista de las ruinas de los palacios de los Incas con su elevación en toesas [1 toesa = 2 m.] y formad una carta geográfica de su posición, lo que dará muchas luces sobre la marcha de la conquista de los Incas” (op. cit. pp. 19–20). Luego de analizar las evidencias del gobierno y administración de los Incas en los Andes, ante quienes tuvo una posición crítica, concluye que:

El Inga no vino sino descendiendo del Cuzco para la conquista de Quito, siguiendo la ruta de Cajamarca a Huambos, en el valle del Río Chotano siguió este río hasta su embocadura en el Chamaya, de allí remontó por Pomahuaca a Zaulaca, Huancabamba, Chulucanas, al Cerro al este de Olleros, de Loja al Azuay. Esta ruta está trazada todavía por las ruinas del camino y de los palacios del Inca (op. cit. p. 44).

En esencia los planteamientos de Humboldt acerca de la Arquitectura Inca, son confirmados por nuestras recientes investigaciones arqueológicas. Por el registro, análisis y sus planteamientos acerca de los asentamientos Inca en la Sierra de Piura, Humboldt debería ser considerado como el fundador de la Arqueología científica en América, y la revaloración de los sitios Inca que

él observó en 1802 permitiría la creación de La Ruta de Humboldt y que podamos contemplarlos unos siglos más.

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Arrogance and squalor? Lima's Elite

Paul Rizo-Patrón

Peru has always attracted the curiosity of foreigners. And it could not be otherwise, given its remoteness from the Old World and the news that it was the cradle of exotic and refined civilizations that flourished autonomously, with no apparent contact with those Europeans had known. The fame of the riches that filled Europe after Peru's discovery and conquest in the sixteenth century had certainly awakened an even greater curiosity. The booty of Inca Atahualpa, the intricate pre-Hispanic state system, the splendor of its constructions, and the rich gold and silver mines that began to be exploited soon after the arrival of the Spaniards contributed towards building the reputation of a country of inexhaustible wealth. That is when the expression "*vale un Peru*" (namely, "it is worth a Peru") was coined to refer to something extremely valuable or costly. However, the magnetism that it exerted on foreign scholars was attributed not only to its precious metals or the curiosities of its history, but also to the variety of its flora and fauna, to its diverse climates and starkly contrasting geography, and to the native populations of numerous latitudes—almost an absolute novelty for the few travelers who began to arrive in the country from the sixteenth until the nineteenth century. In sum, it was a fascinating subject of study for the most diversified interests and disciplines. And as Charles Minguet points out, some had perhaps an excessive expectation as to what they were to find in many aspects of our reality.¹

There were travelers who combined their ethnographic, zoological, botanical, climatologic, mineralogical and orographic interests with secret missions to obtain information on the existing political, social and economic order. This was the case of some of the eighteenth-century French and Spanish expeditionaries such as Frézier, Le Bachelier, La Condamine and—along

1. See Minguet, Charles. 1980. *Alejandro de Humboldt. Cartas americanas*. Caracas, Biblioteca Ayacucho.

with the last mentioned—the Spaniards Jorge Juan and Antonio de Ulloa. This was also very likely the case of some of the travelers who arrived at the beginning of the nineteenth century not only from France, but also from England, the United States, Germany, and even Russia.²

A True Explorer

The scientific interest of Baron Alexander von Humboldt (1769-1859) was clearly genuine. Few visitors had his intelligence and exceptional education. His overwhelming curiosity was also uncommon. As a product of the rationalism of the Age of Enlightenment, he had created a deep impression on the great Goethe, who said in a letter to his friend Eckermann, cited by Teodoro Hampe, “his knowledge and living wisdom are unequalled.” However, his knowledge was fundamentally of a scientific nature, derived from the observation of natural phenomena, and the rigorous analysis and interpretation of the experience accumulated by him and by the great scholars of Western Civilization who preceded him.³

Humboldt’s journey to Spanish America, as well as the publication of these observations in several detailed works and the compilation of the majority of his treatises in 30 volumes entitled (in French) *Voyage aux régions équinoxiales du Nouveau Continent fait en 1799, 1800, 1801, 1802, 1803 et 1804, par Alexander de Humboldt et Aimé Bonpland* are a consequence of that same curiosity. This rigorous work established his reputation as one of the great European scientists of his time. Oddly enough, the journey that as we know lasted from 1799 to 1804 was begun in the frigate Pizarro, a name that should have perhaps motivated a more prolonged stay and further studies than the circumstances (or Humboldt’s own immediate purposes) allowed him to make in the lands discovered by the famed Spanish conquistador.⁴

Humboldt obtained the necessary permission from the indolent King Charles (Carlos) IV, who undoubtedly was more concerned with the events that were throwing Europe into confusion since the French Revolution than with the eagerness of this young German researcher, who had been preceded

2. For the voyagers who traveled to Peru from the XVI through the XX centuries see Núñez, Estuardo. 1989. *Viajes y viajeros extranjeros por el Perú*. Lima, P.L. Villanueva.

3. Cited by Hampe Martínez, Teodoro in “Humboldt y sus contactos latinoamericanos durante el proceso de la Independencia.” Presentation in the Congress “Humboldt y la América Ilustrada.” Lima, Instituto Riva Agüero-Pontificia Universidad Católica del Perú, November of 2002. Hampe Martínez is also the author of “El virreinato del Perú en los ojos de Humboldt (1802): Una visión crítica de la realidad social,” in *Iberoamericano Archiv. Zeitschrift für Sozialwissenschaft und Geschichte*, vol. 26, Nº 1-2. Berlin, 2000, pp. 191-208.

4. Humboldt, Alexander von. *Voyage aux régions équinoxiales du Nouveau Continent fait en 1799, 1800, 1801, 1802, 1803 et 1804, par Alexander de Humboldt et Aimé Bonpland*. 6 parts, 30 volumes. Paris, 1807-1839.

by many others in his projected voyage to the Spanish King's domains. He was going to be accompanied by his friend Aimé Bonpland, a French physician and botanist, who would frequently act as the draftsman of the expedition. Although his basic concern was zoology, geology, climatology, astronomy and botany, both researchers could not but be impressed by the ethnological and social reality of the marginalized and oppressed groups, and also by the growing tension felt everywhere. This was true with respect to both the European and the mixed or indigenous population due to the impositions of the colonial system, which apparently had become more rigid as a consequence of Bourbon reformism.⁵

It is not my intent here to discuss the experiences of these scientists as they traveled through Havana, Caracas, Santa Fe, Popayán, Quito or Mexico, with the exception of references made by Humboldt himself to compare them with the social, economic and political reality of Peru, and often to the latter's disadvantage. One thing is certain: he scarcely dedicated four months to this country and somewhat more than two to Lima, the capital of the viceroyalty. Just considering the time he later spent in Mexico, the comparison is unfavorable to Peru. Here, Humboldt and Bonpland only traveled along part of the coast, that is, from the north to the center, and also only through a portion of the highlands—in the north—barely touching the banks of the Marañón river and the mountain borderland. They did not travel along the central highlands, or the southern coast, or through the Andean south (including Arequipa, Cuzco and Puno). What most influenced Humboldt's perception of the divorce between the capital and the interior of Peru was not only the geographical location of Lima on the other side of the Andes, facing the Pacific, or the way of life of its inhabitants, but, I would venture to affirm, the restrictive and relatively limited time he spent in Peru.⁶

It is an undisputed fact that the location of the other capitals visited by Humboldt and Bonpland, in relation to the size of their respective countries, allowed them to be in greater contact with their entire territories. In the case of Mexico, the capital of New Spain occupied a central position in that viceroyalty, as had the old Tenochtitlán, the center of Aztec power at the arrival of the Spaniards. Not having visited Cuzco and other regions of the interior of Peru, Humboldt therefore could only have a biased and incomplete vision

5. *Ibid.* For Spanish Bourbon Reformism see Fisher, John R. *Government and Society in Colonial Peru. The Intendant System 1784-1814*. London, Athlone Press, 1970; Fisher, John R., Allan J. Kuethe and Anthony McFarlane. *Reform and Insurrection in Bourbon New Granada and Peru*. Baton Rouge, Louisiana State University Press, 1990; and O'Phelan Godoy, Scarlett *Un siglo de rebeliones anticoloniales: Perú y Bolivia 1700-1783*. Cuzco, Centro de Estudios Rurales Andinos "Bartolomé de las Casas," 1988 (among the best reputed treatises on the subject).

6. Núñez, Estuardo y Georg Petersen. 2002. *Alexander von Humboldt en el Perú. Diario de viaje y otros escritos*. Lima, Fondo Editorial del Banco Central de Reserva del Perú.

of the Peruvian geography and other physical realities, and of the character of its inhabitants and the relation of Lima's population (which I shall call the "Limeneans") with the viceroyalty in general.⁷

Humboldt's Informers in the 'City of the Kings'

Let us now see what types of inhabitants of Lima did Humboldt meet that contributed directly to his perception of the Peruvian capital's reality. Provided with the recommendations given to him by the Viceroy of Nueva Granada, don Pedro Mendinueta, and by the Governor of Jaén de Bracamoros, the cultivated don Ignacio Checa y Barba (to whom Humboldt had written a letter on January 18, 1803, containing some of his most acute and acid expressions about Lima), the German researcher, and Bonpland as well as the Quito aristocrat Carlos Montúfar who was accompanying them, were able to meet some of the most important figures of Lima, the City of the Kings.⁸

High government officials

Most prominent among them was, without a doubt, the Viceroy Gabriel de Avilés y del Fierro, a peninsular-born Spaniard (as was the norm for all the viceroys of Peru). He was the second son of the first Marquis of Avilés, and like his father, had pursued a military career. Soon after arriving in Peru early in 1780, as a cavalry colonel, to help organize the disciplined militias of the Viceroyalty, he participated in the expedition to repress the Túpac Amaru movement in the Cuzco region and the Altiplano. Upon his promotion to brigadier, he was appointed general sub-inspector of the vice-regal troops and governor of the city and prison of Callao. Later when promoted to field marshal, and having inherited the title of Marquis, he was made Captain General of the Kingdom of Chile, and also President of the Royal Academy of Santiago (taking the place of Ambrosio O'Higgins, Marquis of Osorno that had come to Peru as Viceroy in 1796). In 1799, he became Viceroy of Río de la Plata (or Buenos Aires) until his appointment as Viceroy of Peru at the death of O'Higgins. He arrived at the Peruvian capital on November 6, 1801.⁹

Avilés had, in fact, become the most important authority of the country only eight months before the arrival of Humboldt in Peru. Despite having married the Peruvian-born doña Mercedes del Risco y Ciudad, widow in first

7. Ibid.

8. Ibid., especially pp. 198-200 (for Humboldt's letter to the Viceroy of Nueva Granada, don Pedro de Mendinueta, on November 7 of 1802) and pp. 214-215 (for Humboldt's letter to don Ignacio Checa y Barba, Governor of Jaén de Bracamoros, on January 18 of 1803). Most of Humboldt's acquaintances in Lima are mentioned by Miro-Quesada Sosa, Aurelio. "Amistades de Humboldt en Lima" in *Veinte temas peruanos*, pp. 251-268. Lima, P.L. Villanueva, 1993.

9. Milla Batres, Carlos (ed.). 1986. *Diccionario Histórico y Biográfico del Perú. Siglos XV-XX*. Vol. I (A-B), pp. 321-322. Lima, Editorial Milla Batres.

marriage of the Marquis of Santa Rosa, his was the view of a peninsular Spanish officer. Due to his position and the participation he had had in the repression of the great Andean rebellion of the 1780s he had little tolerance towards the aspirations and idiosyncrasies of the inhabitants under his rule. If Humboldt heard anything from the Viceroy about the nature of Peruvians in their mixed composition, it must not have been a favorable observation – although, I must admit, this is a speculative remark that I relate directly to the investiture of Avilés and the harshness he showed throughout all his tenure.¹⁰

The next character in rank that Humboldt and Bonpland met while in Peru was don Manuel Antonio de Arredondo y Pelegrín, Marquis of San Juan Nepomuceno and Knight of the Order of Charles III. Of Spanish origin like Avilés—from Asturias in this case—he also participated in the repression of the southern Andean uprising, and took charge of the process against Túpac Amaru's relatives. Arredondo was made Regent of the Royal Audiencia of Lima (highest court of justice) since 1786, and was designated honorary Minister of the Council of Indies in 1794. He became President of the Audiencia and provisional Commander of the Viceroyalty from March to November 1801, in the period in between the death of O'Higgins and the arrival of Avilés, who was to become Viceroy. As well as the latter, Arredondo took no notice of the formal prohibitions, marrying a Peruvian-born lady. In his case, it was a recurrence, as he had earlier married doña Juana Josefa de Herce y Dulce, a lady from Ayacucho, widow of the second Marquis of Torre Hermosa, who had made her will in Cañete in 1779. He inherited from her large landed estates (among them, the haciendas of Cuiva, Montalbán and Ocucaje, South of Lima) that eventually came into the possession of a nephew, as he had no children. In 1804, he applied for an authorization to marry another Peruvian-born lady, doña Juana de Micheo y Jiménez de Lobatón (daughter of a Basque immigrant that had been a Knight of Santiago, she was related to the most distinguished local aristocracy and was the widow of the Regent of the Audiencia of Chile, don José de Rezabal y Ugarte), who died late that year before Arredondo had been granted the marriage license.¹¹

Other noblemen

Humboldt met and was in contact with some other titled persons in Lima. The first was his host, the Baron Timoteo (some called him *Thaddeus*) de Nordenflycht, who was almost a fellow countryman, and perhaps his best source of information in town, and who also had his own scientific interests. According to some, he was born in Latvia, and to others, in Sweden. He studied in Freiburg and arrived in Peru in 1790 to install a chemical laboratory in

10. Ibid.

11. Lohmann Villena, Guillermo. 1974. *Los Ministros de la Audiencia de Lima (1700-1821)*. Sevilla: 6-8.

Lima, and contribute with his knowledge to reinvigorate the mining activity of the viceroyalty. Notwithstanding his little success in this field, he was a very respected man in the country (“an educated and exceptional character,” according to Humboldt himself).¹² He married doña Josefa Cortés y Azúa, born in Chile and sister of the naval officer don Eugenio Cortés y Azúa, heir of the Marquisate of La Cañada Hermosa de San Bartolomé. Apparently, Nordenflycht died in Madrid, in 1815, having left succession in Peru.¹³

Another nobleman with whom Humboldt was in contact was the Marquis of Medina, don Joaquín Valcarce, a peninsular-born Spaniard who had served in the Chilean army and in the Arauco frontier before coming to Peru in times of the Viceroy Amat. After becoming major sergeant of the disciplined regiment of dragons of Lima, he marched on Cuzco in 1780 with Avilés to fight against Túpac Amaru at the command of 2,310 men who formed the columns that encircled the rebellious Indian chief in Tungasuca and Sangarara. He was promoted to brigadier of the army in 1794, when he was given the title of Marquis of Medina. His last promotion was to the position of governor and president of the Audiencia of Chile, which he did not assume due to the prevailing climate of separatist unrest in the Chilean territory after 1810. He married a Peruvian-born lady, doña Josefa Remírez de Laredo y Encalada, a sister of the Count of San Javier and Casa Laredo, but had no descendants.¹⁴

Aside from the aforementioned European holders of nobility titles, there is no question that through them, and in an apparently more indirect manner, the German researcher met the Marquis of Montemira, don Pedro José de Zárate y Navia Bolaños, also Count of Valle Oselle and Knight of the Order of Santiago. He was one of the Peruvian-born nobles that enjoyed great prestige because of his ascendancy, and the position and functions he held under the Spanish system (he was Colonel of the regiment under which Valcarce served during the repression of the Túpac Amaru movement), and because of his marriage to doña Carmen Manrique de Lara y Carrillo de Albornoz, a daughter of the Marquises of Lara. However, Montemira’s was by no means one of Lima’s most important fortunes.¹⁵

12. See Milla Batres, Carlos (ed.). 1986. *Diccionario Histórico Biográfico del Perú. Siglos XV-XX*. Vol. VI (M-O): 304-305. Lima, Editorial Milla Batres.

13. Rizo-Patron Boylan, Paul. 2000. *Linaje, dote y poder. La nobleza de Lima de 1700 a 1850*. Lima, Pontificia Universidad Católica del Perú. The family connection with the Marquises de la Cañada Hermosa de San Bartolomé is mentioned in table 16 and in p. 255.

14. Miro-Quesada Sosa, Aurelio, op. cit., pp. 260-261. Valcarce’s biography can be found in Mendiburu, Manuel de. 1931 *Diccionario Histórico Biográfico del Perú*. Vol. 11, Lima, I.E. Palacios: 150-151.

15. Montemira and his family are included in Rosas Siles, Alberto. 1995. “La nobleza titulada del Virreinato del Perú,” in *Revista del Instituto Peruano de Investigaciones Genealógicas*. Vol. 21. Lima: 171-173.

Apparently, Humboldt also met the famous don José Baquíjano y Carrillo de Córdoba, Count of Vistaflorida, a Limenean who had just arrived from Spain and had been entrusted with the criminal jurisdiction of the Audiencia of Lima on July 1, 1802. Although at a time he had been one of the wealthiest men of the viceroyalty, both he and the Marquis of Montealegre de Aulestia (don José Mariano Sánchez Boquete y Román de Aulestia) were known for having dilapidated their respective fortunes in their passion for gambling. Humboldt might have met Sánchez Boquete through his brother in law, the peninsular José de la Riva Agüero y Basso della Rovere, administrator of the tobacco revenues, and got from him and Baquíjano the unfavorable impression caused by their gambling vice.¹⁶

Another compulsive gambler was presumably the Biscayan *Caballero* don Gabino Gaínza, a Knight of the Order of San Juan, and also a frequent acquaintance of the German scholar. It seems he married in Guayaquil doña Gregoria Rocafuerte (a sister of Vicente Rocafuerte, who later became President of Ecuador). Gaínza was progressively promoted in the military ranks until Abascal entrusted him with a mission to Chile, for which "he did not have the necessary intelligence."¹⁷ His proclivity to be extremely conciliating enraged the Viceroy, who had him brought back to Lima under arrest to face trial. Upon being released by a benevolent court in 1816, he returned to Spain and was finally appointed senior Political Chief in Guatemala in 1820. The German scientist makes mention of the Administrator of the Mining Court, the Spaniard don Isidro de Abarca y Gutiérrez Cossio, who at the end of the eighteenth century was the Count (consort) of San Isidro (husband of his Limenean relative doña Rosa Gutiérrez Cossio y Fernández de Celis). However, Abarca made his will in 1791, so we do not know for sure whether he was still alive in 1802 and was the same administrator that Humboldt met that year.¹⁸

Intellectuals and men of distinction

Among the people indirectly related to nobility titles whom Humboldt seems to have met was Manuel del Villar Martínez. He was a Madrid-born Knight of Charles III, who married doña Joaquina de Salazar y Gabiño, sister of the Countess of Monteblanco and Montemar.¹⁹ Another acquaintance was José

16. Puente Brunke, José de la. *José Baquíjano y Carrillo*. Colección Forjadores del Perú. Vol.12. Lima, Editorial Brasa, 1995. Humboldt's acquaintance with de la Riva is mentioned by Núñez in Núñez, Estuardo and Georg Petersen, *op.cit.*, p. 251.

17. For Gabino Gaínza's biography see Mendiburu, Manuel, *op. cit.*, Vol. 5, pp. 316-321.

18. The Counts of San Isidro are treated by Rosas Siles, Alberto, *op. cit.*, pp. 451-456.

19. Swayne Y Mendoza, Guillermo. *Mis Antepasados*. Lima, Tipografía Peruana S.A., 1951, p. 539-540 (for the marriage of Manuel del Villar to doña Joaquina de Salazar y Gabiño, third daughter of the first Count of Monteblanco, and younger sister of the second Countess, who was the consort of the sixth Count of Montemar).

Gregorio Paredes (1778-1839) considered “one of Peru’s men of literature who deserve to be remembered for their integrity and moderation.” Born in Lima, he was the son of don Gregorio Andrés de Paredes y Geldres de Molleda, who in turn was brother and son of two of the Marquises of Salinas. José Gregorio Paredes was also a mathematician and physician, and later, a sympathizer with the cause of Independence. During the Republic he assumed responsibilities of great importance until his death after the fall of the Peruvian-Bolivian Confederation.²⁰ Another gentleman with aristocratic connections was the functionary in charge of weighing silver at the Lima Mint, don Santiago de Urquizu, who Aurelio Miró Quesada identifies as the “Urquiza” mentioned by Humboldt. He was a mathematician and university examiner alongside José Gregorio Paredes. Don Santiago—also according to the same source—would have been a son of the Judge don Gaspar de Urquizo Ibañez, cousin of the Marquises of Corpa.²¹

Hipólito Unanue (1755-1833) was the most prominent among the intellectuals of Lima that Humboldt visited and consulted. Of middle class origin, Unanue was born in Arica, and was a graduate in medicine at the University of San Marcos. He was the tutor of the son of Agustín de Landaburu, builder and manager of Lima’s bull ring, and eventually inherited the properties of his ward. In 1792, Unanue succeeded in founding the anatomic amphitheater, and later, at his request, the royal school of medicine of San Fernando was created in 1808. He contributed to the organization of the *Sociedad de Amantes del País* (a patriotic circle founded in 1790), which participated in the publishing and temporary success of the *Mercurio Peruano*.²² Another of Humboldt’s acquaintances was Juan José de Aguirre, a Limenean who between 1786 and 1806 was the general physician of Peru, later succeeded by Unanue. Others were the Peruvian-born José Manuel Dávila (it is not clear from the study of Miró-Quesada whether he refers to the Limenean physician José Manuel Dávalos, or to the also Limenean physician José María Dávila) and Miguel Tafur, an examining judge of the Medical School from 1801 to 1804 and later General Physician of the army and congressman before his death in 1825. Also among that group of intellectuals was the Spaniard Juan Tafalla, a botanist of the King who had arrived in Lima to found the botanic garden of the city.²³

20. Mendiburu, Manuel, op. cit., Vol. 8, p. 342, who includes the remark on Paredes’ “integrity and moderation”.

21. Miró-Quesada Sosa, Aurelio, op. cit., pp. 262-265. For the Judge Gaspar de Urquizu, see Lohmann Villena, Guillermo, op. cit. p. 137. For the Marquises de Corpa and their connections, see Rizo-Patrón Boylan, Paul. op. cit., pp. 155-261.

22. Miró-Quesada Sosa, Aurelio, op. cit., pp. 261-262. The *Sociedad de Amantes del País* has been studied by Walker, Charles. “The Patriotic Society,” in *The Americas*, 55:2, October 1998, pp. 287-290.

Naval and other officers

Humboldt met several naval officers in Lima and Callao. In the first place, Tomás de Ugarte y Liaño, a Spaniard who arrived as brigadier of the Royal Navy (1799) to design the ports of the South Sea, from Chiloé to the north coast of the Province of Veraguas. He was in charge of the creation of the war and navy audit, the majority of department orders, secretariats, board of naval stations, etc., throughout all that extension of the coast. In 1802, he was the first commander of the naval station of Callao, and in 1803, he became chief of the Spanish naval fleet. He returned to Spain the following year. Ugarte was accompanied in his functions by the Spaniards José Ignacio de Colmenares and Antonio Cuartara, who also came into contact with Humboldt, as well as the naval lieutenant José de Moraleda, who had arrived with those Spanish naval officers from Cadiz in 1801. Moraleda was later appointed Director of the Nautical School, participating some time later in the correction of the maps of several Peruvian highland provinces (Huamalíes, Tarma, Jauja, Canta, Huarochirí and Chancay). Other acquaintances made by Humboldt include Pedro Dionisio de Gálvez, a senior accountant of the Audit Office, and businessmen such as Matías Larreta, "an able and educated" member of the *Sociedad de Amantes del País*, both of whom were Spaniards.²⁴

Some of the clergymen seen by Humboldt

The German explorer came into almost immediate contact with several members of religious orders, because of their intellectual renown and local influence. The most important was the priest of the order of the Jerónimos, don Diego Cisneros, who before coming to Peru around 1778 had been confessor to doña María Luisa de Parma, then Princess of Asturias (later Queen consort to King Charles IV of Spain). He built a house on Estanco Viejo Street, later called *Padre Jerónimo*. According to Mendiburu he had a bookshop on Pozuelo Street. He was advisor to the Viceroy Teodoro de Croix and used his influence to have Toribio Rodríguez de Mendoza appointed Rector of the San Carlos School. As honorary member of the *Sociedad de Amantes del País*, he was associated with the above-mentioned José Baquijano and Hipólito Unánue, as well as with José María Egaña, the Public Prosecutor José de Arriz y Uceda, and others, all of whom Humboldt most likely met. Cisneros died in 1812, when Abascal was Viceroy of Peru.²⁵ Other clergymen that the

23. All of these names are given by Miró-Quesada Sosa, Aurelio. *op. cit.*, p. 261. Most of their biographies can be found in Mendiburu, Manuel de, *op. cit.*: for Aguirre, see Vol. 1, p. 184; for Tafur, Vol. 10, p. 276; and for Tafalla, also Vol. 10, p. 276.

24. Núñez, Estuardo y Georg Petersen, *op. cit.*, pp. 242-243. Moraleda has deserved a biographical entry in Mendiburu, Manuel de, *op. cit.*, Vol. 8, p. 6, as well as Larreta, in Vol. 6, p. 409.

25. For Cisneros, see Mendiburu, Manuel de, *op. cit.*, Vol. 4, pp. 159-166. José Fernando de Abascal y Sousa was Viceroy of Peru from 1806 to 1816.

German expeditionary visited were father Francisco Romero, a Spanish priest of the order of the Agonizers, who held the prime mathematics chair during those years, and was also a distinguished cosmographer; and father Narciso Girbal y Barceló, a Gerona-born priest of the Santa Rosa de Ocopa *Propaganda Fide* School, and parish priest of Cumbaza. He was known for his outstanding missionary zeal and his journeys through the Marañón and Ucayali rivers, where he came into contact with several ethnic groups in the jungle. He returned to Spain, where he died in 1827.²⁶

Lack of concern in the fate of fellowmen? Absence of fortunes?

With the possible omission of a few others, the above mentioned were the persons who opened possibilities for Humboldt and Bonpland in the local society, but at the same time they may have instilled their own prejudices in them. Without counting the consorts and in-law relations, the above-mentioned individuals include 18 Europeans and 8 or 9 Peruvian-born persons. It is evident that such Europeans would have felt closer to London than to the interior of the country—in Humboldt's own words, “Lima is more separate from Peru than from London.”²⁷ It is also understandable that given the geographic location of the City of the Kings, many local intellectuals had the same feeling, considering that the sources of knowledge were mostly in books coming from Europe rather than from such rugged and forbidding territory as that of Peru. If Humboldt and his companions had traveled along the center and south of the country, especially Cuzco, they might have had an entirely different impression.

With respect to the state of the local fortunes, which in the German scientist's view were depressed as compared with those in Cuba, Venezuela, and especially Mexico (“only in Mexico can we speak of millionaires”), it is true—as is maintained by many—that the viceroyalty of Peru was no longer enjoying its former prosperity, when most of the precious metal sent to Europe came from its territories, and when it had a monopoly control over the Spanish South America. The administrative space had been cut down, first in 1739, creating the viceroyalty of Nueva Granada, and then in 1776, creating the viceroyalty of Río de la Plata. New ports started to compete with the importance of Callao and Lima. Nevertheless, it is also true, that the merchants of Lima had been able to adapt themselves to the new circumstances,

26. These names are given by Núñez in Núñez, Estuardo and Georg Petersen, op. cit., pp. 250-252. Mendiburu also offers biographical notes on Romero (Vol. 9, p. 476) and Girbal (Vol.6, pp. 49-53).

27. This lapidating expression, written by Humboldt in a letter to don Ignacio Checa, the Governor of Jaén de Bracamoros, can be found in Núñez, Estuardo and Georg Petersen, op. cit., p. 215.

and overcome such drawbacks, as Marcel Haitin, Alberto Flores-Galindo and Cristina Mazzeo indicate.²⁸ Today we have evidence of some millionaire fortunes in Peru at the end of the eighteenth century up to 1820 decade. The Marquises de Corpa of the de la Puente family and their heirs, the Sancho-Dávilas, the Carrillo de Albornoz, and possibly the Lavalles were owners of considerable assets and credits. The merchants Abadía and Arizmendi were also reputed millionaires,²⁹ while Felipe Urbano de Colmenares, Marquis of Zelada de la Fuente, the Tagle and the Ortiz de Foronda families, and some others, had properties worth several hundred thousand (if not over a million) pesos.³⁰

In an article in which I try to offer an image somewhat different from the presumed poverty of the Peruvians at the end of the vice-regal period, my attention is directed to the extensive entail system that affected Peruvian landed estates and large farms, especially the ones in the surroundings of Lima, which has blurred the appraisal of many fortunes. This is not only an expression of lack of commercial or financial dynamism, but also of deep-rooted customs of aristocratic origin, just as it may be said today without any doubt that many more holders of nobility titles and of noble knighthood orders existed in Peru than in other parts of the Spanish empire (except for peninsular Spain itself). The stagnation or immobility of many fortunes does not mean that they did not exist. I must admit, however, that the lack of liquidity resulting from the well-rooted entail system might have contributed to making fortunes less apparent than in other places. In this sense, Humboldt may have been right.³¹

Final balance

The impression I get from the circle of acquaintances that Humboldt had in Lima—aside from officers of the stature of Avilés or Arredondo (both peninsular-born Spaniards) or aristocrats, such as Valcarce (the Marquis de Medina) and the Peruvian-born Zárata (Marquis de Montemira) and Baquí-

28. See: Haitin, Marcel. 1983. *Late Colonial Lima. Economy and Society in an Era of Reforms and Revolution*. Berkeley, University of California; Flores Galindo, Alberto. 1984. *Aristocracia y Plebe. Lima, 1760-1830*. Lima, Mosca Azul; and Mazzeo, Cristina Ana. 1994. *El comercio libre en el Perú. Las estrategias de un comerciante criollo: don José Antonio de Lavalle y Cortés, 1777-1815*. Lima, Pontificia Universidad Católica del Perú.

29. The Marquises de Corpa and the Sancho-Dávilas are included in Rizo-Patron Boylan, Paul, op. cit., pp. 155-261, while the Carrillo de Albornoz family is in pp. 76-78. The Lavalles, as well as the merchants Abadía and Arizmendi, are mentioned as millionaires by Anna, Timothy E. *The Fall of the Royal Government in Peru*. Lincoln, Nebraska, University of Nebraska, 1979; p. 10.

30. For the Colmenares, Tagle and Ortiz de Foronda Rizo-Patron Boylan, Paul. 1998. "La aristocracia al final de una era. Precisiones conceptuales y estimaciones patrimoniales," *Histórica*, Vol. XXII (2): 289-308.

31. *Ibid.*

jano (Count of Vistaflorida)—is that the German scientist did not have sufficient contacts with most of the major nobles or merchants of the city. Paredes and Urquizu, outstanding intellectuals, belonged to secondary and impoverished branches of noble lineages. Perhaps, they voiced their resentment to Humboldt, in regards to the succession laws and customs that had relegated their respective branches. The German scientist may have assumed that their cases reflected a more general reality, supposition that may have contributed to his affirmation about family disputes.

In his accounts about Lima, we only find mention of three or four titles out of nearly 60 that existed in the viceroyalty at the end of the Spanish domain.³² When Humboldt visited Peru between August and December 1802, many of the titled nobles could have been at their landed estates in the valleys around Lima (e.g. the Sancho-Dávilas, in Carabayllo; or the Carrillo de Albornoz, in Chincha) or in the interior of the country. Otherwise, they were simply living “indoors”—as many high-class Limeneans still do today, in the sense of only admitting into their circle whom they deem best. Only then do they allow foreigners to perceive a refined and sometimes lavish reality, not visible to those just passing by (or stopping for a short time) in a city so full of contrasts like Lima.

In the same way, it is possible that the sentiment referred by Humboldt as “cold patriotism” could not be expressed otherwise, if—as has been seen—the main persons he met were technically “foreigners” (Europeans or peninsular Spaniards). On the other hand, even the members of the *Sociedad de Amantes del País*, such as Unanue or José de Arriz, and young patriots, like José Gregorio Paredes, could not demonstrate any form of patriotism that might be “scented” as separatist or revolutionary at the very core of the vice-regal power and under the authoritarian rule of Viceroy de Avilés, who not long before had been a fierce repressor of the Túpac Amaru movement. The mere fact of being members of circles like the *Sociedad de Amantes del País* speaks for their “patriotism,” reason why Humboldt’s statements denying such a possibility seem prejudicial and contradictory.³³

No matter how brilliant the observations of the German scientist in the field of natural phenomena, it seems evident that, despite the elements of truth they contained, his impressions on the human and social field were incomplete and tainted with subjectivity. On one hand, we have to consider a natural disenchantment regarding the legendary versions of Peru’s riches and splendor, so widespread in Europe. Reality was unable to compete with such

32. For nobility titles in Peru, see Rosas Siles, Alberto, *op. cit.*; Atienza, Julio de. *Títulos nobiliarios hispanoamericanos*; Madrid, Aguilar, 1947; and Rizo-Patron Boylan, Paul. *Linaje, dote y poder...*

33. Núñez, Estuardo and Georg Petersen, *op. cit.*, p. 215, for Humboldt’s expression on the seemingly lack of patriotism of Peruvians. For the *Sociedad de Amantes del País* (or Patriotic Society, as the author calls it), see Walker, Charles, *op. cit.*

fables. The same can be said of other travelers who visited Lima a few years later, such as the Russian Admiral Vasilii Golovnin, the French Comte Camille de Roquefeuil, among others, even though some continued praising Lima's grandeur.³⁴ On the other hand, there is the biased influence of his European contacts in Lima. Additionally, Humboldt must have been negatively affected by the fogginess of Peru's central coast and its uncertain climate through most of the year. His short stay in the capital, which did not allow him to meet other noblemen and merchants of fortune or to understand the extensive entail system, no doubt contributed towards his disdainful assessment of Lima. Finally, the absence of some romantic enthusiasm, which he did enjoy elsewhere in the Americas, might have conditioned his perceptions. According to Fanny Calderón de la Barca, after meeting in Mexico the young María Ignacia Rodríguez y Osorio Barba (1778-1851), called *la Güera* (the blond one), Humboldt fell under the fascination of this Latin American version of Madame de Staël, as "neither mines nor mountains, geography nor geology, petrified shells nor *alpenkalkstein*, had occupied him to the exclusion of a slight stratum of flirtation." Madame Calderón de la Barca concludes that *en face* such a beauty as *la Güera*'s "it is comforting to realize that even the great Humboldt nods [is seduced]."³⁵ Unfortunately, in Peru he did not have the time nor luck with equivalent sirens.

34. Abridged accounts of these and other voyagers can be seen in Núñez, Estuardo. *Viajes y viajeros...*

35. Calderon de la Barca, Madame (Fanny) (Introduction by Sir Nicolas Cheetham). 1987. *Life in México*. London, Century: 88.

The National Imagination in New Granada

Margarita Serje

On January the first in 1887, an extensive article devoted to Alexander von Humboldt appeared on the *Papel Periodico Ilustrado*, a well known journal published in Nueva Granada. It was one of the many chronicles that appeared throughout the century complaining about “the ingratitude of foreigners who forget to acknowledge the merits of people” in their work. In this particular case the author refers to the fact that,

Humboldt called Santafé [the City we know nowadays as Bogotá] ‘the Athens of South America,’ no doubt because this city seemed to him the most cultivated among those he had visited this far in America, and although he certainly thought that this country was still in a very primitive state, he must have been surprised when he found more than a dozen notably instructed men in this capital, forged in a spirit similar to his and devoted as he was to the study of the Natural Sciences. But in spite of the fact that such a title honoured and favoured them, he never mentioned in his writings the names of these men, even when he took great advantage of their local and practical knowledge as they provided him generously and gracefully with an enormous amount of information and data about the country, its topography, mines, production, climates, etc.

The author proceeds to recall two important theses by Francisco Jose de Caldas, a *criollo*¹ scientist and politician, who was known as *El sabio Caldas*: “a method for measuring altitude through boiling water, without the use of a barometer, and the *Geography of Plants*, two concepts, which were first and exclusively invented by Caldas. Humboldt took advantage of these inventions, without acknowledging or citing this fact in his works.

1. I will use Spanish term, since the English word *creole* refers to the cultural outcome of a race mixture, while in Latin America, *criollo* refers to the white pure blooded descendants of the Spanish colonists.

Apart from the obvious reflections about the politics of knowledge, especially when it is produced at the frontiers of the empire in a language not recognized as legitimate for the production of knowledge, as was the case for Castilian already in the nineteenth century; what I would like point out is the link between the aesthetic and scientific representation of Nature and of the American landscape developed by Humboldt and the set of political representations which inscribed the consciousness of the new nations. I will argue that Humboldt's dramatic depiction of the tropical American landscapes more than a "reinvention of America" (Pratt, 1992), was actually a re-enactment of the notions the *criollos* had developed about their "new world" and about the way they had occupied its territory. This re-enactment was performed by disembedding landscapes and peoples from their own historical and geographical continuity to place them in the context of modern natural (Universal) history.

By the nineteenth century, a new sensibility emerged in Europe celebrating all that seemed remote in space and time. The colonial frontier was then displaced: it was moved to the confines where capital had not yet arrived. From then on the forests, deserts and mountains—*les pays affreux*—which came to represent the archetype of pristine wilderness, became an object of desire: they became the privileged place for the experience of nature (Roger 1997). Perhaps one of the cornerstones of this new sensibility was Humboldt's American experience. Based upon his vision, a new understanding of nature was born which founded a particular way of imagining the nature and the nature of things in the "equinoctial regions of America."

Several authors have pointed out the influence and the sequels that Humboldt's passage had on the forging of an image of America right at the moment when the struggles for the independence were soaring and new nations were being imagined and created. One of the most suggestive arguments has been proposed by Marie Louise Pratt: "Alexander von Humboldt reinvented South America first and foremost as nature. Not the accessible, collectible, categorizable nature of the Linneans, however, but a dramatic, extraordinary nature, a spectacle capable of overwhelming human knowledge and understanding" (op. cit. 120). In this process of reinvention, she argues, "three images in particular (...) combined to form the standard metonymic representation of the 'new continent': superabundant tropical forests (the Amazon and the Orinoco), snow-capped mountains (the Andean Cordilleras and the volcanoes of Mexico), and vast interior plains (the Venezuelan *llanos* and the Argentine pampas)" (op. cit. 125).

It is important to stress how, in this process of "reinventing" America, Humboldt inscribed on the scenic images of the American tropics a set of colonial notions about landscape, culture, and history, granting them scien-

tific and aesthetic legitimacy. One of his most important developments was indeed the *Geography of Plants* (which he apparently developed based on Caldas' previous work). This thesis gave him celebrity and an important place in the field of natural sciences. In it he proposes his well known law according to which it is possible to homologate the distribution of vegetable associations according to latitude with its distribution according to altitude in the tropics. In this apparently simple law "a very complex explicative system is put in motion, since the physical parameters (temperature, humidity, etc.), themselves determined by their spatial situation (altitude or latitude), determine the character of vegetation, which in turn exerts an influence upon animals and humans beings" (Drouin, 1993: 69). The diagram illustrating the distribution of plant associations by altitudinal strata was abundantly reproduced and it has become both an icon and a model of mountain ecology (see figure 1).

The homology upon which this law is based, actually systematizes and gives scientific legitimacy to the vision the *criollos* had about the nature and geography of the viceroyalty. Colonial order had been imposed in America through cartographical knowledge. The map represented both the point of departure and the model for the appropriation of the new territories. Maps, and their superior point of view, imposed the logic of an urban order and a strictly hierarchical organization of space (consecrated in the *Ordenanzas* by Felipe II in 1573) based on a new classification of landscapes. This classification responds to the way in which the abrupt Andean territory, when reduced to a two dimensional surface, is represented as a stratified sequence of planes. This type of visualization implied that slopes were not considered relevant spaces; they were looked upon rather as residual areas. In fact the topographical locations for settlement that were privileged by Europeans were the high plateaus in the cordilleras, where both the flatlands and temperate climates prescribed by the *Ordenanzas* could be found. Slopes and their gradients represented for the colonizers a huge obstacle, not only to occupy them but also to escalate them. Castilian technology had no experience or precedents for the management of abrupt slopes, which made for them the construction of roads and paths, and needless to say of settlements or of agricultural plots, nearly impossible.

This fact was particularly important in the area of what constitutes today Colombia, since the cordillera divides into three ranges where only a few temperate climate—a plateau areas can be found. The colonial occupation was concentrated on those few flat spots, and it is there where the main cities are situated. The colonization of slopes did not take place until the last decades of the nineteenth century, and they present up the present serious obstacles for the construction of roads and highways (Carrizosa, 2001).

The Andean landscape was thus classified and segmented according to a horizontal logic. The hierarchy of the stratified horizontal planes had a very strong religious and eschatological significance in European tradition. It represented the hierarchical order of the Chain of Being, expressed by “the three regions of air. Above the lower air that we breathe is the middle air, a region of intense cold from which storms and tempests emerge (...). This deadly region could not have existed before the Fall: it marks the limit of Satan’s conquest in the order of nature and his present headquarters in human life (...) above this was the region of the upper air, a temperate domain of ‘perpetual spring’, the traditional locale of the earthly paradise (...) thought of as on a mountain, above all hills ...” (Frye, 1965: 44-45).

Each one of these strata was considered to have its own temperament according to a specific combination of the four principles: heat, cold, humidity and dryness. The idea of temperament synthesizes both the physical and the moral properties of each one of them, and constituted the basis of the qualification which was given to the different altitudinal levels. The notion of the Andean topography segmented in altitudinal strata was the foundation of both Caldas’ work on the *Levelling of the species of Quinchona* and Humboldt’s *Geography of Plants* (see figures 2-3).

Based on this temperament theory, virtual barriers were established between *tierras calientes*—the hot, humid and unhealthy tropical lowlands, and the *altiplanos*, the high plateaus, which were cool, temperate and healthy, as described in a well known classification of the parishes in New Granada (de Oviedo, 1771). This opposition between the lowlands and the highlands became a basic assumption and almost a paradigm for the scientific knowledge of the region.

This vision is radically different from the vertical way in which Andean aboriginal societies conceive their territories. Ethnographical and archaeological evidences have documented their settlement pattern which has been conceptualized as “vertical control model,” or as “strategy of vertical management” (Murra, 1975, and Langebarck, 1985). Besides the fact that the words management, control, or model, are not quite accurate to describe the experience and the relationship indigenous groups in the Andes have historically established with their environments, it is possible to generalize that indigenous settlement patterns were in pre-colonial times, and in many cases still are, based in the simultaneous use of several altitudinal levels.

This vertical use grants these groups access to the enormous variety of ecological niches which results from the variations in altitude, the exposure to winds and rain and the different types of soils found in the slopes of the cordilleras. J. Murra (op.cit.) shows how each social group in the Andes, whether it was a small political unit as the *Chuyapo* in Guanaco, or a huge

and powerful kingdom, as the *Lupaca* in Lake Titicaca, would secure access to as many altitudinal levels and ecological niches as possible. In this way, the domestication of the most important products for the Andean economies implied an adaptation to the different altitudinal levels: such is case of products like maize, coca, beans, or chillies which can be harvested in all climates from sea level up to almost 9,000 feet above sea level; potatoes, between 3,000 feet and 9,000 feet, or manioc, tomatoes and cacao, up to 6,000 feet.

In what constitutes today Colombian territory, pre colonial societies occupied the slopes intensively with an implantation logic completely different to the European one. Spanish colonists privileged the use of whatever flat space they could find for their settlements, both for cities and food production, rejecting the slopes. To multiply them they invested huge amounts of resources in drying lakes, marshes, water meadows and alluvial soils. The occupation of the Andes by the Indians responded to a different logic: they used slopes extensively with varying intensiveness according to gradients, with a very strong vertical continuity linking the highlands with the lowlands. This type of occupation is practiced today by several Andean societies inhabiting the cordilleras in Colombia. Such is the case of the *Kogui*, *Ijka*, *Wiwa* and *Kankuamo* groups in *La Sierra Nevada de Santa Marta*, or the *Uwa*, *Inga*, *Kamentsá* groups in the slopes of the oriental cordillera facing the Amazon (Reichel-Dolamtoff, 1985; Langebaeck op.cit, Osborn, 1995; Ramírez, 1996). Ethnography has shown how the vertical organization of the land for these societies is expressed in the fact that the basin of the rivers which flow down from the snow peaks to the lowlands and plains is a distinctive element of identification for these groups. The vertical system of basins and micro-basins is the central referent for both their social and spatial organization. In the case of the *Uwa*, for instance, every clan or social group is named and identified with the basin of one of the main rivers of the cordillera, and it constitutes the territory granted to this group for the use of certain forest products (see figure 4).

In his introduction to *Vues des Cordillères et Mouments Indigènes*, Humboldt expresses explicitly not only a “natural” distinction between the biogeographical strata: the highlands, *tierra fría*, with cold and temperate climates and the lowlands, the hot lands—*tierras calientes*—but also a cultural distinction between the two which has survived almost intact to our days, and has become paradigmatic for the ethnographical and social knowledge of the region:

Lors de la découverte du Nouveau Monde, ou, pour mieux dire, lors de la première invasion des Espagnols, les peuples américains, les plus avancés dans la culture, étoient des peuples montagnards (...) Les facultés se développent plus facilement partout où l’homme, fixé sur un sol moins fertile et force de

lutter contre les obstacles qui lui oppose la nature, ne succombe pas a cette lutte prolongée (...) Dans la partie équinoxiale de l'Amérique où des savanes toujours vertes sont suspendues au-dessus de la région des nuages, on n'a trouvé des peuples policés qu'au sein des cordillères: leurs premiers progrès dans les arts y étoient aussi anciens que la forme bizarre de leurs gouvernements qui ne favorisent pas la liberté individuelle (Von Humboldt, 1816: 32-33).

The cultural distinction between highlands and lowlands is based on the assumption that civilization may only be developed in regions with temperate climates. In the introduction to *Cosmos*, Humboldt states that: "it is to the inhabitants of a small section of the temperate zone that the rest of mankind owe the earliest revelation of an intimate and rational acquaintance with the forces governing the rational world. Moreover, it is from the same zone (which is apparently more favourable to the progress of reason, the softening of manners and the security of public liberty) that the germs of civilization have been carried to the regions of the tropics" (Von Humboldt, 1997: 36). Thus, in the equinoctial regions of America, civilization may only be found in the highlands, propitiated by its cold and temperate climates. This paradoxical deterministic limit that Humboldt imposes to his otherwise possibilistic vision is what turns the natural homology he presents in his *Geography of Plants* into a cultural one. The hot and feverish climates of the plains and rainforests determine a sort of incapacity inherent to the societies in the lowlands to "ascend" to civilization. The proof of this lack of civilization is evident in the fact that these groups have no agriculture, and as Humboldt affirms, they simply "surround their huts with bananas, *jatrophas* and a few other edible plants" (Von Humboldt, 1816: 36).

From the European point of view, even before the American Encounter, savages living in the forests represented the first and most primitive era of Human History: that of the state of Nature, which may also be understood as the first stage of economic and productive organization: the natural economy which characterizes the groups known as "hunter-gatherers." According to this classification, the hunter-gatherer's activities are limited to taking advantage of the natural abundance offered by the environment. This is particularly so in the rain forests, where all these groups have to do is simply harvest the enormous profusion of resources the jungle has to offer. That is why, in words of Rousseau, "the body of the savage, which is the only instrument he possesses" (Rousseau, 1996: 82) gives him the right to own only the product of his work, that is, they can only own what they hunt, fish or gather. By the same token, no property of the land is acknowledged to them. This is why America (the whole continent) was considered a huge area of wastelands,

lands which nobody owned because they had never been exploited or cultivated.

The right to claim property of the land can only be recognized according to the amount of work invested to achieve its technical transformation. This transformation is obviously understood in terms of the European farming tradition: the plough and the geometrical organization of fences and divisions for the beds, plots and patches. These were necessary for a type of exploitation of the land oriented towards the production for the modern market, that is, a price regulated system whose central objective is to maximize gain and profit (Polanyi, 2001), which may not be considered as the sole universal, natural form of market. Besides, agricultural development in Europe was adapted to the sunlight conditions of high latitudes. This is why it is based on monocultures extended in horizontal surfaces that act like a panel to capture the oblique sun rays.

Tropical Amerindian agriculture, on the other hand, has been invisible until recently to the western eye because it is based on different principles. Production here is not necessarily oriented towards modern markets, but to market systems guided by other principles such as reciprocity or redistribution. It is adapted to the perpendicular sunrays in the equatorial zone. That is why indigenous agricultural plots present a vertical organization which reproduces the multi-strata structure of the tropical rainforest (see figure 5). They are often organized by creating a series of diverse plant association spots that resemble a spiral staircase—to maximise sunlight—which in many cases reflect the structure of the social relations existing between human and non-human beings (Descola, 1986). This kind of agriculture “has a strong structural similarity with the rain forest, which allows for the protection of soils from erosion, facilitates photosynthetic efficiency and significantly diminishes the possibility of plagues and diseases” (Van der Hammen, 1992, 16). Its efficiency is also noteworthy: “Having a high productivity level, requiring a low labour investment, it offers an enormous variety of products perfectly adapted to the variations of soils and climates, protected from all sorts of epidemics and parasites” (Descola op.cit., 237). But, since its configuration presents a chaotic image, which María Clara Van der Hammen describes as an “organized chaos,” this agricultural system has been misread as *monte*: wilderness.

Besides, the rainforests themselves are a product of the societies which inhabit them. Ethnology and archaeology in the Amazon have illustrated the process of its production as an environment, showing how biodiversity is in great measure a result of indigenous intervention. The “jungle” is the result of a series of social practices which determine which species are valued and favoured and are thus reproduced, selected, and preserved, while others are

ignored. Indigenous groups in Amazonia, both the horticulturalist groups who live in *malocas* by the rivers, and the nomadic hunter-gatherers living in the interior, have developed several distinctions and classifications of spaces in the rain forest which reflect the relationship they establish with those areas and the type of intervention they perform on them. This constitutes a type of land management which Laura Rival has come to describe as “wild gardens and cultivated forests” (Rival, 1998). The nomadic groups for instance, the so-called hunter-gatherers who are usually considered the most primitive amongst the primitives, have developed a series of techniques, documented by ethnography (Cabrera, Mahecha and Franky 1999; Politis, 1996) that reveal their complex approach to the different areas in which they classify their territory. These techniques include selective pruning and clearing, care and replanting of seeds, sprouts and young plants, and the concentration of particular species in certain areas in order to attract prey or animals whose presence will in turn help reproduce specific trees or plants. Their intervention fosters complex chains of relationships which are an active factor of the forest’s diversity. Besides, these nomadic groups create “wild gardens” near their fishing or hunting areas with a complex multistrata structure. According to Philippe Descola, “the sophistication of their techniques is hardly discernible to a nonchalant observer, incapable of measuring the amount of knowledge and experience required for the creation of a forest plot” (Descola op.cit., 233) and, I would add, the extent of the decisions that have to be made to achieve it. All these practices go far beyond the passive taking advantage of the natural abundance of the rainforest which is how the concept of hunter-gathering is understood in common sense.

Rainforests are not, therefore, “virgin” or “pristine,” as many conservation environmentalists would have it, but rather, they are social products. They constitute the landscapes developed by indigenous societies and their modes of production. However, the culture of jungle peoples, both in the sense of the care of the land and in the sense of social organization, has been ignored and systematically rendered invisible. They have been classified as groups situated in the realm of nature as opposed to culture. In the European tradition since Greek times, the nomadic management of space has been invisible. According to its view, occupied and appropriated space can only be space ordered by geometry and discipline. François Hartog describes in *Le Miroir d’Herodote* how, for this Greek historian, civilized space could only be “delimited, measured and surveyed, distributed and controlled” (Hartog, 1991: 77). In this way, the jungles and forests, the plains and savannas occupied by primitive in-state-of-nature peoples, can only be barren wastelands: vast, empty wildlands. The cultural corollaries of Humboldt’s *Geography of Plants* naturalize one of the cornerstones of the colonial order of things: its

geopolitical imagination. The natural/cultural homology it introduced, in its altitudinal version, condemns the hot feverish lowlands to the state of perennial barbarism; while it claims that ascending to civilization is only possible in the highlands. In its latitudinal version, this same homology implies that civilization is natural to the “temperate zone” (which generally coincides with what we call today “the North”), and the tropical regions of the planet are forever destined to backwardness and savagery. This natural/cultural homology, which was both aestheticized and legitimated scientifically by Humboldt’s work, was re-appropriated by the eminent *criollos* of the New Granada, and it became the basis for the foundational myths upon which the new nations and their consciousness was forged. These myths, as I intend to argue, after a long historical continuity, are still based on Humboldt’s esthetical dramatization of nature.

Some of the most influential politicians in nineteenth century New Granada were also noted geographers (Sanchez, 1999). The academic propositions made from this double viewpoint, were crucial for the creation of a foundational image that was to guide both the National Project in Colombia, and its constitution as a national State. The vision they proposed was, and in many aspects still is, the basis for the construction of the official National Geography, and most importantly, it constituted a paradigmatic model that shaped the modern conception of the national territory, its populations and its nature. This model has had a long lasting historical continuity, and it constitutes one of the myths of the Nation.

The central notion of this geographical narrative is that of the prodigious and exuberant nature with which the Nation has been endowed: The extreme profusion of natural and mineral resources, where a continuous re-elaboration of the myth of America as land of plenty, as a promising frontier, may be found. Caldas, who was both a man of science and one of the leaders of the movement for the liberation from Spanish rule, proposed an idealized representation of the wealth and exuberance of Nature in New Granada. He highlights its privileged position in between the two oceans, with three branches of cordilleras and their tropical position resulting in an enormous variety of soils and climates, the existence of vast and extended plains (*los Llanos*) and forests and mountains covered by snow peaks, crossed by huge rivers suited for navigation, and filled with immense natural and mineral resources still to be discovered and exploited.

This great diversity situates this nation in a privileged position to “observe, and even to touch, the influence of climate and food upon the physical constitution of men, and upon its vices and virtues” (Caldas, 1849: 7). In spite of its aura of innocence, this aestheticized and romanticized vision of the nature of the country was far from it. It constituted the stage for a human

geography based on Humboldt's homology of the "Geography of Plants". One of the main preoccupations for the *criollo* elites was how to make sense and establish order and hierarchy among the various social groups that colonial domination had produced: the different "castes" resulting from the multiple race mixtures. It was no longer the Indian, the African and the Spanish (themselves already representing their three constitutive cultures), but a large population that came to be known the *libres de todos los colores* (free peoples of all colours): mulattoes, *mestizos*, *cuarterones*, *zambos* among others (see figure 6). This was a rebellious growing social group, showing great independence from the ruling classes. The question of how to place them in the new social order was a crucial one.

Based on the fact that in Nueva Granada "latitude has no rule" since in the tropics it is the "inches in the barometer" that account for variations both in vegetation and in the human condition, Caldas postulates a theory of social order. This order, "the expression of a higher principle", is based on the opposition between the highlands and the lowlands: "Indians and mulattoes in the hot zones under the abrasive sun, live almost naked, having only a hammock and some banana trees which require no cultivation...while the castes that live in the cordillera are whiter and have better manners" (Caldas op.cit., 132).

The homology between the temperate latitudes and the highlands in the cordilleras, which is the central premise of the *Geography of Plants*, acquires in his work an important new dimension: it becomes the basis to homologate the groups inhabiting the cordilleras with Europeans; giving in this way a scientific basis to the superiority of the Andean *criollos*. Based on this geographical categorization, he distinguishes three hierarchical social castes related to the altitudinal strata: the wild lands, jungles and savannas inhabited by "hordes of barbarians", the hot lowlands populated by the free peoples of all colours, who are subdued by the harmful influence of a torrid morbid climate, and the elevated peoples in the cool temperate Andean high-plateaus. The bio-geographic stratigraphy is thus transformed into caste stratification. This constitutes the first corollary of the prodigious and exuberant tropical nature.

A second corollary was the fact that at the same time, the diversity of natural resources and the potential of the bio-geographic stratigraphy represented the "Most Important Theatre for the development of vapour, commerce, mining and immigration in order to transform this desert into a powerful and opulent Nation" as was expressed by an editorial in the journal *El Pasatiempo*, 12 October 1853. Natural profusion awaits to be penetrated and exploited.

In order to make this vision possible the colonial division of labour had to be preserved. The bio-geographic stratification gave institutional and scientific legitimacy to a new reading of the social hierarchy: “the white population living in the haut plateaus” had the vision and the industrious capacities, “the blacks, and the *mestizos* and mulattoes, disseminated in the coasts and the bottom of the ardent valleys” were meant for work in the plantations, in the mines and in navigation, jobs which “demand strong and vigorous races.” As for the “hordes of savages,” they were considered just as the jungles and marshes, an obstacle of nature to be surmounted in order to achieve progress (Samper 1859). It is not specifically the phenotypical variations in skin colour (which were probably difficult to pin down among the “free peoples of all colours”) that are transformed here into social stratification, it is a geographical characterization, that is both natural and cultural, which accounts for the assumed labour (and capital) potential of the different regional groups. It underlies the conception of diversity in Colombia and the “character” of the different geographical units which configure the country as *país de regiones* (land of regions). National identity in Colombia—and this constitutes the third corollary of this foundational myth—is based upon the existence of multiple regional identities. The principal marker of these regional identities is given indeed by the position each region occupies in the social and bio-geographical stratigraphy.

This vision, which is deeply embedded in common sense, has had multiple concrete political consequences throughout history. One of them was the fact that it legitimized the central position the Andean white elites acquired in the new republic. A passionate conflict between the regional *criollo* elites arose by the time of the Independence wars with Spain. It started as a confrontation among the land owners and merchants of Andes and the Caribbean. In most analyses of this conflict, it has been argued that the problem resided in the fact that when the time came to build a new republic there was not one single united *criollo* elite endowed with a national vision, but a group of regional elites with different projects and identities (Múnera, 1996). What I suggest is that the issue was not the lack of national vision, but the quite the contrary, the imposition of this singular vision of the nature of the country and its geopolitical imagination.

Cartagena, in the Caribbean coast, wanted independence not just from Spain but from Santa Fe, the capital of the Viceroyalty. A huge movement of blacks, *zambos*, mulattoes and in general the “free peoples of all colours” was ignited there, radicalizing the demands for autonomy. An Andean state was created to face what was seen as the disorder and anarchy of the *negros de tierra caliente* (blacks in the hot lowlands), within the horizon of the recent revolts of the “blacks” in Haiti. It was legitimized by a national discourse

based on the positive image of the Andean *criollos* opposed to the negative image of the Caribbean identity, and in general to the negative image of the inhabitants of the lowlands: “free peoples of all colours” and savages. In a similar way, in Venezuela, the National Project was for the *criollos* the means to “contain the blacks” and to give continuity to “the peaceful colonial concert” (Carrera Damas, 1983). The conflict of interests between the regional criollo elites in Venezuela was resolved, as it was in Colombia, by a consensus about “the removal of the masses of free peoples of all colours from the scene.” The project put forward by the *criollos* to reinstate and re-found the colonial structure of internal domination, was based upon the set of notions about the nature of the country and the nature of its inhabitants, which in turn were based on this bio-geographical and social stratigraphy.

The “fear of the people,” inspired by Indians, blacks, zambos, mulattoes and all the other colours, is at the base of the “democracy without people” that has characterized politics in the countries of the “Great Colombia” since the nineteenth century (Zambrano, 1989). The exclusion of the savages in the lowlands was explained by Simón Bolívar himself: “In the midst of primitive nature, crossed by mythological rivers whose banks are populated by a heterogeneous fauna of monsters and ferocious animals that dispute men the dominion of the jungles, one cannot in one day improvise the formation of proper citizens, that are conscious of the high functions of electing a government and of being elected as such, which is the basis of a true democracy” (Bolívar, 1971: 102).

The political consequence of the ideas about the geography of civilization has also found an expression in the development, and the conflicts, of the two traditional parties in Colombia: the liberal and the conservative. By 1848, before these parties assumed their British inspired names, they were called respectively the Mountain and the Valley Parties. The first one identified itself with the topographic stratigraphy of castes proposed by Caldas, with the Andean centralism and with the moral and religious values of the Spanish tradition; it was the cradle of the conservative party. The party of the Valley identified itself with the illustrated, *laissez faire* project put forward by the pushing, autonomous mixed elites of the lowlands. They were allied with groups of emergent free artisans “of all colours” in the regions most involved with metropolitan trade.² The horizontal regional distinction implicit in these political parties was forged around the differences of race and class: the liberal party was associated with the blacks, the mulattoes and the free peoples of all colours (Rojas, 2002). The colonial principles of the stratigraphic depiction of the landscape are present in this distinction.

2. Charles Cochrane, an officer of the British Navy, describes the composition of the two parties and their passionate debates in his *Journal of Residence and Travels in Colombia* (Cochrane, 1825: 81-84).

The image of the rich and abundant nature depicted by Humboldt, and recreated as a theatre for commerce and civilization by the politician geographers of the New Granada is still relevant in the contemporary political arena in Colombia. In recent a special edition of Colombia's most read journal, *El Tiempo*, a supplement appeared showing Colombia's strengths and advantages for the Free Trade Agreement between the Andean Countries and the US. Some of the most renowned economists made an analysis of the aspects that permit an optimistic view of the economic future. They all reiterate the fact that the problems we have had to face "are not only public disorder, but an amazing and abrupt geography", and they don't fail to mention the abundant and exuberant wealth this geography conveys: "Our richest and most abundant resource is, no doubt, nature. We have got soils, and water, diverse sources of energy, lots of minerals, the second biodiversity in the planet and an excellent geographical location in the tropics, near the biggest market in the world". One wonders at the persistence of this representation which has been for two centuries the tip of an iceberg whose submerged portion is deeply embedded in the principles of the natural and social homology elaborated by Humboldt in his *Geography of Plants*.

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Odette Casamayor Cisneros

En su *Ensayo Político sobre la Isla de Cuba*, publicado por primera vez en París en 1826, Alejandro de Humboldt deja plasmada su visión de la isla caribeña, entonces colonia española. Sus interpretaciones de la naturaleza y la sociedad criollas han suscitado, ya en el siglo XX, interesantes y en ocasiones controversiales opiniones entre los intelectuales cubanos.

Esta situación se inscribe dentro de una articulación más general—que no es precisamente armónica ni simple—entre el pensamiento humboldtiano y las élites intelectuales de la América hispana, por un lado, y el saber científico europeo, por el otro. Ello forma parte de aquella “conexión real del saber americano con Europa y la fundamentación transcultural de la existencia de un sólo tipo de modernidad occidental sobre bases clásicas en Europa y en las culturas eurocriollas de América Latina” que Michael Zeuske reconoce que se producen con Humboldt.¹

Nuestra intención, con esta investigación, es presentar esta articulación, precisamente a través de la obra y posiciones ético-estéticas de Fernando Ortiz (1881-1969), Alejo Carpentier (1904-80) y José Lezama Lima (1910-76).

Puntos Comunes

Legitimidades

En el acercamiento de Ortiz, Carpentier y Lezama a la obra de Alejandro de Humboldt ha de reconocerse, primeramente, la satisfacción que estos autores

1. Zeuske, Michael, “¿Humboldtización del mundo occidental? La importancia del viaje de Humboldt para Europa y América Latina,” Ponencia inaugural presentada en el coloquio internacional “Humboldt y la América ilustrada (200 años después),” organizado por el Instituto Riva-Agüero (Pontificia Universidad Católica del Perú), Lima, 11-3 Nov. 2002.

encuentran en el reconocimiento que hace el alemán de la naturaleza y el hombre americanos. En efecto, Humboldt aportó en su época una visión novedosa de las Américas, en la cual estas tierras no sólo dejaban de ser analizadas con desdén en razón de supuestas degeneración o inmadurez, sino que, además, se les otorgaba legitimidad, ofreciéndoles cabida en la gran tradición clásica, al mismo tiempo que se les reconocía cierta autonomía natural con respecto a Europa. Tanto la autonomía como la legitimidad clásica son extendidas a otras esferas, alcanzando el mundo social y moral.

Si, retomando a José de la Luz y Caballero (1800-62), Fernando Ortiz vuelve a encomiar a Humboldt llamándole “Segundo descubridor de Cuba” y reclama un homenaje que en su opinión aún en 1929 le estaba debiendo Cuba al viajero alemán, es porque estima en alto grado la legitimidad que aporta Humboldt a la naturaleza cubana y el reconocimiento que hace del nivel de “civilización” de la sociedad criolla de principios del siglo XIX. Cuando Humboldt critica el sistema esclavista y los errores del gobierno colonial, ello no hace más que coincidir con las principales ideas—aunque por razones diferentes—de la élite intelectual y económica criolla, encabezada entonces por hombres como Francisco Arango y Parreño (1765-1837) o José de la Luz y Caballero, quienes trabaron relación con el alemán. Ortiz, en el largo ensayo que precede la edición que hace en 1930 del *Ensayo político sobre la isla de Cuba*, recalca el carácter patricio de estos hombres, para quienes el status colonial y la dependencia de España constituían el principal freno al progreso de la isla. También, criticaban la esclavitud del negro, aunque únicamente como otro obstáculo al libre desarrollo socioeconómico y no porque reconociesen la igualdad racial. A semejanza de estas importantes personalidades de la historia colonial, pero un siglo después, Ortiz (a quien se le dice también “tercer descubridor de Cuba”) se halla igualmente en plena cruzada contra el atraso económico y social de su país. Es ya el autor de algunas obras que se atacan a ciertos males sociales de la República de 1902, principalmente de orden moral y criminal. En tanto que positivista, discípulo de Lombroso, ha publicado en 1906 *Los negros brujos* y en 1916 *Los negros esclavos*, ambos libros integran la serie que intitula “Hampa Afrocubana,” donde las prácticas rituales de origen africano son presentadas bajo la perspectiva criminalística, consideradas como elementos de la “mala vida cubana.” Es cierto que el pensamiento de Ortiz cambiaría con el tiempo y que sus concepciones racistas cederían paulatinamente lugar a la teoría de la transculturación,² pero en todo momento una gran pulsión humanista dominó su trabajo, pulsión que persigue el progreso de la nación.

Como también es el progreso el fin último de las teorías ético-estéticas de Alejo Carpentier. El novelista no es un moralista en el mismo sentido en que lo es Ortiz. Exigirá también, por supuesto, la educación, la instrucción y el

progreso económico de su pueblo, aspectos que en su opinión garantizan el derecho a pertenecer al “mundo civilizado.” Mas intentará demostrar además la legitimidad de esta pertenencia a través de sus teorías sobre el barroco y lo real maravilloso. Tampoco sus ideas permanecen inalterables con el transcurso de los años, pero, en lo esencial, se trata de concepciones en las que la Historia es siempre impulsada por la acción concreta de los hombres. Es este el motor secreto de la vida humana, para Carpentier, quien cree además que en América tales fenómenos resultan más evidentes que en cualquier otra parte del mundo. Constantemente interpelado por la diferencia y la continuidad entre América y Europa y habiendo consagrado buena parte de su obra de ficción y ensayística a determinar y demostrar el sitio que ocupan América en general y Cuba en particular dentro de la civilización occidental, Carpentier no puede evitar admirar la obra humboldtiana, en tanto “divulgadora” europea de las realidades americanas. No carece de interés el dato, aportado por el propio Carpentier, de que la idea de la novela *Los pasos perdidos* surgiese en 1949 durante su viaje a través del Orinoco, acompañado de la lectura de *El Orinoco ilustrado* del padre José Gumilla y de *Viaje a las regiones equinociales del Nuevo Continente* de Humboldt.³ Y en este dejarse llevar por la mirada de Humboldt, puede sin dudas descubrirse la importancia que en la obra de Carpentier pudo haber tenido la ordenación histórica que tienta el científico alemán a partir de los hechos naturales. El escritor cubano confiesa también haber reconocido durante la travesía a través del Orinoco las descripciones hechas antaño por Humboldt y Gumilla, y se “maravilla” (palabra y gesto claves en Carpentier) tal y como hiciese diez años antes al regresar a La Habana, tras una larga estancia en Europa. Desde el principio del artículo “La Habana vista por un turista cubano,” el creador del término de lo real maravilloso revela su extrañeza ante la realidad que redescubre. Se llama a sí mismo turista en su propia tierra, que se maravilla ante su multiplicidad y aprende a “considerar La Habana con un respeto ajeno a todo sentimiento íntimo y personal de cariño,” divirtiéndose en “hallar analogías auténticas” con lugares europeos.⁴ Curiosamente, su descripción de la entrada en la Bahía de la Habana desde el barco que lo traía de Europa no se aleja demasiado de la visión de Humboldt en 1800, quien calificaba entonces la vista de La

2. “La transculturación expresa mejor las diferentes fases del proceso transitivo de una cultura a otra, porque éste no consiste solamente en adquirir una distinta cultura, que es lo que en rigor indica la voz angloamericana *acculturation*, sino que el proceso implica también necesariamente la pérdida o desarraigo de una cultura precedente, lo que pudiera decirse una parcial *desculturación*, y, además significa la consiguiente creación de nuevos fenómenos culturales que pudieran denominarse de *neoculturación*”, F. Ortiz, *Contrapunteo cubano del tabaco y el azúcar*, La Habana, Ciencias sociales (col. “Pensamiento cubano”), 1983, p. 90. (Destacado por el autor).

3. Carpentier, *Entrevistas*, La Habana, Letras cubanas, 1985, p. 484.

4. Carpentier, “La Habana vista por un turista cubano,” *Conferencias*, La Habana, Letras cubanas, 1987, p. 182.

Habana, a la entrada del puerto, como “una de las más alegres y pintorescas de que puede gozarse en el litoral de la América equinoccial.”⁵ Por su parte Carpentier descubre, al penetrar la bahía, la “espectacularidad” de la ciudad y decide que la entrada al puerto “parece obra de un habilísimo escenógrafo.”⁶ Prosigue el novelista elogiando una vista que según él no defrauda las ilusiones románticas del turista: la de los castillos coloniales, que ya habían sido motivo de exaltación para Humboldt. ¿Qué propicia entonces las coincidencias entre ambas descripciones?: tal vez la perspectiva europea de donde parten. Y no se pretende aquí volver a las inextinguibles y estériles discusiones acerca del grado de cubanía—por nacimiento o cultura—de Alejo Carpentier, sólo se constata lo que innegablemente compartían tanto Humboldt como el novelista cubano: el pensamiento clásico occidental.

También, la descripción que hace Humboldt de algunos parajes insulares adquiere para José Lezama Lima una especial significación, que no deja de señalar en su ensayo “Recuerdo de Humboldt.” Incluso, no es difícil reconocer ciertas coincidencias entre las notas que toma el alemán a la vista de los Jardines y Jardinillos de la Isla de Pinos y algunas imágenes más o menos famosas de la poesía de Lezama, donde la luz es venerada como elemento principal de la cubanía geográfica. En el poema “Noche insular: jardines invisibles,” por ejemplo, “la luz vendrá mansa y trezando/el aire con el agua apenas recordada,” ésta será también “delicadeza suma” y gozará de una “calidad tranquila,” mientras “la mar violeta añora el nacimiento de los dioses.”⁷ Por su parte, Humboldt había reconocido ya la importancia de la luz solar en los ilusionismos que le inspiran los Jardines y Jardinillos, que le agradan particularmente por lo cambiante que a sus ojos se torna el paisaje, por los juegos ópticos que la luz provoca, los cambios de color y brillo. Habla entonces de “espectáculo engañoso” y de la inmovilidad de “la superficie ondeante de las llanuras,” de “masas inertes [que] parecen como suspendidas en el aire.”⁸ No ha de olvidarse, en este punto, que también Lezama valoraría en alto grado la ligereza, la suspensión, la permanente metamorfosis, y que concebía “lo cubano” precisamente como algo “inefable [...] un airecillo, una ternura, un estar y no estar.”⁹ Para quien la imagen poética constituyese un elemento esencial de su pensamiento, y para quien la insularidad era tan importante que había llegado incluso a plantear la urgencia de ocuparse de una Teleología Insular,¹⁰ la búsqueda de dichas imágenes en los primeros dis-

5. Humboldt, *Ensayo político sobre la isla de Cuba*, La Habana, Fundación Fernando Ortiz, 1998, p. 6.

6. Carpentier, “La Habana vista por un turista cubano,” Op. cit., p. 187.

7. Lezama Lima, “Noche insular: jardines invisibles,” *Poesía completa*, Madrid, Alianza Literaria, 1999, p. 82-4.

8. Humboldt, *Ensayo político sobre la isla de Cuba*, Op. cit., p. 226-7.

9. Lezama, *Cartas (1936-1970)*, Madrid, Orígenes S.A. (col. “Tratados de testimonio”), 1979, p. 181.

cursos y textos sobre la isla fue siempre una tarea principal. En este sentido, las divagaciones poéticas del científico alemán ante la naturaleza cubana no debieron pasarle inadvertidas. Lezama no puede sino admirar el hecho de que el sabio europeo, tan impregnado de cultura clásica, fuera sensible y capaz de aceptar en cierto modo el mundo en plena mutación (que fuesen las sociedades americanas o el paisaje de los Jardines y Jardinitillos). Para los intelectuales como Lezama, Ortiz y Carpentier, tan preocupados por la cultura cubana—a sus ojos tan joven y en pleno y constante devenir, la posición de Humboldt, en tal sentido, es perfectamente encomiable.

Además de esta identificación poética, Lezama, junto a Carpentier y Ortiz, comparte el humanismo humboldtiano, su fe en el progreso humano. Sobre todo en lo que respecta a Cuba se suma al aplauso general y en su ensayo agradece el reconocimiento de universalidad y de civismo que a veces hace Humboldt de la isla y sus habitantes. A semejanza de Ortiz, Lezama Lima recalca los orígenes aristocráticos de Humboldt y ve en el hecho de que un célebre noble europeo frecuentase gustosamente el patriciado intelectual de las diferentes ciudades americanas que visitó, una muestra del “potencial de refinamiento o expresividad de esas sociedades en ciernes.” Lezama enalza sin ambages la legitimación que según él hace Humboldt de la diferencia y la futuridad americanas: “Humboldt sabía que esa calidad de sabiduría [se refiere a la sabiduría que atribuye a la alta nobleza europea] no la podía encontrar por tierras americanas, pero intuía en esas sociedades incipientes, ebulliciones de nuevas síntesis, distribuciones espaciales sutiles y poderosas, dimensiones cargadas de una novedad sorpresiva para las otras sociedades.” Ejemplifica Lezama la sensibilidad que atribuye a Humboldt con el hecho de que, a un tiempo de ser capaz de conversar sobre sus descubrimientos científicos con un rey moribundo, consigue delectarse con “los golpes de ingenio de nuestras criollas.”¹¹ Por otra parte, el cumplido del alemán hacia las damas de la alta sociedad cubana, de quienes exaltaba la gracia, tampoco había escapado en su momento a Ortiz.

Coincidencias cosmológicas

Aunque seguramente de una manera inconciente, la perspectiva cosmológica de Alejandro de Humboldt se encuentra sin dudas a la base de la atracción que tanto sobre Ortiz, Lezama o Carpentier ejerciese el pensamiento del viajero alemán. En su obra *Kosmos*, la identificación que éste hacía entre las

10. “Ya va siendo hora de que todos nos empeñemos en una Economía Astronómica, en una Meteorología habanera para uso de descarriados y poetas, en una Teleología Insular, en algo de veras grande y nutridor”, Lezama Lima, *Archivo de José Lezama Lima. Miscelánea*, Iván González-Cruz (ed.), Madrid, Editorial Centro de Estudios Ramón Areces, S. A., p. 526-7.

11. Lezama Lima, “Recuerdo de Humboldt,” *Tratados en La Habana*, S.l., Universidad central de Las Villas, 1958, p. 202.

leyes que rigen la naturaleza y aquellas que según él determinaban el mundo moral, es claramente expresada:

Yo creo que la descripción del universo y de la historia de los hombres se encuentran situadas en un mismo grado de empirismo; pero que sometiendo los fenómenos físicos y los acontecimientos al trabajo del pensamiento, y remontando hasta sus causas por la vía del razonamiento, uno es penetrado cada vez más por esa creencia antigua según la cual las fuerzas inherentes a la materia y las que rigen el mundo moral ejercen su acción bajo el imperio de una necesidad primordial, y siguiendo movimientos que se renuevan periódicamente, aunque a intervalos desiguales. Son esa necesidad presente en las cosas, ese encadenamiento oculto aunque permanente, ese regreso periódico en el desarrollo progresivo de las formas y de los acontecimientos, quienes constituyen la *naturaleza* obediente a una primera impulsión determinada.¹²

Aunque estaba convencido de la superioridad de los valores de la cultura europea y no concebía el futuro del universo al margen de los mismos, con sus viajes e investigaciones empíricas Humboldt emprende la búsqueda y concepción de una comprensión diferente del mundo e intuye que su meollo puede hallarse tal vez en ese encadenamiento oculto aunque permanente y necesario, responsable de la progresión cíclica de todos los fenómenos, fuesen estos naturales o morales. Mas precisa también, en su brillante *Kosmos*, que no se trata de reducir la totalidad de los elementos sensibles a un pequeño número de principios abstractos únicamente basados en la Razón, sino de la contemplación del universo entero fundada sobre una especie de “empirismo razonado.”

El científico alemán creyó descubrir en los grandes fenómenos naturales la misma lógica interna que veía en las composiciones históricas. Con esta forma de concebir el desarrollo histórico coincide en ciertos textos, por su parte, Alejo Carpentier. La visión cíclica de la Historia en *El reino de este mundo* y en *El siglo de las luces*, entre otras obras, es en este sentido muy esclarecedora. En *El siglo de las luces*, incluso, el personaje de Esteban piensa en repetidas ocasiones en las analogías entre el paisaje y el mundo vegetal y animal que conoce durante sus viajes por el Caribe y la Historia. Bañándose en lo que llama el “prodigioso Mar de las Islas,” intuye que “la

12. “Je crois que la description de l’univers et l’histoire des hommes se trouvent placées au même degré d’empirisme; mais en soumettant les phénomènes physiques et les événements au travail, on se pénètre de plus en plus de cette antique croyance, que les forces inhérentes à la matière et celles qui régissent le monde moral exercent leur action sous l’empire d’une nécessité primordiale, et selon des mouvements qui se renouvellent périodiquement, bien qu’à des intervalles inégaux. C’est cette nécessité des choses, cet enchaînement occulte, mais permanent, ce retour périodique dans le développement progressif des formes, des phénomènes et des événements, qui constituent la *nature* obéissant à une première impulsión donnée.” Jean Paul Duviols, Charles Minguet, *Humboldt. Savant citoyen du monde*, Paris, Gallimard (col. “Découvertes Gallimard. Invention du monde”), 1994, p. 128-9. (Nuestra traducción).

selva de coral hacía perdurar, en medio de una creciente economía de las formas zoológicas, los primeros barroquismos de la Creación,” que se trataba de “una figuración cercana—y tan inaccesible, sin embargo—del Paraíso Perdido.”¹³ Aún más, estos parajes marinos se convierten en la imaginación de Esteban en escenario donde se reproducen ciclos vitales, históricos, que ni siquiera escapan a la parafernalia bíblica; y hay de tal suerte un Acontecimiento protagonizado por un pez enorme, “desusado, de otras épocas” que irrumpía en la calma matinal con solemnidad de “Leviatán traído a la luz” o existe el “Gran Teatro de la Universal Decoración,” imagen de la lucha constante de todas las especies por la sobrevivencia. De estos combates quiere escapar precisamente el protagonista que, frustrado, huye de la Revolución francesa y sus repercusiones caribeñas, y por eso, “para olvidarse de la época, marchaba solo, a la otra banda” de las angostas islas, donde conseguía al fin sentirse dueño absoluto, en perfecta paz. Así permanecía Esteban, “desnudo, solo en el mundo [...] dicha total, sin ubicación ni época.”¹⁴

La actitud del personaje de Carpentier parece dar concreción a ciertos pensamientos de Humboldt, para quien:

El viajero que recorre el globo, como el historiador que remonta el curso de los siglos, tiene ante sí siempre el mismo paisaje desolador que le ofrecen los conflictos de la especie humana. Por ello, testigo de las disensiones permanentes de los pueblos, el hombre que aspira al goce apacible del alma, prefiere volver la mirada hacia los resortes misteriosos de la fuerza fecundadora de la Naturaleza, o sino, abandonándose a ese instante innato, presente en su corazón, el hombre eleva los ojos, captivado por una intuición sagrada, hacia el firmamento, donde los astros, en inalterable armonía, continúan su revolución eterna.¹⁵

Carpentier representa la Historia como una espiral orientada hacia el futuro, una repetición cíclica de acontecimientos que hacen avanzar el mundo a través de las revoluciones, siempre hacia un estadio superior de civilización. Como Humboldt, sabe que cada ciclo no es exacta repetición del anterior. Un motor secreto impulsa constantemente el movimiento ascendente de esta espiral, una esencia que nos acerca sin dudas de aquella necesidad oculta y permanente a la que hiciera referencia Humboldt. Él intuye la presencia de esa necesidad en la naturaleza, tal y como Carpentier niega en su

13. Carpentier, *El siglo de las luces*, La Habana, Unión, 1993, p. 211.

14. *Ibid.*, p. 214-6.

15. “Le voyageur qui parcourt le globe, comme l'historien qui remonte le cours des siècles, a devant lui toujours le même tableau désolant des conflits de l'espèce humaine. C'est pourquoi, témoin des dissensions permanentes des peuples, l'homme qui aspire aux paisibles jouissances de l'âme aime à plonger ses regards sur les ressorts mystérieux de la force fécondante de la Nature; ou bien, s'abandonnant à cet instinct inné qui est dans son cœur, l'homme élève ses yeux, saisi d'une intuition sacrée, vers le firmament, où les astres, dans une inaltérable harmonie, poursuivent leur révolution éternelle.” Jean Paul Duviols, *Op. cit.*, contracubierta. (Nuestra traducción).

momento la exigencia surrealista de hurgar o inventar la esencia cósmica en otros mundos, alegando que es en la mismísima realidad en la que ha de buscarse. Es así como surge su teoría de lo real maravilloso, de la maravilla vital presente en la realidad.

Asimismo, es también a través del estudio científico de la naturaleza y la vida social que Fernando Ortiz consigue desentrañar las fuerzas motrices de la nación cubana, aquello que en su opinión sería capaz de garantizar el progreso de su país. Analiza sin descanso la isla y sus hombres, principalmente su cultura, buscando explicaciones que permitan comprender la realidad nacional y mejorarla. En 1940 publica incluso una obra admirable, *Contrapunteo cubano del tabaco y el azúcar*, donde todo el universo laboral, productivo, económico, político, cultural y social asociado al tabaco y al azúcar, productos principales de Cuba, es examinado bajo una perspectiva que reconoce y se preocupa esencialmente de los procesos constitutivos de la nación, es decir, de lo que él llama la transculturación. “El tabaco y el azúcar son los personajes más importantes de la historia de Cuba,” dice Ortiz desde las primeras páginas de su libro, “y las sorprendentes diferencias entre ambas producciones se reflejan en la historia del pueblo cubano desde su misma formación étnica hasta su contextura social, sus peripecias políticas y sus relaciones internacionales.”¹⁶ Por demás, es precisamente en *Contrapunteo cubano del tabaco y el azúcar* que el concepto de la transculturación es presentado, recibiendo en las páginas introductorias el aval de Bronislaw Malinowski. Ortiz hace del tabaco un símbolo de una cubanía más auténtica, de cierto refinamiento, de un humanismo más elevado pues representa según él el trabajo individualizado, libre, no alienado (del campesinado cubano blanco, fundamentalmente), en tanto que el azúcar deviene bajo su pluma el elemento importado, ignominioso pues conlleva la utilización de mano de obra esclava (africana y “atrasada”), cultivo y producción inhumanos, bastos, masivos (latifundio), que trae además como consecuencia la subordinación económica de alguna metrópoli (España o los Estados Unidos). Tabaco y azúcar se convierten, de la suerte, en expresión de las tensiones principales que Fernando Ortiz descubre en el seno de la nación cubana. A través de su presencia e imbricación en la vida nacional, analiza el problema del subdesarrollo y de la dependencia cubanos.

Por su parte, Lezama, a diferencia de Ortiz y de Carpentier, no conseguirá hallar la presencia de las fuerzas cósmicas, que rigen por igual el mundo natural y el moral, en la realidad que le circunda. Mas, igualmente convencido del porvenir glorioso de la isla de Cuba, encontrará también una “necesidad oculta” justificando la existencia del hombre y su futuridad. Es la imagen que organiza y rige el mundo, garantizando su armonía y pervivencia: “Es un

16. Ortiz, Op. cit., p. 3.

espacio desconocido y un tiempo errante que no se aposenta sobre la tierra. Sin embargo, paseamos en ese aquí y transcurrimos en ese ahora, y logramos reconstruir una imagen. Es la sobrenaturaleza,¹⁷ dice el autor de *Paradiso*. La sobrenaturaleza que ha de ser descubierta por el hombre en la naturaleza y sociedad reales, las mismas que Humboldt, Carpentier y Ortiz estudian concienzudamente, buscando cada uno respuestas al desorden cósmico.

Disensiones

Ante el ‘inexplicable’ caos cubano

En varias ocasiones, cuando Carpentier quiere representar su concepción de la Historia en tanto que espiral orientada hacia el futuro, utiliza con acierto la imagen del caracol. No es sólo el aspecto del caracol lo que mueve al novelista a introducir tal identificación en su prosa, sino también el papel de mediador que funge entre lo amorfo y lo perfectamente definido, entre lo infinito y lo concreto. Dice aún Esteban en *El siglo de las luces*:

El caracol era el Mediador entre lo evanescente, lo escurrido, la fluidez sin ley ni medida, y la tierra de las cristalizaciones, estructuras y alternancias, donde todo era asible y ponderable [...] Fijación de desarrollos lineales, volutas legisladas, arquitecturas cónicas de una maravillosa precisión, equilibros de volúmenes, arabescos tangibles que intuían todos los barroquismos por venir.¹⁸

La espiral es entonces línea cimbreante hacia el porvenir, una lógica dentro del caos. Lógica que Carpentier calificaría con demasiadas prisas de barroca, pero una lógica racional, en fin de cuentas. Y ello, porque incluso si esta lógica se alimenta de todo tipo de apocalipsis revolucionarias, de ciclones y carnavales, incluso si esta concepción de la evolución humana asemeja a un torbellino infinito y total, es sólo en ella donde, para Carpentier, el universo entero encuentra plena armonía. De ahí, que, cuando tropieza con las críticas que Alejandro de Humboldt hiciera en su momento a la desorganización urbana de la villa de La Habana: (“El europeo que experimenta una mezcla de impresiones tan halagüeñas olvida el peligro que le amenaza en medio de las ciudades populosas de las Antillas [...] Las calles son estrechas en lo general, y las más aún no están empedradas. [...] Durante mi mansión en la América española, pocas ciudades presentaban un aspecto más asqueroso que la Habana, por falta de una buena policía. [...] Allí, como en nuestras ciudades más antiguas de Europa, un plan de calles mal hecho no puede enmendarse sino muy lentamente.”),¹⁹ el novelista salte en defensa de ese mismo

17. Lezama Lima, “Confluencias,” *Confluencias*, La Habana, Letras Cubanas, 1988, p. 419.

18. Carpentier, *El siglo de las luces*, Op. cit., p. 215.

19. Humboldt, *Ensayo político sobre la isla de Cuba*, Op. cit., p. 6-7.

caos. Donde el científico alemán encuentra un caos injustificable, que ha de ser eliminado si los cubanos desean proseguir su marcha tranquila hacia el progreso total, Carpentier cree descubrir, al contrario, un elemento más aportando fuerza y particularidad a la nación. Esta visión no se restringe, por demás, a la realidad cubana. Es una perspectiva que Carpentier utiliza para interpretar toda la realidad americana, y de la que surgen sus teorías personales sobre el barroco americano o aquella otra del “tercer estilo de las ciudades que no tienen estilo.”

Es precisamente en uno de los ensayos en los que Carpentier se regodea exaltando el barroquismo americano, “La ciudad de las columnas”, publicado en 1964, donde se refiere a la crítica que hace Humboldt al mal trazado de las calles habaneras. Para el novelista cubano no se trata de un defecto sino del testimonio de una “gran sabiduría” dictada por “una necesidad primordial—tropical—de jugar al escondite con el sol, burlándose de superficies, arrancándole sombras, huyendo de sus tórridos anuncios de crepúsculos.” Los vocablos valen por sí solos: tropical, escondite, burla, sombras, huídas. Son de las palabras que se pasean a su antojo por toda la literatura sobre el barroco. Más lejos, Carpentier continuará con “reverberaciones,” “policromías,” y pasará a ocuparse de la enumeración—tan típica de su prosa—de los elementos arquitectónicos de su Habana barroca. Para el autor, en fin, el mal trazado de las calles, en lugar de exacerbar los sentidos, acaba paradójicamente por ofrecerle una “impresión de paz y frescor que difícilmente hallaríamos en donde los urbanistas concientes ejercieron su ciencia.”²⁰

Así, en lo aparentemente caótico—que sea la ciudad laberíntica, explosivas y sangrientas revoluciones, bullangueras noches de carnaval—se disimula, para Carpentier, una armonía soterrada y firme. De este modo, en el caos que recusa Humboldt habría un orden que escapa a la mirada del sagaz científico. Y el autor cubano eleva justamente ese orden camuflado a nivel de categoría esencial para la comprensión de los pueblos americanos. Otro tanto hace, a su modo, Ortiz, pues es quizás esta una de las consecuencias de su concepto de la transculturación, con el que pretende comprender, organizar, categorizar el caótico mestizaje. En Lezama, tanto desorden es regulado por la “sacrosanta” imagen, actuando desde el interior mismo de las cosas y los fenómenos de la vida natural y social. Concibe el mundo como una esfera perfecta en la que todo tiene una razón de ser, donde todo participa en la magia de la existencia porque es “cantidad hechizada” que no muere ni desaparece jamás, está eternamente destinada a la resurrección. El *ouroboros* es uno de sus mitos predilectos, la serpiente que se muerde la cola y que garantiza la perennidad de la vida. Hay también aquí el círculo, la voluta barroca,

20. Carpentier, “La ciudad de las columnas,” *Ensayos*, La Habana, Letras Cubanas, 1984, p. 42.

impensables para Humboldt. Por eso, como Carpentier, celebra en La Habana una “ciudad no surgida en una semana de planos y ecuaciones.” Reconoce el autor de *Paradiso* que su villa “tiene un destino y un ritmo. Sus asimilaciones, sus exigencias de ciudad necesaria y fatal, todo ese conglomerado que se ha ido formando a través de las mil puertas, mantiene todavía ese ritmo. Ritmo de pasos lentos, de estoica despreocupación ante las horas, de sueño con ritmo marino, de elegante aceptación trágica de su descomposición portuaria porque conoce su trágica perdurabilidad. Ese ritmo—invariable lección desde las constelaciones pitagóricas—nace de proporciones y medidas. La Habana conserva todavía las medidas del hombre. El hombre le recorre los contornos, le encuentra su centro, tiene sus zonas de infinitud y soledad donde le llega lo terrible.”²¹

Estas disensiones que separan a Carpentier, Ortiz y Lezama de Alejandro de Humboldt apuntan hacia un elemento esencial de la perspectiva a través de la cual el científico alemán estudió las realidades de la América hispánica del siglo XIX. Esto es, aunque Humboldt las utiliza como material de base para la elaboración de sus teorías cosmológicas, será siempre—¿y cómo, en su caso, podría ser de otro modo?—el pensamiento clásico europeo el factor estructurante de toda su actividad de observación y comprensión. Se refirió Michael Zeuske a un “abrir ventanas en los muros griegos de la estética clásica;”²² mas estas aperturas que se entreabren a voluntad, no significan la liberación absoluta del espíritu frente a realidades diferentes. Choca, en el fondo, el espíritu, con esquemas esenciales. Tampoco Carpentier, Ortiz o Lezama escapan a tales esquemas. Al contrario, su sujeción al pensamiento clásico europeo exige de ellos que adapten al máximo, en los mínimos detalles y hasta las últimas consecuencias, este pensamiento a la realidad insular. Por eso, para ellos, el caos—real, insoslayable, irremediable—ha de codificarse, comprenderse y convertirse, forzosamente, en germen de un desarrollo posible. Si la imagen del porvenir americano que Humboldt alcanza a hacerse está construida según los patrones de la idea de nación europea que él puede admirar, Ortiz, Lezama y Carpentier parten por su lado en búsqueda de un concepto diferente de nación, en el que lo caótico propio de su tierra y de su pueblo encuentre lógica cabida. Por eso no puede tampoco excluirseles del clasicismo occidental, porque persiguen la comprensión lógica del desorden, porque añoran el progreso, porque veneran la sacra nación.

21. Lezama Lima, “Sucesiva o las coordenadas habaneras,” *Tratados en La Habana*, Op. cit., p. 245.

22. Zeuske, Michael, Op. cit.

CHAPTER 10 *The Scientist and the
Patrician: Reformism in Cuba*

Alfonso W. Quiroz

The first sights of Havana allured the arriving explorer Alexander von Humboldt, aboard a small sail ship, at the dawn of the nineteenth century. Cultivated gentle hills, besprinkled by majestic palm trees, and pleasant tropical smells, heralded the full presence of the bay and its fortified city. Two stone fortresses, facing each other across the bay's inlet, and an imposing fortified castle on the rocky eastern shore, guarded the spacious harbor. The "Havanah," one of America's busiest ports, was crowded with tall ships that formed a forest of masts and sails at the shallow anchorage zone.¹ A rowing boat took the visitor from the moored ship to the customs landing point. From there he would be driven in one of the city's typical two-wheel horse carriage through several intersections of narrow streets, and onto the most important public square, the Plaza de Armas.

Protected by the venerable waterfront garrison of La Real Fuerza, the Plaza de Armas was the center of the Spanish official dominion in the island of Cuba. The Captain General, supreme military and political authority, governed from an arched stone palace of a solid late baroque style on the square's southern side. On the western side of the square stood the Post Office (*Casa de Correos*) a model of balanced late baroque, almost neoclassi-

1. *Alexander von Humboldt, Personal Narrative of Travels to the Equinoctial Regions of the New Continent During the Years 1799-1804*, by Alexander von Humboldt and Aimé Bonpland, trans. from the French by Helen Maria Williams (London: Longman, Rees, Brown & Green, 1826; reprint New York: AMS Press, 1966), vol. 6, part 2, 817, and vol. 7 (*Political Essay on the Island of Cuba*), 7-8. See also other subsequent editions, in English and Spanish: *Ensayo político sobre la Isla de Cuba*, trans. by J. B. de V. y M. [José López de Bustamante] (Paris: Jules Renouard, 1827); *The Island of Cuba*, trans. and ed. by John S. Trasher (New York: Derby & Jackson, 1856); *Ensayo político sobre la Isla de Cuba* (Havana: Cultural S.A., Colección de Libros Cubanos, 1930); *Ensayo político sobre la Isla de Cuba* (Havana: Oficina del Historiador de la Ciudad de La Habana, 1959), 38-39; *Ensayo político sobre la Isla de Cuba*, ed. by Miguel Angel Puig-Samper, Consuelo Naranjo Orovio, and Armando García González (Madrid: Ediciones Doce Calles, 1998), 107.

cal architecture and later also the site of the royal treasury accounting office (*Intendencia de Hacienda*). The building of the merchants' and landowners' guild and tribunal (*Consulado*) was situated on the square's eastern side.²

After his safe landing in Havana on December 19, 1800, Humboldt's impressions of the port and city moderated. Since he had left Coruña, Spain, in June 1799, toward Venezuela on an adventurous voyage that braved storms and war at sea, the specter of deadly tropical disease haunted Humboldt and his traveling companion, Aimé Bonpland.³ In Havana, Humboldt noticed the unhealthy, foul smelling, and often-unpaved and muddy conditions of the city's streets. The spontaneous sprout of populous suburbs, the *arrabales*, outside the city walls compounded the effects of recurring epidemics of yellow fever (*vómito negro*), an often-fatal disease for Europeans and natives inhabiting crowded coastal areas. Humboldt also described the most important buildings in Havana's main squares as "less remarkable for their beauty than the solidity of their construction."⁴

An important military presence was noticeable in Havana at the time. Out of a total population of forty thousand people living within the walls of the city, and an additional thirty or forty thousand housed in the suburbs, there were approximately five or six thousand regular soldiers and militia volunteers sporting a motley collection of uniforms.⁵ The erection of the Plaza de Armas's main official buildings, under construction between 1773 and 1793, was part of a larger military strategic design. The older garrisons and walls of stone encircling Havana had been reinforced with new fortresses, at a considerable expense, during the reign of the enlightened Bourbon Charles III (1759-1788). The Spanish monarch was determined to protect the strategic and valuable Spanish island colony against foreign invaders. The ten-month long British occupation of Havana in 1762 had triggered a reaction by the Spanish colonial masters who endeavored to improve the city's defenses, trade, port facilities, and overall appearance. Under the administration of Governor Felipe de Fondesviela, marqués de la Torre (1771-1776), the mili-

2. Néstor Carbonell y Emeterio S. Santovenia, *El Ayuntamiento de la Habana*. Noviembre 16 de 1519, Noviembre 15 de 1919. *Reseña histórica* (Habana: Imp. Seoane y Fernández, 1919), 105-106. María Sánchez Agusti, *Edificios públicos de La Habana en el siglo XVIII* (Valladolid: Universidad de Valladolid, 1984), 43-52; 61; Juliet Barclay, *Havana: Portrait of a City* (London: Cassell, 1993), 43-45.

3. Humboldt and Bonpland fell ill with high fever at the end of their exploration of the Orinoco basin in Venezuela and before heading for Cuba on November 24, 1800: L. Kellner, *Alexander von Humboldt* (London: Oxford University Press, 1963), 50.

4. Humboldt, *Personal Narrative*, vol. 7, 9.

5. Allan J. Kuethe, *Cuba, 1753-1815: Crown, Military, and Society* (Knoxville: University of Tennessee Press, 1986), 141-146. Humboldt estimated 44,000 people living within Havana's walls and 44,000 more living in *arrabales* of Jesús María and La Salud. According to the 1792 census there were 51,307 inhabitants in "Habana y *arrabales*"; Ramón de la Sagra, *Historia económico-política y estadística de la isla de Cuba o sea sus progresos* (Habana: Imp. Viudas de Arazoza y Soler, 1831), 4: But the census of 1774 informed a total of 75,618 inhabitants, *ibid.*, 3]

tary public works gained momentum. Military engineers were commissioned to erect the most important buildings including those that graced Havana's main square of power.

The Prussian scientist of French Huguenot ancestry—one of the most original and enlightened minds of his generation—was very well received in Cuba by the colonial authorities, including the Captain General, and the Creole intellectual and social elite. Scientific expeditions were admired and awaited with expectation and thirst for knowledge in the Spanish colonies. Major Spanish scientific expeditions had achieved practical botanical, medical, and policy objectives—despite customary secrecy—since the 1730s.⁶

Humboldt's scientific travel to several Spanish American colonies between 1799 and 1804 took place, fortuitously, at the tail end of an era of extensive colonial reforms, and a few years prior to the catastrophic loss of most of the Spanish possessions in the Americas. French and Portuguese authorities, suspecting covert spying motives, had hindered Humboldt's previous projects to explore other parts of the colonized world. Spanish highest authorities, on the contrary, facilitated Humboldt's improvised expeditionary plans to Spanish America. During a visit to Madrid in 1799, before launching his private Spanish American expedition, Humboldt obtained official and private references and permissions thanks to an active exchange with enlightened court bureaucrats, diplomats, and scientists. These included the minister of state Mariano Luis de Urquijo, and the Cuban-born aristocrat Gonzalo de O'Farrill y Herrera, both renowned for their liberal views. Urquijo assisted Humboldt in obtaining a personal interview with king Carlos IV (1788-1808).⁷ The king granted Humboldt a vast royal endorsement that opened many doors for Humboldt in Spanish America. Previous collaboration of the

6. Such were the cases of the expeditions of Jorge Juan and Antonio de Ulloa (1735-1746), Spanish companions of the French scientific explorer Charles Marie La Condamine; Hipólito Ruiz and José Antonio Pavón (1777-1788); José Celestino Mutis (1783); Martín Sessé and José Mariano Mociño (1785-1803); Alejandro Malaspina (1789-1794); conde de Mopox y Jaruco (1797), among others; as well as the 1803-1810 massive vaccinating expeditionary campaigns that, under the direction of Francisco Javier Balmis and José Salvany Lleopart, brought from Europe to Spanish America and the Philippines the first smallpox vaccine serums (discovered by English physician Edward Jenner in 1798) in the blood system of young orphans for arm to arm vaccination. In all there were approximately 44 scientific-technological expeditions financed by the Spanish crown between 1735 and 1805. See Iris H.W. Engstrand, *Spanish Scientists in the New World: The Eighteenth-Century Expeditions* (Seattle: University of Washington Press, 1981), 3-6, 161-162; Rafael E. Tarragó, "Sources About the Vaccination Expedition of Charles IV in the Andes: A Gesture of Enlightened Despotism," 45th SALALM Conference (2000), and *The Scientific Expeditions of the Spanish Bourbons and the Beginnings of Modern Science in Spanish America*; Arthur P. Whitaker, ed., *Latin America and the Enlightenment* (New York: Appleton-Century, 1961), 12-17.

7. "Estudio introductorio," in Humboldt, *Ensayo político*, ed. by Puig-Samper et al., 31-32. See also Karl Bruhns, ed., *Life of Alexander von Humboldt compiled in commemoration of the centenary of his death, translated from the German by Jane and Caroline Lassell* (London: Longmans, Green, and Co., 1873), 245-246.

Spanish crown and Madrid's scientific establishment with foreign European scientists eased the granting of official support to Humboldt in Madrid and the Spanish colonies. An overall liberal and enlightened climate in Madrid, and among certain Creole circles in the colonies, contributed to the initial success of Humboldt's expedition.⁸

With characteristic energy and enthusiasm Humboldt engaged in diverse scientific endeavors in Havana. His measuring instruments were housed at the residence of the conde de O'Reilly. There he proceeded to establish the exact longitude of Havana with the aid of Spanish Navy officers and other local astronomers and scientists.⁹ Humboldt also made geographical measurements in the nearby towns of Guanabacoa, Regla, and Bejucal. The busy and militarized Havana contrasted with its beautiful agricultural and natural hinterland much admired by Humboldt during his initial three-month stay in Cuba.

Among the many prominent acquaintances he made in Havana, Humboldt met landowner, statesman, and civilian patrician Francisco Arango y Parreño (1765-1837). A mutual bond of respect and deference was soon established between the two intellectuals. Both were in their early thirties when they first met. Portraits show Arango as a grave, slender figure dressed in rigid dark colors and official decorations, his short black hair carefully groomed forward, exuding a stately confidence and pride. Whereas Arango's gaze is oblique but profound, the painted portraits of the handsome Humboldt depict a playful and direct stare, an easy smile, carefree blond hair, a relaxed yet assured pose, and a stylishly informal, light colored dressing.

Arango traveled with Humboldt to the valley of Güines, south east of Havana, in a geological and botanical excursion. Arango hosted the scientist in his modernized estate *La Ninfa*, a sugar mill complex with several hundred slaves, in the irrigated lands of Güines.¹⁰ Together with Matanzas and Trinidad, east and southeast of Havana, Güines was the frontier of the growing sugar economy. Other innovative landowners in the valley, the conde de

8. See cases of Tadeo Hänke in the 1790s, Baron von Nordenflicht some years later, and others: Arthur P. Whitaker, ed. *Latin America and the Enlightenment* (Ithaca: Cornell University Press, 1961), 15-16, 31; Engstrand, *Spanish Scientists in the New World*, 47-48; on Humboldt's and other German scientific connections with the Real Gabinete de Historia Natural and Jardín Botánico of Madrid, see "Estudio introductorio," in Humboldt, *Ensayo político*, ed. by Puig-Samper et al., 29-30; Bruhns, ed., *Life of Humboldt*, 246.

9. Fernando Ortiz, "Introducción bibliográfica al libro 'Ensayo político sobre la isla de Cuba' de Alejandro de Humboldt," *Serie Histórica* 7 (1969), 19 (based on the reliable information of bibliographer Vidal Morales published in the magazine *El Figaro* in June 1897); Bruhns, ed. *Life of Humboldt*, 290.

10. Francisco Ponte Domínguez, *Arango y Parreño, el estadista colonial* (Havana: Ed. Trópico), 154; José López Sánchez, *Humboldt y su época. En homenaje al Bicentenario de Alejandro de Humboldt* (La Habana: Académica de Ciencias de Cuba, Museo Histórico de las Ciencias "Carlos J. Finlay," 1969), 17-19.

Mopox y Jaruco (owner of *Río Blanco*), Nicolás Calvo de la Puerta (*La Holanda*), and the marqués del Real Socorro, also hosted and informed Humboldt and Bonpland.¹¹ The expanding economic activities and sugar wealth in Cuba stirred Humboldt to collect statistical information on Cuba's population, production, technology, and trade.

Humboldt, praised Arango for the reliable data he provided and qualified him as the "wisest of statesmen" and "pure and judicious."¹² Humboldt also commented that even though hospitality dwindles when civilization advances, some of the modern landowners in Cuba still retained their hospitable largesse.¹³ The encounter between Humboldt, Arango and other sugar mill owners, and their learned exchange concerning the agricultural and commercial potential of Cuba, enhanced Humboldt's confidence on the island's cosmopolitan leadership and future. Also, the dialog between the European scientist and Cuban thinkers of the stature of Francisco Arango y Parreño unveiled to the world, through Humboldt's own accounts of his travels and studies, an original enlightened, liberal, and practical tradition in an island better known for its strategic military importance. The level of education and enlightenment in Havana around 1800 compared very favorably to other intellectual centers in Spanish America. In general, Humboldt's accounts of the intellectual environment he encountered during his voyages refuted earlier biases of French philosophers against Americans.¹⁴

On March 6, 1801, Humboldt and Bonpland left Havana, traveled for a second time to Güines, embarked in the local port of Batabanó to explore the sparsely inhabited southern coast of the island and its keys, and arrived to Trinidad's port. From Trinidad they left Cuba on March 15, 1801, to continue their exploration of South American and Mexican lands. Humboldt returned to Havana only in April 1804. This time he stayed in the island for six weeks. He retrieved his botanical collection and obtained additional statistical data gathered for him by Arango and other officials. He also visited Güines for a

11. Joaquín de Santa Cruz y Cárdenas, conde de Santa Cruz de Mopox y Jaruco y San Juan de Jaruco (1769-1807) led a scientific botanical expedition, organized in Madrid, to Cuba in 1797: Engstrand, *Spanish Scientists in the New World*, 161. Nicolás Calvo de la Puerta y O'Farrill was the most scientifically learned, innovative, and experimental Creole owner at the time, Miguel Angel Puig-Samper and María Dolores González-Ripoll, "Criollismo y ciencia ilustrada en Cuba," in *Científicos criollos e Ilustración*, ed. by Diana Soto Arango et al., 13-28 (Madrid: Ediciones Doce Calles, 1999), 20-21.

12. Humboldt, *The Island of Cuba*, 197, 214, quoted by William Whatley Pierson, "Francisco Arango y Parreño," *Hispanic American Historical Review* 16 (1936): 431-478; 452.

13. José López Sanchez, *Humboldt y su época. En homenaje al Bicentenario de Alejandro de Humboldt (La Habana: Academia de Ciencias de Cuba-Museo Historico de Ciencias "Carlos J. Finlay," 1969)*, 14-20.

14. 2. See Cornelius de Pauw's article "Amérique" in *Supplément à l'Encyclopédie* (Paris, 1776) and *Récherches philosophiques sur les Américains* (Berlin, 1768 and London, 1770) [Reprint: Upple Saddle River, NJ: Gregg Press, 1968]. See also Antonello Gerbi, *The Dispute of the New World* (Pittsburgh: University of Pittsburgh Press, 1973).

third time and was invited to present a short mineralogical study of Guanabacoa's highlands to Havana's learned society Sociedad Económica de Amigos del País in which Arango occupied a distinguished leading position.¹⁵ After Humboldt left Cuba for the last time, he did not lose contact with Arango and Cuban matters and issues.

Overshadowed by the stately Plaza de Armas, the less conspicuous Plaza San Francisco was a busy space of trading activities. The sober early eighteenth-century church of San Francisco commanded over the square's open space often used as deposit area for merchandise. In an unpretentious two-story building known as the house of Armona, overseeing the square and the harbor, the city council had its official meetings until the council moved its headquarters, in the 1790s, to the new Palacio de Gobierno.¹⁶ It is from this council of native Creole power that early efforts at autonomous decision-making pioneered the Cubans' secular task of finding effective ways, and appropriate social bases, to govern themselves.

In 1788 the Havana city council had chosen a young legal expert, born in Havana and member of a distinguished Creole family, don Francisco Arango y Parreño, as its official legal representative (*apoderado*) in Madrid. With this responsibility on his shoulders, Arango pursued a relentless civilian quest for modernizing the economic and institutional foundations of Cuba. Through remarkable individual efforts, driven by confidence in progress and his commitment to defend the interests of Creole producers, he gained important legal and economic policy victories. Arango y Parreño was a third generation descendant of elite immigrants from the regions of Navarre and Asturias in Spain. The youngest and brightest of nine children in his family, Francisco obtained the best education available in Havana at the time: secondary studies at the Seminary College of San Carlos and a degree of Bachelor in Civil Law from the University of Havana. To complete his professional

15. Alexander von Humboldt, "Noticia mineralógica del cerro de Guanabacoa," Havana, 7 April 1804, manuscript copy in Sociedad Económica de Amigos del País (31 April 1804), published in *Patriota Americano*, vol. 2 (1812), 29, in Humboldt, *Ensayo político*, ed. by Puig-Samper et al., 399-402. During his second visit to Cuba, Humboldt was invited by Captain General Someruelos to carry out a discreet mineralogical study of the Cerro de Guanabacoa dated 7 April 1804. Although Humboldt was not present, his paper was read at the Sociedad Patriótica and its text copied to the minutes of the session of 13 April 1804, *Actas SEH*, libro 3, pp. 122-125. Humboldt continued to have correspondence with the Sociedad thereafter. When his book was sold in Havana, members present in the session of 14 February 1828 discussed "la venta pública que se hace en esta ciudad de la obra titulada *Ensayo político sobre la isla de Cuba por el barón de Humbolt [sic]*, considerándose una y otra cosa como muy perjudiciales a la Isla," *Actas Educación*, Libro 2 (1827-1840), f. 19.

16. Manuel Pérez-Beato, *Habana antigua. Apuntes históricos*. Tomo I: Toponimia (Habana: Seoane, Fernández y Cia., 1936), 335-336; José María de la Torre, *Lo que fuimos y lo que somos o la Habana antigua y moderna* (Habana: Imprenta de Spencer y Cia., 1857), 170.

studies he went to Madrid where he graduated as a lawyer from the Real Academia de Santa Bárbara in 1789.

Even before obtaining his highest credentials in law, Arango acquired useful experience in litigation. He developed a deft negotiating strategy coated with learned politeness. A peculiar personal trait—his resolute modern convictions—often positioned him at odds with the societal and family customs and traditions of his time. In 1786 his influential uncle, the grave Dr. Manuel Felipe Arango, designated Francisco, his favorite and youngest nephew, as ultimate inheritor of the honorary distinction of Havana's council standard-bearer (*alferez*) but only if he married señorita Dionisia de Palacios. Francisco, lacking amorous feelings for Dionisia, never fulfilled his uncle's wish.¹⁷ Instead he married, later in life (1817), young Rita Quesada y Vial, the Chilean-born daughter of general Francisco Quesada y Silva, conde de Donadio, and had five children with her.¹⁸ Having failed to comply with his uncle's will, the municipal honorary distinction—held officially by Francisco from 1803 until his death in 1837—was transferred to his eldest brothers and their successors in accordance to a fair and generous family agreement forged by Francisco.¹⁹ Paradoxically, Arango believed that honors should be acquired by merit rather than privilege.²⁰

Although Francisco's father, Miguel Ciriaco Arango, brothers and relatives, and the most conspicuous fellow elite members of his time, served in the regular veteran and militia armed forces and obtained prestigious military honors and posts, Francisco, like a growing number of young men of his generation, did not follow a military career. Moreover, in 1835 he politely declined a royal invitation to complete the requirements to fund a nobility title, *marqués de la Gracitud*, proposed by Havana's city council on behalf of

17. Further information on Dionisia Palacios is scant. In 1834 Dionisia was still single and living in Havana, according to a legal request filed against a landowner who owed Dionisia and her sister interest payments on a lien of 2,600 pesos charging his property in Güines, “Da. Dionisia y Da. Ma. Dolores Palacios [de Millet] contra D. Santiago Satre sobre pesos,” Habana, 23 Aug. 1834, ANC, Escribanías (Escribanía de Guerra), año 1834, leg. 89, exp. 1446.

18. Soon after marrying Rita, Arango described her as “mi pacosica y excelente compañerita. He encontrado hasta ahora más de lo que en ella busqué, que no fue carne por cierto sino virtudes y discreción,” Arango to José Ignacio Echegoyen, Madrid, 22 enero 1817, copy in “Dn Francisco de Arango y Parreño con Dn. Ignacio Echegoyen sobre un compromiso celebrado para calificar ciertas cuentas,” ANC, Escribanías, Escribanía de Gobierno, año 1818-1822, leg. 195, exp. 11.

19. “Partida de entierro [de españoles] de Francisco Arango y Parreño,” (copy) 22 March 1837, Ultramar-Cuba-Gracia y Justicia, leg. 1626(2), exp. 15, ff. 1-1v, AHN; “Convenio entre hermanos (Antonio, Ignacio, Ciriaco y Francisco Arango y Parreño),” (copy) 1 Aug. 1803, *ibid.*, ff. 9-10; Ponte, Arango, 19, 170-171.

20. Anastasio Carrillo y Arango, “Elogio histórico de excelentísimo Sr. D. Francisco de Arango y Parreño... por encargo de la Sociedad Patriótica de la Habana,” (1837) in *Francisco Arango y Parreño, Obras de don Francisco Arango y Parreño*, 2 vols. (Havana: Ministerio de Educación, 1952), vol. 1, 34.

his life-long services. In thus refusing the royal favor he argued, among other excuses, lack of personal properties.²¹

Arango was a man of the Spanish Enlightenment. He strove for rational civilian progress, inspired by the novel ideas of free trade developed by the Scottish economist Adam Smith.²² As a precursor of liberal economic policy in the Spanish American colonies, Arango criticized the mercantilist and bullionist foundations of the Spanish Empire that privileged the extraction of silver from the colonies. Colonial agricultural and industrial production needed promotion. For Cuba, the production and commercialization of sugar, tobacco, cattle byproducts, and brandies claimed encouragement and freedom from monopolies, excessive taxation, and monetary and labor constraints. Trade with different markets, especially that of the United States, and not only with the Spanish metropolis, had to be pursued.²³ This modernizing project took form quite early in Arango's public career and was systematized in his essays and official petitions between 1789 and 1792.²⁴ Humboldt, true to his liberal economic views, agreed with the economic principles that inspired Arango and, like other foreign observers of the time, praised the effects of economic reform in Cuba.

Arango envisioned the historical opportunity opened to Cuba in the latter part of the eighteenth century. Before the costly wars with England in 1796 and 1805, the Spanish Crown had sought to centralize and improve the collection of colonial revenues with certain success. This financial Bourbon reform was the most effective compared to other attempts at rationalizing and updating the imperial system in Spanish America.

21. "Exposición a la Reina sobre las diligencias que se mandaron practicar para la concesión de un título de Castilla," Havana, 9 July 1835, Arango, *Obras*, vol. 2, 655-657. Adverse personal financial circumstances had almost forced the sale of Arango's beloved estate *La Ninfa* in the 1820s. Forty four years after Arango's refusal his widow, Rita Quesada, recovered the pending title for her grandson, Domingo Arango y Herrera, citing the grandson's improved fortune, "Expediente promovido por Da. Rita de Quesada en reclamación de título de marqués de la Gratitud," 20 Aug. 1879, *Ultramar-Cuba-Gracia y Justicia*, leg. 5851, exp. 28, docs. 1, 2.

22. Ramiro Guerra, prologue to Arango, *Obras*, vol. 1, 11-23; Anastasio Carrillo y Arango, *Elogio histórico del excelentísimo Sr. D. Francisco de Arango y Parreño ... por encargo de la Sociedad Patriótica de La Habana*, *ibid.*, 25-73 (first published, Madrid: Imp. de Manuel Galiano, 1862); Pierson, "Arango y Parreño," 451-478, mentions also the early influence of Antonio Genovesi (1712-1769) on Arango's economic thought; Ponte Arango Parreño; a Spanish translation of Adam Smith's *Wealth of Nations* (1776) was published in Madrid in the 1780s (?), see Whitaker, ed., *Latin America and the Enlightenment*, 17.

23. "Instrucción que se formó D. Francisco de Arango cuando se entregó de los poderes de la Habana y papeles del asunto;" and "Primer papel sobre el comercio de negros," in *Francisco Arango y Parreño, Obras del Excmo. Señor D. Francisco de Arango y Parreño* (Havana: Imprenta de Howson y Heinen, 1888), vol. 1, 3-13.

24. "Primer papel sobre el comercio de negros" (Madrid, 1789); "Discurso sobre la agricultura de la Habana y medios de fomentarla" (Madrid, 1792), in Arango, *Obras* (1930), vol. 1, 79-84, 114-162.

Arango's strategy to obtain royal concessions incorporated the argument that promoting Cuban trade was convenient for the Spanish treasury's income. Concurrently Arango made special donations, services, and favors to the metropolitan government.²⁵ The destruction brought about by revolution in the French colony of Saint Domingue (Haiti) also prompted Arango to push for a technological overhaul of Cuba's sugar industry under the spur of favorable sugar prices. He also pressed for incentives that could attract the capital and technical know-how fleeing from the French colony.²⁶ Humboldt noted the benefits of technology and French immigration by 1800.

Through his official dealings Arango obtained important official concessions for the Cuban elite during his official representation in Madrid between 1788 and 1794. These concessions included a 1794 royal decree authorizing the establishment of a merchant and agricultural guild and tribunal—Havana's *Consulado de Agricultura y Comercio*—of which he was named perpetual syndic (*síndico perpetuo*). Arango also planned and was granted permission to carry out an elaborate trip of pragmatic investigation, accompanied by the Cuban count of Casa Montalvo, that led them to Cádiz, Portugal, England, Barbados, and Jamaica on his way back to Cuba in 1794.

The exploratory trip in search of leading-edge technology and productive techniques lasted nearly 11 months. Arango's itinerary and activities during the trip showed his eagerness to get acquainted with the most advanced ideas on political economy, colonial administration, and technology of the time with special emphasis on the sugar industry. In London and Jamaica, posing relevant questions, he learned first hand the working of English commercial, economic, technical, and legal innovations, and slave trading interests. Reaching the southern coasts of Cuba the ship carrying Arango and Montalvo foundered and almost caused the drowning of the inquisitive travelers. Important samples, instruments, and experimental machines collected during the trip were lost. However, Arango's technical and organizational advice, resulting from his research in the British and French Caribbean colonies, contributed to seminal technical experimentation and the reorganization of the Cuban sugar economy. Humboldt witnessed and praised such improvements and added some technical contributions of his own for a more efficient use of fuel.

Arango's personal business and legal practice in Cuba advanced considerably since the 1790s. He represented local landowners and his family in legal disputes over land boundaries, debts, and honorary distinctions before

25. Regencia del Reino to don Francisco de Arango, Cádiz 29 April 1813: "sobre la oferta que hizo de 400 barriles de aguardiente de caña para socorrer a los valientes defensores de la libertad e independencia nacional ... rasgo generosos de patriotismo," ANC, *Asuntos Políticos*, leg. 14, year 1813, no. 24.

26. Describe technical changes.

Havana's notaries and the court of Santo Domingo.²⁷ His own landed property increased through family inheritance, professional income, and business profits. He inherited the sugar mill (*ingenio*) *El Retiro*, near Regla and Havana, and its slaves, owned by his father Miguel Ciriaco since at least 1769.²⁸ Arango's major investment was, however, in the state-of-the-art sugar mill complex *La Ninfa* in the province of Güines. After purchasing this property in 1795, Arango intended it to be a showcase of technical improvement. Irrigation works were upgraded and more slaves bought. This property had approximately 30 *caballerías* of land producing around 40,000 *arrobas* of sugar *mascavado* and 500 barrels (*pipas*) of brandy (*aguardiente refinado*) per year, a network of irrigation channels, a sugar mill with steam engines, a coffee grove, 300 slaves, and plots to produce food crops for the slaves. It was valued at 450,000 pesos.²⁹ Humboldt visited this and other innovative estates and based part of his study of sugar production in Cuba upon this field experience in Güines.

Arango's economic and official activities have overshadowed his civic efforts at expanding and enriching Cuba's social organization and civilization. In collaboration with reformist colonial authorities Arango contributed to the formation of the first significant associations, publications, and organized currents of opinion in Havana. Before 1790 the levels of culture and civility in Cuba were low. Customs were "relaxed," card games, the passion of common citizens as dominant, officials were customarily corrupt and rent-seekers, and the clergy lazy. There were no newspapers except the official government gazette, no libraries, and basic educational institutions were very scarce.³⁰ An embryo of Cuban civil society was encompassing wider sectors of the urban population. A growing public space for cultural and political negotiation and bargaining in this Caribbean hub of international exchanges, contributed decisively to preserve the island from the social and political instability rampant in the rest of Spanish America throughout the first half of the nineteenth century.³¹

27. In 1786 Arango defended his family's right over the post of *alférez real* of the Havana's city council before the Audiencia of Santo Domingo. See also "Dor. Dn. Carlos del Rey y Dn. Francisco de Arango y Parreño sobre medida y deslinde de la Hacienda Guanacaje," ANC, Escribanías, Escribanía de Gobierno, año 1801, leg. 127, exp. 10.

28. "Dn. Juan Bosmeniel con Dn. Miguel Ciriaco Arango sobre deslinde," ANC, Escribanías, Escribanía de Antonio Daumy, año 1769, leg. 855, exp. 12. Miguel Ciriaco had legal disputes over the property and boundaries of this estate.

29. José Ignacio Echegoyen to Captain General, Havana 21 Sept. 1819, in "Dn Francisco de Arango y Parreño con Dn Ignacio Echegoyen sobre un compromiso celebrado para calificar ciertas cuentas," ANC, Escribanías, Escribanía de Gobierno, año 1818-1822, leg. 195, exp. 11, ff. 128-133. Investment in "La Ninfa" was possible by earlier profits in a business partnership with count Mopox y Jaruco for the importation of wheat from the U.S.A.; Ponte, Arango, 131.

30. Antonio Bachiller Morales, *Apuntes para la historia de las letras y de la instrucción pública en la isla de Cuba* (Havana, 1861), vol. 3, 5, cited by Ponte, Arango, 37-38.

To accomplish his modernizing and stability-searching goals and personal objectives Arango got deeply involved in the murky waters of colonial politics during a crucial historical period. At his return to Cuba in 1795, after serving efficaciously in Madrid as Havana's council legal representative, he joined the efforts by the enlightened and singular Captain General Luis de las Casas (1790-1796)—kin of one of the richest Creole families and owner of a sugar mill in Güines presented to him by the grateful Creole elite—towards essential changes in the Cuban economy and society.³² As syndic of the Consulado, Arango distinguished himself as a guide of the fledgling merchant-planter guild that was opposed by entrenched merchant interests of the monopolistic *consulados* of Cádiz, Barcelona, Mexico City, and Veracruz.

Arango clearly led the new enterprising faction of the Havana elite increasingly involved in the production and exportation of sugar. Soon, however, Arango encountered local opposition in Cuba from high ranking corrupt bureaucrats, judges, and the militaristic older elite. Arango's official inspection of the official tobacco manufacturing monopoly and the resulting liberal report recommending its extinction (1804-1806) and, later, his reformist and moralizing policies toward the accounting office (Hacienda, 1824-1825), caused alarm among corrupt peninsular bureaucrats.³³ In 1806 authorities in Madrid received nasty reports against Arango from the official head of the tobacco monopoly, Rafael Gómez Roubaud.³⁴ Also, Spain's dominant minister, Manuel Godoy, Príncipe de la Paz, disliked Arango's reformist proposals due to his personal interests in receiving a percentage of the taxes on Cuban trade.³⁵

In 1808 the capture of Ferdinand VII and his deposed father Charles IV by Napoleon unleashed a calamitous political confusion that led to the formation of local self-government assemblies (*juntas*) in Spanish America and Spain. Arango, with the knowledge and approval of Captain General marqués de Someruelos, had a leading role in one such type of movement toward

31. Consider argument by Jorge I. Domínguez, *Insurrection or Loyalty: The Breakdown of the Spanish American Empire* (Cambridge, Mass.: Harvard University Press, 1980), 254-255. Examples of associative advances in this period: Sociedad Económica, masonry, other cultural and educational associations; cultural contests; Papel Periodico, currents of opinion; Beneficencia Publica, charity, philanthropists. Academia Cubana de Literatura. Junta de Fomento, education.

32. Hugh Thomas, *Cuba or the Pursuit of Freedom* (New York: Da Capo Press, 1998), 72-75; Manuel Moreno Fragnals, *El Ingenio*, 12-13.

33. "Informe... al Sr. D. Rafael Gómez Roubaud, Superintendente Director General de Tabacos en la isla de Cuba, sobre los males y remedios que en ella tiene este ramo," Arango, *Obras*, vol. 1, 388-492. On rivalry between Gómez Roubaud and Arango y Parreño in 1810-1811, see BNJM, C.M. Morales, vol. 79, nos. 109-142, including Suplemento al Diario de La Habana, no. 700.

34. Pierson, "Arango y Parreño," 473-474, based on AGI, Ultramar, leg. 175, no. 738 (Gómez Roubaud to Soler).

35. *Ibid.*, 473, note 34; Carrillo y Arango, "Elogio Histórico," 44, note 7; Ponte, Arango y Parreño, 168-169, 178, 188.

founding a Junta Superior de Gobierno in Havana, on 22-27 July, 1808, to govern locally until the legitimate monarch was restored in Spain. This action caused him some official trouble. The Junta movement failed because Arango, acting as the city council's standard-bearer (*alferez*) prior to a council's meeting, considered that not enough neighbors of Havana had signed the petition for a Junta presented to the city council. Arango opined that without at least 200 signatures no further step toward the formation of the junta should be taken. Only 72 notable Havana neighbors had signed the petition.³⁶ After this incident Arango was stood against the radical independence from Spain. Arango's participation in this affair was considered illegal by his opponents who conspired, in 1812, against Arango's selection to represent Cuba in the Cortes of Cadiz.³⁷

Modernization with stability, two often-contradictory objectives, occupied the attention of moderate enlightened thinkers such as Arango. As long as there were liberties for individuals, Arango believed, formal independence was of little importance.³⁸ In a time when radical options often meant extremely costly wars and destruction, reformers preferred a constitutional monarchy as an alternative to brutal civil war and absolute military power. Arango struggled all his life for the improvement of Cuba's rights but within a Spanish monarchy that could have developed into a modern constitutional monarchy. These were political objectives not too far removed from those of European enlightened moderates.³⁹

Once the charges of Arango were dismissed he traveled, despite a digestive illness, to Spain in 1813. Pressing Cuban interests against the abolition of slavery and for freer trade demanded his presence in Cadiz. Arango opposed a proposal aimed at the emancipation of slaves in Spain and all its colonies led by the Spanish delegates Canga Argüelles and Guiridi Alcocer. However, the Cortes's constitution of 1812, projects, and measures were undone by the restoration of Ferdinand VII in 1815. Arango with new tasks to lobby before the court in Madrid remained in Spain until January 1818.

During his absence from Cuba between 1813 and 1818, Arango left the administration of his properties in Güines to his friend Juan Ignacio Echegoyen. Echegoyen had the difficult task of dealing with *La Ninfa's* pro-

36. "Certificación de testimonio del acuerdo del Ayuntamiento celebrado en [22] de julio de [1808] y asistentes al del [27]"; "La petición original de los 73 [sic] vecinos sobre Junta su fecha 26 de julio 1808," BNJM, C.M. Morales, vol. 78, nos. 1-3.

37. In 1812 the conde Casa Barreto, in probable concert with deposed superintendente Gómez Roubaud, accused the junta movement and especially Arango y Parreño and former mayor Andrés de Jáuregui, for the movement's "ilegalidad por trastornar la forma de gobierno y las fatales consecuencias que podía producir, ya por el riesgo de una separación de la Metrópoli, y ya por una resolución del pueblo quien trnauquilo entonces iba a despertar," *ibid.* no. 9.

38. Ponte, Arango, 274.

39. See for example David Hume, *History of England*.

duction and its creditors, as well as handling the delivery and sale of its products. Arango paid for his expenses in Spain from the product of shipments of brandy to La Coruña and Santander arranged by Echegoyen. Arango criticized and distrusted the merchants of Cadiz who he described as “unos moros con peluca que solo con la muleta del monopolio saben andar o moverse.”⁴⁰ Arango’s family in Havana also received income from his properties. Moreover, Arango entrusted Echegoyen the construction of a schoolhouse he intended to donate to the town of Güines.⁴¹ Arango’s commercial creditors and consignors (Drake, slave traders Hernández & Chaviteau, Inglada & Echendia, Ferrer, Lombillo) in Cuba took advantage of Arango’s absence to alter customary exchange commissions and conditions in the sale of Arango’s sugar and coffee in the U.S.A. and Europe. Increasing debts and problems with the U.S. market (embargo) in 1814, placed Arango in increasing financial difficulties. By 1819 *La Ninfa* had accumulated such sizable commercial and internal administrative debts that almost forced its sale.

During his long sojourn in Spain Arango continued lobbying for more liberal trade conditions for goods and slaves, tobacco production, property rights of land, and public education, among many other issues.⁴² Arango influenced in the decision to establish the Junta de Fomento, a local government institution planned to foster productive industries and education in Cuba.⁴³ In 1818, Arango’s greatest victory, the introduction of free trade with any nation, was implemented. In 1819, after years of dispute concerning land titles and property rights over traditional land concessions (*mercedes*), a royal decree officially recognized thousands of Cuban subjects as small and medium landowners. Arango, the Junta de Fomento, the merchant guild, and the new elite of sugar planters played an important role in the legal struggle for modernized property rights against official restrictions to the cutting of trees and transformation of rural properties.

40. Arango to Echegoyen, Chiclana 11 Feb. 1814, ANC, Escribanías, Escribanía de Gobierno, año 1818-1822, leg. 195, exp. 11, ff. 63-67v.

41. Arango to Echegoyen, Chiclana 20 Feb. 1814, *ibid.*, ff. 67v-68. The total cost of the school house in Güines was 15,000 pesos. Arango instructed that a marble stone should be place on top of the school entrance with the inscription “Escuela gratuita de primeras letras/ Establecida en 1814/ Por Dn. Franco. Arango y Parreño.” The school was finished in 1817.

42. Arango to Echegoyen, Madrid 14 July 1815, *ibid.* ff. 85-87v: “Permanezco aqui por que no debo abandonar en este momento el negocio de negros en todas sus relaciones, el de comercio extranjero, el de tierras, el de educación, y otros no menos graves e interesantes a nuestro país a quien debo hacer este último sacrificio: sin descuidar entre tanto los medios de proveerte de negros y otros auxilios.”

43. The Lancasterian educational project Arango pressed for Cuba stalled because of preference in Madrid and Havana for religious education: “El plan de estudios de que me ocupaba y te hablé no puede tener efecto por el deceso que aquí hay de restablecer los Jesuitas, y la pretensión que ha hecho ese Ayuntamiento [de La Habana] para que se les remitan allá,” Arango a Echegoyen, Madrid 5 Jan. 1816, ff. 87v-91.

The leverage obtained by the Cuban-born in matters of land property in the island was counterbalanced, however, by their credit dependence on mostly peninsular and foreign merchants, agents, and moneylenders.⁴⁴ In time landowners felt the credit pinch. Arango's own business dreams suffered a rude awakening in 1818. After bad harvests and sugar market problems his agent, José Ignacio Echegoyen, presented him with a hefty bill for administrative fees (70,000 pesos) and debts outstanding (62,000 pesos) that led to a long judicial process.⁴⁵ To repay debts Arango considered in 1821-1823 putting his properties up for sale but could not find buyers.⁴⁶

Enhanced trade, encouraged by official liberal concessions, and its counterpart, intensified slavery, promoted by Arango and the sugar landowners to solve a serious labor scarcity in Cuba, had contradictory effects on the Cuban economy and society. Since the 1790s new business opportunities had attracted Spanish and other European and North American merchants, shippers, slave traders, capitalists, moneylenders, speculators and adventurers to the island. Steam engines, tools and inputs, and qualified operators from abroad contributed to the technological transformation of sugar plantations. Imported jerked beef, rice and beans, and cheap clothes improved somewhat the meager living conditions of slaves. Imported wheat and finer food and spirits, quality clothes, and other luxury imports changed the outer appearance and consuming habits of urban colored freedmen, artisans, middle classes, and elite men and women. Liberal and enlightened ideas spread among educated Cubans.

Slavery and the slave trade, however, stood as a thorn at the side of Arango's modernizing project and quest. As a sugar producer and landowner Arango had considered mainly the economic advantage of slavery for Cuba. He despised the slave trade but struggled to maintain it long enough to supply Cuba with badly needed slaves.⁴⁷ He favored humane treatment of slaves, exaggerated the Spanish customs of treating slaves more kindly than in the

44. Duvon C. Cornbitt, "Mercedes and Realengos: A Survey of the Public Land System in Cuba," *Hispanic American Historical Review* 19 (1939): 263-285; *Francisco Pérez de la Riva, Origen y régimen de la propiedad territorial en Cuba* (Habana: Imp. "El Siglo XX"-Academia de la Historia, 1946), 7-8, 139-153.

45. "Dn Francisco de Arango y Parreño con Dn [José] Ignacio Echegoyen sobre un compromiso celebrado para califica ciertas cuentas," ANC, Escribanías, Escribanía de Gobierno, año 1818-1822, leg. 195, exp. 11.

46. Ponte, Arango, 269-270. Arango tried to sale most of his properties in 1821-1823 but did not find purchasers. He was able to sell his cafetal Valiente to several small owners, including a free black (Matías Campos) by installments that were not paid on time prompting Arango to sue his debtors: "El Exmo. Sr. D. Francisco de Arango y Parreño contra Da. Maria de Regla de la Calle sobre cobro de 1,044 ps." Havana, 16 July 1826, ANC, Escribanías, año 1826, leg. 849, exp. 15696.

47. "Por pura curiosidad te pregunté las resultas de esa expeculación; pero ni quería ni quiero ser comerciante de carne humana," Arango to Echegoyen, 22 Jan. 1817, ANC, Escribanías, año 1818-1822, leg. 195, exp. 11, f. 94v. See also Arango, *Obras*, vol. 1; vol. 2.

French or British colonies, and pressed for legislation protecting slaves against abuses. He treated his own slaves with concern and paternalism.⁴⁸ Only later in his life he began to reconsider the social and cultural consequences of slavery. Eventually he proposed the gradual abolition of slavery and promoted white immigration from Spain to address the problem of labor scarcity in Cuba. He also urged for the education of the black population, much neglected in the island, despite a prevalent mean-spirited attitude—even among Arango’s conspicuous relatives such as Anastasio Carrillo Arango—against free people of color in the 1820s. The slave trade had been officially abolished in Cuba in 1820 by effect of an 1817 treaty between the government of Spain and England. However, illegally introduced slaves continued to arrive in larger and larger quantities as a result of an increasing demand by sugar growers in Cuba.

Humboldt’s *Essai politique sur l’Ile de Cuba* can be read, in parts, as a debate between the Prussian scientist and Arango over the issue of slavery. An early and brief version of this essay was first published in French in 1807.⁴⁹ An updated and expanded edition of the essay was printed in the 1820s and soon translated to Spanish and English.⁵⁰ In this political economic study Humboldt condemned the institution of slavery in Cuba and the rest of the Caribbean. Humboldt’s objective data and his detached liberal stance allowed him to write, in Arango’s spirit, optimistically about the future of Cuba. But progress in Cuba, according to Humboldt, was contingent to the introduction of necessary reforms he believed prominent Cuban leaders like Arango were contemplating. Among these reforms—Humboldt firmly averred—the most urgent was the extinction of slavery, a serious obstacle to the peaceful evolution of Cuban civil society.

When the Spanish translation of Humboldt’s work arrived to Cuba for the first time in 1827, distinguished members of Havana’s city council took measures to limit its circulation. The alleged reason for this action was its negative perspective on slavery.⁵¹ The rounding-up of approximately two hundred brand new copies of the essay did not impede Arango to carefully read Humboldt’s work and respond to it with written comments that revealed the basic difference between the two thinkers with regards to slavery at a mature stage of Arango’s stance on the issue. Humboldt emphasized a peaceful solution to

48. “Aquí tengo ya trescientos sombreros para los negros y allá fueron sesenta docena de platos para que unos y otros se los hagan repartir en mi nombre. Que sepan que acá también los tengo presentes,” Arango to Echegoyen, Cadiz 8 October 1813, ANC, leg. 195, exp. 11, f. 63.

49. Alexander von Humboldt and Aimé Bonpland, *Voyage aux régions équinoxiales du Nouveau Continent, fait en 1799, 1801, 1803 et 1804* (Paris: Schell, Dufour, Maze et Gide, 1807).

50. An expanded and updated French edition was published in 1826; its Spanish and English versions appeared, respectively, in 1827 and 1829.

51. 8. Puig et al, “Estudio introductorio” in Humboldt, *Ensayo político* (1998), 91-92.

the problem of slavery through gradual but effective legislation that would increase the number of slaves obtaining their freedom. He agreed in part with Arango that slaves probably had some minor legal rights in Cuba (such as more possibilities for purchasing their liberty and to request a new owner if mistreated) inexistent in other parts of the Caribbean. But Humboldt pointed out that comparisons between more or less “humane” attitudes in different so-called civilized societies missed the fundamental point of the human right to freedom. Arango felt personally addressed by Humboldt’s latter argument and found it necessary to rectify that he never intended to justify slavery in Cuba through such interested comparisons. Arango felt frustrated in his long struggle to enact a code of law regulating more precisely the rights of slaves against abuses that were very difficult to police.

Moreover, Humboldt tried to prove through statistical estimates that Cuba could afford the abolition of slavery—through an effective ban of the slave trade that would reduce considerable financial costs due to the inflationary effects of the illegal slave trade—without losing economic momentum. Arango shared Humboldt’s condemnation of the shameless illegal slave trade, the “abominable trade,” and accepted the fact of increasing profitability of technologically modernized sugar estates and mills in the 1820s with smaller number of slaves, and the advantages of cheap free labor. Arango, however, did not disagree with Humboldt’s assertion that the problem of slavery in Cuba and the Caribbean:

no podrá conseguirse por medios pacíficos, si[n] la participación de las autoridades locales, sean congresos coloniales, sean reuniones de propietarios designados con nombres menos temidos por las antiguas metropolis ... En los países de esclavos donde el hábito de mucho tiempo inclina a legitimar las instituciones más contrarias a la justicia, no se puede contar con la influencia de los conocimientos, del cultivo de la razón, de la dulcificación de las costumbres, sino en cuanto todos estos bienes aceleran el impulso dado por los gobiernos, y facilitan la ejecución de las medidas que una vez se adoptan. Sin esta acción directora de los gobiernos y de las legislaturas no se debe esperar una mudanza pacífica.⁵²

A final parallel between Humboldt and Arango and their legacy is fitting. Both were enlightened, moderate liberals, and interested in economic and political economic matters. Both had traveled to explore (Humboldt scientifically; Arango seeking technological and economic methods of modern agricultural production). They crossed each other’s paths in Havana and Güines. They were both optimistic about reform, progress, and the economic potential of Cuba. However there was a fundamental difference with regards to their particular views on slavery. Humboldt thought it necessary to directly

52. Humboldt, *Ensayo político* (1998), 310-311.

abolish slavery through peaceful and legal means. Arango was eclectic about this matter: initially he sought to improve the condition of slaves while seeking to extend slavery in Cuba. Arango had extended family connections and sugar planting interests to take care of. Both Humboldt and Arango faced toward the end of their lives the regression of liberal conditions and militarization in their own lands. Both, however, contributed to the foundation of a reformist liberal tradition, unique in Spanish America, which through successive reformist intellectuals and leaders addressed thereafter in the most rational ways, despite irrational opposition, the fundamental problems of colonial Cuba. This was an enlightened collaboration between a scientist and a civilian patrician of great significance for Cuba in the threshold of its modern economic and social transformation.

Celebrity in American Society and Science

Michael F. Conlin

The publication of Alexander von Humboldt's first volume of *Cosmos* in 1845 began the remarkable transformation of the Prussian scientist and explorer from a respected naturalist to celebrity intellectual, or in contemporary parlance, a public intellectual. In the minds of most antebellum Americans, Humboldt embodied the prestige of European science. Though not a discoverer or a theoretician, Humboldt was the most influential scientist of the period, at least to lay people. Humboldt's reputation as an explorer, scientist, and international ambassador of goodwill appealed to free Americans of all walks of life, from mechanics to aspiring scientists and from men of letters to cotton planters. In the 1840s and 1850s, American newspapers carefully followed Humboldt, keeping their readers informed of the great philosopher's health and activities. At the same time, the American public frequently compared scientists in the United States with Humboldt (and the Americans did not always measure up). Of course, Humboldt also had great influence on the American scientific community. Meeting Humboldt became a rite of passage for prominent Americans visiting Europe, especially for aspiring scientists in pursuit of advanced degrees. Even distinguished scientists sought Humboldt's endorsement so that their work would be illuminated in his reflected glory.

In the 1840s and 1850s, Humboldt was a scientific celebrity in the United States, so much so that American newspapers and periodicals recorded his every move, translating his letters, commenting on his health, and swelling with pride when he endorsed any aspect of American science or culture. It would be difficult to overstate the praise lavished on Humboldt by American newspapers and periodicals. "Alexander von Humboldt," *Frank Leslie's Illustrated Newspaper* of November 21, 1857 breathlessly observed, "occupies, by universal consent, the foremost place in the intellectual and scientific

world.” The January 1858 volume of *Emerson’s Magazine* agreed: “No man has, perhaps, ever during his lifetime enjoyed, in the degree that M. Humboldt has the esteem and admiration of his age.” Humboldt’s celebrity was confirmed after his death on May 6, 1859. The *Boston Daily Advertiser* of June 11, 1859 eulogized him by declaring that “the first half of the nineteenth century” was the “Age of Humboldt.”

In the 1840s and 1850s, American editors described Humboldt in a shorthand that revealed his ubiquitous celebrity: the New Orleans *Picayune* of November 20, 1849 simply referred to the “celebrated Prussian philosopher,” the *Charleston Mercury* of May 21, 1853 to the “veteran physicist” [sic] and *Frank Leslie’s Illustrated Newspaper* of January 29, 1859 to the “venerable naturalist.” Despite the fact that Humboldt spent most of his time in Berlin so that his travels in the antebellum era were literary more than corporeal, the *Boston Evening Gazette* of May 21, 1850 asserted in matter-of-fact fashion that “Humboldt is a great attraction wherever he goes.”

Of course, it was the publication of *Cosmos* and its translation into English that first brought Humboldt to the attention of antebellum Americans. The reviewer for the *Louisville Courier* of March 29, 1850 heralded *Cosmos* as “having no rival in any language” and deserving a place in “every respectable library in the world.” The *Louisville Courier* recommended *Cosmos* “to all who love science, or who feel an interest in a physical description of the Universe.” Many Americans, including Senator Daniel Webster took that reviewer’s advice. *Cosmos* was one of the Massachusetts Whig’s favorite works (Peterson, 1987: 401).

The important elements in Humboldt’s celebrity status as reported by American newspapers and periodicals, included his erudition, his vitality despite his advanced age, and his generosity. Antebellum Americans regarded Humboldt as the “Einstein” of his day. The *Providence Daily Journal* of April 30, 1851 called Humboldt the “Nestor of scientific men.” *Emerson’s Magazine* of January 1858 lauded Humboldt as “the Nestor of the modern world of science” and “the prince and dean of contemporary science.” *Emerson’s Magazine* gushed that “the whole world knows the great name [of Humboldt], and the authority of him who bears it is without rival in all the branches of human knowledge.” So extensive was Humboldt’s celebrity that *Frank Leslie’s Illustrated Newspaper* of August 14, 1858 reported on the death of his New World traveling companion, Aimé Bonpland, a French botanist.

Americans took great delight that Humboldt was still actively engaged in scientific inquiry despite being an octogenarian. The *Boston Daily Advertiser* of June 11, 1859 decided that Humboldt’s age was an advantage rather than a hindrance in his scientific pursuits. The *Boston Daily Advertiser* reported that

Humboldt spent his time “keeping pace” with the progress of science, which “his advancing years” and his power of “scientific deduction” allowed him to gain an unsurpassed accumulation of knowledge. *Frank Leslie’s Illustrated Newspaper* of November 21, 1857 marveled that Humboldt’s suite “is filled with contributions from every quarter of the globe, and with volumes in every language, which have been presented to the great *savant* by their authors.” *Frank Leslie’s Illustrated Newspaper* hoped “that Alexander von Humboldt may long be spared [death] to occupy the proud position of the greatest of living men.”

Some antebellum Americans regarded Humboldt’s long career as a distinguished scholar as the archetype of a productive life. *Ballou’s Pictorial Drawing-Room Companion* of January 10, 1857 asserted that Humboldt’s career “is a noble example of a well-spent life, and his remarkable longevity, notwithstanding his severe mental toil, is an encouragement to students.” In a public lecture given in the Smithsonian lecture hall in 1859, Paul A. Chadbourne, professor of chemistry and botany at Williams College, believed that the lives of Humboldt, Isaac Newton, and Georges Cuvier demonstrated the salutary effect of science “to engage, exercise, improve, and complete the faculties of the mind” (Chadbourne, 1860: 7-8).

Other antebellum Americans believed that Humboldt’s long career was more illustrative of his field of study than any special qualities of his own. The *United States Magazine* of October 1851 observed: “It is agreed that philosophers, and men of quiet reasoning, astronomers, naturalists, &c., are long-lived; while poets, novelists and men of excitement are short-lived. Witness a Humboldt and a Dick living to extreme old age, while a Byron and a Sue perish before the midday of their power.” Of course, Humboldt must die some time. Convinced of Humboldt’s greatness, antebellum Americans hoped that science could survive his death. The *Boston Daily Advertiser* of June 11, 1859 trusted that science would not falter with “the extinction of her greatest luminary.”

Humboldt’s willingness to advise aspiring scientists and comment on current events was well known in the Antebellum United States. Indeed, Americans revered him for his generosity almost as much as his erudition and his hard work. An American artist, who sought Humboldt’s advice on the flora and fauna of Central America before going on a scientific expedition there, reported to the *Providence Daily Journal* of April 30, 1851: “I found this great philosopher the most amiable old man I have ever met—in one word, the friend of Man, as of Nature.” As evidence of Humboldt’s interest in helping others, American periodicals reported on the crushing volume of correspondence that the venerable scientist maintained. American estimates of Humboldt have ranged between two thousand and six thousand letters each

year. Humboldt's generosity was legendary. The *Boston Evening Gazette* of May 21, 1850 recounted with manifest hyperbole: "A scientific society never holds a meeting here without receiving some valuable communication from Humboldt; and it always seems to be something new, something which he seems to have reserved for that especial occasion, and never to have given to the world before." In an October 27, 1853 letter, Matthew Fontaine Maury, Director of the National Observatory, informed Francis Lieber, that he found Humboldt to be "a most charming & picturesque old man" (Francis Lieber Papers).

Trading on Humboldt's celebrity as the leading intellectual of the day, Americans adduced his endorsement, real or imagined, to support everything from dubious scientific contentions to politicians. The *Charleston Mercury* of May 21, 1853 reported Humboldt's debunking of the purported magnetic basis for spiritualists' apparent ability to rotate tables. Advocates of dubious claims found that linking Humboldt's name to their assertions was an effective rhetorical strategy in the antebellum United States. The *Savannah Daily News* of July 19, 1851 reported that the *Washington Union* had been taken in by a false story that Humboldt had seen Sirius rise and fall suddenly. The *Louisville Courier* of September 28, 1848 adduced Humboldt's "keen insight" regarding the "character of General [Zachary] Taylor," the Whig candidate for president in the Election of 1848. To counter Democratic charges that Taylor was a hapless battlefield commander during the Mexican-American War, the *Louisville Courier* cited Humboldt's estimate that Taylor was an outstanding general. The *Louisville Courier* ranked Humboldt as one of two "military critics that are unrivalled in Europe."

So great was Humboldt's celebrity in the sciences that Americans, both nonscientists and scientists alike, related American progress in science to Humboldt. So successful was Joseph Henry in using the Smithsonian Institution to support the diverse range of the natural, physical and social sciences that *Scientific American* of April 26, 1851 ranked the Smithsonian Secretary with Humboldt as exceptions to the rule that there were very few scientists able to acquire a profound knowledge of more than one science. Even high school students and women were aware of Humboldt's scientific celebrity. The New Orleans Boy's High School established the "Humboldt Nat. Hist. Society." (Thomas Kelah Wharton Diary) Jane H. Pease and William H. Pease found in their account of "Antebellum Charleston" in the second volume of the *Encyclopedia of American Cultural & Intellectual History* that the most intellectually engaged women in Charleston, S.C., read Humboldt.

Humboldt's celebrity in the antebellum United States extended beyond science. In 1850, the steamer *Humboldt*, part of the United States and Havre line of mail steamers, was launched with great fanfare. *Gleason's Pictorial*

Drawing Room Companion of May 24, 1851 predicted, “this steamer, with superior power [to the steamer which held the trans-Atlantic record] has a chance of astonishing the world.” Frederick Henry Wolcott, a New York dry goods merchant, noted in his diary on October 05, 1850 that “the *Humboldt*... was launched today” (Frederick Henry Wolcott Diary). In a revealing coincidence of Humboldt’s virtual ubiquity in antebellum America, J. Johnston Pettigrew, who met Humboldt in Berlin in 1851, reported in a February 15, 1853 letter that returned to the United States aboard the steamer *Humboldt*. (Pettigrew Family Papers) Regrettably, the steamer *Humboldt* came to grief in 1857. *Frank Leslie’s Illustrated Newspaper* of March 21, 1857 reported that the *Humboldt* collided with the steamer *Belfast* on the Mississippi River, and sank.

So great was Humboldt’s celebrity in the antebellum United States that American scientists regularly alluded to Humboldt to explain their esoteric work to the general population. Joseph Henry, the secretary of the Smithsonian Institution and a leading American physicist, defended the Smithsonian’s support of the seemingly unimportant science of terrestrial magnetism on Humboldtian grounds. “Each branch of knowledge is connected with every other,” Henry explained, “and no light can be gained in regard to one side which is not reflected upon all” (Smithsonian Institution, 1859: 13-15, 21). As an example of this relationship, Henry cited the correspondence between sunspot frequency and large magnetic disturbances, which implied that magnetic storms caused sunspots. Humboldt used this classic example of the interconnectedness of the physical world in the second volume of *Cosmos* (1851) (Hufbauer, 1991: 46).

Humboldt’s success in reaching the average American invariably set the standard for other attempts at scientific popularization. In 1857, Louis Agassiz, professor of natural history at Harvard College, totaled twenty-five hundred subscribers for his *Contributions to the Natural History of the United States*. Heartened by this success, Agassiz boasted to Senator Charles Sumner, Republican of Massachusetts, that “when my subscription list reaches Europe my friends will not credit their own eyes. I do not think that Humboldt himself could in all Europe put together such a subscription for so expensive a work” (Lurie, 1960: 197-199).

Of course, Humboldt was enormously influential in the American scientific community in the antebellum era (Cannon, 1978: 74-77). As Kurt R. Bierman noted in his account of Humboldt in the sixth volume of the *Dictionary of Scientific Biography*, he pioneered studying a variety of phenomena in what today would be called climatology, botany, ethnography, geography, geology, geomagnetism, meteorology, mineralogy, oceanography, and zoology on a continental and even on a global scale looking for quantita-

tive mathematical relationships and interrelationships through the use of accurate measurement and “iso-maps.” Matthew F. Maury, director of the National Observatory, and the various antebellum exploring expeditions took Humboldt as their model (Bruce, 1987: 183). Moreover, the Smithsonian Institution sponsored Humboldtian research programs in meteorology, geomagnetism, geography, ethnology, and other fields of inquiry (Smithsonian Institution, 1847: 190-207; Fleming, 1990: 61-62, 69-70; Hinsley, 1981: 37).

In the antebellum era, it was a rite of passage for aspiring American scientists to go to Europe to receive advanced training, unavailable in the United States. For many budding American scientists, such as J. Johnston Pettigrew, Benjamin A. Gould Jr., Oscar Lieber, and others, an audience with Humboldt was an important part of this rite. In a May 26, 1851 letter, J. Johnston Pettigrew, a South Carolina protégé of Matthew Fontaine Maury in the National Observatory, described his visit with Humboldt, “the boast of German science.” But the South Carolinian was more impressed by Carl Ritter, whom he regarded as “a philosopher of commanding intellect and through information, coupled with the most unassuming simplicity and absence of political rabidness.” Perhaps, Pettigrew’s compliant about Humboldt’s politics was an allusion to his opposition to slavery. Pettigrew was a proud slaveholder who would later serve the Confederacy. Nonetheless, Pettigrew appreciated Humboldt’s “kindness to myself and other young men similarly placed,” but “the Courtier in him quite conceals the Philosopher, and the absence of affection or even little vanity... I should not reckon among his virtues” (Pettigrew Family Papers; Wilson, 1990: 44)

Most aspiring American scientists had better luck with Humboldt. Indeed, they sought an introduction to Humboldt. In an April 1, 1848 letter, Edward Everett assured Josiah Bigelow, a young physician, that he was sending letters of introduction to Humboldt, William Whewell, and other scientists so that the latter could “see all the Scientific world” (Edward Everett Papers). In most cases, Humboldt gave them letters of introduction to the leading scientists of Europe. In 1845, Humboldt introduced Benjamin A. Gould Jr., a Massachusetts astronomer, to Carl Friedrich Gauss, the great mathematician (Bruce, 1987: 21) In a March 11, 1850 letter to his parents, Oscar Lieber, a young geologist from South Carolina detailed how Humboldt introduced him to Charles Lyell, the uniformitarian geologist (Francis Lieber Papers). After Humboldt praised one of Lieber’s publications, John S. Preston wrote to the geologist’s father on February 18, 1859: “In science, Humboldt’ dicta are of more authority than the decrees of kings or the diplomas of learned societies” (Francis Lieber Papers). At the same time, Humboldt wrote letters of introduction for European scientists going to the United States. In a March 9, 1854 entry in his Locked Book, Joseph Henry noted that Christian H. F. Peters, a

German astronomer, came to him with a letter of introduction from Humboldt.

Even distinguished American scientists, such as Benjamin Silliman, Matthew Fontaine Maury, and others, took delight in visiting Humboldt and basking in his reflected glory. Benjamin Silliman, professor of chemistry at Yale and editor of the *American Journal of Science*, reported to the *United States Magazine* of May 15, 1854 of his 1851 meeting with Humboldt. Silliman was especially proud that the venerated Prussian philosopher “alluded in a flattering manner to our progress in knowledge in the United States, and to the effect which *The American Journal of Science and Arts* had produced in promoting it.” Matthew Fontaine Maury’s attempt to compile a comprehensive chart of ocean currents—a Humboldtian project—received a much-publicized endorsement from Humboldt, which was printed in the *Washington Union* of December 3, 1847. Humboldt’s letter was the culmination of an almost decade-long campaign by Maury. The *Washington Union* emphasized the manifest utility of Maury’s work in reducing the time of navigation and then copied an extract of Humboldt’s letter praising its scientific uses. After visiting Humboldt in 1853, Maury parlayed his endorsement into receiving the Kosmos Medal from the King of Prussia and glowing reviews in the United States (Bruce, 1987: 25, 183).

Of course it was not necessary to actually visit Humboldt to bask in his reflected celebrity. Minor American scientists, such as Lorin Blodget, as well used Humboldt’s endorsement of their work to attract attention and gain credibility. Of course, these scientists ostensibly sought Humboldt’s advice, but they hoped to receive his commendation as well. Lorin Blodget, an American climatologist in the employ of first the Smithsonian Institution and then the U.S. Army Medical Department, sought Humboldt’s endorsement of his *Climatology of the United States and the Temperate Latitudes of the North American Continent* (1858). He received it in a September 7, 1856 letter from Humboldt (James D. B. DeBow Papers). The reviewer of Blodget’s book in the *North American Review* of October 1858 approvingly quoted from Humboldt’s endorsement.

Humboldt’s praise could help to rally support for esoteric scientific ventures that might have otherwise languished. Humboldt’s endorsement of James M. Gilliss’ 1849-1852 astronomical expedition to Chile, along with the support of most of the American scientific societies, convinced a tight-fisted Congress to appropriate five thousand dollars so that Gilliss, an astronomer in the National Observatory, could observe the transit of Venus to better determine the Astronomical Unit, the distance between the earth and the sun (Rasmussen, 1954: 104; Harrison, 1955: 183-184; Bruce, 1987: 180-181). In a March 1850 letter, Johan Gottfried Flügel informed Charles Wilkes that

Humboldt observed, “it is uplifting to follow the magnificent development of the scientific sense in the United States.” Humboldt was astonished that the U.S. government would sponsor a 3-year expedition merely because a professor in Marburg advocated it, especially as the governments of Europe ignored the call (Charles Wilkes Papers).

Gilliss’ complaint illustrated that he, like many antebellum Americans, regarded Humboldt as beyond comparison with any mere American scientist. Humboldt’s celebrity reached beyond the American scientific community to the broader reading public. Americans were convinced of his genius, his work ethic, and his generosity. They followed his travels. They looked to him as an authority on virtually all matters, large and small, scientific and non-scientific. They longed for his endorsement of American science. And they heralded him as the embodiment of European science. Indeed, Humboldt’s celebrity grated on some scientists in the United States, despite the letters of introduction and endorsement that he lavished on the American scientific community. Although most American scientists thought well of Humboldt, and some pursued Humboldtian research, his celebrity allowed several scientists to use his name as a convenient put-down for overly ambitious or conceited rivals. In the course of a dispute over credit for meteorological work done in the Smithsonian Institution with Lorin Blodgett, Henry referred to his erstwhile associate as “the second Humboldt” in a November 11, 1854 letter to Alexander Dallas Bache (Joseph Henry Papers).¹ In a May 8, 1854 letter from James M. Gilliss, an astronomer in the National Observatory, to George P. Marsh, Henry received the same treatment. Gilliss objected when Benjamin S. Peirce, professor of astronomy at Harvard College, declared that Henry was the Humboldt of American science in his 1855 presidential address before the American Association for the Advancement of Science. Gilliss protested: “The Humboldt indeed! A man whose knowledge is at best a limited one on Electricity & Magnetism alone!” (George P. Marsh Papers).

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Part III
Literature and the Arts

Landscape Painting Between Art and Science

Claudia Mattos

In 1807 the German naturalist Alexander von Humboldt published a small book entitled *Ansichten der Natur* (*Aspects of Nature*), which resulted from his more than five-year trip through the American continent.¹ On the contrary to the thirty volumes of his *Voyage de Humboldt et Bonpland*, published between 1805 and 1836 in Paris this small work from 1807 offered the reader what Humboldt understood as the synthesis of his experience, obtained through a collection of “Naturegemälde,” or “Paintings of Nature.” What Humboldt desired to reveal to the reader was a synthetic view (“Totaleindruck”), obtained by a detailed analysis of the multiple local phenomenon (including the human dimension) that composed the physiognomy (“Phisiognomie”) of each specific segments of our planet.² For each of the climatic segments that he explored during his trip through the American continent he tried to compose a “painting,” or a “picture” that would have the power to put that segment of nature before the eyes of the reader, as lively as it appeared to him at the time of his voyage. Summarizing this intent, Humboldt wrote in the introduction to the first edition:

Timidly I deliver to the public a group of works created in face of the great objects of nature, the Ocean, the forests of Orinoco, the steppes of Venezuela,

1. Alexander von Humboldt arrived in Venezuela on the 16th of July 1799, after traveling during five years through the continent. He visited Cuba, Colombia, Equator, Peru, Mexico and the United States, returning to Europe on the 3. of August 1804..

2. The inclusion of human dimension in the “picture of nature” constructed by Humboldt is of seminal importance, since it attributes a moral dimension to landscape. Following Winckelmann, Humboldt believed that the natural formations proper to each region were responsible for the moulding of the character of its habitants: “[...] knowledge of the national character in the different parts of the world is closely related with the history of Humanity and its culture. Since even if the origin of this culture is not only determined by physical influences, its direction, the melancholic or gay character of men depends in great part of climatic conditions.” Cf. Humboldt, *Ansichten der Natur*, Stuttgart: Reclam, 1992: 75.

the Peruvian and Mexican deserts. Some fragments were written in loco and then fused into a Totality. The great panorama of nature, the proof of the joint action of forces, and the renewal of the pleasure that an unmediated view of the tropics delivers to men of sentiment, are the aims that I pursue.³

The book was therefore organised as a series of “ekphrasis” of nature, and as such, referred to a classic rhetorical genre that was of great relevance for literary and artistic production, at least since the Renaissance.⁴ This fact places Humboldt’s work not only in the category of scientific discourse, to which it certainly belongs, but also in that of an aesthetic discourse, presenting itself unequivocally as literature.⁵ Humboldt’s deliberate association with the “Ekphrasis” tradition is clearly affirmed in one of the conferences he delivered at the Singakademie in Berlin between 1827 and 1828, and known today as the “Kosmos-Vorlesungen.”⁶ In this text, Humboldt offers a short history of descriptions in literature, trying to demonstrate that these descriptions had achieved its plenitude only in his own time, especially with French authors such as Buffon, Bernardin de St. Pierre and Chateaubriand—even if he quotes several examples from Antiquity to the Renaissance—when it became a specific literary genre: “Under the French, these descriptions of nature, especially of exotic nature, became a sub-genre of literature, a ‘poësie descriptive.’”⁷ However, still according to his opinion, the French tended to fall into an excess of subjectivity, harmful to the genre. Goethe, on the other hand, was his ideal model:

Above all we want to mention the great master, in whose work prevails a profound sentiment towards nature. In the ‘Werther’, as well as in the ‘Voyage’ [to Italy], or in the ‘Metamorphosis of Plants,’ all over, reverberates this

3. “Schüchtern übergeben ich dem Publikum eine Reihe von Arbeiten, die im Angesicht grosser Naturgemälde, auf dem Ozean, in den Wäldern des Orinoco, in den Steppen von Venezuela, in der Einöde peruanischer und mexikanischer Gebirge entstanden sind. Einzelne Fragmente wurden an Ort und Stelle niedergeschrieben und nachmals nur in ein Ganzes zusammenschmolzen. Überblick der Natur im grossen, Beweis von dem Zusammenwirken der Kräfte, Erneuerung des Genusses, welchen die unmittelbare Ansicht der Tropenländer dem fühlenden Menschen gewährt, sind die Zwecke, nach denen ich strebe.” Humboldt, *Ansichten der Natur*, op.cit., p.5.

4. On the importance of *Ekphrasis* for humanistic discourse, especially discourse on art in the 14th and 15th Centuries, see: Michael Baxandall, *Giotto and the Orators*, Oxford: Oxford University Press, 1971. On the Ekphrasis tradition see: Gottfried Boehm and Helmut Pfotenhauer (ed.) *Beschreibungskunst—Kunstbeschreibung*, Munich: Fink, 1995.

5. For a detailed analysis of Humboldt’s discourse, placed between science and art, see: Lúcia Ricotta, *Natureza, Ciência e Estética em Alexander von Humboldt*, Rio de Janeiro: Mauad, 2003.

6. Humboldt, Kosmos-Vorlesung (Vorlesung 16) in: Projekt Gutenberg www.gutenberg.spiegel.de/anonymus/universm/universm.htm.

7. “Bei den Franzosen bilden diese Schilderungen der Natur besonders der exotischen, einen eignen Zweig der Litteratur, die *poësie descriptive*.” Humboldt, Kosmos-Vorlesung, op.cit.

enthusiastic sentiment that touches us like ‘a soft wind blown from a blue sky.’⁸

In the postscript to a recent German edition of the *Ansichten der Natur*, Adolf Meyer-Abich reiterates the importance of Humboldt’s encounter with Goethe for his intellectual development, understanding Humboldt’s propositions in great part as an attempt to put in practice Goethe’s convictions regarding science: “Humboldt can be thought as the completer of Goethe’s researches on Nature,” he writes.⁹ This intense identification with Goethe’s holistic point of view also explains the artistic quality to be found in Humboldt’s works, since for the German poet true knowledge depended on an intense collaboration between art and science: “Dich im Unendlichem zu finden/ Musst unterscheiden und dann verbinden,”¹⁰ wrote Goethe in 1803, in a passage dedicated to Luke Howard, a scientist who researched clouds. The differentiation belonged to the scientist’s task, while the synthesis to the artist. Based on analytic method, science was capable of discriminating minute differences, but only art was capable of promoting a synthesis of dispersed elements, revealing them united in an essential gaze.¹¹ As Goethe’s disciple, Humboldt consciously adopted a literary form for his *Ansichten der Natur*, looking for a synthesis that would take the reader one step further than the detailed descriptions present in the *Voyage*.

The present paper will not however discuss Alexander von Humboldt’s literary style, or his uses of the lettered tradition. My intent is rather to stress the importance that the aesthetic dimension of his work had for Humboldt, in order to discuss his relation to another art genre, placed by him side by side with literature in its capacity to implement the synthesis essential to knowledge, namely, landscape painting. To understand what concept Humboldt had of this genre is of seminal importance since it will have significant consequences for the development of landscape painting, not only in Europe, but above all in different parts of Latin America, including Brazil.

Speaking of the purpose of landscape painters in a central chapter of the *Ansichten der Natur* entitled “Ideas on the physiognomy of plants,” Humboldt poetically affirms: “under his hands [the painter’s hand], the huge mag-

8. “Vor allen aber erwähnen wir hier den hohen Meister, dessen Werke ein so tiefes Gefühl für die Natur durchdringt. Wie im *Werther*, so in der Reise, in der Metamorphose der Pflanzen, überall klingt dies begeisterte Gefühl an und berührt uns gleich wie ein sanfter Wind vom blauen Himmel weht.” “Ein sanfter Wind von blauen Himmel weht”, is quoted from Goethe. Humboldt, *Kosmos-Vorlesung*, op.cit.

9. Adolf Meyer-Abich, “Nachwort,” in: Humboldt, *Ansichten der Natur*, op.cit., p.149.

10. Goethe, *Goethe Werke*, HA, vol. 1, p.349. A literal translation could be: “To find yourself in the infinite, you must differentiate, and then unite.”

11. On the relations between art and science in Goethe see Werner Busch’s articles: “Die Ordnung im Flüchtigen-Wolkenstudien der Goethezeit,” and “Der berg als Gegenstand von Naturwissenschaft und Kunst. Zur Goethes Geologischem Begriff,” in: Sabine Schulze (ed.) *Goethe und die Kunst*, Frankfurt and Weimar, 1994.

ical picture of nature reveals itself, in few and simple traces, as in the written work of men.”¹² For Humboldt, as for Goethe, literature and painting were able to help the scientist to produce a synthesis. Although not all literature, and not all paintings (we remember the critic he made to excess of subjectivity in the French for example). In some passages of his work Humboldt makes clear that not all forms of landscape painting can serve as partner to science. In the same “Kosmos”—Lecture quoted above, after the small history of the descriptive genre in literature, Humboldt made some appointments on the development of landscape painting, condemning the northern, as well as the Italian landscape painting tradition:

At the time of the renaissance of Italian art we find the beginning of landscape painting in the Holland school and under the disciples of Van Eyck. More specifically, Heinrich von Bloss tried first to reduce the size of the figures in order to allow the landscape to grow in importance. Also in the big Italian landscape paintings of the late period: Titian, Bassano, Carracci, there is no precise imitation, especially in respect to exotic nature, and they also use certain objects in an affected and conventional way, for example, they give the Tamara Palms, which immigrated from north Africa to Sicily and Italy, a rough and strange appearance.¹³

There remains thus the following question: if for Humboldt not all types of landscape painting could be of some utility to science, what was then the model of landscape painting adopted by him? As occurs with so many aspects of his work, it is possible to affirm that also in regard to this subject Humboldt was guided by his master Goethe. Therefore, to understand his point of view it will first be necessary to examine the poet’s position on the theme. Under Goethe’s influence, Humboldt adopted a classic model of landscape painting, although distinct from that proceeding from the tradition inaugurated by Claude Lorrain and Nicolas Poussin. A model that tried to accomplish a synthesis between the two main tendencies of landscape painting inherited from the seventeenth century: the ideal landscape, and the “veduta”, originated in the north.¹⁴ Goethe became very interested in this new conception of landscape painting, after having studied with no less than the creator of this new genre, the German painter residing in Naples, Jakob Philipp Hackert (1737-1807),¹⁵ during his voyage in Italy. It is known that

12. Humboldt, *Ansichten der Natur*, op.cit., p.86.

13. “Zur Zeit des Auflebens der italischen Kunst finden wir den Anfang der Landschaftsmalerei in der niederländischen Schule, u. bei den Schülern Van Eyk’s. Namentlich hat Heinr. von Bloss zuerst versucht die Figuren sehr zu verkleinern, um dadurch die Landschaft hervortreten zu lassen.—Auch bei den großen italischen Landschaften der spätern Zeit Tizian—Bassano, Caracci findet sich keine genaue Nachahmung, besonders der exotischen Natur, u. auch sie bedienten sich für gewisse Gegenstände, angenommener, conventioneller Formen, z.B. geben sie die Dattelpalmen, die doch aus Nordafrika nach Sicilien und Italien hinüber gewandert waren, ein eigen schuppiges, wunderliches Ansehen.” Humboldt, *Kosmos-Vorlesung*, op.cit.

Hacket also discussed his method and theoretical concepts in detail with Goethe, and the poet considered them of such importance that he decided to publish these ideas in 1811, as part of a biography he wrote on the artist.¹⁶ It is therefore very probable that Goethe discussed Hackett's positions on landscape painting with Humboldt, who he encountered for the first time in 1795 in Weimar. How much Goethe was thinking of a painter like Hackett to collaborate with his friend, and naturalist becomes evident in a passage of a letter sent by him to Humboldt in April 1807, the year of Hackett's death. He writes: "Our excellent Hackett has suffered a stroke in Florence. He hopes to recover himself once more for the art. I would like to have someone like him at your side in the tropical countries."¹⁷ The reference to "our" excellent Hackett", also leaves no doubt that Humboldt was familiar with the artist.

Goethe, Hackett and landscape painting

Taking into account Goethe's conservative position with respect to visual arts, the great value he attributed to History painting, and the systematic opposition he made to the new romantic tendencies that were emerging in his time,¹⁸ it is only possible to understand the great interest he showed towards Philipp Hackett's landscape painting if we consider his ideas on the relationship between art and science. These are the same ideas that influenced Humboldt in other aspects of his works, and that made it natural for him to adopt Goethe's point of view also with respect to the representation of landscape.

From early on Goethe cultivated an intense scientific activity parallel to his work as poet and art theorist. His interest in science was reinforced in the years around 1770, when he came into contact with the Suisse doctor Johann Caspar Lavater (1714-1801), starting to collaborate in his collection of mate-

14. Ideal landscape was a kind of equivalent of pastoral poetry that aimed to create an idyllic view of the natural world, as it supposedly existed in Antiquity. *Veduta*, on the other hand, was understood as a faithful registration of a specific segment of nature, without idealization, and it was practiced more frequently in the north, especially in Holland, along the 17th century.

15. Hackett was born in Prenslau, and after studying in France he settled in Italy in 1768, first in Rome, and then in Naples, where he became first painter to the Bourbon king Ferdinand IV.

16. Goethe wrote a Hackett biography in 1811, which included the "Theoretical Fragments on landscape painting" written by the artist shortly before his death in 1807. Hackett's original letters, which were edited by Goethe for his publication can be found in: Norbert Miller and Claudia Nordhoff (ed.), *Lehrreiche Nähe. Goethe und Hackett*, Munich and Vienna: Hanser, 1997.

17. "Unser trefflicher Hackett in Florenz hat vom Schlagflusse gelitten. Er hofft sich wieder für die Kunst zu erholen. Seines gleichen hätte ich wohl in Ihrer Gesellschaft den tropischen Ländern gewünscht" Correspondence between Goethe and Alexander von Humboldt, in: www.bibliothek.bbaw.de/Goethe.

18. On Goethe's relation to romantic artists such as Caspar David Friedrich and Philipp Otto Runge, see: Frank Büttner, "Abwehr der Romantik, in: *Goethe und die Kunst*, op.cit., p. 456-482.

rial for a book on physiognomy, later published under the title of *Physiognomische Fragmente (Physiognomic Fragments)*.¹⁹

Obsessed by the idea of demonstrating a correlation between the external appearance of humans, and their character, Lavater collected portraits of famous people throughout Europe, accompanied by a description of their personality.²⁰ These portraits were traced preferably in silhouette (“Schattenrise”), and then submitted to a comparative method, in order to determine the possible connections between certain physical appearances and traces of character. Lavater’s methodology envisioned a “reduction” of human form to its essential elements, captured in the silhouettes, and a comparison of the obtained results.²¹ The book dedicated a whole chapter to silhouette, in which he made the following commentary:

From the simple silhouettes I put together more knowledge about physiognomy than from all other reports; through it I refined my sensibility to physiognomy more than through the observation of nature that is always in transformation; A silhouette summarises the dispersed attention, concentrates it in simple contours and limits, making observation easier, light and exact; the observation, and with it also comprehension.²²

This form of proceeding fascinated the young Goethe who incorporated it into his own scientific approach. As Carl Weizsäcker observes,²³ Goethe developed a method of investigation based on comparative morphology, where form was not rooted in an abstract law, such as science in his time was starting to do, but where law itself was to be derived from visible form. Using

19. Other important personalities of the time, such as Füssli, Herder, Lenz, Merck, Sulzer, and Gessner, were also involved in Lavater’s project. On Goethe’s relation to Lavater, see: Ilsebill Berta Fliedl, “Lavater, Goethe und der Versuch einer Physiognomik als Wissenschaft,” in: *Goethe und die Kunst*, op.cit., p. 192-203.

20. Goethe’s first contact with Lavater occurred because of this project. After Goethe had become suddenly well known because of the publication of his first romance *Götz von Berlichingen* in 1772, Lavater sent him a letter asking for a portrait accompanied of a description. A lively exchange of letters followed, and in 1774 Lavater arrived in Frankfurt a.M. to pay a visit to Goethe and guarantee his direct collaboration in the project of his book.

21. Lavater developed his new anthropological method largely based on his readings of Winkelmann, especially of his famous descriptions of the Belvedere statues, to which he refers frequently in his *Physiognomische Fragmente*. The book contained, for instance, a whole chapter dedicated to the Apollo Belvedere, in which, he delivered a “scientific” analysis of the statues head, accompanied by a drawing of its silhouette. Cf. Pfothenhauer, Bernauer and Miller (ed.), *Frühklassizismus*, op.cit., p.409-411.

22. “Aus blossen Schattenrissen hab’ich mehr physiognomische Kenntnisse gesammelt, als aus allen übrigen Porträten: durch sie mein physiognomisches Gefühl mehr geschärft, als selber durch’s Anschauen der immer wandelnden Natur. – Der Schattenriss fasst die zerstreute Aufmerksamkeit zusammen; concentrirt sie bloss auf Umriss und Gränze, und macht daher die Beobachtung einfacher, leichter, bestimmter;—die Beobachtung und hiemit auch die Vergleichung.” Cf. Lavater, *Physiognomischen Fragmenten*, apud. Fliedl, op.cit., p.193-94.

23. Carl Friedrich Weizsäcker, “Einige Begriffe aus Goethes Naturwissenschaft”, in: *Goethe Werke*, op.cit., vol. 13, pp.539-555.

such a method of morphologic description and form comparison, Goethe expected to be able to see relations between the various instances of reality, or, in other words, to visualize nature's immanent order.

Another observation about Goethe's way of thinking is important to understand his position as a scientist especially during and right after his trip to Italy.²⁴ Since, according to his point of view, there was an essential link between men and the world—"mater never exists without the spirit, and spirit never exists without mater"²⁵—to order the exterior world was to order the interior world at the same time. To reveal nature's order (in the goethean sense of recognizing the links present in reality) was, therefore, the equivalent of harmonizing the spirit with it. But how did this investigation of reality take place?

Goethe understood science as knowledge about the form. Law, the specific order that rules a certain phenomenon in nature, should thus be looked for in the physiognomy of the phenomenon itself. Sight becomes an essential instrument for scientists who worked, as we said before, to separate what they thought was different, and approximate what was seen as similar. However, since the essence of the phenomenon laid in itself, the final expression of order, or of natural law revealed in this process could not be a part of science that always proceeded in an abstract way, but could only be fully exposed in art. This "image of nature" produced by art had an advantage over nature itself, since its static character revealed a permanent view of nature in which no casual elements associated along the course of its eternal transformation was present.²⁶ Here we also find the origin of Humboldt's idea of "Naturgemälde" (Paintings of nature).

According to Goethe, in the modern world prevailed analytic science in which "to comprehend the non human objects a dispersion of strength and capacities, a fragmentation of unity, is almost inevitable".²⁷ This model, however, did not favour the integrating movement between art and science that had been a distinctive mark of thinkers in Antiquity. From his point of view, a fierce battle should be fought in order to re-conquer this antique harmony, so essential to knowledge, to the moderns. And we could say that Goethe recog-

24. Goethe's voyage to Italy is normally considered as a point in his carrier in the direction of a certain classicism, after the *Sturm und Drang* period. Cf. Herbert von Einem, "Nachwort," in: *Goethe Werke*, Munich: Beck, 1989., vol.11.

25. "Weil aber die Materie nie ohne Geist, der Geist nie ohne Materie existiert (...)" Goethe, "Die Natur," in: *Goethe Werke*, vol.13, p.48.

26. Here we can easily identify some affinity between Goethe and Lavater. The latter also believed to be able to find a connection between character and physiognomy only in the sensorial manifestation of the phenomenon, and was convinced that he would see these manifestations with more clarity in the silhouette, than in the phenomenon itself.

27. "(...) zu Erfassung der mannigfaltigen aussermenschlichen Gegenstände eine Zertheilung der Kräfte und Fähigkeiten, eine Zerstückelung der Einheit fast unerlässlich ist (...)" Cf. Goethe, "Winckelmann und sein Jahrhundert,"⁵⁵ in: *Goethe Werke*, op.cit. vol.12, p.100.

nised in Hackert's landscape painting a privileged path to the accomplishment of this task.

Goethe's interest in Hackert can only be fully understood along these lines. He found in Hackert an artist that worked according to his own principle of analysis und synthesis, recognizing the (individual) characteristic elements of a landscape, and integrating them, through art, in a meaningful totality—in a "Naturgemälde"—to use the concept developed later by Humboldt. Trying to understand the special place that Hackert occupied in Goethe's aesthetic education, Wolfgang Krönig comments:

The revealing gaze, and a reproduction of the clarity and the order of observed natural phenomenon—these characteristics of the best possibilities implied in Hackert's work, must have found a special echo in Goethe (...)

Hackert is not for him an artist that could be placed to the side or replace great Italian figure painters, but an artist that makes the relation between art and nature the centre of his work.²⁸

In becoming Hackert's disciple in Italy, Goethe desired to see landscape with his eyes, that is, with the eyes of a "naïf" painter,²⁹ capable of identifying the essential forms of nature and delivering them in a synthetic image. For his part, as a teacher Hackert reassured Goethe that there was a precise method to be followed in order to learn the métier.³⁰ The poet, therefore submitted himself happily and optimistically to these principles, and apparently also transmitted these lessons on to Humboldt. The specific understanding of landscape painting that followed from all these encounters was in the last run

28. König e Wegener, *Jakob Philipp Hackert. Der Landschaftsmaler der Goethezeit*, Colonia, Weimar e Viena: Böhlau, 1996, p.25.

29. The word "naïf" here must be understood in the Schillerian sense, in which the poetic "self" was still in direct contact with the cosmos, where the rupture between self and world had not yet occurred. Goethe wrote in his introduction to Hackert's biography: "The description of his life, from where we took the present passages, is written in a very simple and sincere style, especially the bigger part from Hackert's own hand, in a way that immediately reminds everyone of the naivety (*Naïvetät*) of Cellini and Winckelmann." ("Die Lebensbeschreibung, woraus wir den gegenwärtigen Auszug liefern, ist in einem sehr einfachen, treuerzigen Styl verfasst, besonders der grössere Teil von Hackerts Hand, so dass sie jeden gar bald an Cellinische und Winckelmannische Naïvetät erinnert." Goethe, citato em Krönig e Wegner, op.cit., p.21.

30. During his second stay in Rome, Goethe makes the following observation in his voyage diary: "Herr Hackert hat mich gelobt und getadelt und mir weiter geholfen. Er tat halb im Schertz, halb im Ernst den Vorschlag, achtzehn Monate in Italien zu bleiben und mich nach guten Grundsätzen zu üben; nach dieser Zeit, versprach er mir, sollte ich Freude an meinen Arbeiten haben. Ich sehe auch wohl, was und wie man studieren muss, um über gewisse Schwierigkeiten hinauszukommen, unter deren Last man sonst sein ganzes Leben hinkriecht." ("Sr. Hackert made me complements and critics, and continues to help me. He has made me a proposition, somewhat joking, somewhat seriously, that I stay eight months in Italy to train [my Hand] after good principles. After this period he guaranteed that I would find pleasure in my work. I can also see very clearly what and how one should study to overcome some difficulties, that otherwise, will remain for a whole life."). Goethe, "Italienische Reise", in: *Goethe Werke*, op.cit., vol.11, p.351.

what defined its privileged position side by side with literary descriptions, as a faithful partner of science, in the context of Humboldt's work.

Hackert's 'theoretical fragments' and Humboldt's 'pictures of nature'

Goethe's first reference to Jacob Philipp Hackert appears in his voyage diary under the date of 15th November 1786, thus before his trip to Naples.³¹ However, it was during this trip that he established closer contact with the painter. Amazed by his capacity to capture the Italian landscape, he decided to become his pupil. While in Caserta, near Naples Goethe wrote in his diary on March 15th 1787:

'He also conquered me completely, being patient with my shortcomings [...]. When painting aquarelles, he always has three colours at hand, and since he works from the background into the foreground, applying the paints one after the other, he obtains a picture that no one can quite understand from where it came.'³²

In his last stay in Rome before returning definitively to Weimar, Goethe met Hackert once more, giving continuity to his drawing lessons and visiting the Galleries of the city in his company, in order to hear his commentaries on the landscape paintings of Gaspard and Nicolas Poussin, Claude Lorrain, and other ancient and modern artists. It is therefore unquestionable that Goethe's view on landscape painting was formed in great part under the impact of his contact with Hackert. What above all fascinated Goethe was Hackert's mastery of the details of nature: the types of trees, the geography of landscape, and the proper atmosphere of the places depicted, without being subservient to reality, as was landscape painting in the north, and retaining all what was essential, or in Goethe's own terms, giving landscape a Form. Goethe wrote during his second stay in Rome: "I was out with Mr. Hackert, who has an unbelievable capacity for copying nature, giving at the same time a Form to the drawing."³³

In Goethe's understanding, by unifying the ideal landscape painting of Italian tradition with the detailed observation practiced in the northern "veduta" paintings, Hackert had found a form of extracting the ideal element from the real landscape. That is, of putting its universal aspect in evidence. As Norbert Miller comments: "[...] he learned with Hackert how to see ordinary landscape as ideal, and to value the observation of characteristic details

31. The reference is to a meeting during a stay in Frascati, in which drawings of the people present were discussed in the group. Hackert appears as experienced painter who gave counsel to the amateurs artists. Goethe, "Italienische Reise," op.cit., p.160-162.

32. Goethe, *Italienische Reise*, op.cit.

33. Idem, entrance: Rom June 16th 1787.

as precondition to the apprehension of the whole.”³⁴ It was this naïf way of looking at the world, similar to the gaze of the ancients, that Goethe desired to learn with Hackert.

FIGURE 12-1. Jacob Philipp Hackert, “View of the Vesuvius,” 1794, oil 62,7 x 88 cm, private collection.



How much Hackert’s artistic principles correspond to what Goethe saw in his work is a difficult question to answer. However it is certain that Hackert’s methods and their visible results came very close to Goethe’s convictions about Landscape painting, and they must have been perceived by the poet as a concrete visualization of his dream to integrate science and art.

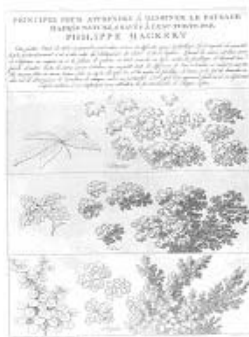
Remembering, on the one hand, the great ascendance that Goethe had over Humboldt, and on the other hand the profound impression that Hackert left in Goethe, it should not come as a surprise that we find numerous overlappings between the understanding of the landscape painter’s task exposed in Hackert’s *Theoretical fragments*, and certain passages in the “Ansichten der Natur.” It seems possible to say that, through his contact with Goethe, Alexander von Humboldt inherited several theoretical principles put forward by Hackert, transforming them into valuable instruments of research about the physiognomy of the earth. In Humboldt’s hands, Hackert’s theoretical positions became the fundamental principle that should guarantee a perfect collaboration between scientist and artist.

One of the central points of agreement between the ideas developed by Hackert and those exposed by Humboldt refers to their definition of the elements, which structured the general impression of a landscape in the “human imagination,” as well as the specific methods applied to represent these elements. In his “Theoretical fragments” Hackert insisted that the essential element of a landscape was its vegetation, recommending the attentive study of trees as a central part of the education of a competent landscape painter. However, acknowledging the infinite time necessary for an artist to get to

34. Norbert Miller e Claudia Nordhoff (org.), *Lehrreiche Nähe. Goethe und Hackert*, op.cit., p.43.

know, and draw all kinds of trees, Hackert proposes their division in three prototype groups, following the form of their branches and leaves. These prototypes should serve as aid to art students: “According to my principles the trees could be divided in three categories, as I personally engraved and published them. The artist and the dilettanti should train their hand on them, if they would like to learn to draw.”³⁵

FIGURE 12-2. Jacob Philipp Hackert, Title page of the book: “Principles to learn how to draw landscape from nature,” 1802.



In the *Ansichten der Natur*, Humboldt seems to adopt Hackert’s idea about the centrality of vegetation for imposing a general impression of nature on the senses: “it is impossible to deny that the central element determining this impression is the vegetation (“Pflanzendecke”),” he would write in his book. Humboldt also adopts the idea of a morphological classification of the vegetation, considering the spontaneous tendency of some artist to bring forth such a classification: “The painter (and here precisely the artist’s fine sentiment towards nature plays a role) distinguishes in the background a landscape with pines, or palm- bushes, from a beech-tree, but not this from other foliage-tree forests.”³⁶ In the sequence, Humboldt expands Hackert’s classification of trees from three to sixteen prototype groups that should help the artist to drive his natural sensibility towards efficient collaboration with science³⁷: “Sixteen plant forms fundamentally determine nature’s physiognomy.” [...] “How interesting and rich for the landscape painter would be a

35. Goethe, “Hackert Biographie,” in: Johann Wolfgang Goethe Sämtliche Werke, vol.13, Münchner Ausgabe, Munich and Vienna, 1986, p. 614.

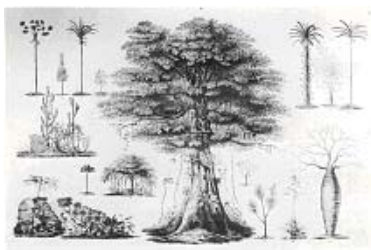
36. “Der Maler (und gerade dem feinen Naturgeföhle des Künstlers kommt hier der Anspruch zu!) unterscheidet in dem Hintergrunde einer Landschaft Pinien oder Palmengebüsche von Buchen-, nicht aber diese von anderen Laubholzwäldern!” Humboldt, *Ansichten der Natur*, op.cit., p.77.

37. It is only natural that Humboldt expanded the number of tree-types, since he was interested in including all the new tropical species in his classification.

work that would first present their individually to the eyes of the painter, the sixteen principal forms described, and then present them in their mutual contrasts!”³⁸

This passage still makes evident a certain hierarchy in the process of construction of a landscape. The artist should initially capture its individual elements, in order to compose, in a posterior moment, using his notations, the masses or the contrasting groups. These groups are responsible for the “total impression”, or the character of the specific region studied. This same conception of the process of execution of a landscape painting also appears later in the *Kosmos*:

FIGURE 12-3. Spix and Martius, “Plants of Tropical America” Lithography from “Atlas of the Voyage to Brazil,” 1823.



The sketches drawn before natural scenes can only lead to the representation of the character of distant regions after regressing [from these regions], in finished landscapes. They will be executed in an even more perfect way if the enthusiastic painter has drawn or painted outside, before nature, a great quantity of isolated studies of tree tops, opulent branches carried with flowers and fruits, tipped trunks covered with parasites, or orchids, cliffs, strips of river margins, and parts of floret grounds.³⁹

The careful construction of the landscape from solid knowledge of its partial aspects is central to Hackert’s theory on landscape. According to him, the attentive study of individual types was a guarantee of the richness and variety of the vegetation in the finished picture. An artist that did not make an effort to learn the different isolated forms of nature would, in a large composition, always tend towards painting the same kind of trees. This is also Hackert’s hardest critique regarding the great landscape painters of the Italian tradition:

38. Idem, p.77 and p.86. Drawings of individual species followed by drawings of these species inserted in bigger groups, forming great masses of vegetation can be found frequently in the *Flora Brasiliensis* of Spix and Martius.

39. Alexander von Humboldt, *Kosmos*, apud. Renate Löschner (ed.), *Artistas Alemães na América Latina*, Berlin, 1978, p. 24.

The most important thing in a landscape composition is to guarantee that everything is grand, such as in Nicholas and Gaspard Poussin, Carracci and Domenichino. [...] We can however reproach in these, the fact that their trees are always the same, and that only rarely one can be differentiated from the other.⁴⁰

In the same sense, Hackert wrote on the artist's learning process: "When the artist's hand becomes more or less trained, being able to take notes of all the changes of form in the leaves and in the trees, then he should draw copying nature, without loosing much time with copies of drawings."⁴¹

In the same way, the integration of the moral and physical aspects of landscape, proposed by Humboldt in his concept of "Naturgemälde" (pictures of nature), that is, the recognition of its historical dimension⁴², had already been phrased in Hackert's *Theoretical Fragments*, as determining the picture's final visual result. The integration of Nature and History in landscape painting is discussed in the *Fragments* under the title of "Moral Effect," where the author emphasises the pleasure one enjoys from the vision of a landscape punctuated by human history: "Some landscapes give us exceptional pleasure when they represent localities where great deeds, such as battles, or other grand historical events took place."

As Herbert von Einem argues,⁴³ Goethe saw human history as an integral part of nature, and certainly approved and valued the presence of the human dimension present in Hackert's landscapes. It is possible that this question, which occupied him especially during his stay in Italy, was theme for discussion with his friend Alexander von Humboldt. For his part, Humboldt would have given a more anthropological character to the subject when treating it in his "Ansichten der Natur" some years later: "The knowledge of the natural character of each different region of the world is intimately tied to human history and culture." Not only the memorable historical events add to the landscape, as in Hackert's conception, but also its character is determined by the specific symbiosis installed locally between men and his habitat.

Evidently such ponderings were also in the mouth of many men of science of the time, and could be traced directly back to Winckelmann, among others. However I would like to suggest here that in many aspects the procedures recommended by Hackert in his *Theoretical Fragments* helped Humboldt to materialize the idea of a picture of nature ("Naturgemälde") as an

40. Goethe, "Hackert Biographie," op.cit., p.617.

41. Idem, p.615.

42. Meyer-Abich gives the following description of the concept of Naturgemälde in Humboldt; "(...) it is no more and no less than the harmony of physical and moral Nature, or from a modern point of view: the harmony between Nature and History." In: Humboldt, *Ansichten der Natur*, op.cit., p. 159.

43. Herbert von Einem, "Nachwort," in: Goethe Werke, Munique: Beck, 1989, vol.11, p.59.

essential path in the process of acquiring knowledge of the world, and of humanity.

The fact that it was Hackert's works, and not those of the romantics for instance, to served for Humboldt as model for the description of the painter's task, has its importance. It meant, among other things, as Werner Busch notes,⁴⁴ the naturalist's adoption of a classical view of landscape, clearly implied in the concept of "Totaleindruck" ("total impression").⁴⁵ Humboldt's preference for classical painting of the kind proposed by Hackert is also evident in the list of the artists, who collaborated with him in the illustration of his books. For this task he called on men like Gottfried Schick, Bellman, or Friedrich Wilhelm Gmelin, all related in one way or another to Goethe's artistic circle in Weimar. Wilhem Gmelin, for instance, was even mentioned by Meyer and Fernow in their introduction to Goethe's *Winckelmann und sein Jahrhundert* (Winckelmann and his century):

Under artist who draw monochromatic landscapes we find on Hackert's side the already mentioned Birman and Kniep, beside these, Gmelin (...). As Hackert's personal friend he learned his techniques with this master, proving to have good knowledge of effect, posture, etc., while drawing nature with fidelity.⁴⁶

FIGURE 12-4. Spix and Martius, "Extraction and preparation of the turtle eggs at the Amazon river" From "Atlas of the Voyage to Brazil," 1823.



Alexander von Humboldt was also a reference figure to many artists who travelled through Brazil, such as Johann Moritz Rugendas, Thomas Ender and Carl von Martius, contributing to determine the form in which they cap-

44. Werner Busch, "Der berg als Gegenstand von Naturwissenschaft- und Kunst. Zur Goethes Geologischem Begriff," in: *Goethe und die Kunst*, op.cit., p. 485-518.

45. The idea is opposed to the non-classic concept of *vedute* painting. Humboldt's classic taste is also revealed by the fact that he chose François Gerard, a student of Jacques-Louis David as his teacher during the time he was in Paris, after returning from America. Cf. Löchner, op.cit., p.27.

46. Goethe, Meyer, Fernow, "Winckelmann und sein Jahrhundert," apud. *Goethe und die Kunst*, op.cit., p.508.

tured the Brazilian nature⁴⁷ in their work. Since these artists were frequently in contact with the local Academy it is plausible to think of an influence of the hackertian model on Brazilian landscape painting, intermediated by Alexander von Humboldt.⁴⁸ This would help to explain, for instance, the important difference existing between North American landscape painting, strongly impregnated by an aesthetic of the sublime, and the Brazilian production, which maintains an intriguing relationship with the type of painting invented by Jakob Philipp Hackert and his disciples.

47. It is certain, for instance, that Nicolau-Antoine Taunay maintained contacts with Spix and Martius, who arrived in Brazil in 1817 as members of a Scientific expedition.

48. Luciano Migliaccio has also pointed out another possible path for the reception of Hackert's theory and practice regarding landscape painting. According to the author, the Portuguese king, who immigrated with his court to Brazil in 1808, and was married to a Bourbon princess, tried to adopt the pattern of patronage established by the King Ferdinand IV in Naples with the direct help of his court painter J.Ph. Hackert. Luciano Migliaccio, "A paisagem clássica como alegoria do poder do soberano: Hackert na corte de Nápoles e as origens da pintura de paisagem no Brasil", in: Claudia Valladão de Mattos (ed.) *Goethe e Hackert: Sobre a Pintura de Paisagem. Quadros da Natureza na Europa e no Brasil*, São Paulo: Ateliê Editorial, to be published in 2004.

Adrienne Klein

A distinction must be made in landscape painting, as in every other branch of art, between the elements generated by the more limited field of contemplation and direct observation, and those which spring from the force of idealizing mental power.¹

If Alexander von Humboldt valued this latter form of artistic response, he would certainly be gratified by the work of contemporary artists who: draw inspiration from his research, transcend mere observation and reporting, and give us new ways of seeing. Artists who apply Humboldt's "idealizing mental power" to Humboldtian subject matter include Rachel Berwick, Mark Dion, Daniel Velasco and Jose Restrepo. These artists directly reference Humboldt's two-century old work.

The work I will show is unified by two factors: one, Humboldt is central to the content of the work and two; all of the work can be termed installation art. Installation art encompasses work ranging from tableaux to new media art to work that is site-specific, that is, influenced by the history or dimensions or other characteristics of the gallery that contains it.

Daniel Velasco-Schwarzenberger

Daniel Velasco created an installation that consists of projections of images and quadraphonic sound in a performance lasting 65 minutes. Visitors move through fields of sounds and view imagery from the natural environment of Cuba, where Velasco followed the path of Humboldt's travels. Velasco makes

1. Alexander von Humboldt, in Hanno Beck, ed., *Kosmos. Entwurf einer physikalischen Weltbeschreibung, Studienausgabe*, Vol. 12 (Darmstadt: Wissenschaftliche Buchgesellschaft, 1993 [1832]) p. 95; as cited in Daniel Velasco, "Island Landscape: Following in Humboldt's Footsteps through Acoustic Spaces of the Tropics," *Leonardo Music Journal*, Vol. 10, 2000, pp. 21-24.

two points: first, that Humboldt is the most appropriate subject of this display because of Humboldt's appreciation of the natural world and progressive views on the value of the cultures he encountered.

FIGURE 13-1. Daniel Velasco-Schwarzenberger, "Island Landscape," 1999.



His second point is his own advocacy of the nascent field of "acoustic ecology, sensitizing (listeners) to environmental sounds and the need for their preservation."² Velasco claims Humboldt as a forerunner of acoustic ecology because "his way of thinking is influenced by his sense of listening."³

Humboldt wrote in great, descriptive detail about the sound of water, volcanoes and animals. Among the phenomena he observed was the apparent magnification of sound at night, the so-called "Humboldt Effect." (A short segment of Velasco's audio work is played, consisting of field recordings from Cuba and a text by Humboldt read by an actor).⁴

Mark Dion

Since the 1980s, Mark Dion has produced artwork that focuses on science and its place in culture. His installations examine how the subjective understanding of nature becomes established as fact and critique Western systems of classification. Dion's work often focuses on early naturalists, such as Baron Georges Cuvier, Alfred Russel Wallace and Alexander von Humboldt.

2. Daniel Velasco, "Island Landscape: Following in Humboldt's Footsteps through Acoustic Spaces of the Tropics," *Leonardo Music Journal*, Vol. 10, 2000, pp. 21-24.

3. *Ibid.*

4. A brief audio extract of Daniel Velasco's piece "Island Landscape" can be heard at <http://members.mcnon.com/zgue/artists/velascoeng.html>.

This is an example of one of many simulations of “wunderkammern” that Dion has made. Wunderkammern, or Cabinets of Curiosity were personal collections, precursors to museums, which were popular in sixteenth and seventeenth century Europe. Francis Bacon recommended:

FIGURE 13-2. Mark Dion, “Cabinet of Curiosity,” The Wexner Center for the Arts, Columbus, Ohio, 1997.



... a goodly, huge cabinet, wherein whatsoever the hand of man by exquisite art or engine has made rare in stuff, form or motion; whatsoever singularity, chance, and the shuffle of things hath produced; whatsoever Nature has wrought in things that want life and may be kept; shall be sorted and included.⁵

Dion, in his typical practice, borrowed for this piece from the collections of the Carnegie Museum of Natural History and the Carnegie Museum of Art. His borrowed materials were, at once, both authentic museum objects and re-contextualized as props in a fictive tableau. This piece was, in part, a performance. He trained staff to conduct a search for insect specimens in the museum just as a naturalist might in a field site. The installation is an artifact of the performance. The manikin wears the uniform of a naturalist in the tropics. Behind are photographs made from the insects that were found and preserved.

Dion assembled a tableau that pictures Wallace’s field practice. We see a hammock with mosquito netting and, on a crate serving as a side table, a

5. Francis Bacon, cited in Fulton H. Anderson, *Francis Bacon, His Career and Thought*, USC Press, Los Angeles, 1962.

copy of Malthus' book "Principles of Population" sitting beside an unfinished letter to Darwin. There is audible a sound recording of what sounds to be malaria-induced ramblings by the naturalist.

FIGURE 13-3. Mark Dion, installation in the Carnegie International exhibition, Pittsburgh, PA, 1999.



FIGURE 13-4. Mark Dion, installation in the Carnegie International exhibition, Pittsburgh, PA, 1999.



This piece was part of an exhibition in Cologne, Germany, that Dion titled "Alexander von Humboldt and Other Sculptures." The installation included books on and by Humboldt, plants Humboldt described and, in the large aquarium, ten live red piranhas. It is essentially a tribute to Humboldt.

These representative pieces, a wunderkammern and tableaux celebrating and parodying science practice, bring "together several of Dion's favorite binaries—the individual and the collective; art and science; imperialism and naturalism; nature and culture—in order to show how they are, in fact, inextricably linked."⁶

6. Review of Mark Dion exhibitions at American Fine Arts, New York and the Aldrich Museum, Ridgefield, CT, Martha Schwendener, *ArtForum*, June 2003.

FIGURE 13-5. Image 5: Mark Dion, “The Delirium of Alfred Russel Wallace,” 1994.



FIGURE 13-6. Mark Dion, Alexander von Humboldt (Amazon Memorial), 2000.



Jose Alejandro Restrepo

Restrepo's installations combine text, images and historical research. His work is a critique of misperceptions of Latin America from abroad, historically and to the present day.

“Humboldt's Crocodile is Not Hegel's,” is seen here installed in Montreal's Musée d'art contemporain in September 2004.

The installation consists of the title written large on the wall flanked by two video monitors. Near the floor, the wall is marked off in 1-foot incre-

ments to 25 feet in length, the length of an Amazonian crocodile. On the video monitor to the left is a tight shot of a crocodile's head. 25 feet to the right the monitor displays the tip of the crocodile's tail. On the wall are quotes from texts by Hegel and Humboldt.

FIGURE 13-7. Jose Alejandro Restrepo: "Humboldt's Crocodile is Not Hegel's," the Montreal's Musée d'art contemporain, September 2004.



FIGURE 13-8. Jose Alejandro Restrepo: "Humboldt's Crocodile is Not Hegel's," the Montreal's Musée d'art contemporain, September 2004.



As the title says, the contrast of the two Europeans' views of Latin America is the subject. Hegel never stepped foot in the Americas but felt authorized to express his opinion on its realities, projecting a view that native

American cultures as well as native American creatures were inferior. Humboldt, of course, could write from a first hand, empirical examination. Humboldt wrote a rebuttal to Hegel's view, citing the Amazonian crocodile as an example of a larger, superior species from the New World.

Rachel Berwick

Rachel Berwick's art focuses on extinction. "May-por-é" is an installation in which two Amazon parrots have been trained to speak an extinct South American language.

FIGURE 13-9. Rachel Berwick, "May-por-é," 1998-2004.



Berwick relates that Alexander von Humboldt was traveling along the Orinoco River in what is now Venezuela when he happened upon a Carib Indian tribe. When he asked his hosts why their pet parrots were speaking a dialect different from their own language, the Indians told Humboldt that the birds had belonged to the Mayporé tribe, whom they had recently exterminated during tribal warfare. The birds were spoils of war. To Humboldt's amazement, the parrots were the last remaining speakers of the Mayporé language.

Humboldt's meticulously detailed journals don't corroborate Berwick's version of the legend of the parrots. They do, however, contain Mayporé words he heard on his travels, transcribed phonetically.

This was Rachel Berwick's response to the story: she designed a 10 foot in diameter aviary, covered in translucent polypropylene. The cylindrical aviary is lighted inside and shown in a gallery with subdued lighting so that the aviary shines from within like a lantern. Inside the aviary are two parrots and rainforest plants that provide perches for the birds. There is a tape recording

of the sound of flowing water. Because the walls are translucent, the viewer only sees shadowy, ghost-like silhouettes of the birds. And the birds speak. They pronounce the words of the Mayporé language, the only language they know. They appear as ghostly shadows that speak a ghost language.

FIGURE 13-10. Rachel Berwick, “May-por-é,” 1998-2004.



Berwick was intrigued by the idea that parrots could be the sole and imperfect conduit through which an entire tribe's existence could be traced. Working with Humboldt's notes and with the collaborative efforts of a bird behaviorist, two linguists, and a sound engineer, she taught the parrots to 'speak' the Mayporé language. Berwick started this project in 1997. The installation has since appeared in London, New York, New Haven, Istanbul and Sao Paulo.

Berwick may have taken artistic license with the historic record. Humboldt, in his journal, reports on repeated contacts with the Mayporé so they were clearly not extinct at the time of his travels. Humboldt spends much time phonetically recording words in all of the languages of the area, for example: "The titi [a kind of monkey] of the Orinoco (*Simia sciurea*), well known in our collections, is called bititeni by the Maypure Indians."⁷

Humboldt does relate the story of a tribe called the Atures driven to extinction. Further, he tells the story of a surviving pet parrot who preserves the Ature language.

7. Alexander von Humboldt and Aime Bonpland, *Personal narrative of Travels to the Equinoctial Regions of America During the Years 1799-1804*, v. 2. Translated and edited by Thomasina Ross. George Bell & Sons, 1907. Available online from The Project Gutenberg, http://www.gutenberg.org/catalog/world/authrec?fk_authors=1995, Chapter 2-19, p. 180.

At the period of our voyage an old parrot was shown at Maypures, of which the inhabitants said, and the fact is worthy of observation, that they did not understand what it said, because it spoke the language of the Atures.⁸

Berwick may have conflated the stories of several tribes that Humboldt reported on. Her installation is, nevertheless, a beautiful evocation of these encounters.

Interestingly, language is a skill that separates humans (representing culture) from animals (representing nature), yet Berwick's parrots instruct us. It is this sort of appreciation of nature in all its diversity that we find so progressive and laudable in Humboldt.

Reviewing the four artists I have discussed:

Rachel Berwick takes a story told by Humboldt and seizes upon it as one that furthers her conviction that we must not neglect the impending extinction of species, languages and races. This is the thesis motivating her entire body of work and her success here is composing the Humboldt / May-por-é story—a particularly compelling story.

Similarly, Daniel Velasco wishes to focus our attention on natural environments that are at risk. He documents them and presents them to us in a sensory-rich, immersive environment. We may be transported by the images and sounds to another realm, but it is a vicarious, aestheticized version of the original, minus the hazards and heat. Velasco knows the limits of his ability to reproduce an environment, but seizes upon this method to enlist our interest or, better still, our activism.

Mark Dion honors Humboldt in his pantheon of enlightened scientist explorers. His tableaux about Humboldt are part of a body of work that names names: Charles Darwin, Rachel Carson, and Alexander Wilson among others. Dion extols the work done by these pioneers, but of equal importance to him is the examination of the subjective nature of museum display, summed up nicely by the title of his 1997 exhibition “Natural History and Other Fictions.”

Jose Alejandro Restrepo lives in South America and examines the continuing relevance of the historic European regard for his continent. Like Berwick and Velasco, he has a message of advocacy and his art is a means to that end.

As David McCullough wrote about Humboldt,

“...he began to see what nobody had understood before him; that life's forms and their grouping with one another are conditioned by physical factors in their environment...he realized more fully that to classify and identify count

8. *Ibid*, Chapter 2-24, p. 391.

for little unless you understood how to relate such information to integrated natural processes.”⁹

Relating to natural processes, the integration of ideas, synthesis—all add up to original thinking that was Humboldt’s hallmark. It is no wonder that contemporary artists continue to draw inspiration from him.

9. David McCullough, *Brave Companions*, Simon & Schuster, 1992.

Humboldt and the Visual Arts in America

Amy H. Winter

The writings and theory of Alexander von Humboldt served as inspiration for American art, from the celebrated 19th-century Hudson River School painter Frederick Edwin Church, to the esoteric 20th-century surrealist artist and theorist Wolfgang Paalen. Direct evidence of Paalen's knowledge of Humboldt can be found in his eyewitness account of the 1940 eruption of the Mexican volcano Paricutin that was modeled upon Humboldt's, which drew in turn upon a still-earlier eyewitness account. For Humboldt, the study of volcanic manifestations was one of the objectives of his journey to the equinoctial regions of America (1799-1804). The reader of his work will learn of his ascent of Teide Peak in Tenerife and of other climbs to several volcanic summits in South and Central America. It is hard to imagine that the motif of vulcanism that figured so highly in the works of his Romantic contemporaries and was a prime model of the theory of the sublime, did not have some bearing on his explorations.

It is well known that Church read Humboldt's influential *Cosmos: Sketch of a Physical Description of the Universe in 1849* and sought to visually represent his theory that the unity, harmony and complexity of the natural world were the result of a divine order. This theory that was the basis of the Romantic worldview was related to—but not the same as—the theory of the sublime that originated in the late 18th century and dominated philosophical and artistic discourse throughout the 19th century. The Romantic poets and “natural philosophers” (as they were called) who formulated the theory of the sublime like Johann von Goethe and Friedrich Schelling, professed that the unifying principle of the universe was found in the eternal World Spirit present in every object and force of Nature, which man could never discern through logic alone. Humboldt, a child of the Enlightenment as well as of Romanticism, wished to balance this metaphysical doctrine with the reason and obser-

vation of scientific method, and to supplant tyranny and slavery with humanism and social progress by forming a bridge between the rational and intuitive modes of understanding the universe. Touched by the Romantic spirit of the age, Humboldt combined scientific rigor and meticulous observation with inspired description and an enduring passion for the transcendental beauty of what he observed—unflagging in his aesthetic appreciation complemented by pure reason in order to grasp the true nature of the world.

Nature herself is sublimely eloquent,” Humboldt wrote, “The stars as they sparkle in the firmament fill us with delight and ecstasy and yet they all move in orbit marked out with mathematical precision.” This methodology that unified observation with passion was of considerable importance to visual artists.

Two papers in this conference have just revisited the subject of Humboldt and Church. So I will not dwell on this topic, except to say that after reading *Cosmos*, Church literally followed Humboldt’s path through the Ecuadorian Andes in order to view nature as “one great whole, moved and animated by internal forces” and “to seize...on the true image of the varied forms of nature, available in the tropical world.” Church pictured the “sublime” landscapes of America in awe-inspiring paintings with much the same intention as his German Romantic counterpart, Caspar David Friedrich.

The result of Church’s initial journey, *The Andes of Ecuador*, finished in 1855, was a monumental canvas of 4 feet by nearly 7 feet that combined Church’s typically 19th-century concerns about science and religion. The painting shows the infinite botanical detail of interest to artists and the terrifying depths of the abyss and overwhelming sense of unlimited space, which were the essential elements in depictions of the “sublime” that dominated 19th-century artistic discourse in Europe and America.

This discourse was deeply embedded in the American psyche, tied as it was to a religious character that was the bedrock of America’s founding. Even today, that religious character continues to reassert itself in American society, vying with the well-established evidence of science championed at the start of the modern age by intellectuals like Alexander von Humboldt—and later, following in his path, Wolfgang Paalen. Paalen’s insistent call for a unified versus dualistic vision of reality, his focus on the physical universe, his “Cosmic” metaphor for art, and his passionate argument for the importance of relating art to science all echo the values and tenets of Humboldt.

From 1942 to 1944 in Mexico City, Paalen published *DYN*, an influential art review for the New York School, read by the emerging Abstract Expressionists whose colleague, Robert Motherwell, served as assistant editor to Paalen for the journal. Paalen’s essays therein discussed a modern “Cosmic”

art in terms of contemporary physics, using it as a model for his totally abstract representations.

Humboldt's ideas which anticipated the unifying theories of modern physics can be cited as inspiration for the impressive canvases of Abstract Expressionism by way of Paalen's theory. Born in Vienna in 1905, but equally bred in Berlin, Paalen was classically educated and heir to the Enlightenment and Romantic ideas forged by giants like Humboldt and Goethe—and the list of books in his library attest to this fact, along with his writings which reference these and more. Like Humboldt, Paalen was motivated by profoundly ethical, humanitarian and democratic values. Like Humboldt, these values fueled his concern to move discourse into a modern and scientific framework that eschewed the religious incantations of his generation. Humboldt accomplished this by his exhaustive researches of the natural world and physical universe that surpassed the “natural philosophy” of his contemporaries. Paalen did so by turning to the paradigm of physics for his art and theory and calling for a “demystification” of artistic theory and practice that rejected science as compatible with its goals. Like Humboldt, he advocated “a universe of wholes” and defined the sublime in terms of the actual poetry of the universe revealed by science rather than by poetic metaphysics.

In his essay on “Art and Science,” published in *DYN* in 1942 as World War II was raging in Europe, Paalen wrote about dualism and the mystification inherent in philosophy and related it to ethics and politics: “Traditionally identified with metaphysics, philosophy...remained true to theological method, which consist[ed] of explaining one unknown by two unknowns: Thus when [metaphysics] does not know how to place a thing within reality, it simply adds a lengthening-piece, a sham reality. Lengthening pieces: the super-natural for a nature that is too tiny, the super-rational for a reason that is too lean, a liberty with a double bottom, a morality extra-moral and partisan for the right-thinking insiders of a consecrated ‘ism’—in brief, if one is unable to define a thing, one simply makes two things out of it.”

The artist, Paalen suggested, was the herald of the possibility of a new ethic, who could stand alongside the scientist as navigator into territory where the values of science and art were complementary—complementarity being a basic principle of quantum physics. The findings of quantum physics that Paalen prescribed as a new model for art verified the simultaneity and multiplicity of experience, and showed that “reality is one and indivisible.” They proved that, as with physical matter, the seeming separation between interior and exterior perception, so critical to the artist and poet, was illusory: “As no man can hold himself satisfied with the affirmation that light is merely a number of vibrations...the poet speaks as truthfully as the scientist

when he claims that light belongs to the realm of vision.” Paalen wrote at a point in history where science had come to be regarded as infallible, and technology (the child of science) had escalated the war and moved toward the annihilating reality of the atomic bomb. It was not, he said, merely a matter of “theoretical aesthetic rehabilitation” but an imperative that neither art nor science be elevated to absolute truths—metaphysics—in their own right.

Thoroughly a man of his time, Humboldt’s lifelong endeavor to change the terms of inquiry from “natural philosophy” to “natural history” are very much paralleled in Paalen’s attempt to change the terms of art from “metaphysics” to physics. His paintings from the early 1940s invent spatial metaphors and explore the possibilities of depicting a new concept of space. Progressively, he turned to invention of other grammars of abstraction, visually different, but all metaphors based in the graphic mathematical languages of astronomy, physics, and astrophysics. Code-like notations of dots, dashes, and ellipses rhythmically play over or organize the surfaces of his canvases. Like Viennese physicist Ernst Mach’s imperative of “scientific economy,” from which he drew some of his ideas, Paalen’s forms display “conceptual schemes as economical instruments” that “simplify” but do not reduce experience. Like Mach’s physics, “a shorthand method of relating and correlating...sense data with the help of mathematics,” his paintings unified subjective content and objective form.

Still another model Paalen borrowed was the Nobel-Prize winning wave-particle theory of Louis de Broglie. Broglie was Professor of the Sorbonne’s Poincaré Institute, frequented by the Surrealists in the 1930s. The motion of his forms aesthetically translated de Broglie’s undulating waves and quanta particles of light to fashion his visual metaphor.

In the climate of World War II, and under Paalen’s influence, Abstract Expressionist painting gave way to the paradigm of the Apocalypse; then, following the war, to the “abstract sublime”—the New York School’s metaphysical cosmic images. This was evident in the climax phase of Pollock’s grand scale gestural paintings and mystical or explosive “chromatic” abstractions of Adolph Gottlieb, Barnett Newman, Mark Rothko, and Clifford Still. Both of these phases followed the abstract form and sense of Paalen’s Cosmic works.

Works such as *Space Unbound* (1941), and *Major Polarities* (1940), the latter published in *DYN*, displayed an “all-over” quality (soon identified with mature Abstract Expressionist painting) to transform the graphically—and rhythmically—notated forms of the universe into images of force and volatility. Rapidly drawn lines and parabolic arcs suggest high energies and velocities; concentric vortical chains “simulate magnetic fields,” and “dotted lines recall particle clouds.” Paalen described the *Cosmic* works as symbols of “the

great structural rhythms, the tidal waves of form and chaos, of being and becoming, which go beyond the accidents of individual fate..." in which, by sympathetic response, the viewer can participate:

Nuclear Wheel (1942), *Solarization* (1942) and other *Cosmic* works shown in Paalen's 1945 Art of This Century exhibition, sowed the seeds of Abstract Expressionism's "radical abstraction," in which references to visible nature disappeared and form alone became a visual index of value and meaning. The themes and abstract form-metaphors that Paalen invented to signify cosmic energies and time-space prefigured Abstract Expressionism's "abstract sublime." Jackson Pollock saw the *Cosmic* works in Paalen's April-May exhibition at Art of This Century, and his own one-man exhibition of May-June 1945 directly followed.

Time after time, parallels with Paalen's theory, iconography, and form reasserted themselves in the work of the emerging painters in their own personal styles. But if Paalen eschewed religion and mysticism by turning to science, the New Yorkers turned to quasi-religious discourses to develop a modern counterpart to the metaphysical aspirations of the past. In the 1975, projecting backward, Robert Rosenblum identified an affinity between the Northern Romantic tradition of the "sublime" and Abstract Expressionism's "abstract sublime, which claimed transcendental qualities for their drastically reduced abstractions, perceived as the ultimate expression of Abstract Expressionist art." Rosenblum likened the noumenous effects of their large-scale, rhythmic, and atmospheric abstractions to the awe-inspiring attributes of "boundlessness" and "greatness of dimension" as well as the "vortical rhythms," "sublime whirlpools," and "mystic trinity of sky, water, and earth" in the landscapes of Romantic painters Caspar David Friedrich, J.M.W. Turner, and John Martin, and related them to the aesthetic discourses of Goethe, Emanuel Kant, and Edmund Burke, bypassing Paalen and his immediate proximity to the New York painters. But well-before that affinity was noted, Paalen's *Cosmic* discourse and paintings offered these sources to poetically celebrate the power of creation manifest in the physical world.

In concept and image, Paalen set a precedent for Pollock's monumental poured and dripped paintings like *Autumn Rhythm*; for the pregnant stillness of the "atomic void" of Newman's minimal *Onement* or *Vir Heroicus Sublimus*; for the cosmic explosions of Gottlieb's *Bursts*, and for the ragged chasms of Still's outsize abstractions. By 1945 and 1946 in Paalen's New York exhibitions, in the last issue of *DYN*, and in an anthology called *Form and Sense*, when he published the works of, Motherwell, Pollock, and William Baziotés, and David Smith, his role as a forger of a "new art," was complete.

In conclusion, it is therefore interesting that both of these intellectual pioneers, who chose to be generalists and explore a universe of possibilities were largely forgotten for many years. This conference rectifies that absence of memory and restores Humboldt's astounding legacy and in the process, that of latter day disciples like Wolfgang Paalen.

Women Travelers in Humboldt's New World

Adriana Méndez Rodenas

Historically, Humboldt's vast travels to continental Latin America have been interpreted as the paradigm for European travel narrative to the New World. Cuban anthropologist Fernando Ortiz, for instance, labeled Humboldt the "second discoverer" of the Americas, pointing out his debt to Christopher Columbus as well as his departure from the tradition of discovery and conquest (also in Duviols and Minguet, 1994: 25). Biographers and critics alike have amply documented Humboldt's status as an eighteenth-century *savant*, cataloguing the interdisciplinary thrust of his writings, encompassing geography, natural science, and geology (in Duviols and Minguet, 1994: 25-28), an encyclopedic knowledge which established both the foundations of modern science as well as a new type of travel writing (Ette, 2003: 25). Critical reception of Humboldt promoting him as paradigmatic of the scientific voyage to the New World highlights his role in shaping both the rhetoric of European travel writing and the Latin American literary tradition (González Echevarría, 1990: 104, 110). These biographical and textual approaches constitute Humboldt's literary legacy, what one critic called "oddly parallel traditions" in praise of his life and work (Ochoa, 1999: 102). In recent years, Mary Louise Pratt has radically altered this view with her ideological critique of Humboldt, based, coincidentally, on the same paradigmatic value accorded to his travel books. Pratt's approach has marked an important shift in the critical reception of Humboldt (1992, 119-120), highlighting the centrality of Humboldt's oeuvre for post-colonial studies, yet I concur with Ochoa's assessment that her "demonizing view [...] ascribes an inscrutable, totalizing authority to Humboldt" (1992, 138) in need of further revision.

In this paper, I want to pursue the extent to which Humboldt's *relations de voyage*, and particularly his *Personal Narrative of the Equinoctial Regions of the New Continent* (1816), have shaped the course of nineteenth-century

European women travelers to the New World. Breaking free of the rhetorical restraints placed on the genre of travel writing—what Pratt identifies as the sentimental and the scientific (1992, 74-75) but which really encompass a wide range of “transdisciplinary” discourses¹—European women travelers practice the genre with the same healthy eclecticism which characterized Humboldt’s travel writings. Inspired by Humboldt, they trekked the plains, “pampas,” and valleys of the New World, secure in the knowledge he provided but also in hope of establishing their own “personal narrative.” Whether inside a carriage, on horseback, or by foot, the varied journeys of Victorian women travelers particularly are made on the trail of Humboldt, seeing in their illustrious predecessor not merely an abstract model to emulate, but a source of authentication of their varied journeys, an authority needed to construct their own, private forays into unknown territory (Frawley, 1994).

It is a mainstay of travel narrative to suggest that the genre forms an intricate web of texts in which the individual itinerary often conjures the writerly paths opened up by previous travelers. At the start of his *Personal Narrative*, Humboldt acknowledges that he “read the ancient voyages of the Spaniards” during the long sea passage from La Coruña to Cumaná (Humboldt, vol. I, 1814). Later on in the voyage, in the dramatic passages describing his intent to discover the bifurcation of the Orinoco, he will repeatedly cite Father Gumilla and La Condamine as his most direct textual precursors (Humboldt, vol. vol. V, 487). It is inside this labyrinth formed by the criss-crossings of previous journeys (Ette, 2003: 24) where we detect Humboldt’s influence on European women, in their double role as both travelers and readers, since reading can be viewed as “a kind of traveling” (Ette, 2003: 26-28). In much the same way as Columbus’ inaugural journey reverberates throughout Humboldt’s voyage, traces of his *Personal Narrative* appear on at least three levels in the alternative tradition of European women’s travels.² First, in the perspective of the journey, what has been theorized as the “seeing-man” or “all-knowing I” (Pratt, 1993: 7) of the European scientific explorer, and who is most often collided with the first-person narrator of the travel account (Ette, 2003: 29). In the critical corpus, the traveler’s pose has been codified as a single male explorer who from a height above absorbs in his gaze the entire sweep of the land below, a mountaintop perspective permitting the comparison of different landscapes and climates (Slovic, 1990: 6; Stafford, 1984: 150). Humboldt’s ascent to Mount Chimborazo (Image 1-Chimborazo)

1. I am indebted to Ottmar Ette’s keynote speech delivered at the “Alexander von Humboldt: From the Americas to the Cosmos” conference, in which he commented on the author’s “transdisciplinary,” rather than merely “interdisciplinary” perspective.

2. En route to the New World, Humboldt claims to follow the exact sea route charted by Columbus, as his allusion to the passing of Cape Three Points, dubbed so by the Almirante, makes clear; *Personal Narrative*, vol. 2, 30.

not only emblemizes this view, but also illustrates the linear form of the journey, as one anticipating a fulfillment (Ette, 2003: 44). In this way, the perspective of the traveler conditions the *shape* or textual organization of the travel account, detailed in Ette's analysis of the recurring tropes in European travel writing (2003). Yet Humboldt's influence is most strongly felt in the approach to landscape, characterized by the Romantic sublime and the use of metaphor, and based, for the most part, on the comparison to similar scenery in Europe (González Echevarría, 1990: 108) as well as to more remote regions. Humboldt's "comparative method of landscape description" has been negatively interpreted as downplaying the specificity of a particular terrain or region in favor of a grander "textual atlas" or abstract model of the globe (Slovic, 1990: 6, 8). In contrast, in his analysis of the use of analogy in Humboldt's *Political Essay on the Kingdom of New Spain and Vues de cordilleras*, Ochoa notes its effectiveness at the sight of inanimate landscape, and the tensions arising when dealing with the culturally Other (Ochoa, 1999: 143).

After noting the striking similarities and differences between British women travelers and Humboldt in terms of the rhetoric of travel (that is, perspective and approach to landscape), I want to clear a different path, where Humboldt's influence is also felt. I propose that many nineteenth-century women, particularly those "solitary travelers" devoted to science (Marz Harper), follow Humboldt's trail as a circuitous path to knowledge, an endeavor resulting either in personal satisfaction, conversion into an author, increased self-confidence, or a self-transformation implying all of the above. Although quite a few Victorian "lady travelers" fit this pattern, I want to focus here on a set of four illustrated travelogues that best represents the reception of Humboldt I am suggesting: botanist, artist, and historian Maria Graham, also known as Lady Calcott, whose extended residence abroad resulted in two travel books, *A Journal of a Voyage to Brazil* and *A Journal of a Residence in Chile*, both published in 1824; Fredrika Bremer, dubbed the Swedish Jane Austen, whose sojourn in the United States and Cuba resulted in *The Homes of the New World—Impressions of America*, published in 1853 and translated into English a year later; lastly, Victorian artist Adela Breton, a "globe-trotter" whose travels culminated in a series of trips to Mexico at the turn of the century, who left a stunning visual archive of Mayan architecture and landscape.

Although Mary Louise Pratt has classified Maria Graham as one of the *exploratrices sociales* participating in the rhetoric of European travel writing (Pratt, 1992: 164), her books do not conform strictly to the "imperial eyes" model. Instead of a Self/Other dichotomy, Maria Graham's South American journals exhibit, rather, a reciprocal gaze, a mutual recognition and identity,

what is best emblemized in the front illustration of *Journal of a Residence in Chile*, where a genteel-looking Graham peeks out of a carriage in expectation of the pleasures of travel (Image 2-Graham 1824, *Chile*, frontpiece). Whereas both Pérez Mejía and Hayward emphasize Graham's alleged pose of superiority as a British subject, "Traveling in Spanish America," the title of this particular illustration, conditions the reader of the *Journal* in a different mode: that of a "fellow traveler" who accompanies the narrator on her journey (Pérez Mejía, 1997: 92; Hayward, in Graham, 2003 ed., 298). "Traveling in Spanish America" represents a perspective akin to what Humboldt accomplished in *Vues des cordillères*. At first glance, it evokes what one critic called "the subject-centered picturesque," a technique in which "visible nature is arranged for the spectator in such a way that the lines of the pictorial image converge on the eye of the single and unique beholder and places him or her at the centre" (Kuczynski, 247).³ Yet Graham's focus is *outward*, as if the traveling subject were ready to enter unknown territory; her piercing gaze embracing the world, rather than fleeing from it. Almost as if anticipating her experience in the New World, to be revealed as the pages unfold, the illustration functions as a prelude to the book, hence seducing the reader, who is drawn into the text of the journey as the stagecoach progresses. In *La geografía de los tiempos difíciles*, Angela Pérez Mejía interprets this image as necessarily including the gaze conferred on her by the Chilean populace in their attempts to tame the British visitor's "foreignness" (Pérez Mejía, 1997: 90-91). Thus the image of Graham inside a coach represents a female subject in transit, comfortable in two worlds, and inhabiting a transatlantic space.

The sketches accompanying the narrator on her way through Chile and Brazil, mostly drawn by her own hand, reenacts the perspective inaugurated by Humboldt in his *Personal Narrative* for the purpose of scientific investigation and inquiry. In many passages, Humboldt must leave a site just visited, but cannot pause enough to examine it further, thus entrusting the task to a future traveler, such as when he points out a rare species of plant found in the tropical zone (1814, vol. III, 28). In this way the future traveler anticipates the reader's "virtual" journey, in a "hermeneutic movement" in which the real journey tracks its future reception (Ette 2003, 40, 50). This same gaze of inquisitiveness is manifested in Graham's illustration, except that she is *sitting down*, in contrast to Humboldt's standing (and presumably more authoritative) pose.

A comparison between Graham's self-portrait at the outset of her *Journal of a Residence in Chile* and Humboldt's depiction while meandering the peaks and valleys of the Orinoco reveals not so much a gender difference as a

3. I am grateful to Jason Howard Lindquist of Indiana University for bringing this article to my attention, and for his insightful comments regarding this passage and my paper as a whole.

convergence of point of view before the American landscape. Humboldt's conquest of the peak of the Chimborazo has been interpreted as the climax of his journey (Goodman, 1972: 258-259); more recently, as emblematic of the pose of European superiority and self-assurance assumed by the "imperial eyes" model (Pratt). Yet the inaugural moment for the explorer's "summit-survey" actually comes earlier in his journey, after the arduous climb to the Silla de Caracas, which elicits the inspired phrase: "The eye commanded a vast space of country" (Humboldt, 1814, vol. III: 506; quoted in Slovic, 1990: 6). If compared to the visual account of Humboldt's journey, illustrated in his *Vues de Cordillères*, the climactic arrival at a peak is preceded by a far humbler pose, depicting the contrast between the human figure and the majestic heights of the "cordillera." Among other scenes, in *Vue de Cajambé* (Image 3), a pair of male travelers amble in front of a mountain range with a pair of walking sticks—a convention of the illustrated travel account meant to convey the scale of the drawing (Ochoa 163)—but which also suggests the disparity between the natural realm and the human one. In this image, moreover, the focus of the viewer follows the pair of walkers *down below* as they point toward the goal of their expedition—the mountain top—thus signaling both the inaccessibility of the mountain as well as its symbolic status as the object of scientific curiosity; in Stafford's terms, an example of "willed seeing" (1984, 254).

While both Humboldt and Graham share the comfort (and *dis-ease*) of inhabiting two worlds at once—what I call here the transatlantic perspective—in both cases, the traveler is diminished before foreign terrain. In Graham's sketch, she appears as a woman facing the unknown, whose fears are heightened by the increased dangers implied in her journey;⁴ whereas, in Humboldt's painting, he and his traveling companion are dwarfed by the size of the mountain yet proceed on their march in the attempt to scale its heights.

A similar perspective is seen in the art of Adela Breton, a Victorian woman traveler who re-discovered the Mayan world at the turn of the century. In a series of stunning watercolors and sketches devoted to revealing *México profundo*, Breton depicts the same high/low perspective as Humboldt's *Vue de Cajambé*, particularly in the watercolor of the Jorullo volcano (which Humboldt also visited). On the trail of Humboldt, Breton evokes the volcano immortalized in *Vues des Cordillères*, only her accent is on the compactness and massiveness of the mountain range, the irregular profile of its summits, and the play of light and the shadow in the surrounding valley (Image 4—"Jinete"—Ea 11508). In his depiction of the Volcano of Jorullo, Humboldt focused on the vanishing effect created by the *hornitos*, (Image 5-

4. The gender restrictions implied in nineteenth-century women's travels have been amply discussed in Frawley, Mills, and Marz Harper.

Humboldt-Volcán de Jorullo), small canonical structures exhaling vapours: “Les cones sont autant de *fumaroles* qui exhalent une vapeur épaisse et communiquent à l’air ambiant une chaleur insupportable. On les désigne, dans ce pays, qui est excessivement malsain, par la denomination de petits fours, *hornitos*.” (Humboldt, 1811). This phenomenon demonstrated the Enlightenment obsession with the composition of earthly matter, perceptible only by means of its “fugitive effects” (Stafford, 1984: 197). In contrast to the Enlightenment’s emphasis on verticality, Breton’s central feature is the compactness of the mountain, what resists the eighteenth-century privilege of height (Stafford, 1984: 88). Clouded by the density of the mountain range, in Breton’s art the spectator’s gaze falls, instead, on the solitary figure riding away from the heights. This vision from below contrasts, then, with the totalizing view attributed to the male traveler in his “summit-survey”—only Breton combines both dimensions, imbuing both with her own subjective vision. In Breton’s art, the space below is designated not by the distanced European traveler but by the local populace, as in her placid scene of a street in Puebla (Image 6-Breton, Ea 8399) in which its inhabitants appear as part of the surrounding landscape, in contrast to the church steeple on the right.

Nowhere is Humboldt’s influence more deeply felt than in women travelers’ approach to New World landscape. European women’s travelogues exhibit similar rhetorical strategies as their illustrious precursor; namely, the conjoining of science and art involved in the minute observation of natural phenomena, a stance proper to the eighteenth-century man of science (Stafford 1984, 40); the amazement or wonder provoked by the spectacle of New World nature (González Echevarría, 1990: 108); and the sensation of the sublime. In the female tradition of travel writing, Humboldt’s vast oeuvre filters the authors’ own encounter with Nature; in many cases, a visit to a particular site or the experience of natural phenomena is marked by a conscious acknowledgement of Humboldt as reliable source. One notable example from Maria Graham’s journals is her pictorial depiction of the “Great Dragon Tree of Oratava,” the second illustration included in *Journal of a Voyage to Brazil* (Image 7) (1824, between 84 bis). This image complements the description of the dragon tree included in the travel book, in which Graham recalls its centuries-long evolution, “the height and size which it boasted till 1819,” along with its subsequent decline (1824, 85), a description evoking, in turn, a similar passage in Humboldt’s *Personal Narrative*. During his stay in Tenerife, Humboldt described a dragon tree of “enormous magnitude” as “one of the oldest inhabitants of our globe” (Humboldt, vol. I, 1814: 142). Rendering in her sketch the ruins of that ancestral tree, Graham wryly comments as a caption to her illustration: “He saw it in all its greatness; I drew it after it had lost half its top” (*Brazil*, 1824, Plates, vi).

In one of Adela Breton's most precious watercolors, taken near San Andrés Chalchicomula (Image 8-Breton, Ea 8401, 1894), the entrance to Puebla is depicted from the perspective of the valley below, through a rocky path opening up beneath a stone aqueduct.⁵ Similar to Graham's coach scene, in this image the aqueduct frames the view from a distance in the shape of "a natural arch," a recurring image in the illustrated travel account used to convey the idea of a "natural masterpiece" or emblem of animated matter (Stafford, 1984: 80, 64, 59). In travel literature to the Spanish Americas, its immediate parallel is the lithography of the bridge over the Iconozo river included in Humboldt's *Vues des Cordillères* (Image 9-Pont sur Iconozo). Yet, in contrast to Humboldt's solitary scene, Breton humanizes the landscape: far away, the viewer glimpses the high "sierras"; in the middle, a church dominates the view of the valley; in front, a hint of gender solidarity conforms an artistic vision in the two women silently walking, hidden beneath their *rebozos*.

European women's poetic scrutiny of the landscape conforms to a gendered approach which I call "the gaze of enchantment." For the travelers selected here, reading Humboldt conditions the travelers' self-fashioning, as in Graham's representation in both "Journals" as a "philosophical traveler" (*Brazil*, 1824: 89), what clearly echoes Humboldt's characterization of his own pursuits as a "natural philosopher" (1814, vol. III, 519). Evident in Graham's gaze is Humboldt's dictum that "the duty of the natural philosopher is to relate all phenomena that Nature displays to him" (Humboldt, 1814, vol. III: 519). Traces of the *Personal Narrative* surface in Graham's horseback tours through the Brazilian countryside, particularly in her attention to the thick vegetation typical of the region. Her description of the lovely valley of Laranjeiras, whose jasmine and rose bushes are described as "one thicket of beauty and fragrance" (Image 10) (Graham, 1824, 162; Plate V, 163), exemplifies Humboldt's hypothesis regarding the determining effect of vegetation in providing the identity of a particular zone or region; in his words, "the vegetation determines the character of a landscape and acts upon our imagination by its mass, the contrast of its forms, and the glow of its colours" (1814, vol. III, 354). By depicting Brazil as an "immense garden" both in the written and pictorial account of her travels, Graham's metaphoric rendition of landscape evokes Humboldt's use of the picturesque to highlight the spectacular aspect of tropical scenery, its exuberant forms and verdant color (Moraes Belluzzo, 2000: 21-22). The recreation of Brazil as a landscape composed of mountains and coastline, dotted by isolated mansions in the midst of a lush vegetation—such as in Graham's sixth sketch, simply titled "View from Count Hoggen-dorp's Cottage" (Image 11) (1824, Plate VI, 170)—imprints the reader's eye

5. The view of San Andrés Chalchicomula is also reproduced in *Adela Breton—una artista británica en México* (66), y en *The Art of Ruins* (Ea8401, 108).

in the manner Humboldt described: “how strong are the impressions [...] left on the mind from those countries placed on the limits of the torrid zone, in which nature appears [...] so rich, so various and so majestic” (1814, vol. 2, 2). The “View from Rio from Gloria Hill” (Image 12) (Graham, 1824, Plate VII, 169) typifies a European perspective of distance (Moraes Belluzzo), centered on the contours of the bay, softly enveloped in a luminous atmosphere, an image evoking Humboldt’s description of the Havana bay as well as his constant references to the translucent quality of the air of the tropics (1814, vol. IV, 329).

Although Humboldt’s travels have been theorized almost exclusively from an ocular perspective—the “imperial eyes” model—in a recent book, Ottmar Ette expands the traditional methodology of the study of travel writing by his lucid analysis of the *shape* of the journey, including, but not limited to, the act of physical displacement proper of the genre. Besides spatial movement, Ette considers integral to our understanding of European travel writing the textual organization of the book, dependent, to a great degree, on the circuit traced by the body of the traveler traversing a new geography (Ette, 200: 40). Besides the linear model of ascension to a height above, emblemized in the conquest of the Silla de Caracas and Chimborazo, Humboldt’s *Personal Narrative* adapts another,⁶ non-linear pattern: that of the star, defined as a type of journey in which the traveler remains stationed at a fixed point, yet takes intermittent excursions to nearby regions (or side-trips)⁷ resulting in a stellar pattern of complicated symmetry and aesthetic effect. As we have seen, European women travelers like Maria Graham and Adela Breton adapt the linear perspective associated both with the “summit-survey” approach to landscape and with the dominant type of travel classified under the rubric of discovery and exploration. Yet they also clearly mark in their journeys the stellate model described by Ette; Maria Graham and Flora Tristan’s travels, for instance, “are emplotted in a centripetal fashion around places of residence from which the protagonist sallies forth and to which she returns” (Pratt, 1990: 157-159). Given their prolonged residence in the New World, European women’s travels are particularly suited to this type of arrangement, since it resolved the basic dilemma of women’s travel: privileging the domestic environment (staying home or at a fixed abode) while at the same time procuring the excitement of outward discoveries.

To invoke an alternative form of travel, which implies not merely a delicate balance between the “passive” discourses of femininity and the “active”

6. Compare Humboldt’s description in vol. 2 of his *Personal Narrative* with Graham’s conclusion regarding Brazilian countryside: “It is impossible to conceive any thing richer than the vegetation down to the very water’s edge around the lake” (163).

7. “[A] definitive center, [...] serves as a starting point for more or less circular journeys and leads to a stellate expansion of the traveled and registered space” (Ette 2003, 45-46).

male-encoded explorer (Mills, Marz Harper), I label this type of journey the star-gazer. A number of European women travelers fall under this category, defined as a traveler who projects onto the New World a certain ideal, whether the philanthropic one of the lone adventurer, like the Swedish novelist Fredrika Bremer, who prophesized the end of slavery in Cuba, or the political one of Maria Graham, who passionately defended South American independence despite the failures of military and political strategy. The foundational moment of the star-gazer mode originates in Humboldt's *Personal Narrative*, when, early on in his journey, he comments on the "beauty of the southern sky [which] opened up new constellations" (vol. 2, 18). In a scene reminiscent of Humboldt's star-gazing mode, and soon after her arrival in Cuba, Swedish novelist Bremer gazes up at the heavens from her country abode in Matanzas. Vexed because she could not discern the position of the stars in the southern hemisphere, the philanthropist traveler suddenly announces the discovery of a new constellation: "I thus beheld a constellation of considerable magnificence and brilliancy ascend above the hill of cocoa palms. Could it be the ship Argos or the constellation of Sagittarius? I do not as yet know" (Bremer vol. 2, 1854: 272). Towards dawn, the celestial vault reveals a single shining light: "When the blush of morning appeared [...], I saw the morning star standing above the earth [...]. It seemed to me like an eye full of a bright but sorrowful consciousness [...]" (Bremer vol. 2, 1854: 272). Amidst the stark reality of slavery, the star is transformed into a symbol of collective awareness: "That bright star stood above the beautiful island like its clear, accusing conscience" (Bremer, vol. 2, 1854: 272). This effect is captured in "Palm under a Night Sky," a watercolor in Bremer's Cuba album showing a single palm tree under a glitter of stars (*Skissbok*, Fol. 23v). Reminiscent of what Cuban poet José Lezama Lima called *la noche insular*, this upward surge towards the heavens is accompanied, in women's journeys, by an anticipation of the unexpected, a luminous urge for absolutes, and, at times, by a certain nostalgia for a world left behind, to which the traveler will not return unchanged.

As a prelude to his emblematic voyage in search of knowledge, Humboldt's *Personal Narrative* documents an experience unique to the seafaring consciousness characteristic of eighteenth-century European expansion. Humboldt and Bonpland's transatlantic crossing is imbued by what I call *la conciencia marina*, an awareness of forging a living link between two worlds, an embracing of continents and erasing of differences evident in the constant comparisons between the Old World and the New. While for Slocic Humboldt's comparative method produces an abstract profile of the world, rather than delineating regional or local specificities (Slocic, 1990: 6, 8), this mapping of the globe from a detached perspective seems to occur primarily

on land or on the mountain top. At sea, however, Humboldt's poetic rapture is tinged with anticipation of the unknown regions lying beyond (Duvoils and Minguet, 1994: 27; Humboldt, vol. 5, 5), or with hyperbole, as in his ecstatic descriptions of the cataracts upon embarking up the Orinoco river (vol. 5, 137).⁸ Inheriting this literary legacy, women travelers often engage in solitary reverie at sea, an experience shaping the "solitary travelers" sojourn. In between Brazil and Chile, Maria Graham wrote in a style of a nautical log, recording every date according to latitude and longitude and orienting herself, like a sailor, according to the flight patterns of birds (Graham, 1824: 204-205) (Image 12-title page-Brazil). This style not only evokes Humboldt's detailed measurements of latitude and longitude throughout the *Personal Narrative*, but also the symbolic import of his long sea journey, as both the intermediate space where the horizon of knowledge is devised, and the private domain of introspection proper of the philosophical traveler.

Resisting a characterization of Humboldt as either "detached" (Slovic 1990, 9) or "mystifying" (Pratt, 1992: 141), his literary legacy has produced a particularly gendered mode of travel, what I characterize as "the gaze of enchantment." Besides the women travelers who followed his path into the untred regions of South America, echoes of Humboldt reverberate throughout twentieth-century Latin American literature: from the "axolotl of the lake of Mexico" (vol. 1, xxvi) to the "new islands" he faintly discerned off the coast of Venezuela (vol. 4: 140-141), whose traces resurface in Julio Cortázar's and María Luisa Bombal's haunting short stories ("Axólotl" and "Las islas nuevas").

8. "[W]e were never weary of the view of this astonishing spectacle, concealed in one of the most remote corners of the Earth" (Humboldt, vol. 5: 137).

*Classic Nomenclature in
New Exploration*

Donald Hassler

Manifest destiny for all of the Americas, and especially for the vast lands that were included in Jefferson's great purchase from Napoleon and that continually haunted his own French and Rousseaulike thinking, has continually presented a fascinating face in terms of labeling and terminology as well as in the tonal uses of language both as a tool for progress and as veil or mask for concealment. I open this paper with a convoluted sentence for a very German and Romantic notion: the West. Biographies of Adolf Hitler suggest that even he loved to read American Westerns in translation as well as the German imitators of our westerns; and his obsessive drive for *lebensraum* seems almost quintessentially American (Toland). But putting political correctness and moral concerns aside for the moment—if that can at all be done with good conscience here in New York City only three years after 9/11—the historical and political tension used to talk about “American Empire” from Jefferson and Alexander von Humboldt onward until our century, by which I mean still the 20th century, also tells us much about epistemology and the practical implications of exploratory science and scientific exploration as a whole and unified enterprise.

I shall get to the seminal old writers here, but it is the wonderful analysis of tone and of tension in matters of race and Empire in Kurt Vonnegut's *Breakfast of Champions* (1973) where I want to begin. At the start of the book, he says, “color is everything” and then moves to insist that all his analysis of imperial American history will be “impolite.” At the same time, he argues how “astonishing” the West and western expansion was in history (preface and chapter 1). This opening rant in Vonnegut's novel is a great boasting contest just as it is brash and, indeed, impolite. So a good western (with an uppercase “W” perhaps), the tall tale that Mark Twain had mastered, is recreated in this Vonnegut book; and clearly for him this writing represents

the old dilemma of the “neo-classic,” januslike two-facedness. He celebrates what is truly new, and wants to be new himself in tone and narrative structure, but he also is haunted by the old “classes” just as America itself from the beginnings has been haunted by color.

My two concrete examples in this short paper about the origins of this Vonnegut ambivalence of tone come from early writing about the West done by very hands-on explorers and travelers who kept evoking their “classic” European roots even as both of them were forging new texts with writing implements in their great canoes or in field tents. But the spirit of such neo-classic language use at the time, also, can be seen as a sort of umbrella effect arching over these bug-infested and practical writings; and the umbrellas came from the most metropolitan salons and lecture halls of the East and of Europe. Our great Thomas Jefferson and the Baron von Humboldt himself were using language in this same ambivalent and neo-classic way and so must have been, in part, the authorities or authors who were granting the language license to the voyageurs, the explorers, the military men in the field. Further, I speculate that even up to our present day in space exploration and planet talk—and, indeed, with Antarctic exploration where Robert Falcon Scott took Browning with him to read as he froze to death in his tent located nicely midway between Jefferson and today—one can discover and appreciate a similar neo-classic tension reflected clearly in the language employed. We are humans always in our tentativeness as we forge onward and look backward at the same time. But space language and the language of the great journeys South must remain material for other papers even though I may suggest that the astonishing similarities in language usage rivet home my key term here: the neo-classic.

Strangely, my first example comes from a text written by the young Major George Washington who was later to become, of course, the legendary East coast umbrella for such circumspect language used to govern these tensions in conceptualizing. Washington’s language, in fact, was such a mask that we often cannot even be certain that the language is his own. The recent Ron Chernow biography of Alexander Hamilton documents neo-classic ambivalence wonderfully, and we learn there again that Hamilton probably wrote many of Washington’s later phrases that ring with a measured ambivalence about “the people” and about “newness.” In fact, the key concept in this neo-classic effect is the notion of “circumspection” where the word itself embodies in its Latin clarity the value of “seeing around,” of vision that may look backward and forward at the same time. And such thoughtful circumspection always seems to have been stimulated by the astonishing confrontation with things “western,” with the new.

It may just be Empire building that is so astonishing and so conducive of ambivalence in tone and expression because I think we see it even in Vergil in the famous tag line *Tantae molis erat Romanum condere gentum* – “How hard it was to found the race of Rome” (Bk one, line 33). Here the image “tantae molis” literally means “how great small pieces” since “molis” eventually was to become our word “molecule.” In any case, it is not just the old Latin, which I believe Washington like Shakespeare had little of, but also the delicate and circumspect that we can sense as Washington writes about the Ohio country of western Pennsylvania as a young major. In another sense, this is the driving American business language too where the aggression and conflict of continual flux and possibility for newness must be a beast that can only be tamed by contractual balance. My point is that such “contracts” characteristically include neo-classic ambivalence and, often, even Latinate cement laid on top of the other language characteristics that are more goth and new. Here is Washington speaking about his negotiations and translation experiences with a myriad of Indian factions, all of which language usage gets nicely generalized under the rubrics of “father to child.” Washington is quoting a chief called “Half-King” and so, of course, translating:

Fathers, I am come to tell you your own Speeches: what your own Mouths have declared... And if I your Father, should get foolish in my old Days, I desire you may use it [a rod] upon me as well as others (7).

The concealed truth beneath the narrative language rubrics is later revealed so starkly in a letter dated 7 September 1783 when the older Washington peels back his circumspection and writes:

...[to move the Indian by force] is like driving the Wild Beasts of the Forest which will return as the pursuit is at an end and fall perhaps on those that are left there; when the gradual extension of our Settlements will as certainly cause the Savage as the Wolf to retire; both being beasts of prey tho' they differ in shape (266).

So Washington was, indeed, circumspect about his deep and harsh perception of the native Americans he knew.

My favorite example for this short paper is not a “great” at all in our current collective memory. Unlike Washington and Jefferson and Humboldt, Henry Rowe Schoolcraft has nearly been forgotten even though Michigan State University has recently embarked on a nice publishing project to save his massive ethnographic and travel writings about the West. I suggest, however, that Schoolcraft himself as a writer fully anticipated the drowning into a sort of anonymity for his career; and such “sad” anticipation, indeed, emerges in the mind of any writer as he or she becomes nearly “silent on a peak in Darien,” in the face of Western Empire. Then, as in Keats, the astonishing awesomeness of the newness produces convolutions in language. Actually, I

myself again anticipate the general in the presence of massive and astonishing particularities of text. Schoolcraft wrote a lot about the Indians, about his travels across the upper reaches of the old Michigan territory, about the languages themselves of the natives that he had begun to learn and to categorize. He liked to chop up word particulars and to reassemble the parts into new labels, new concepts, new substantives. And most everything new that he saw and that he made in his new science of ethnography and in his new geography had in it the stamp of the old, even the European.

Some commentators on Schoolcraft see him at times as resembling the great natural shape-shifters personified in the Algonic folktales and legends that he collected and translated when he worked as Indian Agent in upper Michigan. He reinvented and changed himself as an American writer several times from 1818, when he came west from New York state, until his death in the final year of the Civil War. Also, in the later 19th century he was viewed, in part, as a writer of children's fairy stories; and now, in recent decades, his work has come to be seen as seminal both to modern ethnographic research and to the history of American writers attempting to find a voice as Americans. Like the Northwest Territories themselves, his work was both on the fringe as well as characteristic of a sort of Emersonian self-reliance and stubbornness in the effort to define his own voice. His was a quest of an American scholar, and he was continually conflicted as a writer. His material was distinctly American; and his shape-shifting was as insecure, suspect, and as immensely fertile as the rest of the expanding nation in the early 19th century. A century after his death, scholars began to identify and to describe these qualities in what Schoolcraft wrote about the Northwest Territories, especially the Lake Superior region and northern Minnesota and the shifting populations of natives that explorers found there, interacted with, and eventually remade for their own purposes.

Schoolcraft's roots, however, were in the East. He had the rudiments of a classical education in his hometown of Hamilton, New York, in preparation for entering Union College. But he had to go to work instead. Later, he did attend Middlebury College briefly and published poetry as a young man. Whenever he traveled in the West, he tried to purchase books through agents in Detroit and to maintain his book collection. A dissertation on his writing done nearly 200 years after his birth finds, "Books were a part of his life in which he never lost interest even when he moved to the frontier" (Mosser, 23). And so, as we shall see, he made good use of his language and classical studies to highlight some of his best investigative work and ideas.

Schoolcraft the writer can be sensed fully operative alongside his seminal work as ethnographic researcher and even as geographic explorer. One of his later expeditions in the big canoes west that took place in 1832, with the

blessing again of Governor Cass of the Territory, moved from the Sault westward and resulted in Schoolcraft's key discovery of the source of the Mississippi at Lake Itasca in Minnesota. Schoolcraft renamed the lake from earlier "mooselike" names that the trappers had used, and when he did so he used his Latin training as follows: "...he took the name from the Latin words *veritas caput*" (Mason, xxiv). The Latin means "true head," and what is fascinating is the Schoolcraft habit of chopping a few letters from the body of the phrase in order to coin a new work—*Itasca*. He does something very similar with language in his Indian studies when he attempts to categorize the related tribes that he finds linked by language and storytelling. "In 1832 he founded the Algic Society—the first use of his neologism that combined "Algonquin" and "Atlantic" (Algic, xi). Further, when he writes about his most famous story character Manabozho, who becomes Longfellow's Hiawatha, the tone of slight irony he uses resounds with the literary training that permits Schoolcraft the distinct sensibility to appreciate what he has uncovered in his investigations and yet to show a writer's voice, and a Christian voice, of interpretation. He writes:

...as Manabozho exercises powers and performs exploits wild or wonderful, the chain of narration which connects them is broken or vague. He leaps over extensive regions of country [and presumably of narration] like an '*ignis fatuus*' (Algic, 51).

Thus, a somewhat ironic and detached rational voice, which uses alien Latin reference, emerges in the mass of Algic materials that were originally published by Schoolcraft the Indian Agent. This voice has classical echoes as well as echoes from the investigators of the Enlightenment whom Schoolcraft must have included among his collections of books. Again, from the Algic researches prefatory material, he sounds almost like an eighteenth-century numismatic collector of Roman coins, "Words are like coins, and may, like them be examined to illustrate history" (Algic, xxxiv). He recorded many of these words from the extended family of his Ojibway wife, but he also coined them (and "Englished" them) as though he were chopping up Latin. Hence, in addition to his large label "Algic," which he coined, other labels for parts of the network of tribes spanning the eastern half of the continent spice up his narratives: "Ostic" for one group, "Abanic" for another. Schoolcraft said that he Englished these terms from native words, but many he coined from chopped-up pieces where we hear the "ic" tag derived from the word "Atlantic" at the close of several.

Finally, a short letter from Thomas Jefferson to Humboldt himself embodies the several ambivalences presented by the "astonishing" West and, at the highest level, may serve to demonstrate how the neo-classic sense of linking the old with the awesome "new" was a key language device used to clothe

these ambivalences. Jefferson writes to the Baron in the year just before Schoolcraft went West from New York state, the year 1817, and it seems to be the enigma of Spain that figures here the tension between what is new and being born with what we are used to as old. Three sentences from this letter, with one Latin tag:

Whether the blinds of bigotry, the shackles of the priesthood...give fair play to the common sense of the mass of the people, so far as to qualify them for self-government, is what we do not know. Perhaps our wishes may be stronger than our hopes. The first principle of republicanism is, that the “lex majoris parties” is the fundamental law of every society...yet the last which is thoroughly learnt (681).

Jeffersonianism has prevailed, and the “majority party” nearly always wins out even if that party happens to be National Socialism or the Franco party of modern Spain. Ambivalences continue.

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Palabras y Pinceles del Paisaje Venezolano

José Ángel Rodríguez

No existe ningún rincón en Venezuela adonde no hayan llegado los viajeros extranjeros en su afán de conocer la geografía física y humana de sus variados paisajes. En este escrito destacaremos dos viajeros totalmente diferentes en tiempos históricos diversos. El primero de ellos es Carl Geldner, quien luego de una estancia algo desafortunada en La Guaira, puerto de Caracas, fue seducido por la quimera del oro que lo empujó a lejanos y peligrosos territorios. Fue por ello que se introdujo en Guyana buscando fama y riqueza en 1867. En esa aventura dejó casi la vida como también un excelente relato y numerosas acuarelas de campos y ciudades sobre los cuales hay poquísimos testimonios gráficos. El testimonio de Julia Bornhorst es también de carácter doble: escrito y gráfico. El texto de sus memorias da cuenta, por un lado, de algunos trozos de Maracaibo, la segunda ciudad más importante de Venezuela, en plena transición de la economía del café a la industria del petróleo, de sus habitantes, criollos y alemanes, y costumbres, como de las tierras cercanas y áridas de Falcón, entre 1923 y 1941. Este es un período de profundas transformaciones que acabarían, a la postre, con la ciudad y el país decimonónico dedicado a la agroexportación, cambios visibles en algunas de sus magníficas acuarelas.

El Dorado de Carl Geldner

Carl Geldner llegó a Venezuela en enero de 1866 y se desempeñó como empleado de una casa comercial en La Guaira hasta 1867. Desde hacía tiempo circulaban en el puerto noticias alentadoras sobre las minas de oro de Guayana al punto, se pensaba, que “El Dorado, por tanto tiempo buscado, por fin había sido descubierto.” Se trataba, en realidad, del segundo gran ciclo del poblamiento minero, que duraría de 1860 a 1870, caracterizado por el trabajo de los mineros individuales y por el establecimiento de pequeñas compañías.

Ante la seducción del oro, Carl Geldner no lo pensó más y se lanzó a la aventura: la crisis económica habida en el gobierno de Juan Crisóstomo Falcón se profundizó de tal manera que llevó a varias casas comerciales a cerrar sus puertas. De allí que, ante el temor de un desempleo seguro, la ilusión por el oro se profundizó como bien lo demuestra una carta a su padre del 8 de abril de 1867, en la que expresa bien los rumores, algunos falsos, ciertamente, que circulaban y que no hicieron sino aumentar en muchas mentes las ganas de probar fortuna:

Las noticias que se reciben de la Guayana venezolana suenan cada vez más alentadoras y la emigración hacia allá aumenta a diario. Ahora se han descubierto también en las inmediaciones de Angostura ricos yacimientos de oro y de plata y se puede asumir que la Guayana es el famoso El Dorado, que Colón y otros grandes marineros han buscado en vano.¹

Carl Geldner con su hermano Max, quien se adhirió a la aventura, partieron para Ciudad Bolívar la noche del 4 de julio de 1867 por vía marítima porque uno de los puntos de escala en la ruta era de vital importancia para los mineros: Trinidad. En esa isla, indicaba Geldner, era el lugar ideal para "...comprar algunas mercancías, que allí entran sin pagar derechos y por eso son tan baratas, ni habríamos tenido oportunidad de establecer conexiones comerciales..."² El viaje a Ciudad Bolívar duró del 4 al 23 de julio, vale decir 19 días, luego de escalas en Barcelona, Cumaná, Pampatar, Carúpano y Puerto España.

La emoción fue grande cuando Carl Geldner vio "brillar a distancia bajo el sol, a Angostura, la capital de la Guayana venezolana," de la cual hiciera con posterioridad un hermoso cuadro, quizá uno de los mejores que hiciera en cuanto a pinturas de ciudad se refiere. El paisaje urbano que visita Geldner en 1867 era un puerto fluvial en plena expansión con 7.000 habitantes. De su función comercial de enclave se da cuenta cuando observa la gran cantidad de embarcaciones que pululan alrededor del amplio desembarcadero al pie de la ciudad, donde observa una cantidad de diversas embarcaciones, "balandras, lanchas y grandes botes con mástiles," de 40 a 50 toneladas que hacían el tráfico hacia Apure,³ y que traían a la ciudad todo tipo de mercancías.

Los sinsabores de El Dorado comenzaban en la propia Ciudad Bolívar, donde los aventureros se preparaban para el viaje a las minas. En primer lugar, uno de los requisitos básicos era comprar algunos burros, difíciles, cuando no imposible, de conseguir en la ciudad, por lo que se trasladaron a Soledad, "pueblo muy pobre, como ya explica su nombre" y del cual hizo

1. Carl Geldner, *Anotaciones de un Viaje por Venezuela (Venezuela 1865-1868)*. Caracas, Oscar Todtmann editores, 1998; p.145. La edición en alemana: *Reiseaufzeichnungen aus Spanien und Venezuela*. Basel, Druck von Emil Birkhäuser, 1913.

2. Carl Geldner, Ob.cit., p.145.

3. *Ibidem*, p.186.

una pintura que refleja muy bien el topónimo. En Soledad, sin embargo, los animales resultaron muy costosos: 70 a 80 pesos por animal, por lo cual los Geldner decidieron probar suerte de nuevo en Ciudad Bolívar donde encontraron animales a un precio de 30 y 35 pesos cada bestia. Compraron cuatro, que tuvieron que enlazar ellos mismos con una cuerda que arrojaban por la cabeza del animal. Luego adquirieron sillas para la carga y otros aparejos, como también provisiones para el largo viaje: “carne seca, harina, arroz, caraotas negras, un jamón americano, papelón, sal y pimienta.”⁴

El viaje hacia el Dorado continuó en un vapor de Ciudad Bolívar a Puerto Tablas (alrededor de 15 horas), trayecto que transcurrió sin mayores dificultades, no así el desembarco nocturno, hecho casi a tientas. A la orilla llegaron “sobre los hombros de un marinero” porque las lanchas, puestas a disposición por la embarcación, no podían atracar en la orilla porque había allí poca profundidad de agua. ¡Ni que hablar de los 15 burros que venían a bordo!, difíciles de reconocer por sus dueños en la oscuridad, cosa que lograron después de equivocaciones y disgustos.

Hacia El Dorado

Puerto Tablas no era nada atractivo, al menos para Geldner a fines de julio de 1867. Era un lugar de paso, de apenas 20 años de existencia, donde comenzaba el camino hacia el interior, formado por “...30 casas de barro, techadas con hojas de palmeras [que] formaban dos callecitas. Casi no se veía gente y este muerto y miserable pueblucho debería ser la puerta para el famoso El Dorado...”⁵ De este “pueblucho” partía el camino hacia Upata, un paisaje de recorrido irregular de 90 kilómetros.⁶ El camino se hacía por lo general a pie porque los burros se utilizaban para transportar el equipaje. No estaba tampoco en buenas condiciones. En algunas partes, los viandantes se tropezaban con “tocones de árboles” y en otras, como sucedió con un español, terminó con su burro y equipaje en un pantano del que “salió cubierto de fango de pies a cabeza.” En realidad, el “llamado camino,” refiere Geldner, era a veces “una pica abierta a machete a través del bosque virgen.”⁷ Finalmente llegaron a Upata, una población que había experimentado profundos cambios paisajísticos desde su primera fundación en 1734 y que “...se ha

4. Ibídem, pp.190 y 192.

5. Ibídem, p.181.

6. En 1867 el camino de Puerto Tablas a Upata era casi el mismo una década después, tenido todavía como camino “*carretero en mal estado*” y que pasaba al menos por 8 pequeños caseríos, a veces sólo haciendas abandonadas: Chirica, Paso del medio, Corrales, Boca del Monte, Mayori, Altagracia (único caserío que menciona Geldner pues a veces tomó, por la misma ausencia de un buen camino determinado, senderos equivocados) y Upata. Ministerio de Fomento, *Apuntes Estadísticos del Estado Guayana*, Caracas, Imprenta de La Opinión Nacional, 1876; p.183.

7. Carl Geldner, *Ob.cit.*, p.204.

hecho siempre digna de merecida fama por sus sanas costumbres, de orden y moralidad en las familias, por su amor al trabajo y por el respeto a las leyes...⁸ Erigida nuevamente en 1762, era una villa de españoles dentro de la jurisdicción misionera de los capuchinos catalanes, rica ella en tierras y recursos agropecuarios. Todo cambió, sin embargo, en la Guerra de Independencia, cuando la expoliación de los recursos de las misiones quebraron la riqueza regional.

El camino hacia Guasipati, poblado más adentrado en la auténtica zona minera, no era más fácil que el descrito hasta Upata. Era también más largo: 125 kilómetros.⁹ El testimonio de Geldner ayuda en la reconstrucción del paisaje rural y de recorrido, el cual ofrecía, en esencia, lo mismo en materia de hospedaje por lo cual el viajero dependía, como en el tramo anterior, de la bondad de los hacendados cuando no en su voluntad de apoderarse de chozas o haciendas casi deshabitadas.

La pequeña ciudad que visitó Carl Geldner en 1867 no era, por acción de los descubrimientos auríferos, una ciudad próspera. Lo era en comparación a Upata, ciertamente, porque la proximidad de las minas mostraba en ella “más vida y prosperidad,” pero nada más. Se observaba en su paisaje urbano, como en el resto de las poblaciones mineras que visitara, como El Callao o Caratal, y con mayor crudeza en las chozas de Panamá, Perú, Potosí, Chile, Tigre y Santa Clara, una mentalidad de campamento, cuyas expresiones en los paisajes urbanos consolidados como en las barracas improvisadas del oro eran las mismas: el caos, producto de la premura, la codicia, la enfermedad o la muerte.

Guasipati era una antigua misión de los padres capuchinos catalanes, quienes la fundaron en 1757, y la cual, como otros paisajes de misión micror-regionales, había conocido mejores tiempos. Esta situación cambió cuando se descubrieron y explotaron, nuevos terrenos auríferos en el sitio de Caratal desde mediados de la década de 1850, y en particular a partir de 1870. Geldner se alojó en la posada Dalla Costa, inaugurada hacía poco tiempo. Allí había poca cosa que ofrecer al viajero. En primer lugar, su dueño, según el muy observador alemán, tenía “fisonomía de vagabundo,” que poco hacía por mantener ordenado el lugar. Es más, no había ni utensilios en el hotel, se quejaba Geldner, y sólo contaba con “tres mesas, y los correspondientes bancos,” ocupados día y noche por jugadores empedernidos. Toda la vajilla de lugar consistía en “cuatro copas y cinco platos” y la cocina tenía algunas “ollas ennegrecidas.” Las habitaciones no eran mejores que el resto de la construc-

8. Ministerio de Fomento, *Apuntes Estadísticos del Estado Guayana*, p.174.

9. Para 1876 había al menos dos caminos, uno de ellos carretero de 129 kilómetros. Había otro de 125 kilómetros, camino de “*sabanas, montañas y pasos de ríos y quebradas, secas en verano*”, que fue el que tomó Geldner, pasando por Santa María, Candelaria, Platanal, Cunurí y finalmente Guasipati. Sobre los dos caminos véanse los *Apuntes Estadísticos del Estado Guayana*, pp.185 y 186.

ción, por lo cual Geldner y su hermano se alojaron en el patio, debajo del techo voladizo, con el único burro que les quedaba y sobre el cual los hermanos ejercían una férrea vigilancia pues no lo querían “perder de vista,” porque no dejaba de haber allí pocos peligros,¹⁰ para empezar el vicio del juego, por el que muchos dilapidaban su fortuna en las mesas de juego. El hotel se había convertido en una auténtica casa de juego, en un lugar de mucha “turbulencia.” Cansado, y espantado por lo que veía en esta “especie de Sodoma y Gomorra”¹¹ en la selva, siguieron el camino hacia El Callao.

La miseria dorada

El paisaje de campamento tenía, en 1867, su mejor expresión en El Callao, población que, contraria a las de Upata o Guasipati, no tenía ningún pasado de origen misional en el periodo colonial. No tenía tampoco la ciudad acta ni fecha precisa de fundación, como es el caso de las ciudades mineras que crecen, se desarrollan o desaparecen según la suerte de los yacimientos. El Callao como tal, comenzó a desarrollarse a partir de 1854 a raíz de las primeras explotaciones auríferas. En otras palabras, tenía escasos 13 años de vida cuando Geldner la visitó. Desde cierta distancia se oía el ruido del poblado, un “barullo” como lo llama el alemán, que anunciaba la actividad de las minas, de las más productivas en aquélla época y hasta fines de siglo. Lo que observó en un primer momento no le pareció “placentero ni estimulante.” Tampoco lo que observó después. Su juicio es descarnado: “El Callao está ubicado en medio de la selva y consiste únicamente en unas chozas miserables, techadas con hojas de palmeras, casi todas usadas como quioscos de venta y restaurantes de la categoría más primitiva...”

El poblado minero era un auténtico campamento. Basta señalar, como afirma Geldner, las dificultades para llegar a la calle principal, todavía con restos de tronco de árbol enraizados en el suelo como si la selva se negara a morir. En efecto, para alcanzar la vía pública había que hacerlo serpenteando obstáculos, las grandes fosas de explotación del oro, que no eran otra cosa que pozos de extracción de cuarzo aurífero. El Callao ofrecía un paisaje mezclado y amontonado de viviendas feas, chozas apuradas a manera de tiendas, pulperías, botiquines, restaurantes y burdeles, codo a codo con los innumerables pozos de extracción del oro, lugares de trituración del cuarzo y amalgamación. Cada minero, profesional o espontáneo, nativo o extranjero, local o recién llegado, cavaba donde creía conveniente, sin más limitaciones que la “ley vigente” la cual, en los parajes mineros guyaneses, El Callao en lugar privilegiado, se cumplía pero no se acataba. Esta población tenía, según

10. Carl Geldner, Ob.cit., p.238.

11. *Ibidem*, p.241.

Geldner, unos 1.000 habitantes, entre venezolanos e ingleses, vale decir negros de Trinidad, españoles, franceses, culíes y algunos alemanes.¹²

Caratal fue el destino final. Allí trabajó Geldner casi cuatro meses en la tienda del señor Meinhard, un alemán que tenía una posada en Upata. El poblado tenía una década escasa de existencia y estaba a poca distancia de El Callao. Se llegaba a él por un camino con “bonitas haciendas y conucos.” Era esta pequeña ciudad el punto central de la minería de aquella época que conformaba el distrito Nueva Providencia, pero no por ello dejaba de ofrecer al visitante un estado de desolación que Geldner considera aún “más acentuado” que en El Callao.

Pero, hecha la comparación debida con otros centros mineros como Panamá, Potosí, Chile, Perú, Corina, La Iguana, Tigre y Santa Clara, como con el propio El Callao, el poblado ofrecía una ventaja no poco interesante y sugestiva: había cierto orden en el entramado urbano. Caratal tenía según Geldner entre 80 y 100 casas, construidas en “cierto orden y forman así una calle bastante larga, cruzada por una calle transversal,”¹³ que no era poca cosa para alguien amigo del orden como el joven alemán, quien llegaba a Caratal conmovido por el desorden y fealdad urbanas de El Callao.

Las construcciones eran muy modestas, cuando no “primitivas.” Consistían en algunos troncos de árboles clavados en el terreno, con paredes de barro y techos cubiertos con la hoja de la palmera carata, la misma que dio el nombre al lugar. Con el tiempo, el toponímico urbano se convertiría en un vago recuerdo, debido a la explotación desmedida de la planta, que convertía el techo en lo más caro de la vivienda. Así, comenta Geldner, cada hoja de palmera costaba un real, por lo cual un techo de tamaño mediano costaba entre 400 y 500 pesos, de veras muy costoso. Al principio no era así porque las hojas se conseguían en el lugar, tal como comentaba un explorador criollo en 1857, cuando desde lo lejos podían divisarse “...muchas palmas de Carata que allí se encuentran, a la vez que lindas y elegantes por sus formas, las más abundantes y preciosas para cobijar los techos de las habitaciones pajizas.”¹⁴

Pero el paisaje forestal había sido expoliado de tal manera en una década que, como indica Geldner, “...A objeto de obtener hojas para el techado, simplemente se tumbaron las palmeras sin tomar en consideración el daño que se provocaba para después. Ahora, las hojas provienen de territorios distantes y hay que pagar su peso en oro.”¹⁵ Era Caratal una ciudad de oro que relucía con mayor brillo después de fuertes chaparrones, fenómeno que Carl Geldner tuvo varias veces la ocasión de observar en persona:

12. Carl Geldner, *Ob.cit.*, p.244.

13. *Ibidem*, p.248.

14. Michelena y Rojas, *Ob.cit.*, p.225.

15. Carl Geldner, *Ob.cit.*, p.248.

...después de cada aguacero fuerte, un sinnúmero de gente andaba buscando granos de oro por la calle, salidos de los intersticios entre las piedras. Así por casualidad también se encontrarían grandes pedazos de oro debajo de los bajantes de los techos. No hay ningún tipo de duda, sobre el hecho de que aquí se encontrará bastante oro por un buen rato.¹⁶

El costo de la riqueza en el Dorado era muy alto. Uno de los principales problemas era el de la insalubridad sobre la cual es valiosa el testimonio de Carl Geldner, quien vivió en Caratal cuatro largos meses, entre agosto y noviembre de 1867. Entre las diversas enfermedades se contaban la neumonía, la disentería, que el propio Geldner sufrió en carne propia debido al agua contaminada de Caratal, y sobre todo las fiebres, siendo la peor de ellas la denominada “caliente,” la más peligrosa y la cual se unía con frecuencia el “tabardillo,” denominada “bicho” en los parajes del oro.¹⁷

El mismo Geldner sufrió de fiebres y casi muere en Caratal. De los Geldner, fue su hermano Max, quien venía padeciendo de fuertes dolores de cabeza, el primero en caer en cama muy enfermo, y también el primero de los dos que huyó de las minas después de un mes de estancia. Carl, por su parte, se enfermó con una fiebre “muy fuerte, que continuó durante algunos días y me debilitó sobremedida, después de haber sufrido la disentería.” Su buena salud y juventud lo salvaron. También su prudencia. Después de cumplir los compromisos que tenía pactado en Caratal, regresó a mediados de noviembre a Ciudad Bolívar. Como no encontró allí trabajo, pues la mala situación política y económica había desmejorado, abandonó el país el día 9 de diciembre de 1867. El testimonio de su partida de Caratal no deja de ser sugestivo. Tampoco necesita ningún comentario adicional:

...El abandono de este rincón, el más triste del mundo, verdaderamente no me causó nada más que alegría. A decir verdad, aún tenía uno que estar agradecido por el hecho de haber podido escapar más o menos intacto. A mucha gente, atraída por el brillo dorado de las minas, éstas le depararon en breve tiempo la ruina; son pocos los que han tenido éxito, y éstos, generalmente, a cuenta de la salud. Si hago un resumen de todo lo que observé y viví, no puedo sino describir la existencia en estas minas como la miseria dorada.¹⁸

16. Idem.

17. La enfermedad consistía “...en una inflamación del recto, la cual, si no se trata correctamente, generalmente causa la muerte.” La curación era dolorosa. Según Geldner eran los indígenas quienes tenían un remedio bastante efectivo que consistía “...en introducir en el ano pequeños limones pelados y provistos de cortes, los cuales, cuando la cura se efectúa repetidas veces, mediante su propiedad astringente le devuelven a los tejidos intestinales ampliados, su estado normal...” Como es de suponer, el enfermo sufría “fuertes dolores” que lo hacían a menudo gritar como a un condenado. Carl Geldner, *Ob.cit.*, p.274.

18. *Ibidem*, p.285.

Los paisajes de letra y papel de Julia Bornhorst

El testimonio de Julia Bornhorst [Lübeck 1893-Caracas 1980] es doble: escrito y gráfico.¹⁹ El texto muestra el testimonio de la adaptación de una mujer a una cultura diferente entre 1923 y 1941, vale decir entre los 30 y 50 años de la autora, en la ciudad de Maracaibo que, al menos para 1923, presentaba en lo básico el paisaje urbano que había conocido otra paisana suya, Elisabeth Gross,²⁰ entre 1883 y 1896.

El paisaje urbano se transformó después cuando, en tan sólo dos décadas, la ciudad sufrió una de las transformaciones más violentas que ciudad alguna haya experimentado en Venezuela debido al descubrimiento y explotación de petróleo en la cuenca del lago de Maracaibo. Por esa nueva actividad, la ciudad dejó atrás su rol primordial desde el siglo XVI: ser centro de acopio de la producción agropecuaria de su hinterland inmediato y del más lejano, los espacios andinos. En términos demográficos, la ciudad contaba, en 1926, con 84,000 habitantes, y con 110,000 en 1936.

En “permanente estado de alarma”

Julia Bornhorst vivió esas intensas transformaciones. Su pincel y su ojo fotográfico son la clave para entender su curiosidad por el mundo más allá de las fronteras de su casa marabina. Para empezar, la dama sufrió los rigores del cambio. Maracaibo no era precisamente Lübeck, ni en apariencia urbana ni en clima. Ella mismo lo pone en palabras: “No resultaba fácil acostumbrarse al idioma extraño, al calor, a cuatro sirvientes para atender a dos personas: era algo sobrecogedor.”²¹ Es más, todo le era “ajeno y diferente” y “sumamente primitivo” en los años posteriores a su llegada. Fue una tal señora Behncke, esposa del jefe de la casa Blohm, la encargada de guiarla. Era ella una especie de “madre” de la colonia alemana, de quien recibió “consejo y ayuda” sin recibir órdenes,²² lo que demuestra, como en el caso de Elisabeth Gross, la importancia de las esposas de los jefes de las casas comerciales alemanas en mantener la unidad del grupo.

No fue cosa fácil la adaptación al nuevo ambiente, sobre todo a las cosas que percibía como agresivas, por lo cual había que estar, según sus palabras, “pendiente continuamente de todo” pues la mayoría de las plantas “quemar o puyan,” los animales “son peligrosos para los humanos” y los insectos “nos molestan constantemente.” Pero, agrega inmediatamente, “uno se adecua a todo, incluso al permanente estado de alarma”²³ del que escribiera también, a

19. *Venezuela 1923-1941 en Acuarelas y relatos de Julia Bornhorst*. Caracas, Oscar Todtmann Editores, 1993.

20. *Vida Alemana en la Lejanía*. Maracaibo, Asociación Cultural Humboldt Maracaibo, 1989.

21. *Ibidem*, p. 14.

22. *Idem*.

su manera, Elisabeth Gross. Pese a ese estado de alarma, Julia Bornhorst fue una mujer quien aprovechó—y disfrutó—desde el principio las posibilidades que le brindaba el trópico.

El trópico también extenuaba muchas fuerzas, cosa que sintió la alemana en más de una ocasión, en particular cada vez que regresaba de vacaciones de Europa y tenía que acostumbrarse de nuevo al intenso calor. En esto los relatos de las dos alemanas coinciden. Así, podía levantarse temprano y desayunar a las 6 pero a las 8 podía regresar a la cama “por estar exhausta.” Es más, durante el resto del día “sólo tenía la mitad de mis fuerzas.” Los mosquitos no hacían fácil la vida tampoco. Así, en verano—vale decir en la temporada seca— la plaga era tal que impedía sentarse al aire libre:

...En aquella época no había tela metálica y dormíamos siempre bajo mosquiteros de hamaca, pero teníamos que acostarnos con un matamoscas, para espantar los zancudos que se hubiesen infiltrado. Las picadas no nos molestaban tanto como el penetrante zumbido, que nos impedía dormir. Prendíamos muchas veces velas de humo, las cuales en verdad odiábamos ya que, a la par de los mosquitos, también nosotros teníamos que inhalar el aire cáustico.

¡Realmente eran una plaga!²⁴

No obstante, con el tiempo, Julia Bornhorst fue menos atacada por la plaga porque, según su juicio, su sangre estaba “disecada por el calor,” por lo cual no ejercía “sobre los insectos tanta atracción como antes.”²⁵

El lago insuperable

El lago de Maracaibo era el centro de la atención de los alemanes que vivían en la ciudad. Era, por así decirlo, el eje emocional, el espejo acuático de la vida cotidiana. La casa de los Bornhorst, llamada Hato Hamburgo, en el suburbio de los Haticos, en las afueras de Maracaibo, tenía su palafito sobre el lago, al cual se llegaba por un embarcadero. Ese “lugar privilegiado” servía como lugar de contemplación del lago y para penetrar, y bañarse en el mismo, a través de una escalera: “Nuestro querido lago era insuperable,” suspira la alemana.

Pero el lago no era impoluto. Los baños en el lago, como en la época de la Gross, no eran del todo tranquilos porque siempre se estaba pendiente de algún animal dañino, por ejemplo las mantarrayas que con su “cola ponzoñosa” podían de hecho “abrir toda la pierna de una manera terrible.” También flotaban en el lago “algún cochino muerto” como excrementos humanos, que caían al lago desde las innumerables casetas construidas sobre pilotes. Por fortuna, había siempre un cardume de bagres al acecho que comían “alegre y vorazmente la dádiva de Dios.” Claro está: la degradación ambiental sería

23. *Ibidem*, p. 17.

24. *Ibidem*, pp. 24-25.

25. *Ibidem*, p. 25.

peor con el descubrimiento y perforación de los innumerables pozos petroleros, que agregarían aceite y negrura a sus aguas, y alguna que otra llama de fuego que el arte de Julia Bornhorst logra atrapar en dos acuarelas que destacan el pavoroso incendio de petróleo del 31 de mayo de 1935,²⁶ que marcan con violencia el término de la era agroexportadora.

Pese a la belleza del lago y los baños en sus aguas, las diversiones eran pocas para la época en Maracaibo. Sobre todo para Julia Bornhort quien, como ella misma cuenta, había pasado sus años de adolescencia en la ciudad de Munich, “ciudad de ilimitadas posibilidades,” la “restringida libertad de movimientos” en el nuevo lugar se le hizo difícil de soportar. Como ella misma asegura, en materia de espectáculos públicos no había mucho de ver. Así, el famoso teatro Baralt, constituía en la época un “horno no apto para el trópico” razón por la cual unos cantantes de la ópera de Verdi *El Trovador*, ataviados ellos con “gruesos trajes de terciopelo rellenos, casi se asfixiaban” en plena representación.

También los paseos estaban restringidos, queja particular de casi todos los alemanes en Maracaibo porque, se preguntaba la alemana, ¿hacia dónde podía irse? Además de asistir a las fiestas del caso con otros compatriotas, o acudir al club alemán en las tardes poco había de diversión propiamente dicha. En materia de excursiones, por ejemplo,

...solamente había la posibilidad de alquilar, en conjunto, una gran lancha a motor y pescar desde la misma o trasladarse hasta otra playa, cuyos cocoteros eran idénticos a los nuestros, solamente que estaban más sucias. Allí se tomaba un baño, se hacía un picnic y se bailaba, con lo cual, a pesar de todo, obteníamos nuestra diversión...²⁷

El país de las mil y una frutas

Al contrario de Gross, que lo menciona en relación con los criados, el mercado era uno de los sitios favoritos de la Bornhorst, en particular cuando perfeccionó su español. Era el lugar uno de los orgullos de Maracaibo. En él se palpaba mejor que en ninguna otra parte su función de urbe comercial, centro de acopio de mercaderías de los estados cercanos, los Andes en particular. El testimonio de la alemana es sugestivo en detalles gastronómicos:

...allí se conseguían las cosas más sabrosas, nada importado, sino las más maravillosas frutas del país. Además de las consabidas piñas, melones y frutas cítricas, familiares para nosotros, había la lechosa, desconocida en Europa, con la cual empezábamos el día; también mangos, aguacates, guayabas, chirimoyas, nísperos, sapotes, caujiés, datos, guanábanas y muchas otras más. En cuanto a pescados, teníamos una riquísima selección, tanto de mar como de agua dulce, entre los cuales preferíamos los primeros, especialmente el firme

26. Véanse, respectivamente, las paginas 17 y 66 y 67.

27. *Ibidem*, p.20.

mero, similar a la carne, el fino pargo, el róbalo, las pequeñas carpitas y otros peces similares y hasta la temida mantarraya de aguja (...) tiburones nonatos, (...) [o las] codiciadas tortugas...²⁸

Lo que sí extrañaba la alemana eran las legumbres frescas, “que, sencillamente, no existían,” por lo cual tuvo que acostumbrarse a los productos criollos como la yuca, la auyama, los plátanos y, “especialmente,” a las caraotas negras. La alemana confiesa, no obstante, que como ella vivía de legumbres, “estaba desesperada” por su ausencia, al punto de una vez pagar un real (la mitad de un bolívar lo que era un precio exorbitante para la época) por una zanahoria. Ella misma trató de “sembrarlas en un semillero, pero sólo logré cultivar la espinaca neozelandesa.”

También, por lo menos al principio según ella misma cuenta, “la mantequilla y la leche representaban un problema” porque sólo se conseguía la de cabra, “bastante sucia,” y la mantequilla “venía en latas desde Holanda, pero siempre estaba rancia y oxidada.” Los quesos no eran tampoco muy variados, salvo el de cabra, el pan, se conseguía uno que llamaban francés, “con gusto a cartón.” Sin embargo, “...Muy de vez en cuando recibíamos pan negro de algún barco alemán y, en una ocasión, (...) un gran queso amarillo, redondo, fabricado por un alemán en Durita [Colombia]...” que la alemana recuerda como “momentos inolvidables y deliciosos.”²⁹ Esta relativa precariedad cambió con la economía petrolera y con la llegada de los estadounidenses quienes fundaron “gigantescos supermercados y otras tiendas y poco a poco pudimos comprar de todo, para poder vivir de acuerdo con nuestro acostumbrado estilo.”³⁰

Más allá del espejo de agua

Julia Bornhorst, al contrario de Elisabeth Gross, viajó intensamente por el territorio venezolano. Su esposo desde joven había viajado por “todo el país a lomo de mula” y la hizo partícipe de muchos viajes al interior, menos misterioso que en la época de Gross. Así, en una oportunidad que describe, cruzó el lago de Maracaibo hasta llegar al puerto trujillano de La Ceiba y de allí llegar en automóvil hasta Valera. Antes se llegaba en tren hasta Motatán pero el Ferrocarril de la Ceiba había perdido importancia desde la construcción de nuevas carreteras en Trujillo. Desde esa ciudad alquilaron un carro y viajaron por todos los Andes venezolanos hasta llegar a Colombia: “En todas partes Carli—así llamaba a su esposo, Carl Bornhorst, quien trabajaba en la firma Beckmann & Cia. de la cual llegó a ser el superior de la empresa y socio principal—fue recibido cordialmente como un viejo amigo y nos mimaron mucho...”³¹ lo que tiene que ver con el papel que tuvieron los alemanes en el

28. *Ibidem*, p.18.

29. *Ibidem*, p.19.

30. *Ibidem*, p.38.

comercio venezolano, en el cual participaban activamente visitando a todos los clientes de manera regular.³²

El viaje lo hicieron por la vieja carretera de los Andes, unos años antes de ser inaugurada la Trasadina en 1925, que unió definitivamente a los Andes con el centro. En la época de Bornhorst la vieja carretera se encontraba “muy defectuosa;” era de “arena, muy estrecha y bordeada de horribles precipicios.”³³ El regreso a Maracaibo podía hacerse por tres rutas: volver a La Ceiba, lo que era un largo viaje desde el Táchira, por El Vigía bajando hasta Santa Bárbara si se estaba en Mérida, o por Encontrados si se estaba en el Táchira. Fue esa ruta la que siguieron al menos en 1927, camino que no dejaba de ser una aventura. Allí se tomaba un “barco de paletas” por el río Catatumbo, que navegaba rodeado de una selva todavía virgen en esa época con su carga de flora y fauna que hacía del viaje toda una experiencia.

El viaje de Maracaibo a Capatárída en el estado Falcón fue también muy importante. De él quedaron, como en el caso de los otros, acuarelas que hoy constituyen fuentes gráficas importantes para la geohistoria venezolana. No fue este tampoco un viaje de placer en el sentido que los caminos aquí eran precarios, no había sino precarios alojamientos y que el “paisaje, árido, carecía de atractivo,” del cual, sin embargo, Julia realizó magníficas acuarelas, pero se entregaba a la aventura tanto por acompañar a su esposo como por la oportunidad que él le brindaba de “conocer otro rincón de mi segunda patria.”³⁴ Para Carl Bornhorst, el viaje tenía otras connotaciones: cobrar, en 1933, las deudas vencidas de algunos negocios que vendían los productos de su casa comercial, en deuda con ella debido a la recesión económica que siguió al gran “crack” de 1929.

Para empezar era grande el equipaje que había que llevar aunque se tratase de un viaje corto de tan sólo 4 días: dos camas plegables, porque en Venezuela no había casi camas sino chinchorros en esa época, el imprescindible mosquitero de malla, “una ponchera para lavar, una caja con hielo [que se derretía sin duda rápidamente], latas y alimentos frescos, pues en esas áreas, muy pobres, apenas se puede comprar alguna cosa.”³⁵ El viaje lo hicieron en un Ford por una ruta “parcialmente muy mala, llena de huecos y barro endurecido.” Viajaban en la temporada seca cuando los caminos estaban al menos “secos y adecuados para manejar.”³⁶ El paisaje de esta región falconiana

31. *Ibidem*, p.32.

32. Véanse detalles sobre el particular en mi libro *Venezuela en la mirada alemana (paisajes reales e imaginarios en Louis Glöckler, Carl Geldner y Elisabeth Gross, 1850-1896)*. Caracas, Fondo Editorial y Comisión de Estudios de Postgrado de la Facultad de Humanidades y Educación de la UCV/Fundación Edmundo y Hilde Schnoegass, 2000, en particular los capítulos III y IV.

33. Julia Bornhorst, *Ob.cit.*, p.32.

34. *Ibidem*, p.41.

35. *Idem*

36. *Ibidem*, pp. 42-43.

ofrecía atractivos para una pintora, quien escribe sobre la dificultad de “reproducir la sensación de abandono y desolación.” El paisaje estaba, en este sentido, constituido por “Árboles muertos, (...) característicos cactus, de la talla de un árbol grande; sobre el suelo, tunas de flores amarillos y cactus de melón de rígida corona roja, en la extensión plana, ilimitada, de arcilla agrietada...”³⁷

El alojamiento en Venezuela era una dificultad para todos los viajeros. Los Bornhorst llegaron a Casigua para dormir allí por la recomendación expresa que en el lugar había una habitación vacía donde podrían quedarse. Así fue. Después de atravesar “columnas de humo amarillo,” que no eran otra cosa que tornados de polvo, llegaron a Casigua que la alemana encuentra como un “pueblo simpático.” En cuarto al cuarto vacío, este era grande pero no tenía ni puerta ni ventanas, por lo cual ofrecieron a la pareja la sala de la casa, cuarto impresionante según la Bornhorst, de ocho metros de largo y “amoblado con cuatro sillas para las visitas.”³⁸ Capatárída tenía en la época de Julia Bornhorst cuatro calles que recorría mientras su esposo visitaba los clientes. Allí tampoco, como en tantos otros sitios de Venezuela, no había baños...sino espacios abiertos, en este caso con la compañía de un burro que vigilaba los actos primarios humanos.³⁹

El regreso a Maracaibo se efectuó por Mene de Mauroa. El problema para llegar allá fueron los caminos, que dejaban mucho que desear. Es más había que encontrarlo porque no estaba afirmado en el terreno. En efecto, el camino, poco transitado, era invadido por la selva de manera regular, razón por la cual el Ford tuvo que “abrirse paso materialmente a la fuerza.” Así, sobre el suelo, “tupido de matas bajas, apenas era perceptible una huella de cauchos,” por lo cual los viajeros tuvieron que bajar del automóvil varias veces para “reencontrar señales anteriores en el camino, que nos orientaran.” Es más, en dos ocasiones, incluso debieron “regresar atrás, pues habíamos perdido completamente la huella en la espesa jungla.”⁴⁰

El poblado como tal ofrecía una nueva cara: el dinero de los perforadores de petróleo estadounidenses lo había transformado completamente. De una pequeña aldea, fundada en el siglo XVIII, con actividades agropecuarias diversas, se había convertido de la noche a la mañana en un lugar de migraciones internas. El dinero petrolero corría por la población, donde había “música, baile, juegos de azar y, especialmente, una gran oferta de ‘damas.’” Era así, comenta la alemana, que en pleno día, la calle “retumbaba con la gritaría y risas de las morenas señoritas.” El pueblo por lo demás presentaba la clásica división de las estructuras de explotación petrolera: el núcleo urbano,

37. *Ibidem*, p.44.

38. *Ibidem*, p.47.

39. *Ibidem*, p.48.

40. *Ibidem*, p.53.

por un lado, abandonado a su suerte, y el otro, completamente aparte, que constituía el campamento petrolero donde vivían los empleados estadounidenses, ubicado en una colina con “simpáticas casitas cercadas con tela metálica, en sitios sembrados de césped. Tienen, para su recreo y distracción, un campo de golf.”⁴¹

Las comunicaciones habían cambiado en función del lago de Maracaibo. De esta manera, construyeron desde Mene de Mauroa a Altagracia un ferrocarril de vía estrecha. El tráfico se hacía en “pequeños vagones motorizados que van sobre los rieles.” Como no había carretera, los vehículos aprovechaban los lados inclinados del terraplén, construido para el ferrocarril. Pero llegado un momento, era tan complicado y peligroso que el chofer de los Bornhorst apostó por la vieja huella que resultó más agradable “que el terraplén inclinado y lleno de endurecidas grietas causadas por el agua de innumerables lluvias.”⁴² La alemana describió el trayecto con precisión:

Con admirable velocidad y gran seguridad nos abrimos camino por medio de los chasqueantes arbustos y de la incierta oscuridad que teníamos ante nosotros. (...) Como a las nueve de la noche llegamos, sin novedad, a Altagracia, y todavía logramos conseguir una lancha de motor para la travesía” hasta el muelle del querido Hato Hamburgo.⁴³

Conclusiones

No hay un rincón de Venezuela donde los visitantes extranjeros no hayan puesto su pie y mirada desde el siglo XIX hasta la segunda mitad del XX. Es por ello que sus testimonios escritos y gráficos son tan importantes para los estudios históricos en Venezuela. Son ellos una parte vital de nuestro pasado, en particular del siglo XIX, cuyas fuentes históricas están dispersas y existen vacíos de información considerables, sea por la acción del fuego de montoneras y revoluciones sobre el papel en su momento, cuando no por pérdidas posteriores. De allí la importancia de testimonios como los de Carl Geldner y Julia Bornhorst, que arrojan, cada uno a su aire y en su tiempo histórico, numerosos datos, escritos y gráficos, sobre los paisajes urbanos, agrarios y de comunicaciones venezolanos.

41. *Ibidem*, p.54.

42. *Ibidem*, p.55.

43. *Idem*.

Análisis Contrastivo del 'Ensayo Político'

María-Rosario Martí Marco

Acabamos de comprobar que la población se ha más que duplicado en veinte años, de 1791 a 1810. En este mismo intervalo de tiempo la población de Nueva York, la ciudad más poblada de Estados Unidos, ha aumentado de 33.200 a 96.400 y hoy alcanza los 140.000 habitantes. En consecuencia tiene una población algo superior a la de La Habana y casi igual a Lyon. América no cuenta más que con seis ciudades que alcanzan los 100.000 habitantes: México, Nueva York, Filadelfia, La Habana, Río de Janeiro y Bahía.¹

Introducción

Con esta aportación, cuyo trabajo se inició en 1999 en el marco de un Proyecto de Investigación I+D en la Universidad de Alicante,² se han intentado desvelar cuáles han sido las variaciones de las traducciones al español en las distintas ediciones de la obra sobre Cuba. Las primeras ediciones (1827, 1836, 1840), el análisis contrastivo con las ediciones de Fernando Ortiz (1930, 1959), la edición de la Fundación Ortiz (1998), la del Consejo Superior de Investigaciones Científicas (1998) y nuestra traducción publicada en el año 2004, muestran cuáles han sido los enfoques metodológicos de los traductores. Y lo más importante, que desde 1827 hasta el año 2004 todas las ediciones y reediciones que se han realizado en París, La Habana o España emplean la misma y primera traducción de D. J. B. de V. y M. Sólo una persona se atrevió a modificar ortográficamente aquella primera versión, el antropólogo cubano Fernando Ortiz en la edición de 1930. A partir de este

1. Humboldt, Alejandro von 2004. *Ensayo político sobre la Isla de Cuba* (p. 55). Publicaciones de la Universidad de Alicante. Traducción de M-R. Martí e Irene Prüfer.

2. Proyecto de investigación I+D en el Área de Filología Alemana, financiado por la Generalidad Valenciana (GV99-31-1-09) y coordinado por la Prof. Dra. Irene Prüfer.

momento se reeditaría su versión corregida, en Cuba y en España, es decir la traducción original con las mejoras añadidas.

La comparación de las ediciones antiguas con la edición de Ortiz (1930) ofrece fundamentos para la comprobación de la evolución de la lengua española en su desarrollo terminológico y en su modernidad. La terminología científica de la geografía ha experimentado en los últimos dos siglos un desarrollo lexicográfico muy importante. Los conceptos se han asentado con definiciones exactas y por ello, la traducción actual de 2004 resulta más armoniosa, pues la terminología especializada a la que Humboldt recurre está definitivamente hoy normalizada.

Las Traducciones al Español

Hasta hoy quienes mejor han tratado la cuestión de las traducciones de la obra de Humboldt son el mismo Ortiz, en su interesante y completa “Introducción bibliográfica al libro” y los editores Puig-Samper et al. del Consejo Superior de Investigaciones Científicas (1998, 94). La resonancia que tuvo en su momento el *Essai politique sur l’île de Cuba* (1826) facilitó que rápidamente se tradujese a los idiomas inglés y español. En una de las ediciones en idioma inglés del *Ensayo político*, la polémica traducción realizada por John S. Thrasher, se suprimió todo el capítulo VII sobre la Esclavitud y se incorporaron abundantes consideraciones propias y estadísticas. Humboldt habló abiertamente sobre la falsificación de la obra: “el traductor, que ha vivido durante largo tiempo en aquella hermosa isla, ha enriquecido mi obra con datos más recientes sobre el estado numérico de la población, el cultivo del suelo (...). Precisamente a esta parte de mi obra atribuyo mayor importancia que a cualesquiera observaciones astronómicas, experimentos sobre la intensidad magnética o noticias estadísticas. (...). Como firme defensor que soy de la más libre expresión del pensamiento... creo que tengo derecho a exigir que en los Estados libres del continente de América las gentes puedan leer lo que se ha permitido que circule, desde el primer año de su aparición” (Ortiz, 1998: 303).

“En rápida sucesión aparecieron en París cuatro reimpressiones en español, probablemente sin modificaciones: en 1829, 1836, 1840 y 1847.” (Leitner 1998, 58). En un intento de crítica de traducciones, Ortiz llegó a la conclusión de la existencia de una única traducción al español, realizada en 1827 y mejorada sensiblemente en cada edición. Las sospechas de Ortiz y de Leitner hemos de confirmarlas. Tras una atenta lectura de cada una de las ediciones, podemos afirmar que fueron reediciones del original. La primera traducción consta que fue realizada por D. J. B. de V. y M. y se publicó en 1827, en París. “De esta primera traducción, parece ser que se quiso simular—según

Ortiz (1998, 87)—una segunda traducción en 1836 y una tercera en 1840. Esas ediciones fueron un fraude de los editores Lecointe y Lasserre.” En realidad fue una sola versión, aunque cada una tenía una portada diferente. La tercera edición se distinguió en la portada por el nombre completo de otro traductor, real o supuesto, D. José López de Bustamante. Según Puig-Samper et al (1998, 95), las ediciones de 1836 y 1840 se realizaron realmente en España, por lo que reciben el calificativo de ediciones “pirata” por los ilustres investigadores.

Después de casi un siglo de estas primeras ediciones, en 1930, Fernando Ortiz editaba en Cuba el texto de Humboldt en la traducción de D. José López de Bustamante, con una introducción bibliográfica, ampliado con numerosas notas y apéndices y con el prólogo de John S. Thrasher, traducidos al español, así como con las correcciones de Francisco Arango y Parreño³ y del propio Ortiz. Según la historiadora Ulrike Leitner (1998, 59), esta edición “es un valioso tesoro para los bibliógrafos e investigadores de Humboldt.”

Ortiz publicó nuevamente la obra del científico alemán sobre Cuba en la Revista *Bimestre Cubana* (1959). En 1960 se publicaron dos ediciones más en Cuba. En 1998 volvía a editarse en la colección de Libros de la Fundación Ortiz.

En España, se ha publicado la versión de Fernando Ortiz en el marco de un trabajo de investigación histórica del Consejo Superior de Investigaciones Científicas. Esta nueva edición, con un estudio introductorio de reconocidos especialistas en Historia de la Ciencia y de Cuba e ilustrada de forma exquisita, nos ofrece la antigua traducción, publicada en 1959, con algunas modificaciones numéricas y mejoras de topónimos y nombres de personajes, especificadas entre corchetes. Según sus editores se ha constatado “la existencia de errores numéricos en algunos de los cuadros, que aparecen en la obra de Humboldt.” (Puig-Samper et al 1998, 98)

Así pues el análisis contrastivo lexicográfico y fraseológico de las diferentes ediciones, queda reducido a la comparación entre la primera traducción en cualquiera de sus ediciones y la edición implementada ortográficamente por Ortiz en 1930. La nueva y reciente traducción de 2004, realizada en el marco de la teoría funcionalista por Martí y Prüfer, supone una nueva lectura del texto original de Humboldt, más moderna y actual. Este análisis ha dado luz definitiva sobre los numerosos interrogantes planteados

3. “A pesar de algunas ligeras equivocaciones salvadas por nuestro compatriota don Francisco de Arango y Parreño en las acotaciones que hizo en el ejemplar de su pertenencia y que se han insertado en la última colección de las obras.” En: Ortiz, F: *Introducción bibliográfica -1929-*. Bicentenario de Humboldt. Serie Histórica. Academia de Ciencias de Cuba, 1969, p. 21.

en torno a la figura de los traductores/el traductor de esta obra tan emblemática de Humboldt.

La Primera Traducción de 1827

Consolidada la estructura el idioma español en los siglos XVI y XVII, las alteraciones más importantes ocurridas desde entonces se refieren a aspectos externos como la ortografía o la continua incorporación de elementos léxicos de origen foráneo (Cano 1997, 260). Los siglos XVIII y XIX se distinguieron por una gran preocupación por el léxico y la ortografía. Se buscaban definiciones, se hallaban sinónimos, se discutía la conveniencia del uso de neologismos y barbarismos léxicos, principalmente galicismos. Definitivamente en 1714, se fundaba la Academia de la Lengua por real decreto, tomándose como lema “limpia, fija y da esplendor.” Según Lamiquiz (1973, 108), la limpieza se refiere al uso correcto de la lengua, la fijación es algo necesario y trascendental en la lengua del siglo XVIII, lengua que, según la Academia, había alcanzado su perfección en los Siglos de Oro, y el esplendor se refiere al brillo de la producción literaria. Tras la primera publicación entre 1726 y 1739 del *Diccionario de Autoridades*, aparecía la *Ortografía* en 1741 como solución práctica para fijar la forma de la lengua. Poco después aparecería la *Gramática* (1771), que por real orden se enseñaría en todas las escuelas españolas. Se sancionaban así los cambios que de su idioma habían hecho los hablantes a lo largo de los siglos, siguiendo unos criterios de autoridad. El español, que fue la lengua diplomática hasta la primera mitad del siglo XVIII, triunfaba definitivamente también sobre el latín a finales del primer tercio del siglo XIX.

Humboldt redactó la obra en francés, a la sazón la lengua científica en la Europa del siglo XIX, periodo caracterizado por la difusión de las ciencias positivas. Ya en 1756, el Padre Feijóo lanzó una propuesta escandalosa: “que los jóvenes no sean obligados a estudiar latín y griego, pues las obras maestras escritas en tales lenguas ya están traducidas a los idiomas modernos. Que aprendan, en su lugar, lenguas vivas, y, en primer término, el francés, en el cual hablan y escriben todas las ciencias y artes sutiles.” Fue enorme el revuelo que produjo esta Carta erudita por su carácter revolucionario y porque aparecía en medio de un fuerte afrancesamiento de las costumbres y del habla diarios. (Lázaro Carreter 2002, 2).

Pocos años después, en 1776, Antonio de Capmany publicaba su *Arte de traducir el idioma francés al castellano*, en cuyo prólogo reconoce que el “geómetra, el astrónomo, el físico, el filósofo, no hablan ya el lenguaje del vulgo, con el cual se explicaban todos cien años atrás. Tienen otro vocabulario tan distante del usual como el de Newton lo es del de Ptolomeo.” Está

por estudiar lo que representó en la historia de nuestra lengua el libro de Capmany, así como su posterior *Diccionario francés-español* de 1801. Según Lázaro Carreter (2002, 3), “una enorme valentía, que contrasta con el apocamiento general ante la superioridad técnica y científica del idioma vecino, informa toda su acción; por primera vez, un español se impone la misión seria y científica de comparar ambas lenguas intentando hallar una justa correspondencia, cuando se trata de palabras patrimoniales, o fijando una forma que corresponda al tecnicismo francés en ambas lenguas. Muchas palabras técnicas y abstractas penetran con su perfil definitivo en nuestra lengua (cosmopolita, aerostático, estadística).”

En el decenio de 1770, el español ya había resuelto los problemas más espinosos de su moderno proceso normalizador. “Tiene un inventario léxico que es la envidia de Europa; inmediatamente va a aparecer otro, no menos notable, de Esteban Terreros y Pando con voces científicas y sus correspondencias latinas, italianas y francesas; tiene una ortografía sencilla y una gramática moderna. Todos los saberes que recorren Europa en inglés, francés, alemán, italiano, latín, se pueden traducir al español con sólo encontrar un traductor fiable. Como éstos no escasean, las enciclopedias, tratados y estudios de cualquier materia se imprimen con generosidad.” (Lodares, 2003)

En este marco cultural de sensibilización por el prurito etimológico, sin excluir la adopción de numerosas voces del francés y en los albores del nacimiento de la lingüística románica, aparecía la primera traducción de esta obra de Humboldt al español.

A pesar de que estaba ampliamente aceptado que el alfabeto supone una relación unívoca entre signo gráfico y fonema mínimo, evitando toda doble interpretación posible, el traductor de la obra, D. J.B. de V. y M. parece desconocer la regulación de la Academia de la Lengua sobre determinadas reglas ortográficas. El término “hemisferio” existía desde 1780 en el Diccionario usual con la *h*, aunque el traductor utiliza la palabra sin *h*; también “hacinamiento” aparece en el Diccionario de 1803 con *h*. La aspiración de la *h* ya había desaparecido en 1500, como testimonia la versificación. El término “septiembre” se recoge ya en el primer *Diccionario de Autoridades* (1739), mientras que “setiembre” aparece por primera vez en el de 1817. Ejemplos como “fracmento,” “ouro,” “sumarítima,” “oprovio” no aparecen en ninguno de los Diccionarios mencionados. El término “ueste” se consolida en el Diccionario de 1803 y coexiste hasta nuestros días con la palabra “oeste.”

De gran interés es el cambio sufrido en los términos que contienen una *g*, *j* o *b*, *v*. Algunos criterios fijados en aquella *Ortografía* (1741) siguen vigentes hoy, como las reglas de la *b* y *v*. El Diccionario de la Academia de 1822 es el último que contiene los ejemplos “extrangero,” “viagero” o “absorver.” A

partir del Diccionario de 1832 y de las gramáticas de 1830 y 1847, la corrección ortográfica marca otra dirección que en esta primera traducción no se llega a plasmar.

El siglo XIX conoció dos excelentes gramáticas⁴ de español basadas ambas en el uso culto y en los buenos escritores clásicos, por lo que, cada una en su ámbito, contribuyeron a fijar la norma del idioma. Fue primera la de Vicente Salvá (1830), construida “según ahora se habla;” pero de mucho mayor alcance y valor fue la del venezolano Andrés Bello (1847) “destinada al uso de los americanos” y con la intención de conservar la pureza de la lengua “como un medio providencial de comunicación y un vínculo de fraternidad entre las varias naciones de origen español derramadas sobre los dos continentes (en el Prólogo). En 1874 el filólogo colombiano Rufino José Cuervo le añadió unas muy valiosas notas, en general, de índole histórica. (Cano 1997, 257).

El hecho de que dos conceptos figuren en inglés (*Slave states, Gulf Stream*) refleja los límites de la cultura a la hora de buscar semejanzas y facilitar la identificación con lo extranjero, en este caso con el desarrollo de la esclavitud en América y las aportaciones científicas de fenómenos varios. A finales del siglo XIX se empezaba a ceder ante la primacía del idioma inglés.

Así pues, podemos considerar que esta primera traducción, con un lenguaje arcaico, no hacía fácil el acceso a esta obra esencial de Humboldt. “Se trata de una muy buena traducción, que además pone orden al desorden que hay en el ensayo original redactado por Humboldt. Como cita Fernando Ortiz, refiriéndose a la crítica de un gran amigo de Humboldt, “Tu no sabes hacer un libro; escribes sin cesar, pero no haces un libro, sino un retrato sin marco. Sin embargo, se ha de constatar que algunos párrafos están mal traducidos y, a veces, no se resuelven las dificultades del original. Se producen incorrecciones (...) y se utiliza con excesiva frecuencia la voz pasiva, recargando el texto innecesariamente.” (Martí Marco, 2004)

La Edición Corregida de Ortiz en 1930

Según Holl (1998, 24), a Fernando Ortiz, el gran antropólogo cubano, le corresponde el mérito de haber logrado que la obra de Humboldt fuera accesible para un numeroso público. Gracias a esta edición en la Colección de Libros Cubanos, se facilitó la mejor comprensión de la obra de Cuba, no sólo con los añadidos de Arango y Parreño y de Thrasher, sino especialmente con una labor de corrección y modernización léxica necesarias e improporrogables. Por ello, podemos afirmar que esta obra es reflejo del dinamismo de la lengua española entre los siglos XIX y XX, reformada continuamente. No se inter-

4. Otras gramáticas importantes son la de P. Benito de San Pedro (1769), Calleja (1818) y Gómez de Hermosilla (1825).

rumpió la entrada de cultismos, de origen latino y griego y de préstamos, la mayoría de ellos incorporaciones del lenguaje técnico y científico.

Ortiz recogió las fuentes citadas entre paréntesis y en cursiva que aparecían en el texto y las transformó en notas a pie de página. Convirtió en una pequeña tabla numérica las cifras que Humboldt aportara escalonadamente, agilizando su lectura. En la traducción de 2004 hemos sido mucho más arriesgadas y hemos convertido en tablas estadísticas todo cuanto podía cuantificarse y de alguna manera representarse de forma gráfica.

Hemos encontrado omisiones en Ortiz, trasladadas desde la primera traducción de 1827, generalmente sencillas y que no afectan al sentido del texto (“irlandeses e ingleses”). Entre las modificaciones encaminadas a mejorar el texto se encuentra el matiz de la cursiva (*Beta vulgaris*, *Saccarum officinarum*), también en la cita de algún libro (*Guía de los forasteros*) e incluso la variación de alguna cifra, aportando el dato mejorado de Thrasher.

Ortiz, como responsable último de la labor de transcripción y edición de esta obra, comete una serie de errores, que conviene señalar aquí. De mayor importancia, aunque sin afectar al sentido de texto, son la inclusión de un pie de página en el texto (capítulo III) y el cambio de orden de dos pies de página. Cada nota, aporta tal carga de información novedosa y es de tal manera independiente, que pensamos que se trata de errores de transcripción. De menor magnitud son los pequeños fallos tipográficos que se suceden en el texto como: ligereza (ligareza); es decir (se decir); repúblicas (rúblicas); sus efectos (sus defectos); paquebotes (pequebotes).

De gran importancia es la aportación de Ortiz en los cambios ortográficos: la corrección en los acentos (*hácia*, *mas*, *area*); el añadido de los símbolos de puntuación de todo tipo, organizando el discurso y sus diferentes elementos y evitando la ambigüedad en textos, que, sin su empleo, podrían tener interpretaciones diferentes. Con este fin, introduce más párrafos que la versión original con la ayuda de más puntos y aparte. De la misma manera mejora el uso de preposiciones y de conjunciones: para (*por*), frente (*junto*), que (*cuando*). Ortiz agiliza finalmente la lectura de la nueva versión eliminando algún elemento, unas veces un posesivo “encendiese otra luz a su bordo,” otras veces, añadiendo algún otro elemento necesario para la corrección gramatical “a los que es fácil alimentar.”

Ortiz corrigió también un problema gramatical que muestra una de las tendencias de la lengua española a sistematizar la marca de persona frente a no persona. Se trata del leísmo y del loísmo. El empleo de la forma *le comenzó* como sustituto en función de implemento “persona” frente al *lo comenzó* en idéntica función pero “no persona.” Realmente, lo litoral no es propiamente un loísmo, pues no sustituye a *le* como complemento, sino al artículo determinado.

A continuación, ofrecemos una serie de tablas en las que mostramos cuáles han sido las modificaciones de Ortiz sobre la base de la primera traducción. Este análisis se ha realizado de forma exhaustiva y con un método manual, ya que la comparación con las ediciones anteriores, conservadas en micro-fichas imposibilitaban un trabajo terminológico con medios más modernos, en donde indexar las nuevas entradas léxicas.

TABLE 18-1. CAMBIOS ORTOGRÁFICOS

PRIMERA TRADUCCIÓN (1827)	ORTIZ (1930)
BASA basa à, sirve de basa de, con basa, tenían por	BASE base a, sirve de base de, con base, tenían por
B Barar Bascos Bizcaya Caba Cabernoso Cañaberales	V Varar Vascos Vizcaya Cava Cavernoso Cañaverales
C Fracmentos Fracmentaria	G Fragmentos Fragmentaria
EM Remplazado	EM Reemplazado
G Agenos Cabotage Carruages Dige Digeron Extrangero Forrage Introdugese Lavages Lisongean Magestuosa Muger Paisage Parages Pasage Salvages Sugeto Tegidos Trageron Ultrage Viage Viagero	J Ajenos Cabotaje Carruajes dije dijeron extranjero forraje introdujese Lavajes lisonjean majestuosa mujer paisaje parajes pasaje salvaje sujeto tejidos trajeron ultraje viaje viajero
H- acinamiento alagüañas emisferio idrógeno	H- hacinamiento halagüañas hemisferio hidrógeno
HO Cahoba Harmonía	H Caoba Armonía

J Conjelarse Vejetan	G congelarse vegetan
LE Le comenzó Lo litoral influye Traémosle	EL-LO Lo comenzó El litoral influye traémoslo
P Setentrional Setiembre	P Septentrional Septiembre
R Vireinato	RR Virreinato
SU sumarítimas Sustituir sustituyendo	SUB submarítimas substituir substituyendo
U Ueste Norueste Ouro	O Oeste Noroeste Oro
V Absorve Derrivar exorvitante Guanavacoa Oprovio Taverna Vizarra	B absorbe derribar exorbitante* Guanabacoa oprobio Taberna bizarra
X Escusado Estrañar	X excusado extrañar
Y Ysodinámicas Yerbas yerro Ysabel	I Isodinámicas hierbas error Isabel
Z azido hize pezezito zelo zenit Zero	C ácido hice Pececito Celo Cenit Cero

*exorbitante

La lista de adjetivos que se ofrecen a continuación refleja algunos errores de la primera traducción: “blanquizno,” “rogizca” y “rojizco” no aparecen recogidos en ningún Diccionario de la Real Academia. En cambio, el término “langaruto,” aparece por primera vez recogido en el *Diccionario de Autoridades* de la Real Academia en 1734, con la siguiente definición: “que se aplica al que es de estatura mui alta, flaco de cuerpo y de piernas mui delgadas. Es voz baja, y la trae Covarr. en su Thesoro.” En 1822 y en 1869, en el *Diccionario de la Academia usual* encontramos la definición: “que se dice de

la persona o cosa desproporcionada por ser muy larga y angosta.” Será a partir del Diccionario de 1884 cuando nos aparezca el sentido actual, que persiste hasta hoy y que utilizó Ortiz: “(Despect. de largo), adj. fam. larguirucho.” Es de interés señalar que el Diccionario de 1927 añade: “Adj. Honduras y Méjico.” Esto evidencia las distintas modalidades que el español adoptó en América.

TABLE 18-2. ADJETIVOS

PRIMERA TRADUCCIÓN (1827)	ORTIZ (1930)
langaruto, tronco	Larguirucho ^a
Blanquizno	Blanquizco
Pardo	Gris
Rogizca	Rojiza
Rojizco	Rojizo

- a. En otro lugar, emplea el sustantivo en 1827 “*su mayor largura desde el cabo*”, mientras que Ortiz lo traduce por “*largo*”.

Asimismo resulta interesante el seguimiento del término “Manato.” En el *Diccionario de Autoridades* de 1734 se define como “especie de tiburón que se cría en el mar Indico.” Poco después el Diccionario de 1817 aportaba la similitud: “Lo mismo que manatí. Manatí = animal marino. Lo mismo que vaca marina.” El Diccionario de 1927 concretaba un poco más: “Manatí. Mamífero sirenio de unos cinco metros de longitud. Vive cerca de las costas orientales de América, es herbívoro y su carne y grasa son muy estimadas.” El Diccionario de 1992 perfecciona la definición: “Manatí. (Voz caribe o arahuaca). Mamífero sirenio de hasta cinco metros de longitud, cabeza redonda, cuello corto, cuerpo muy grueso y piel cenicienta (...). Vive cerca de las costas del Caribe y en los ríos de aquellas regiones.”

El término “paletúveros” no ha sido encontrado en los diferentes Diccionarios de la Academia.

TABLE 18-3. PLANTAS Y ANIMALES

PRIMERA TRADUCCIÓN (1827)	ORTIZ (1930)
Calabazal	Calabazar
Casia	cassia (acacia)
el yuca	la yuca
Ligneu	principio leñoso (ligneux)
Madrépolas	Madréporas
Mambues	Bambúes
Paletúveros	Manglares
Cayman	Caimán
Manatos	Manatíes
Sauros	Saurios

En el ámbito de la geología hemos extraído tres ejemplos, que por su evolución, resultan de mayor interés. El término “espejuelo” aparece por primera vez en el *Diccionario de Autoridades* de 1732 con la definición: “cierto género de yeso, que tiene unas costrillas relucientes y transparentes, especialmente cuando les da el sol.” En el Diccionario de 1791 aparecía: “Especie

de piedra reluciente de que se hace el yeso.” Definitivamente en 1817 se reformulaba la definición: “el yeso cristalizado en láminas brillantes según suele encontrarse en diferentes partes,” para años después en 1927, consolidarse la definición que perdura hoy: “Yeso cristalizado en láminas brillantes.”

La definición del término “greda” ha sufrido sólo someras variaciones. En el *Diccionario de Autoridades* de 1734 se decía: “Especie de tierra blanca y pegajosa, que comúnmente sirve para batanar y lavar los paños y texidos de lana, aclarar el vino y otros usos.” En 1822, se empleaba por primera vez la palabra arcilla: “especie de arcilla, comúnmente blanca, que se usa para lavar los paños, quitar manchas y otras cosas.” La definición de 1927 introducía el concepto consolidado de “arcilla arenosa.” La definición completa de 1992 dice así: “arcilla arenosa, por lo común de color blanco azulado, que se usa principalmente para desengrasar los paños y quitar manchas.”

El término “chorlo” aparece en el Diccionario de la Academia por primera vez en 1837, con la definición: “Min. Fossil mineralógico sencillo de una de las familias del género silíceo. Es de cinco especies: negro, estriado, turmalina, rojo, volcánico y vidrioso. Silex schorlus.” En la definición de 1927, ya se aportaba su equivalente actual y modernizado: “Mineral. Turmalina,” que continúa hasta hoy.

TABLE 18-4. TÉRMINOS GEOLÓGICOS

PRIMERA TRADUCCIÓN (1827)	ORTIZ (1930)
acinamiento calizo	conglomerado calizo
anfibia	anfíbol
Adolerita	Dolerita
Ametista	amatista
Asberto	asbesto
Calcario	calcáreo
conchita petrificada, capas de	oolíticas, capas
Crysoprasa	crisoprasa
Chorlo negro	hornblenda
Dialage	diálaga
dyalage metalizado	dyallage metalloides
Dialage metalizado	dialaga metaloide
Enfotides	eufótides
Espejuelo	yeso
Esquita primitiva	pizarra (Thunshiefer)
Greda	arenisca
Hyperstena	hiperstena
Hyperstenita	hiperstenita
Pyritas	piritas
Pyroxena	piroxena
Syenito	sienita
Titaneo	titanio
Trachitas	traquitas
formaciones de conchas	llenas de petrificaciones
Esquita anfibólica de thronshiefer de transición.	hornblenda (Hornblendschiefer), pizarra de transición.
La serpentina se quiebra ya en hojas ya en conchas.	La textura de la serpentina es ya hoyosa, ya concoide.

Depósito de óxido de hierro

Pósito de óxido de hierro

El término “hectárea” aparece por primera vez en el Diccionario de la Academia de 1869 con la explicación: “medida de superficie que tiene cien áreas: equivale a algo más de fanega y media de Burgos.” En 1927 se consolidaría la definición que hoy persiste: “medida de superficie que tiene 100 áreas.” Ortiz corrige también otras medidas como “bocoy.”

La definición de “limpiadura” ha sufrido muy poca variación. En el *Diccionario de Autoridades* de 1734 se precisaba como: “la acción de limpiar alguna cosa. Purgatio, mundatio.” En 1817 se consolidaría la actual definición: “Acción y efecto de limpiar.”

TABLE 18-5. CONTENIDOS

PRIMERA TRADUCCIÓN (1827)

Anchura
daremos aquí
es doble mayor
Dollars
Hectar /hectares
Hielo
Limpiadura
llovediza, agua
Mudanzas
Pirogas
por cima de zero
Posición
proporción, terreno de
submarítima

ORTIZ (1930)

ancho
daremos a continuación
es una mitad mayor
dólares
hectárea / -s
agua
limpieza
de lluvia, agua
cambios
piraguas
sobre de cero
edad relativa
transporte o de acarreo, terreno de
submarina

De interés resulta la revisión de los topónimos. Ortiz acentúa adecuadamente cada uno de los países, ciudades, pueblos y lugares (Cádiz, Haití); introduce las mayúsculas y otro uso de minúsculas (Quinta del Obispo, San Ambrosio, San Salvador de la Punta, *Slave states*); elimina el guión que la primera traducción siempre aportara en los nombres compuestos (Nueva-York, Santa-Clara, Nueva-España, Gran-Bretaña, Nuevo-Continente, San-Antonio, Santo-Domingo), y suprime también el artículo determinado, generalmente, delante de países (la Francia, la Jamaica, la Inglaterra).

TABLE 18-6. TOPÓNIMOS

PRIMERA TRADUCCIÓN (1827)

Armendares
Bajos de santa Ysabel
Batabano
Bizcaya
Bornou
Brema
Cacarajicaras
Cananova
Cariabas, islas
Cayo Buenito
Cienega
Cogimar
Chorera, río de la
Fernambuco
Guanabo

ORTIZ (1930)

Almendares
Bajos de Santa Isabel
Batabanó
Vizcaya
Borneo
Bremen
Cacarajicaras
Casanova
Caribes, islas
Cayo Bonito
Ciénaga
Cojimar
Chorrera, río de la
Pernambuco
Guarabo

Guiana	Guayana
Guines	Güines
Habana	Habana
Joruco	Jaruco
Las Floridas	La Florida
Luisina	Louisiana /Luisiana
Misury	Missouri
Monzabique	Mozambique
Muriel	Mariel
Orenoco, río	Orinoco, río
Panzacola	Pensacola
Puerte Escondido	Puerto Escondido
Puertorico	Puerto Rico
Quibican	Quivicán
Sagua grande	Sagua la grande
Santi Espiritus	Sancti Spiritus
Santo Espiritu	Sancti Spiritus
Saruco	Jaruco
Tabago, islas de	Tobago. Islas de
Tiguaros	Tinguaros*
Ubajay	Wajay

*Tiguabos, en la edición de Puig-Samper et alt. (1998)

Los errores numéricos que se realizaron en el transcurso de la primera traducción de 1827, se reflejan asimismo en la traducción de Ortiz de 1930, reeditada en 1959, y en 1998 por la Fundación Ortiz de Cuba. A veces las equivocaciones son incluso del original en francés (“850 negros” en vez de “150 negros”). Los editores del CSIC, Puig-Samper et alt. (1998, 98) han procedido en algunos casos a la rectificación, “en otros, donde era imposible precisar el posible error, hemos preferido respetar el original.”

TABLE 18-7. CIFRAS

PRIMERA TRADUCCIÓN (1827)	ORTIZ (1930)
660	660
24 por ciento	24%
33/100	33%
23° ½	23,5°
0m,765	0,765 mm
siglo XVIII°	siglo SVIII
70 millones	70.000.000
45 kilog. 976	45,976 Kilogramos
veinte y seis	veintiséis
de 9° del cent.	9° centígrados
decimo octavo	decimoctavo

TABLE 18-8. ABREVIATURAS

PRIMERA TRADUCCIÓN (1827)	ORTIZ (1930)
lat. bor.	latitud boreal
Dist.	Distancia
Tom. I, p. 70	Tomo I, página 70
D. Felipe Bausa	don Felipe Bauzá
cent.	centígrados
constr. en el Dep. hidrográfico	construido en el Departamento
l.c.	leguas cuadradas
ecclés.	Ecles.
Kil.	kilogramos

escl.	Esclavos
arr.	Arrobas
SS	Señores
d.	Don
Fr.	Fray
n°	Número

TABLE 18-9. PERSONAJES Y PUEBLOS

PRIMERA TRADUCCIÓN (1827)	ORTIZ (1930)
Afgangs	Afganos
Annibal	Anibal
Bufon	Buffon
Conde de Bareto	Conde de Barreto
Don Luis de las Casas	don Luis de las Casas
Dutrone	Dutione*
Motezuma	Moctezuma
Mopoux	Mompox*
O-Farril	O'Farrill
Pyrro	Pirro
Señor Bausa	Bauzá
Zambos Caraibes	Zambos Caribes

* Dutrône y Mopox, en la edición de Martí y Prüfer (2004).

En la edición de 1930 se han detectado una serie de errores, que podríamos calificar de cambios ligeros, que podrían deberse a la labor tipográfica, a una disfunción en el uso del femenino y masculino (en la misma paralela – mismo paralelo), y en el uso del singular y del plural (experimente/experimenten; aguardiente/ guardientes). Hay dos calcos que nos hacen adivinar la lengua de la versión original en francés: *mer* (mar), vientos de *nord* (del norte). Finalmente ofrecemos un listado exhaustivo de los errores corregidos por Ortiz: esteblezca (establezca); plan (plano); casasmatas (casamatas); una (une); hendeduras (hendiduras); cafatales (cafetales); bananes (bananas); verisímilmente (verosímilmente); indígenos (indígenas), pascados (pescados); inquisión (inquisición); parroquias (parroquias); peilas (pailas); abumina (albúmina); amanazar (amenazar); abandonadas (abandonadas); propios (propios); diminución (disminución); entregadas (entregadas); empazado (empezado); corrupcion (corrupción); manpostería (mampostería). Errores que fueron publicados una y otra vez hasta que Ortiz los modificó.

La Nueva Traducción de 2004

La estrategia global de traducción ha sido la de convertir un texto histórico, decimonónico, de difícil acceso y comprensión, incluso a veces ilegible, en un libro moderno que emplea formas léxicas y sintácticas actuales del español. Hemos podido contrastar la evolución de la lengua española en su desarrollo terminológico (*calizo basto* por *calizo superior*) y en su modernidad (*centelleo* por *irradiación*). La terminología científica de la geografía,

geología, meteorología, en la lengua española, ha experimentado en los últimos cien años un desarrollo lexicográfico muy importante. Los conceptos se han asentado con definiciones exactas y, en parte, la traducción actual resulta más armoniosa, pues la terminología está hoy normalizada: glaciés, vertiente, pluviales, nódulos, falla, sílice, humus, además de otros matices que ayudan a entender con mayor exactitud los fenómenos que Humboldt describe.

TABLE 18-10. ALGUNOS EJEMPLOS GENERALES

ORTIZ (1930)	MARTÍ (2004)
Fe de colón	Fe del carbonero
Dinamarquesas	Danesas
En las desparramadas	En los cultivos dispersos
Arreglada por si misma	Recompuesta
Piloto	Timonel
Buques echados a fondo	Naufragados
He empeñado al señor Bauzá	He invitado
Citando otro trozo	Citando otro párrafo
Patache como los que conducen víveres	Balandro comercial
Durante mi mansión en la América	Durante mi estancia

TABLE 18-11. ALGUNOS EJEMPLOS GEOGRÁFICOS

ORTIZ (1930)	MARTÍ (2004)
Geognóstico	Geólogo
Grieta	Falla
Venas de hierro	Nódulos de hierros
Centellando el calórico	Irradiando calor
Vapor acuoso	Vapor de agua
Aguas llovedizas	Aguas pluviales

La traducción se ha adaptado en su forma estilística a las normas vigentes en la cultura de la lengua meta. El texto original, redactado en francés, pero con estructuras sintácticas alemanas de frases largas y numerosas oraciones subordinadas, ha sido aligerado con más interjecciones. Para facilitar convenciones y normas, se han trasladado muchas referencias bibliográficas como notas a pie de página y se han corregido errores numéricos y de coherencia de todo tipo, especialmente en las tablas.

El tono adoptado por Humboldt en determinados pasajes en el capítulo dedicado a la esclavitud es absolutamente apocalíptico (“lo que reclaman los principios eternos de la justicia y de la humanidad,” “bárbaros ultrajes”). Humboldt critica un aspecto que caracterizó todo el siglo XIX: “el del lenguaje eufemístico de los esclavistas y su aparente compasión por los negros.” (Puig-Samper 1998, 86).

Y sin embargo, al abandonar América sigo sintiendo el mismo horror por la esclavitud que tenía en Europa. Algunos escritores inteligentes han inventado, en vano, palabras como campesinos negros de las Antillas, vasallaje negro y protección patriarcal, para ocultar la barbarie de las instituciones con la ingeniosa ficción del lenguaje. Esto es profanar las nobles artes del espíritu y de la imaginación. Es disculpar mediante paralelismos ilusorios o sofismas capcio-

esos los excesos que afligen a la humanidad y la preparan para conmociones violentas. (Humboldt 2004, 175)

Sin esta comunión de acción y esfuerzo, la esclavitud con sus sufrimientos y excesos se mantendrá como en la Roma antigua, paralela a la elegancia de costumbres, al progreso tan célebre de la ilustración (...). El argumento extraído de la civilización de Grecia y Roma a favor de la esclavitud es de mucha actualidad en las Antillas, en donde a veces se complacen en adornarlo con todo lujo de erudición filológica. (Humboldt 2004, 185)

El uso de lo políticamente correcto en la traducción se ha limitado a alguna sustitución por “gentes de color” para aligerar el texto. La fuerza con la que Humboldt redacta el capítulo de la esclavitud (trata de negros; desgracias de la raza negra, navío negrero, negro insumiso, esclavo condenado a un ingenio azucarero, negros cimarrones fugitivos) refleja su postura anti-esclavista y su justa defensa de los derechos humanos. Por ello, hemos querido ser fieles a su sensibilidad en las estrategias actuales empleadas para la traducción de estas observaciones que son en el fondo metalingüísticas, pero radicalmente básicas en esta obra.

A nivel macroestructural, se ha aportado la novedad de un nuevo diseño en subcapítulos, si bien se ha mantenido la fidelidad a la organización en los capítulos originales. En la obra abundan los datos y se caracteriza por ser un ensayo muy denso y excesivamente técnico en algunos capítulos. Por ello, parte de los textos se han convertido en sencillas estadísticas. Esta es una de las mejores aportaciones a la nueva traducción, pues el texto se actualiza y se responde eficazmente así a las necesidades del receptor de la sociedad actual.

Esta combinación de estrategias se extiende a lo largo de toda la traducción, manteniendo la fluidez y la legibilidad, a pesar de la inmensa aportación de datos, informes, y reflexiones.

Conclusiones

Hemos de reconocer que la voz del autor de la obra de Cuba (1826) y la de su primer traductor (1827) no desafinan. “La traducción no sólo informa del Otro sino que, a la par, muestra el estado de las propias fuerzas.” (Martín Ruano 2003,116). Salvo los errores detectados, que evidentemente dificultan la comprensión de la obra y convierten su lectura en farragosa, hemos de aplaudir que la obra de Humboldt se tradujera en su integridad inmediatamente después de su publicación en francés. Podemos afirmar que muchas de las lagunas léxicas en 1827, continuaron en 1930. No sabemos si por desconocimiento de Ortiz o por un gran respeto a la primera traducción, tratándose de una obra emblemática del “segundo descubridor” de Cuba.

Aunque continúan siendo una incógnita los personajes J.B. de V. y M. y José López de Bustamante y no nos hemos podido acercar a su perfil intelectual o social, podemos afirmar, que se trata de un traductor, manifiestamente buen conocedor de la lengua francesa. Gracias a esta primera traducción, posteriormente mejorada por Ortiz (1930), la postura de Humboldt sobre la esclavitud plasmó su huella en innumerables intelectuales y políticos. El hecho de no haber sido mejor difundida esta obra no fue óbice para que en España se formara una idea sobre la inhumana situación de los esclavos africanos en las colonias españolas, y se favorecieran medidas de justicia social.

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Threats to the European Subject

Jason H. Lindquist

While traveling near the town of Anoch in Scotland's Western Isles, Samuel Johnson described the plant life in the area in the following manner: "The appearance is that of matter incapable of form or usefulness, dismissed by nature from her care and disinherited of her favours, left in its original elemental state, or quickened only with one sullen power of useless vegetation" (Johnson, 1775: 26). In the midst of this untended profusion, Johnson allows himself to experience a crisis of psychic overload: although he knows there is no real danger, the writer voluntarily entertains a series of "imagination[s]" that have as their focus the dissolution of the physical and mental self of the subject. For Johnson, the region around Anoch evokes the possibility of "want, and misery, and danger" (Johnson, 1775: 27).

Samuel Johnson's imaginative response to the vegetative overgrowth of the Western Isles may at first seem irrelevant to a study of Alexander von Humboldt's *Personal Narrative of Travels to the Equinoctial Regions of the New Continent* (1818–1827).¹ After all, Humboldt's descriptions of South America's highly fecund spaces are often positive. His enthusiasm for tropical profusion leads him, for instance, to revise upward Malthus's pessimistic

1. I cite here Helen Maria Williams's translation of Humboldt's *Personal Narrative* (Humboldt 1818–29). For ease of reference, I cite Williams's translation parenthetically by volume and page. Although Humboldt approved of and was actively involved in Helen Maria Williams's edition, later translators have argued that her version often varies, particularly in tone, from the French original. They argue that as a significant figure in British Romanticism, Williams brought a distinctive voice to the translation. For instance, Thomasina Ross deemed her own 1851 re-translation necessary because she felt that Williams's version "abounds in foreign terms of expression"; Jason Wilson, who completed a new translation in 1995, finds that Williams "interpreted and exaggerated" Humboldt's original French prose (which Wilson characterizes as "curiously flat, scientific, and modern"), particularly in passages where Humboldt waxes enthusiastic. For instance, in Williams's translation, "wild nature" becomes "wild and stupendous nature," "dark curtain of mountains" becomes "vast and gloomy curtain of mountains," etc (Wilson, 1995: lix–lx). On Humboldt's active involvement in Williams's translation, see Biermann (Biermann, 1986: 11–12).

carrying capacity estimates for the “New Continent;” such appreciation also caused him to pioneer new methods for measuring and cataloguing the productivity of the Americas and to call for political and economic development in the region.² At its most teleological, *Personal Narrative* sketches an optimistic—if distinctively European—future for South and Central America: Humboldt imagines a time when “populous cities enriched by commerce, and fertile fields cultivated by the hands of freemen, adorn those very spots, where, at the time of my travels, I found only impenetrable forests, and inundated lands” (I.li). Samuel Johnson, on the other hand, although he ventures no further than the geographic periphery of the British Isles, sees only “matter incapable of form or usefulness” heaping itself up around him at a frightful pace. In fact, when Johnson’s imaginations do turn to the “New Continent,” he becomes positively terrified, admitting to himself that Scottish “spots of wildness” cannot evoke anything like the terror encountered in the vast and threatening “deserts of America” (Johnson, 1775: 27). Where Johnson sees want and lack in natural spaces peripheral to European centers of commerce, Humboldt sees potential.

And yet, a study of *Personal Narrative* that stresses only “commerce, and fertile fields” would be incomplete. After all, the overwhelming power of “impenetrable forests and inundated lands” is just as crucial to the portrait Humboldt paints of tropical America. In a number of memorable passages, *Personal Narrative* foregrounds the capacity of vegetable excess to resist colonization, impede productive enterprise, and overwhelm European modes of psychic and social life. Thus, while he might never have characterized South American vegetation as “sullen” or “useless,” Humboldt’s teeming New World spaces do evoke a kind of Johnsonian anxiety. Like the Western Isles, tropical nature threatens to degrade or fully overwhelm the coherence of the European subject. My analysis calls attention to passages in *Personal Narrative* that stress the dangers tropical fecundity posed to European identity and modes of civilization; I go on to explore Humboldt’s related worry that South American vegetable and visual overload will exert a destabilizing effect on his own aesthetic sensibility and on his ability to create a coherent textual representation of the New Continent. Investigating the instabilities experienced by the expatriates and colonists that populate *Personal Narrative* promises to draw out tensions latent in Humboldt’s own treatment of tropical landscape and to illuminate significant epistemological shifts often precipitated by and worked out within travel narratives during the period.

2. Humboldt’s innovation in gathering demographic and economic information can be seen most clearly in his monographs on Mexico and Cuba. See, for instance, his *Political Essay on the Kingdom of New Spain* (Humboldt, 1811).

“Man no longer appears as the center of the creation:” Excess Verdure and the Traveling Observer

Early in *Personal Narrative*, Humboldt suggests that the “moment of leaving Europe” is transformational: the traveler passes into a fundamentally different realm, “entering in some sort on a new state of existence” (I.31),³ one of the most distinctive features of which is the “luxuriousness of the vegetation” (V.441). In Humboldt’s lengthy work, a complex and often contradictory relationship between vegetable (hyper) fecundity and the traveling observer emerges. On the one hand, tropical excess is viewed positively: it is powerful, moving, and unprecedented in Humboldt’s experience. On the other hand, such vigorous plant life is often a serious impediment both to the observer’s ability to perceive nature accurately and to the efforts of colonists to preserve a coherent European identity.

For instance, Humboldt worries that even his trained vision may not be a reliable servant in South America. In spite of his prodigious capacities as a careful observer, record-keeper, and statistician, spaces that are “overloaded with plants” impede observational accuracy. Humboldt’s description of the banks of the Río Cedeño suggests the irony inherent in observing and describing South American verdure—that is, plant life itself presents the single greatest hindrance to the study of plant geography in the tropics. In a place where tree trunks are concealed “under a thick carpet of verdure” and “lianas” climb from the ground to the tree tops in a “continual interlacing of parasite plants, the botanist is often led to confound the flowers, the fruits, and leaves, which belong to different species” (III.36–37). That an experienced botanist cannot see the tree trunks for the forest, so to speak, suggests the power of tropical fecundity to disrupt even an expert’s sense of nature’s deep structure.

Humboldt faces similar problems as a human demographer attempting to quantify the extent of agriculture—and thus the size of the population—in South America. While in Europe the extent of cultivation corresponds in a predictable way to population size, even the “most populous regions in equinoctial America still [retain] a savage aspect” (III.15–16). Here “[s]pontane-

3. Ann McClintock sees psychologically significant boundary crossings as a common feature of European travel narratives. Furthermore, explorers regularly code the “dangerous thresholds of their known worlds” in gendered terms: the “threshold” is an erotically charged space that generates a set of ritual and fetishistic practices on the part of the traveler (and travel writer) which “[betray] acute paranoia and a profound, if not pathological, sense of male anxiety and boundary loss.” Although I do not address the role gender plays in Humboldt’s text (and significant work remains to be done in this regard), my analysis of *Personal Narrative* substantiates McClintock’s suggestion that passing into the tropics generates acute anxiety at the possibility of “boundary loss”—in this case national and cultural boundaries are at stake (McClintock, 1995: 24).

ous plants...predominate by their quantity over cultivated plants, and determine alone the appearance of the landscape.” Here man does not inhabit the landscape as “an absolute master, who changes at his will the surface of the soil, but as a transient guest” (III.15–16).

One senses two competing value systems at play in such passages, where Humboldt praises the verdant fecundity of tropical nature even as he signals that such a fertility can impede accurate interpretation. On one hand—as Engelhard Weigl has noted—Humboldt stood in the tradition of Buffon and the Forsters in favoring the beauty of a tamed and civilized nature (Weigl, 2001), tended by what Forster called “the moderate care of rational beings” (Forster, 1778: 99-100). As Johnson did, such a value system privileges order, visibility and productivity. Yet Humboldt also subscribed to an emerging counter-discourse about nature—one associated, but not co-extensive, with the discourse of Romanticism. This discourse asserted the value of wild untamed spaces, sublime scenes, and unsymmetrical or obscure natural landscapes. Kristian Köchy (Köchy, 1997 and 2002) and others have sketched Humboldt’s complex relationship to the discourse of German Romanticism and Williams’s translation can certainly be said to engage with the epistemology and language choices of a certain strand of British romanticism.⁴ This delineation of the “sublime” gave aesthetic value to scenes that were complex, threatening, or difficult to interpret.

It is clear that these two philosophical inclinations come into tension in *Personal Narrative*. The conflict manifests itself in Humboldt’s simultaneous attraction to (on aesthetic grounds) and rejection of (on pragmatic grounds) the visually provocative, but dense, messy, and seemingly uninhabited South American landscape. As we have already seen, these contradictory impulses crystallize around the (apparent) absence of human activity in spaces where plants “determine alone the appearance of the landscape.” Humboldt finds himself deeply moved by places where “[m]an no longer appears as the center of the creation,” thrilling at views in which it is only “the conflict of the elements, which characterizes...the aspect of Nature.” Yet in the very same paragraph, Humboldt also laments the melancholy impression conveyed by “[a] country without population.” Unpopulated but obviously arable terrain “appears to the people of cultivated Europe like a city abandoned by its [sic] inhabitants” (III.512). While it is normal and even desirable to respond with

4. On Williams, see note #1. For the nineteenth-century British reader, the key entries in this genealogy of Romantic aesthetic language would have included Edmund Burke’s influential differentiation of the sublime (“whatever is in any sort terrible, or is conversant about terrible objects”) from the beautiful; Samuel Johnson’s analogous opposition between the “awfully vast” and the “elegantly little”; and Kant’s more internally oriented categories (the sublime results from a thing’s “*limitlessness*, yet with a superadded thought of its totality,” while the beautiful is primarily a “question of the form of the object” (Burke, 1757: 36; Johnson, 1759: 61; Kant, 1790: 90 [SS 23]).

deliciously “strange and sad” feelings to places where humans could never thrive anyway (the ocean or desert, for instance), it is distressing to “seek in vain the traces of the power of man” in a place that is “adorned with eternal verdure” and should therefore be habitable and productive (V.290-91). The text seems caught between lamenting and romanticizing the absence of human civilization in the tropics.

*“[N]ational remembrances are insensibly effaced”:
Tropical Threats to the European Subject*

If vegetable profusion could obscure the presence of civilization in Central and South America, it also had the power to transform its character. In addition to attributing the culture and personality of indigenous South Americans to the influence of climate, Humboldt repeatedly implies that European colonists—even those who have only recently emigrated—are in danger of losing their distinctive culture if they remain in the tropics. Living in the presence of so much vegetation seems to mark colonists with a “wild and uncultivated” character “which belongs to nature, the primitive type of which has not been altered by art” (III.15–16), overwhelming even settlers with strong European traditions. In fact, cultural continuity seems only to be retained in parts of South America where the climate is temperate (II.290). Those colonists “settled in a zone, where the climate, the productions, the aspect of the sky, and the scenery of the landscape, differ altogether from those of Europe,” repeatedly fail to preserve familiar modes of life.

Even when these settlers make conscious efforts to retain familiar habits, they don’t succeed for long. For instance, Humboldt is particularly affected by abortive attempts to build community through acts of naming:

The colonist vainly bestows on mountains, rivers, and vallies [sic], those names, which call to his remembrance the sites of the mother country; these names soon lose their attraction, and have no meaning with the generations that succeed. Under the influence of an exotic nature, habits are generated, that are adapted to new wants; national remembrances are insensibly effaced; and those that remain, like phantoms of the imagination, have neither ‘a local habitation, nor a name’ (II.287).

For subsequent generations of settlers, place names fail to index European experiences and attitudes; rather, they serve only as a vague and melancholy reminder of loss.⁵

For Humboldt, a series of encounters dramatize the power of tropical verdure to denationalize European settlers. While traveling on the Río Apure, for instance, the Prussian scientist encounters a man who claims recent Spanish heritage. Although the man has pretensions to culture, Humboldt suggests

that he has lost all ability to think outside the moment, failing even to “[construct] an *ajoupa* of palm-leaves” to prepare for the inevitable tropical rains. Humboldt’s penchant for sarcasm shows through as he chides this man who presumes to “[call] his wife and his daughter, who were as naked as himself, donna Isabella, and donna Manuela” (IV.430). That night, as Humboldt had feared, a heavy rainstorm soaks the party. He records that as it “rained in torrents on our hammocks, and the instruments we had landed, don Ignacio congratulated us on our good fortune in not sleeping on the strand, but finding ourselves in his domain, among Whites and persons of rank” (IV.432). Clearly annoyed and bemused, Humboldt concludes that it is a “singular...spectacle, to find in that vast solitude a man, who believes himself of European race” but who “knows no other shelter than the shade of a tree” (IV.432–33). The account suggests that for Humboldt, even in circumstances where the “idea” of European heritage has been preserved, its constitutive characteristics seemed to have been lost.

Humboldt’s encounters with expatriates from *northern* Europe make it clear that Spanish colonists are not the only ones who become subject to an erasure of identity in the tropics. Language retention and loss figure prominently during encounters in which Humboldt meets a Frenchman who had “forgotten his native language” (V.677) and later a fellow Prussian who has no interest in “the sight of a man who could talk to him of his country”—he can, in fact, neither remember German nor “explain himself clearly in Spanish.” Of the encounter, Humboldt drolly notes that “our conversation was not very animated” (VII.441).

To these portraits of stateless expatriates, we can add Humboldt’s own experiences as a European exposed to the torrid zone. Humboldt frequently notes the power of the tropics to affect a traveler’s memory and state of mind. For instance, Humboldt writes that the “climate of the Indies” made an impression “so great, so powerful...that after an abode of a few months we seemed to have lived there during a long succession of years” (III.354). This distortion of time is tied to the erasure of familiar memories in the face of excessive stimuli: tropical verdure, acting “upon our imagination by it’s [sic] mass, the contrast of it’s [sic] forms, and the glow of it’s [sic] colours,” has the power to “weaken antecedent impressions” in the mind of the traveler (III.355). Europe is easily forgotten and even a return to Paris or Berlin may not fully renationalize the traveler: Humboldt’s impressions left him with a

5. The anxiety registered in this passage about the health and sustainability of temperate cultures in tropical climates should be placed in the broader context of the discourse of “seasoning” and acclimatization that characterized European writing about the tropics in general and the Americas in particular. To name just one instance, Karen Ordahl Kupperman has documented long-running apprehension about the detrimental physical effects of hot climates—and the cultural price to be paid for acclimatizing—in the writings of English colonists in Virginia and the West Indies (Kupperman, 1984: 213–40).

melancholy longing for the tropics—and a “vague desire to revisit that spot” (III.255)—years after his return to Europe.⁶

It is in relation to recent attempts at European settlement that the torrid zone threatens its most forceful—and worrisome—disruptions.⁷ Humboldt’s *Personal Narrative* suggests that, like the Prussian who could speak neither German nor Spanish, European colonists quickly lose their way between two worlds. Comparing South American settlements unfavorably to Greek and Phoenician colonies in antiquity, Humboldt suggests that these ancient settlers managed to combine the old and the new so as to create a vibrant “intellectual culture” that even “excited the envy of the mother countries” (II.292). This is not the case in the New World, where European colonists fail to forge a unique and superior alloy; instead, they forget European traditions and fail to embrace those of America, foolishly “[disdaining] whatever relates to the conquered people.” Humboldt describes the stateless and cultureless colonist in this way:

Placed between the remembrances of the mother country, and those of the country where he first drew his breath, he considers both with equal indifference; and in a climate where the equality of seasons renders the succession of years almost imperceptible, he abandons himself to the enjoyments of the present moments, and scarcely casts back a look on the times that are past (II.291-292).

In this way, national disidentification brings with it temporal dislocation and stasis, effectively removing tropical colonies from the teleological regime of progress that would dominate nineteenth-century views of history.

“[The traveler]... can scarcely distinguish what most excites his admiration:” Aesthetic Overload and Textual Excess in “Personal Narrative”

Late in his travel account, Humboldt pauses to consider the difficulty of preserving written records in Central and South America. In the torrid zone, teeming insects

devour paper, pasteboard, parchment, with frightful rapidity, destroying records and libraries. Whole provinces of Spanish America do not afford one written document, that dates a hundred years back. What improvement can the civilization of nations acquire, if nothing link the present with the past, if

6. Of course, Aimé Bonpland’s eventual return to South America is a significant subtext in such a discussion of Humboldt’s statements about the pull of the torrid zone.

7. Humboldt expresses the relationship using the following syllogism: “The forms of plants determine the physiognomy of nature; and this physiognomy influences the moral dispositions of nations” (V.52).

the depositaries of human knowledge must be repeatedly renewed, if the records of genius and reason cannot be transmitted to posterity? (V.116).”

In this passage, the tropics are again a place where the past is quickly lost and future improvement is therefore unachievable. It is striking, though, that Humboldt’s statement about the impermanence of writing appears only after the (English) reader has waded through nearly three thousand pages of text that has successfully survived the tropics. Although in several dramatic moments Humboldt and Bonpland’s records and collections are in danger of decay or loss, the text of *Personal Narrative* is its own proof that writing about the tropics can survive. However, Humboldt’s emphasis here on the power of the torrid zone to destroy writing—to literally consume the traces of human discourse—calls attention to the risks he sees as inherent in committing representations of the region to paper.

In fact, it is the psychic, rather than the physical, act of writing that seems to be most under siege in South America. *Personal Narrative* repeatedly registers anxieties about all stages of writing—observation, cognition, and inscription—on a continent where instability and overwhelming fecundity combine to resist representation. Considering a similar problem, Oliver Lubrich has noted the ways in which *Personal Narrative* foregrounds its own generic instability. Through a careful study of its grammar and structure, Lubrich argues that the text “[undermines] the conventional format of the travelogue” because all the categories which normally “lend the text coherence and make it readable for the recipient”—including the subject, the object, the addressee, and the text itself—“are charged with multiple meanings and become thus destabilized.” By refusing to operate on familiar generic terrain, *Personal Narrative* resists established interpretive schemas and “de-authorizes imperial forms of colonial writing” in the process.⁸ Building on Lubrich’s provocative analysis, I wish to suggest that excessive inputs precipitate a crisis of representation in *Personal Narrative*.

Before doing so, however, it is important to briefly review the characteristics of Humboldt’s distinctive philosophical method. Because the development and intricacies of Humboldt’s approach have been dealt with expertly and extensively elsewhere,⁹ I cite here only the preface to the English translation of *Personal Narrative*. Working with Humboldt’s detailed input (Bier-

8. Lubrich views the destabilizing character of Humboldt’s text positively, suggesting that it creates a discourse in which “there are no ‘identities’ and ‘differences’ which can be defined unequivocally from a privileged perspective” (Lubrich, 2003, no pagination).

9. In the rich scholarship on the subject, Humboldt’s philosophical method has been given a variety of names: see Laura Dassow Walls on Humboldt’s “rational empiricism” (Walls, 1995: 69–70); Susan Faye Cannon on “Humboldtian science” (Cannon, 1978: 82); Mary Louise Pratt on “planetary consciousness” and “transculturation” in Humboldt’s work (Pratt, 1992); and Ottmar Ette on Humboldt and the idea of “Weltbewusstsein” (Ette, 2002). *Alexander von Humboldt und das unvollendete Projekt einer anderen Moderne*. Velbrück Wissenschaft, 2002.

man, 1986: 11-12), Helen Maria Williams states the Purssian observer's philosophy in terms that would have been familiar to an English readership: "[t]he appropriate character of [Humboldt's] writing is the faculty he possesses of raising the mind to general ideas, without neglecting individual facts" (I.ix). Operating, as it does, within the binary of the general and the particular, Williams's statement may have reminded her readers of Samuel Johnson's assertion that "[s]ublimity is produced by aggregation, and littleness by dispersion. Great thoughts are always general, and consist in positions not limited by exceptions, and in descriptions not descending to minuteness" (Johnson, 1779-1781: 594). Yet in supplementing Williams' description with Johnson's statement, the possible tensions between part and whole inherent in such an epistemology already begin to show themselves. For while Johnson's "sublime" can only be achieved through the "aggregation" of information and effects, this very act of amassing data risks pushing the whole system towards incoherency and "dispersion."

Humboldt is acutely aware of this tension between the general and particular in his own work. While he wants to fuse "individual facts" into "general ideas" in his writing, he also recognizes that the huge volume of information his writings must present to achieve this end may itself threaten his goal; in fact, Humboldt commented on the struggle for balance between generality and minuteness in the work of other scientific travelers. At a time when scientists had more and more analytical tools at their disposal, traveling naturalists were producing increasingly cumbersome and difficult texts:

itineraries have partly lost that unity of composition, and that simplicity, which characterized those former ages. It is now become scarcely possible to connect so many different materials with the narration of events; and that part which we may call dramatic gives way to dissertations merely descriptive (I.xli-xlii)."

These epistemological and aesthetic tensions between dispersion and aggregation are brought into particularly stark relief in narratives about the tropics, where the traveler is faced with an unprecedented variety and volume of potentially sublime sensory input.

Humboldt recognizes that he cannot follow the generic conventions that placed the human traveler at the center of the narrative. As a result, he fears he cannot help but violate a crucial convention of travel narrative: the generation of a writer-centered text. Because "the unity of composition can be strictly observed only when the traveler describes what has passed under his own eye...It is the man himself that we continually desire to see in contact with the objects that surround him" (I.xli). One thinks here, perhaps, of Mungo Park's *Travels in the Interior Districts of Africa*—cited at several points in *Personal Narrative*—in which Park's adventures drive the episodic

and often sentimental narrative forward. Humboldt is aware of this expectation to keep the narrative centered on himself, but he also recognizes the power of the tropics to disrupt first-person, narrator-based accounts.

For instance, Humboldt addresses this question of narrative focus and linearity while writing about how the view from the summit of Tenerife might best be represented. He argues that, paradoxically, if he *were* to place himself and his responses to nature at the center of his travel account, the result would not be a clear narrative trajectory, but rather an incoherent series of expressions of wonder in the face of too many varied sensory inputs:

It is a difficult task, to describe those sensations, which act with so much the more force as they have something undefined, produced by the immensity of the space as well as by the greatness, the novelty, and the multitude of the objects, amidst which we find ourselves transported. When a traveler attempts to furnish descriptions of the loftiest summits of the globe, the cataracts of the great rivers, the tortuous vallies [sic] of the Andes, he is exposed to the danger of fatiguing his readers by the monotonous expression of his admiration.

(I.180-181)¹⁰

Faced with a “multitude of objects” and aware that he couldn’t make his experiences in the Americas into a coherent linear narrative even if he wanted to, Humboldt opts instead for the massive comparative and analytical project that we now recognize as “Humboldtian science.” In practical terms, this decision allows Humboldt to organize certain portions of *Personal Narrative* according to scientific theme or the availability of comparative data—a strategy that permits the lengthy digressions and labyrinthine footnotes characteristic of his writing. Although this kind of heterogeneous and comparative approach makes sense in light of Humboldt’s emerging philosophical system, it does seem at odds with his previous aesthetic privileging of the “man himself...in contact with the objects that surround him” as the proper subject of the travel narrative (I.xli). Humboldt does often manage to remain—by sheer force of personality—at the center of a more-or-less linear text. But this apparent contradiction is perhaps the point: *Personal Narrative* travels uncomfortably between the poles of vivid, first-person incident and comparative, descriptive analysis of “the peculiar character that distinguishes each zone” (I.181). The “multitude of objects” presented by tropical nature precipitates this tension and helps generate *Personal Narrative*’s often contradictory form.

10. For a similar case, see Vol. 5, where Humboldt compares the melancholy effect of a place lacking the visible signs of human culture to the effect his own work may be having on the reader: “I paint the impression produced by the monotonous aspect of those solitary regions. May this monotony not be found to extend itself to the journal of our navigation, and tire the reader accustomed to the description of the scenes and historical memorials of the ancient continent!” (V.290–91).

There is another way in which Humboldt's text fails to fulfill the expectations of the metropolitan reader. After all, not all late-eighteenth-century travel narratives possessed a dynamic narrator who engaged in a series of exciting incidents: a journey might, instead, be expected to produce a series of aesthetic impressions in the picturesque style. To name just one example from a thriving genre, Ann Radcliffe's *A Journey Made in the Summer of 1794*...presents a series of discrete, carefully framed picturesque scenes calibrated to produce a specific aesthetic effect. This effect—what one critic has referred to as the “subject-centered picturesque”—stresses the use of mediating devices like a coach window or a “Claude glass” in order to establish distance between the “single and unique beholder” of the scene and the landscape itself. Mediation and distance allow the writer to describe the scenery even while carefully managing its effect on the written text. (Kuczynski 1998, 247). Humboldt is clearly familiar with this scene-based picturesque style, producing it admirably on several occasions—as when he skillfully uses the drifting clouds on Tenerife (I.82–83) or the mouth of the Cueva del Guacharo (III.127–28) to frame those two picturesque scenes.

But this analytical and aesthetic tool is also strained to the breaking point “on a vast continent, where everything is gigantic.” Humboldt quickly encounters difficulty containing nature within the well-marked borders of the picturesque scene. Instead, multiple worthy scenes present themselves at every turn. Humboldt addresses this threat to picturesque description directly, noting that if a traveler in the tropics “feel strongly the beauty of picturesque scenery, he can scarcely define the various emotions, which crowd upon his mind; he can scarcely distinguish what most excites his admiration” (III.36). Humboldt is left with an unsolvable selection problem: if he describes every interesting scene to his readers, the written text will break under its own weight, descending into incoherence. On the other hand, if he fails to fully describe all the worthy scenes he encounters, his depiction of the aesthetic character of South America will be incomplete and therefore inaccurate. Because tropical excess affects the way Humboldt “pictures” South America, it also influences the final written form of *Personal Narrative*. Indeed, the naturalist's *full*, thirty-volume travel record signals the degree to which only heterogeneity and supplementarity seem appropriate for representing the masses of sensory input to which Humboldt has been sensitized in his aesthetic and scientific training.

In some interesting cases, the representational practices of the societies Humboldt encounters in Central and South America reflect and inform his own difficulties in creating coherent and manageable representations. For instance, Humboldt criticizes the failure of Spanish and Portuguese colonists to construct “memorials” to help them preserve their cultural identity against

an onslaught of tropical impressions. This “absence of memorials...[has] something painful to the traveler, who finds himself deprived of the most delightful enjoyments of the imagination”; more importantly, a lack of remembrances makes it extremely difficult to “bind the colonist to the soil on which he dwells” (II.287).

While European settlers fail to retain memorializing traditions, cultures native to South America seem to recognize and even embrace the futility of creating lasting monuments in the “torrid zone.” In fact, according to Humboldt, some tribes incorporate the annihilation of individual subjectivity and cultural memory—the very idea that so terrorizes Johnson and Humboldt—into their cultural practices. The Tamanacs, for instance, practice a set of death rituals that center on *erasing* “remembrances:” when a tribe member dies, the families “lay waste the fields of the deceased, and cut down the trees which he has planted. They say, ‘that the sight of objects, which belonged to their relations, makes them melancholy.’ They like better to efface than to preserve remembrances” (V.626). Given Humboldt’s repeated observations that tropical plant life has the power to conceal or destroy civilization and rupture links between past and present, his interest in Tamanac practice makes a kind of sense: the tribe seems to feel that the only reasonable and sustainable representational strategy available to them in the face of tropical excess is not the preservation of human culture, but rather the preemptive erasure of the traces that add up to a human life.

Humboldt ultimately retreats from the radical implications of Tamanac ritual, returning the reader to a quantitative and mercantilist frame by noting that such burial practices “are very detrimental to agriculture” and that the monks therefore oppose them (V.626). However, his interest in the scene calls attention to questions of representational coherence and textual permanence and must be read against the power of the tropics to disrupt or even “devour” representation “with frightful rapidity.” This incident, taken together with the other passages I have examined in this section, suggests that Humboldt himself hadn’t solved the problem of how best to process and represent tropical nature. Hyper-fecundity and aesthetic overload present themselves as serious obstacles both to the progress of civilization in the “torrid zone” and to the production of coherent textual representations of the region.

Conclusion

In *Personal Narrative*, Humboldt implies that tropical profusion (in terms of information and sense impressions) makes it difficult to deploy Western descriptive modes in writing about that region. Although his dedication to a liberal, mercantilist economic system—and to the productive potential of

Central and South America—remains clearly in place,¹¹ Humboldt's recognition that tropical profusion has power to destabilize his text often threatens this rationalistic and progressive vision in subtle ways. Sensory overload precipitates moments of doubt that manifest themselves as uncertainty about the ability of the European subject to preserve identity and the capacity of the European writer to reconcile the generic conventions of travel narrative with the actuality of the tropics.

In other work, I have attempted to sketch these difficulties as expressed by Humboldt in his work and to connect them to broader epistemological shifts occurring in response to similar instances of information overload in other areas of nineteenth-century life. In this regard, *Personal Narrative* serves an important function in British intellectual culture by calling early attention to the challenges inherent in representing a nature that is unstable, mutable, and resists efforts to control its excesses or to make them productive. Furthermore, I suggest the question of proliferation (vegetable and otherwise) is a fundamental issue in nineteenth-century aesthetics. As Harriet Martineau observed in 1838, the knowledgeable traveler was inevitably put under strain by the number of "views" he or she was required to process: she laments that "[t]he wearied mind soon finds itself overwhelmed by the multitude of unconnected or contradictory particulars" (Martineau, 1838: 16). As the reading public grew, and as the quantity of published travel narratives increased, the epistemological stresses and strains affecting the informed traveler rapidly became the stresses and strains of the informed reader. Humboldt's struggle to represent the tropics while working within the generic boundaries of the travel narrative may therefore serve more broadly as a guide to analyzing other nineteenth-century efforts to deal with complexity.

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11. Humboldt's belief in the achievement of progress through economic development can be seen clearly late in *Personal Narrative*. Humboldt expresses hope for a future relationship between Europe and the Americas in terms that sound familiar even today: he anticipates that a "noble rivalry in civilization, and the arts of industry and commerce, far from impoverishing the ancient continent, which has been so often prognosticated, at the expense of the new, will augment the wants of the consumer, the mass of productive labor, and the activity of exchange" (VI.116).

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Configuraciones de lo real maravilloso

Rocío Oviedo

El encuentro con el Nuevo Mundo desde su comienzo instaura la utopía americana. La mirada del descubridor refleja sobre la tierra que contempla el bagaje ideológico y cultural que lleva consigo. El caso americano, único en la historia, permite la combinación de la realidad y lo imaginario, de la historia y la utopía. El propio Colón descubre el Nuevo Mundo en virtud de un espíritu profético:

En las apostillas o notas marginales que ha ido escribiendo en sus dos libros de cabecera—la *Historia rerum* de Eneas Silvio Piccolomini (...) y los *Tratados* del cardenal Pedro de Aylli—se han vertido brasas muy esclarecedoras sobre el ‘fuego’ interno en que se abrasaba el inventor del viaje a las Indias.¹

Los tres escritores encuentran su punto de unión geográfico en la isla de Cuba, tradicionalmente lugar de confluencia de un eximio grupo de antropólogos, viajeros y descubridores. En sus relaciones se hacen presentes las apreciaciones histórico políticas, por supuesto, pero también las literarias. La crítica establece esta conexión al afirmar que Cuba tuvo tres grandes descubridores: Colón, Humboldt, y Fernando Ortiz.² Es decir, un descubridor, un científico y un escritor. En este caso se trata de establecer la conexión que, a través de la lectura, consideré que ligaba el pensamiento de Colón, Humboldt, y Carpentier.

1. Juan Pérez de Tudela: *Mirabilis in altis. Estudio crítico sobre el origen y significado del proyecto descubridor de Cristóbal Colón*. Madrid, Consejo Superior de Investigaciones Científicas, 1983, p.26. El subrayado es mío. Más adelante especifica los contenidos proféticos y providencialistas de Colón incluyendo la experiencia de la relevación “en las que el dictado del cielo sobre el futuro se hace palpable en el acontecer físico” y añade que para Colón “La verdadera ciencia se encierra en los profetas, de los cuales Isaías es el príncipe,” p. 84. En este último aspecto es donde reside la diferencia fundamental entre Colón y Humboldt.

2. Rodrigo Quesada Monge: *Humboldt, Bolívar y Marx. Encuentros y desencuentros necesarios*. Santiago de Chile. *Escáner cultural. Revista Virtual*. Año 2. Número 20. 12 de Agosto al 12 de Septiembre de 2000.

Existen determinadas coincidencias, incluso biográficas, que aproximan las figuras de Colón y Humboldt. Entre ellas el trato de favor que a ambos mediando siglos tan diversos, otorgaron los reyes españoles: ambos son extranjeros que reciben del gobierno español una serie de prebendas que hasta el momento ningún extranjero había obtenido, como reconoce Humboldt.

Me entregaron dos pasaportes: uno del Secretario de Estado; el otro, del Consejo de Indias. Nunca se habían hecho mayores concesiones a un viajero al darle autorización, ni nunca el Gobierno español había mostrado tanta confianza a un extranjero.³

El otro punto de contacto es el tipo de escrito que redactan puesto que se encuentra a medio camino de lo histórico y lo literario, como fuera habitual en las narraciones de viajes. Pero aún se aproximan más en el contenido de sus obras puesto que ambos adoptan como encuadre esencial el descubrimiento. Un descubrimiento signado por el asombro. El asombro, esa capacidad de admiración que más adelante denominaría Carpentier con el concepto de lo real maravilloso. Si Colón descubre nuevas tierras, la serie de expediciones llevadas a cabo por Alexander von Humboldt en el continente americano contienen a su vez rasgos que podríamos caracterizar así mismo de descubrimiento puesto que su carácter científico y su relación con el movimiento ilustrado nos lo muestran como una mirada nueva y diferente sobre América. En Humboldt tan importante será descubrir como describir.

Colón y Humboldt comparten este doble proceso de descubrimiento y descripción. Colón lo hace para mostrar a través de la pluma lo que contempla la mirada, en realidad casi con una función de otorgar nombre a lo desconocido, una función enunciativa. Ya el propio Cortés, como indicaba Carpentier explica al emperador que no hay palabras para describir “las grandezas y particularidades de ella”. “Luego para entender, interpretar este nuevo mundo hacia falta un vocabulario nuevo al hombre, pero además (...) una óptica nueva.”⁴ Humboldt, por su parte, lleva a cabo este mismo proceso desde un concepto diferente: su científicismo ilustrado indaga más profundamente en la naturaleza y averigua causas o explica consecuencias. Pero el producto, es decir, el resultado escrito, en definitiva, salvando las distancias de estilo, carácter y época, a menudo será semejante.

Es interesante advertir otro punto de relación que el sabio alemán⁵ aplica a todo el descubrimiento colombino: su tan conocida metáfora de la red y el tejido, como haces de relaciones que conectan el método historiográfico y científico. Teoría que lleva a la práctica incluso para explicar las conexiones

3. Humboldt: *Del Orinoco al Amazonas. Viaje a las regiones equinociales del nuevo continente*. Madrid, Guadarrama, 1982, p.5

4. Carpentier: “Razón de ser: Lo barroco y lo real maravilloso” en *Ensayos*, La Habana, Editorial Letras cubanas, 1984, p. 123

fluviales en el Orinoco y el Amazonas. Una ciencia de tipo relacional, que avala el hecho de que “la filosofía, la ciencia y la literatura intercambian continuamente sus saberes” como indica Ottmar Ette.⁶ Y en las propias palabras de Humboldt, una ciencia que, gracias a sus combinaciones de saberes, propicia el progreso. Un ejemplo claro lo sitúa en el Renacimiento, en el que apenas en medio siglo se produce un cambio radical gracias a la combinación de diferentes conocimientos “Behaim, Colón, Vespucci, Gama y Magallanes eran contemporáneos de Regiomontanus, de Pablo Toscanelli, de Rodrigo Faleiro y de otros astrónomos célebres que comunicaban sus conocimientos a los navegantes y geógrafos de sus tiempos.”⁷

Conceptos de la red y el tejido que propician los paralelismos históricos que nos llevan del ayer al hoy. El concepto humboldtiano se orienta nuevamente al concepto renacentista de la historia como “magistra vital”, puesto que el pasado sirve de ejemplo para la actualidad y para el futuro:

estos lugares tienen un encanto (...) y renuevan recuerdos que están ligados a los principales nombres de la monarquía española, Cristóbal Colón y Hernán Cortés”. La maravilla y el asombro es así mismo lo que destaca del segundo viaje de Colón con el recuerdo de aquel rey misterioso que solo hablaba con sus súbditos por signos. Finalmente establece la relación con la actualidad y fijándose en el cuarto viaje en el que Colón encontró piraguas de mejicanos “cargados de ricos productos y mercancías de Yucatán” y en el descubrimiento clandestino de Cortés de las costas de México—tras un más que probable conocimiento previo—concluye: “El Imperio de Moctezuma fue aniquilado por un puñado de hombres que, desde el extremo occidental de la isla de Cuba, desembarcaron en las costas del Yucatán. Y en nuestros días, tres siglos después el mismo Yucatán, parte de la Confederación nueva de los Estados libres de Méjico, casi amenaza con conquistar la costa occidental de Cuba.”⁸

5. Al igual que Colón, Humboldt es hijo de su época. Es en 1804 cuando vuelve a Burdeos y luego a París cuando se torna más americanista. Y llega a tardar casi treinta años en publicar su viaje. Para redactar su texto emprende un trabajo colosal a través de la historiografía española e hispanoamericana que le convierte en un verdadero especialista en los problemas del descubrimiento y de la colonización del Nuevo Mundo por los españoles y los portugueses.

6. Añade que el sistema jerarquizado del pensamiento occidental cuya descripción hicieran Guattari y Deleuze, quienes “destacan lo difícil que resulta desarrollar “al mismo tiempo”, lógicas relacionales, descentradas, proliferantes y rizomáticas” es seguido por Humboldt, quien “no tenía en mente erradicar una lógica binaria, centralizadora y jerarquizante, sino ensancharla y abrirla hacia formas relacionales para desarrollar así un nuevo tipo de saber transdisciplinario (...) Su lógica relacional y rizomática no quería excluir otras lógicas capaces de brindar soluciones y explicaciones; más bien quería incluirlas” Ottmar Ette, “El cosmos de Alejandro de Humboldt” en Alexander von Humboldt, *Ensayo político de la isla de Cuba* (1826). Alicante, Publicaciones de la Universidad de Alicante, 2004, p. 31.

7. Cristóbal Colón y el descubrimiento de América, p. 17.

8. Humboldt: *Ensayo político sobre la isla de Cuba* (1826), p. 200-201.

Afirmación que nos remite a Carpentier quien, al explicar cómo surge su concepto de lo real maravilloso, muestra paralelismos claros con este concepto de las redes expuesto por Humboldt, puesto que el concepto surge también de un haz de relaciones:

una primera noción de lo real maravilloso me vino a la mente cuando, a fines del año 1943, tuve la suerte de poder visitar el reino de Henri-Christophe (...)” es decir, Haití o Ciudad del Cabo, donde estuvo el palacio de Paulina Bonaparte. “Mi encuentro con Paulina Bonaparte, ahí, tan lejos de Córcega, fue, para mí, como una revelación. Vi la posibilidad de establecer ciertos sincronismos posibles, americanos, recurrentes, por encima del tiempo, relacionando esto con aquello, el ayer con el presente.”⁹

Por su parte coinciden Colón y Humboldt¹⁰ al lograr convencer de sus proyectos o lograr transmitir sus ideas a otras personalidades que serán decisivas en el destino de América: Colón influirá en el sentido utópico y paradisiaco del Nuevo Continente que tan relevante será en Fray Bartolomé de Las Casas, Humboldt en Bolívar hasta el punto de convencer a éste de la capacidad de América para alcanzar la emancipación,

así se lo hizo saber al joven Bolívar en París a su regreso de América. Bolívar tenía entonces veintinueve años. Humboldt tampoco pudo imaginar, cuando ese joven le preguntaba su opinión sobre las posibilidades de emancipación de la América hispana, que él iba a ser uno de los ejes de la misma. Simpatizaba con Bolívar y sus ideales, pero no veía en él sino a un joven soñador sin fuerza ni posibilidades para lograr realizarlos.

Sin embargo, la experiencia de Humboldt, continúa Zea, “le sirvió de estímulo para emprender la gran tarea a la que dedicó Bolívar su vida.”¹¹

Gerhard Masur confirma nuevamente que el encuentro de Bolívar con Humboldt señaló una etapa fundamental de su vida: “posiblemente fue incluso lo que hizo que reconociera cuál era la meta a la que quería llegar, y con ella su destino personal.”¹²

9. Carpentier: “De lo real maravilloso americano” en “Tientos y diferencias” *Ensayos*. Cuba, Ed. Letras Cubanas, 1984, p. 74-75

10. Otras coincidencias entre ambos tienen que ver con su defensa de la sociedad con la que se encuentran: su valoración de los avances a nivel social, científico o político, nos lo descubren en una semejanza con el propio Colón: Su criterio sobre las culturas americanas y sobre la esclavitud responden a este concepto. En su *Ensayo político sobre la isla de Cuba* (1826), explica que la esclavitud es el mal mayor que aflige a la humanidad. Insta a la búsqueda de soluciones y señala que existe un plan activo de manumisión “Se ha apoyado tanto la manumisión, favorecida por sabias leyes, que actualmente hay más de 130.000 hombres de color libres. La administración colonial encontrará los medios para mejorar la suerte de los negros discutiendo la situación concreta de cada clase y recompensando la inteligencia, el amor al trabajo y las virtudes.” Y añade “No se valora suficientemente la sabiduría de las leyes que en las nuevas repúblicas de América española, desde su origen, se han ocupado seriamente de la extinción total de la esclavitud.”

11. Zea, Leopoldo, “Humboldt y el otro descubrimiento” en *El mundo que encontró Humboldt*. México, FCE, 1999, p.12

12. Masur, Gerhard. *Simón Bolívar*. Caracas, Venezuela: Grijalbo. 1987.

La anécdota se ofrece como un ejemplo más del paralelismo entre Colón y Humboldt y es el elemento que nos permite ejemplificar con claridad la relación con lo literario y, específicamente, con el concepto de lo real maravilloso. Menos mediatizado por el obligado cientificismo de humboldtiano en virtud de la época que le corresponde vivir, surge de forma espontánea en Colón y es mucho más medida en Humboldt,¹³ pese a dicha contención, recuerda Patricia Casasa, que su “Narración de viajes está llena de informes y detalles curiosos sobre los indios, los misioneros y los colonos europeos a quienes interrogaba sobre cualquier cosa que le intrigara; aunque también está lleno de relatos sobre sus emociones, como la que experimentó en su encuentro con el jaguar. Así de amenas deben haber sido sus conferencias, salpicadas de humor y burla moderadas hacia él mismo y por ello causó furor entre la sociedad novohispana, europea e incluso norteamericana.”¹⁴

Caracteres coincidentes con lo real maravilloso en el campo de la anécdota podemos establecer varios como la descripción valorativa de los fenómenos cotidianos, la contemplación de la naturaleza en sentido trascendente, un relativo ecologismo, la aparición de la maravilla, o bien del horror y finalmente la hipérbole.

El paralelismo con la narración del *Diario* de Colón se puede establecer mediante el cotejo del tipo de anécdotas que nos relatan. Por un lado la contemplación de “fenómenos cotidianos” semejantes en ambos, que finalmente se revisten de novedad y añaden un sentido personalista que orienta al final hacia lo real maravilloso:

una golondrina vino a posarse en el mastelero. Estaba tan cansada, que se dejó cazar fácilmente. Era una golondrina campestre. ¿Qué puede mover a un pájaro a marcharse tan lejos en aquella estación y con aquella calma atmosférica?¹⁵

El informe del tercer viaje de Colón, como indica Sambrano Urdaneta contiene en sí rasgos que más adelante Carpentier caracterizará con el nombre de lo real maravilloso. Especialmente el lugar que el propio descubridor

13. a anécdota surge incluso respecto a la correspondencia, señala Charles Minguet en el prefacio a las Cartas americanas de Humboldt que poco antes de su muerte, Humboldt hizo publicar en el periódico un anuncio en que rogaba a sus corresponsales que no le escribiesen más, pues recibía unas 1600 a 2000 piezas, de la más variada índole e incluso ofrecimientos para distraerle y divertirle. “intento de nuevo (...) contribuir a que se ocupen menos de mí en ambos continentes y que no se utilice mi casa como buzón; así podría consagrarme a gusto y con toda tranquilidad a mis propias investigaciones, pese a la disminución de mis fuerzas físicas e intelectuales. Ojala este pedido de socorro, al que me he resuelto con remordimientos y demasiado tarde, no sea interpretado como una señal de hostilidad” Cartas americanas, Prólogo de Charles Minguet. Caracas, Ayacucho, 1980, p.IX.

14. Patricia Casasa García: “Latinoamérica y Humboldt. Confrontaciones y mestizajes” en Leopoldo Zea y Mario Magallón Compiladores : *El mundo que encontró Humboldt. México*, FCE, 1999, p.21.

15. *Del Orinoco al Amazonas*, op. cit. p.9

titula de Los Jardines y que más adelante son descritos como lugares paradisíacos por el propio Humboldt. La belleza de lo contemplado se acompaña de datos científicos ilustrados con un concepto armónico que escapa al propio hecho descrito:

Es la Isla de Pinos, llamada por Colón El Evangelista, y después por otros marinos del siglo XVI, Isla de Santa María (...) Los auténticos Jardines de la Reina, más próximos a Cabo Cruz, están separados del archipiélago que voy a describir por un mar libre de 35 leguas de longitud. El mismo Colón los denominó así en el mes de mayo de 1494, cuando en su segundo viaje luchó durante 58 días contra corrientes y vientos, entre la Isla de Pinos y el cabo oriental de Cuba. Describe los islotes de este archipiélago como ‘verdes, llenos de arboledas y graciosos’. En efecto, una parte de estos pretendidos jardines es muy agradable. El navegante ve cambiar la escena a cada momento y el verdor de algunos islotes parece tanto más bello cuando contrasta con otros cayos que no ofrecen más que arenas blancas y áridas. La superficie de estas arenas, calentadas por los rayos solares, parece ondulante como la superficie de un líquido. Por el contacto de capas de aire de desigual temperatura, produce fenómenos variados de suspensión y espejismo desde las 10.00 h. de la mañana hasta las 16.00 de la tarde. En estos lugares desiertos, el astro del día anima el paisaje y hierre con sus rayos, dando movilidad a los objetos, la llanura polvorienta, los troncos de los árboles y las rocas que avanzan en el mar formando cabos. Desde que sale el sol, estas masas inertes parecen suspenderse en el aire. Sobre la vecina playa, la arena ofrece el espectáculo engañoso de una capa de agua suavemente agitada por el viento. Una estela de nubes es suficiente para depositar en el suelo troncos de árboles y roquedos suspendidos, para dejar inmóvil la superficie ondulante de llanuras y disipar esta fascinación que los poetas árabes, persas e hindúes han cantado ‘como los dulces engaños de la soledad del desierto.’¹⁶

Coincidente es así mismo en ambos lo que podríamos titular como sentido ecologista: Dice Humboldt que Colón supo entrar en diálogo con la Naturaleza, “para aprehenderla con audacias de empirista, sentirla con corazón de naturalista y pintarla con inspiración y pluma de poeta.” En cambio, Hernando, biógrafo e hijo de Colón, dice que “el plan del Gran Viaje es el fruto de una convergencia de datos múltiples - naturales, de autoridades científicas y de experiencias marinerías- sintetizadas por una mente privilegiada.” La visión del Almirante que nos ofrece Carpentier es radicalmente diferente.

Este sentido paradisíaco y utópico, ecológico nos lleva al concepto armónico de la naturaleza. En su comentario sobre Colón afirma Humboldt que las Antillas eran lugares frecuentados por los pescadores. Y se detiene en el sistema de pesca que aparece en el Diario, basado en la utilización del pez

16. Alejandro de Humboldt, *Ensayo político sobre la isla de Cuba* (1826). Alicante, Publicaciones de la Universidad de Alicante, 2004, p. 194-195. 9.

pescador o revés para capturar las grandes tortugas marinas. Mediante una cuerda muy larga atada a la cola del pez “El pez pescador con un disco aplastado en la cabeza cubierto de chupones, se fijaba al caparazón de las tortugas marinas que frecuentan los canales estrechos y tortuosos de los Jardiniillos. ‘El revés—dice Cristóbal Colón—antes se dejaría hacer pedazos que soltar voluntariamente el cuerpo al que está adherido.’ Los indios retiraban con la misma cuerda al pez pescador y a la tortuga. Cuando Gómara y el sabio secretario del emperador Carlos V. Pedro Martir de Anglería, difundieron este hecho en Europa, escuchado de labios de compañeros de Colón, la gente lo tomó como una “historieta de viajes”. En efecto hay una apariencia de hecho fantástico en la narración de Anglería.¹⁷

Mantiene un sentido ecologista similar al de Colón, y al que posteriormente presentará fray Bartolomé de las Casas, con una firme convicción en la bondad de la naturaleza. Un claro acento de repulsa llena las líneas que refieren la masacre de alcatraces, ese “pelicano oscuro del tamaño del cisne de Bufón.” El ser humano civilizado rompe el espacio paradisiaco “el suelo estaba cubierto de pájaros heridos que se debatían entre la vida y la muerte. Hasta nuestra llegada, una paz profunda reinaba en este pequeño rincón de la tierra. Ahora todo parecía decir ‘el hombre ha pasado por aquí.’”¹⁸

Este mismo contenido paradisiaco era el que surgía en las cartas y los diarios de Colón, hasta el punto de que Juan Pérez de Tudela titula como “cosmografía paradisíal” el encuentro del Nuevo Mundo: “No en su Tercer Viaje, sino ya al regresar del Primero proclamó Colón que venía del Paraíso Terrenal. Y en virtud precisamente de esta certificación, no de otro hallazgo alguno, se atrevió a asegurar que había encontrado el Fin del Oriente o extremo de Asia.”¹⁹ Este sentido paradisiaco es recogido y reafirmado por Humboldt y es base esencial para la afirmación de lo real maravilloso:

De este modo lo paradisiaco se transforma en pensamiento utópico en el que se desdobra la maravilla. Lo real maravilloso americano se gesta de este modo desde su aparición para el mundo occidental: “Aquí lo insólito es cotidiano, siempre fue cotidiano. Los libros de caballerías se escribieron en Europa, pero se vivieron en América.” Humboldt dará también cuenta de la posibilidad que lo extraordinario tiene en el Nuevo Mundo. El dato científico, la hora, la temperatura, las mediciones, no hacen sino corroborar lo previamente afirmado por Carpentier: “Aquella noche observé un fenómeno muy interesante, pero

17. Humboldt *Ensayo político sobre la isla de Cuba* (1826) op. cit. p. 197. Y de nuevo hace su aparición la teoría de las redes, cuando añade que es un modo de pesca similar en costumbres a otros que tienen lugar en China o en África e incluso en México de manera que pueblos “que jamás tuvieron comunicación entre sí manifiestan analogías evidentes en los medios propios para hacerse con los animales.”

18. *Ensayo político sobre la isla de Cuba*, op. cit. p. 200.

19. Juan Pérez de Tudela: *Mirabilis in altis. Estudio crítico sobre el origen y significado del proyecto descubridor de Cristóbal Colón*. Madrid, Consejo Superior de Investigaciones Científicas, 1983. p. 417.

que no trataré de interpretar. Eran algo más de las doce y media; el viento soplabla débilmente del Este, y el termómetro marcaba 23,2 grados. La Luna llena se hallaba muy alta en el firmamento. De pronto, se formó al lado del astro, 45 minutos antes de su paso por el meridiano, un vasto arco que representaba todos los colores del espectro, pero que era de aspecto inquietante. Se extendía por encima de la Luna; la banda con los colores del iris mediría una anchura de 2 grados, y su extremo parecía estar de 80 a 85 grados sobre el horizonte marítimo. El cielo aparecía completamente sereno, sin la menor señal de lluvia; pero lo que más me llamó la atención fue que aquel fenómeno, semejante en absoluto a un arco iris, no se hallaba frente a la Luna. El arco siguió inmóvil unos ocho o diez minutos (...) en el momento en que trataba de comprobar si era visible por reflexión en el espejo del sextante, empezó a correrse hacia abajo, por encima de la Luna y Júpiter (...) Eran las 12 h.54 m. (hora solar) cuando el extremo del arco desapareció bajo el horizonte.”²⁰ ¿Cuál sería la explicación, los marinos lo tildaron de meteoro, y sin embargo, Humboldt rechaza la explicación lógica al añadir que Arago al estudiar el dibujo del arco que figura en el diario de Viaje, afirmó que la luna reflejada en el agua no podría haber originado un arco semejante y la rapidez de su movimiento también hace inexplicable el suceso (2 de diciembre).

Frente a la maravilla otro modo de asombro es el horror, como ocurre en su viaje al volcán del Pichincha “creo que no hay imagen para describir algo más triste, más lúgubre y más aterrador que lo que vimos. La boca del volcán forma un agujero circular de más de una legua de circunferencia, cuyos bordes, tallados a pico, están cubiertos de nieve en lo alto; el interior es de un negro intenso, pero el hueco es tan inmenso, que se disintguen las cimas de muchas montañas ubicadas ahí dentro.” Tras su visita tiene lugar “un temblor de tierra muy fuerte en Quito. Los Indios lo atribuyeron a los polvos que yo había echado en el volcán.”²¹

La hipérbole, que se ha señalado así mismo como retórica propia de lo real maravilloso, aparece también con frecuencia: “La erupción del volcán duró siete años, y el manuscrito de Zalpa pretende que la lluvia de cenizas en Lican era tan abundante, que durante siete años se hizo la noche perpetua. Cuando se mira la cantidad de materias volcánicas que se encuentran en la llanura de Tapia, alrededor de la enorme montaña que se desmoronó (...) se puede creer que la exageración no es tan desproporcionada.”²²

20. Del Orinoco al amazonas, p. 338.

21. Del Orinoco al amazonas. *Cartas americanas*. Compilación, prólogo, notas y cronología Charles Minguet. Caracas, Ayacucho, 1980, p.95.

22. *Cartas americanas*, op. cit. p.97.

La Firma De Colón

Por último para completar este recorrido en el triángulo que desarrollan Colón, Humboldt y Carpentier nos vamos a referir a otro de los contenidos que interfieren en el concepto de la utopía colombina, punto de intersección y de inflexión de lo real maravilloso. Ya Humboldt argüía la devoción del Almirante que lleva a cabo en su firma de tal manera que recomienda a su hijo utilizar la misma que él usó. La X...S referida a Christus y M...A resferida María Sancta. Y añade” La última letra de las desinencias está colocada por encima de X, M, Y, como algebraicamente se coloca un “exponente”. Para llegar al misterioso número de las siete letras, la S de *María Sancta* se encuentra encima de toda la firma cifrada del Almirante (p. 293: Alejandro Humboldt, Descubrimiento de América).

Sentido providencialista que conlleva el Christopherens y que subraya, como indica Juan Pérez de Tudela la conversión de Colón “la imagen legada por la historiografía nos propone la de alguien que sólo en la travesía de las Indias hubiera encontrado su camino de Damasco” y añade “Colón, no desde su victoria, sino a partir de la maravilla que un día mostró el océano, ha comenzado la carrera especulativa que le convertirá en Cristóferens”. En la carta prólogo al Libro de las Profecías su objeto será convencer a los Reyes “de que el descubrimiento de las Indias, seguido de la predicación del Evangelio en ellas, ha traído a cumplimiento los vaticinios de la Escritura – Viejo y Nuevo Testamento con lo que se anuncia el próximo acabamiento del mundo, tan pronto como 155 años (...) Ante de eso (...) ha de realizarse (...) la conquista de Jerusalén en el mundo cristiano.”²³

Sin embargo la visión de lo real maravilloso se viste de espejo deformante en Carpentier para hacernos contemplar la acción que se desarrolla de un modo desafortunado. Es la picaresca la que reviste la acción de Colón. Si Colón y Humboldt posan su mirada sobre la naturaleza americana y de ahí deviene el sentido utópico, la mirada crítica de Carpentier lo hace sobre la figura de Colón,²⁴ y sirve de diapasón frente a la maravilla americana. Porque la escritura de Carpentier es barroca y por tanto se sirve de la antítesis y del contraste: “América, continente de simbiosis, de mutaciones, de vibraciones, de mestizajes, fue barroca desde siempre.”

Pese a esta semejanza entre la crónica literaria y la crónica histórica podemos hacer nuestras estas palabras de Carpentier que resumen el sentido utópico de la visión colombina y humboldtiana:

23. Cristobal Colón, una historia nueva del descubrimiento. Pamplona. Liber eds. p. 13

24. El valor que Humboldt otorga a Colón viene acompañado por una serie de consideraciones científicas, mientras que en el caso de Carpentier la valoración de la figura colombina es sentimental, es decir, se mueve en el terreno de la subjetividad.

por la virginidad del paisaje, por la formación, por la ontología, por la presencia fáustica del indio y del negro, por la revelación que constituyó su reciente descubrimiento, por los fecundos mestizajes que propició, América está muy lejos de haber agotado su caudal de mitologías. ¿Pero qué es la historia de América toda sino una crónica de lo real maravillosos?²⁵

25. Carpentier: "De lo real maravilloso americano" op. cit. p.79.

The Birth of the Two Cultures

Laura Dassow Walls

Alexander von Humboldt presents a paradox for Americans: at once ubiquitous in American culture of his own day, soon after his death in 1859 he sank out of sight. By the twentieth century, outside of specialist studies he generally appears only in the occasional footnote, where he is not infrequently confused with his brother Wilhelm. Thus scholars who wish today to write of Humboldt to an American audience must begin by establishing, first, who he was, and second, that despite his “obscurity” he was in fact important enough to deserve rediscovery and reconsideration; that, indeed, any study of nineteenth-century American literature and culture, let alone of science, is radically incomplete if it fails to include an understanding of Humboldt’s centrality to the self-fashioning of the United States. The fact that he has so largely disappeared from scholarly and popular memory in a country that once claimed him so fervently appears as a puzzle. His absolute absence suggests more an active excision than a mere lapse—not merely a forgetting but an erasure. This essay suggests one part of the answer: Humboldt championed aesthetic forms that emerged from the particulars of nature, and scientific forms that embraced, rather than excluded, the subjectivity of the observer. This put him on a collision course with the emergent concept of “objectivity,” such that Humboldt’s bold, experimental texts were absorbed, reshaped, and in large part silenced by the split we have come to know as “the Two Cultures.”

The boundary between what could and could not count as science was erected by Immanuel Kant in 1786, in his *Metaphysical Foundations of Natural Science*. Doctrines of nature could count as science only if their underlying natural laws were cognized a priori, and were not simply generalizations after the fact, “not mere laws of experience” (4). Kant’s difficulty lay with the word “nature,” that is, the manifold of existing things. To erect his boundary,

Kant separated natural science from natural history, saying of the latter that whether it consisted of a description of nature (eg. taxonomy) or a history of nature (ie. “a systematic presentation of natural things in different times and in different places”), neither could be derived according to the internal principle by which the manifold objects of nature cohere into a whole (3-4). Since it could not be derived according to an internal principle, natural history did not make the cut. Newton’s *Principia* exemplified science; Humboldt’s *Cosmos* did not.

In *Cosmos*, Humboldt defends himself from this judgment by stating, a bit sarcastically, that his purpose is not “to reduce all sensible phenomena to a small number of abstract principles, based on reason only.” His “physical history of the universe” does not “pretend to rise to the perilous abstraction of a purely rational science of nature”—rather, “devoid” of such “profoundness,” he attempts only a “rational empiricism, a contemplation of the universe” based “upon the results of the facts registered by science, and tested by the operations of the intellect” (*Cosmos* I: 49). Deprived of the unity provided by Kant’s required “internal principle,” Humboldt points instead to the unity of “historical composition:” accidental individualities and essential variations simply cannot be “deduced from ideas alone” (*Cosmos* I:49-50). In short, one can’t sit in a Königsburg salon and deduce what tropical South America looks like: one must get up and go there. So Kant can have his principles; Humboldt will take everything left over, which is, pretty much, everything; and he will comprehend it in his (ahem) “*science of the Cosmos*” (*Cosmos* I: 55).

Humboldt thus insists that his enterprise is historical: both civil history and the description of the universe must be derived empirically, from facts on the ground, with an eye to understanding the physical and moral forces that interconnect nature into “one great whole...animated by the breath of life” (*Cosmos* I: 24). Humboldt’s assumption that civil and natural history are cognate has two interesting consequences: first, nature describes a narrative. Its present appearance cannot be understood “without pursuing, through countless ages, the history of the past,” for present and past are “reciprocally incorporated, as it were, with one another,” just like languages, whose present-day idioms developed slowly over time. Even so do volcanic domes and lava flows excite our imagination by awakening an association with the past: “Their form is their history” (*Cosmos* I: 72). Second, just as an etymologist is needed to read the history of language, so does the history of nature need to be actively read, interpreted. Nature’s text has been open to all humanity across all human time, available for the reading, but the work of learning to read that text has taken eons, and will never exhaust itself. This is the work “of observation and intellect” (*Cosmos* 1:23), of eye and mind, in which Humboldt will be a participant observer.

Humboldt tried to indicate both the scope and history of that work in *Cosmos*. The title was carefully chosen: Humboldt knew it was audacious, but encouraged by his friends, he stuck with it. Briefly put, “*Cosmos*” referred to the universe as a “harmoniously ordered whole” (*Cosmos* I: 24). Key to Humboldt’s use of the ancient Greek word was its double references, both to what Henry David Thoreau (a close reader of Humboldt) called “hard matter and rocks in place,” or the physical universe as it exists apart from humanity, and to the beauty and order of that universe, which are ideas intrinsic to humanity.¹ In short, the universe exists without us, but it exists as a *Cosmos* only through our minds. Humboldt acknowledges that most “cultivated languages” reflect a contrast between nature and mind, but insists that we must not therefore be led to separate the two, lest doing so reduce science to “a mere aggregation of empirical specialties.” Humboldt’s point is key: our only access to the world is through the mind, and so “does the external world blend almost unconsciously to ourselves with our ideas and feelings” (*Cosmos* I: 76). The world is known to us only through our mind, and our mind is known to us only as we engage the world: the two form a phenomenal unity. Only in the dance of world and mind, object and subject, does the *Cosmos* come into being.

In presenting the *Cosmos*, then, Humboldt writes a two-volume introduction reflecting what he calls this “two-fold aspect.”² The first part, volume I, describes nature “objectively, as an actual phenomenon” (*Cosmos* II: 62): following a lengthy prolegomena on the nature of science, Humboldt surveys the heavens and the earth, all things from stars and nebula to the earth as a planetary body, its geography and meteorology, and life forms from plants and animals to the races of man. Once he reaches the threshold of mind, Humboldt concludes Volume I and begins Volume II, where he takes up nature “subjectively, as it is reflected in the feelings of mankind” (*Cosmos* II:

1. Thoreau’s deep debt to Humboldt is detailed in Walls, *Seeing New World: Henry David Thoreau and Nineteenth-Century Natural Science* (Madison, Wisconsin: University of Wisconsin Press, 1995), 94-166. In this text I propose that Thoreau’s interest in natural science led him to an emergent form of romanticism, “empirical holism,” that approached the great whole of nature not as a transcendent unity best apprehended by thought (as in mainstream romanticism, or “rational holism”), nor as a gigantic mechanism best understood by predictive law, but as a “republic of particulars” best approached through study of the interconnections of its individual, constituent parts—an approach pioneered by Humboldt. I argue that the character of Thoreau’s involvement in science distinguished him as “a Humboldtian empirical naturalist” who sought to join poetry, philosophy, science and society into a harmonized, emergent whole (4). Through this study I have come to see Humboldt as of particular importance to nineteenth-century American culture more widely, a crucial element in the wider picture of America’s coming to be.

2. *Cosmos* was published in German in 5 volumes from 1845-1862, and immediately translated into English; the standard translation is by Elise Otté, published in London (1849-58) and republished in New York (1850-70). The first two volumes were of broad popular interest, and were international bestsellers; the following volumes were much more technical. The final German volume has never been translated into English.

62): from modes of representing nature in poetry, painting, and gardening, to a history of feeling for nature from the ancients Greeks, Hebrews, and Indians through Goethe, to a history of the aids to comprehending the Cosmos provided by science, exploration, and instrumentation. These volumes climaxed Humboldt's long lifetime of work, in which, as Mary Louise Pratt has argued, he sought "to reframe bourgeois subjectivity, heading off its sundering of objectivist and subjectivist strategies, science and sentiment, information and experience" (119). So one could say, as has often been said, that Humboldt's two-fold attention joined poetry and science, championing aesthetic forms that were attentive to the particulars of nature, and scientific forms that would embrace rather than exclude the subjectivity of the scientist.

I would suggest, further, that Humboldt's project was aesthetic before it was scientific—but his was an aesthetic that, uniquely, was completed in science. For Humboldt, human experience of nature ideally inscribed a sort of hermeneutic spiral: the initiating move is pleasure in Nature's beauty, an openness to sensual delight that in turn opens the creative imagination. Rather than passive enjoyment, the creative imagination seeks active connection, reaching from the particulars to ever-higher generalizations, initiating the quest for knowledge. Rather than quelling pleasure, knowledge actually enhances it, and so the spiral is engaged. Poetry plays into science which plays "reciprocally" into poetry; "austere reason" (*Cosmos* I: 78) investigates, creative imagination prompts new discoveries, and in their concert the Cosmos grows ever larger.

As for society, Humboldt's spiral implies, and requires, a free play of the human faculties, a play easily discouraged by oppressive governments. In his optimistic viewpoint, while such governments may prevail for a time, the course of the Cosmos is ultimately against them, since freedom is the ultimate condition of nature. Hence Humboldt's aesthetic science has a deep moral and political direction: "The principle of individual and political freedom is implanted in the ineradicable conviction of the equal rights of one sole human race. Thus...mankind presents itself to our contemplation as one great fraternity and as one independent unity, striving for the attainment of one aim—the free development of moral vigor." His narrative of the Cosmos becomes a narrative of the advances and setbacks experienced across history by this "powerful progressive movement" which "elevates and animates cosmic life," for despotic governments, though they may prevail temporarily, must finally give way to liberty, equality, and the "fraternity" of humankind (*Cosmos* II: 199). Humboldt's attempt to write the *Cosmos* as a popular book witnesses his conviction that the knowledge gained by science "is the common property of mankind" (*Cosmos* I: 77), not of a cultured elite.

Three consequences follow from Humboldt's populist aesthetic of knowledge: first, science is above all else an act of writing: everything Humboldt did in South America would have lost to the *Cosmos* if his notes and collections had failed to arrive in Europe and if he had failed in his heroic feat of publishing the thirty volumes of his results. Second, Humboldt's subjectivity is always present in the text as a shaping intelligence, the active "reader" and interpreter who is distilling from the universe the order and beauty of the *Cosmos*. Third, Humboldt's science is, therefore, a form of literature, present in and responsive to the literary demands of its time. These consequences seem straightforward enough, but they do make of Humboldt something of an anomaly, since science writing has only recently, and controversially, been accepted as a literary form. Critical treatments of Humboldt reflect his anomalous position. He is said to combine French Enlightenment materialism with German Romantic idealism (see Dettelbach), to be a "transitional" figure from the Enlightenment to Romanticism, or to have "fallen between the two stools" of literature and science, neither literary nor scientific enough to claim a part in mainstream traditions. Critics particularly note that Humboldt's narrative clarity was compromised by the weight of his factual knowledge. Scott Slovic remarks that his prose is "smothered" under floods of information; Nigel Leask also notes that Humboldt's *Personal Narrative* is choked by his so-called "general considerations," "like some virulent tropical parasite smothering its host" (Leask, 295). Judged as a literary figure, Humboldt has been found wanting.

The fact that Humboldt does not fit our categories has had the unfortunate effect of marginalizing him. His potential British and American readers today are inheritors of the very Romantic tradition Humboldt resisted, and by reading him from within that tradition, he can be called, at best, only a limited success. For this is the very tradition that definitively split literature from science, subjective from objective, the lonely, soul-searching artist from the self-effacing collectivity of science. As Lorraine Daston has written, by the mid-nineteenth century, "subjectivity became synonymous with the individual and solitude; objectivity, with the collective and conviviality" (118). Is Humboldt, then, a hybrid? Does he destabilize the conventional categories? Or is he simply a failed writer and an obsolete scientist?

Framing the question in these terms foregrounds the role played by "objectivity" in Humboldt's work. As both Daston and Peter Galison have written, "objectivity" is now a fighting word, hopelessly confused, meaning, variously, the empirical, the rational, the "really real," and/or the merely bloodless (Daston, 110; Galison, "Judgment" 327). Both these historians of science write helpfully about the historical formation of objectivity, and while I will have a little more to say about Daston in a few moments, here I

would like to concentrate on Galison's thumbnail genealogy. Galison identifies three stages in the history of objectivity from Goethe's day to our own. Pre-1800, the concept of "truth to nature" existed, but it had little to do with objectivity in its modern sense, a sense that was first articulated by Coleridge. Rather, it called for "a set of practices" performed by a natural philosopher who idealized and corrected "the unreliable appearances of the given"—who revealed the essence behind appearance. The most familiar example would be Goethe, chasing his Ur-plant across Italy, certain that behind each and every particular plant must be one essential plant that enfolded them all. For as Goethe wrote in 1792:

[A]n anatomical archetype [Typus] will be suggested here, a general picture containing the forms of all animals as potential, one which will guide us to an orderly description of each animal... The mere idea of an archetype in general implies that no particular animal can be used as our point of comparison; the particular can never serve as a pattern [*Muster*] for the whole (Galison, *Objectivity*, 17).

Such knowledge required massive intervention by a very active mind. Goethe understood that in learning to see objects, he was really learning to see himself by grasping the idea that subtended all appearances, including his own. Herein, however, lay the great and obvious danger that such a mind would, in fact, reveal only itself. According to Galison, to counter such a temptation a second set of practices arose around 1830 that valued, instead, self-abnegation, self-denial. "Instead of truth to nature, these scientists aspired to let nature "speak for itself" through a set of instruments that minimized intervention, hamstrung interpretation, and blocked artistic license" (Galison, *Judgment* 328). As Galison documents, such practitioners aspired to be as transparent and as replaceable as the machines they employed. This "mechanical" objectivity, after dominating scientific representation for a century, was displaced around the 1920s by a third view, a "judgmental" objectivity, which employed the expert judgment of trained and skilled practitioners to interpret phenomena under the belief that "the expertly trained eye can often sort phenomena more quickly and effectively than the rote application of a mechanical protocol" (*Objectivity*, 20). This is the regime we are still in, though Galison cautions against the belief that earlier generations were "mistaken" and we have finally and permanently got it right; our practices, too, may be rooted in the conventions of academic science.

Where, in this well-documented scheme, might Humboldt fit? A writer like Joan Steigerwald sees him in the Goethean metaphysical tradition, reading behind "the myriad species of plants" to a few groups of "Urformen or original forms" (317). Yet she acknowledges that Humboldt "developed his

studies in a unique way,” seeking not essential forms but collective impressions produced by vegetation in interaction with physical environment and registered by the discerning eye of the landscape painter. By emphasizing the role of perception, Humboldt opens the possibility that the same materials might take different inquiries in different directions (319). While I would agree that Humboldt bears traces of his Weimar classicism, I would argue that his emphasis on the multiple interactions among the triad of subject, object, and environment fractures and disperses the pre-Romantic ideal of “truth to nature.” Humboldt is not a younger Goethe seeking the metaphysical “Real” in the jungles of South America.

Yet neither does Humboldt fit entirely comfortably with the dominant regime of his maturity, what Galison, as we have seen, calls “mechanical” objectivity. The hallmark of this viewpoint was the death of the viewer, that “willing, desiring, intending, and schematizing self”; since the self was implicated, the solution was, first, to rigorously exclude the self, and then to silence it. Both Galison and Daston quote Coleridge, whose statement in his 1817 *Biographia Literaria* was foundational:

Now the sum of all that is merely objective we will henceforth call nature, confining the term to its passive and material sense, as comprising all the phenomena by which its existence is made known to us. On the other hand the sum of all that is SUBJECTIVE, we may comprehend in the name SELF or INTELLIGENCE. Both conceptions are in necessary antithesis. Intelligence is conceived of as exclusively representative, nature as exclusively represented; the one conscious, the other as without consciousness (Quoted in Daston 113).

These words, of course, were a creative misunderstanding of Kant, cheerfully plagiarized from Schelling. At a stroke they separate objective from subjective in order to restore them to each other through the Transcendental caveat that the objective world was available to us only through our subjectivity. Thus far Humboldt has already taken us, but he hesitated to take the next step, which demanded that the active, shaping self must be repressed “for us to be open to knowledge” (Galison, *Objectivity*, 27). In this condition, the desire to know forces upon us the responsibility to be “objective,” to get out of the way and let the facts speak for themselves. It is true that Humboldt will pointedly recommend an apparently similar move, as when, in *Cosmos*, he suggests the reader lay aside his “subjective,” terrestrial interests to see the universe from a stellar point of view (I: 83); but Humboldt does so in the spirit of old-fashioned disinterestedness, the necessary capacity to set aside personal involvement to make fair-minded aesthetic or moral judgments. Rather than ventriloquizing nature, his nature speaks through many layers of instruments and interpreters. By contrast, the true Romantic goes farther and

demands more: the utter death of the self. No mediation can be allowed lest it distort the voice of nature. George Levine, in his cleverly-titled *Dying to Know*, quotes the Victorian physicist John Tyndall's popular essay on the lofty virtue of self-renunciation, "this loyal surrender of himself to Nature and to fact": "When prejudice is put under foot and the stains of personal bias have been washed away—when a man consents to lay aside his vanity and to become Nature's organ—his elevation is the instant consequence of his humility" (4). Where Tyndall speaks of an elevating self-denial, the metaphor is stronger in a writer like Thomas Carlyle, who recommends "Selbst-Tödung" in a religious fable of death and resurrection. As Levine writes, "Except it die, it cannot know"(5).

I have not read every word Humboldt wrote, but I dare say that nowhere in Humboldt will one find anything like Tyndall's paean to humility. Yes, one does find an insistence on the necessary role of objectivity to the work of the scientist, as when Humboldt cautions that the astronomer "who measures patiently, year after year, the meridian altitude and the relative distance of stars," or "the botanist who counts the divisions of the calyx, or the number of stamens in a flower," do not feel their imaginations warmed by their tedious and laborious work—that, in fact, "is the very guarantee of the precision" of their labors. Yet the measurements of the one and the detail of the other "alike aid in preparing the way for the attainment of higher views of the laws of the universe" (*Cosmos* I: 39). The imagination may give us wings, but as Bacon long ago had stressed, without the weight of labor, the imagination soars only into empty and fruitless space. That is the necessity of our knowing anything real, and Humboldt scoffs at those who foster the "prejudice" that the exacting labor of science "must necessarily chill the feelings" and dull the pleasure of the student of nature. Every step in the journey toward knowledge has its pleasures; even the tedium of measurement has its savor of keen anticipation (*Cosmos* I: 40-41). The way upward may be prepared by cool reason, but it is completed by passionate imagination. This is not a self "washed away," but a self invoked.

As science works upwards from fact to joy, so poetry and painting must work downwards from the spontaneous joy we feel in nature to the analysis of Nature's individual objects and forces (*Cosmos* I: 27). Pastoral romance, opines Humboldt the literary critic, is "cold and wearisome": "individuality of observation can alone lead to a truthful representation of nature" (*Cosmos* II: 68). This is the basis for Humboldt's entire aesthetic, what I have called his "empirical holism:" "Descriptions of nature," he reiterates, "may be defined with sufficient sharpness and scientific accuracy, without on that account being deprived of the vivifying breath of imagination." The poet familiar with the resources of poetic tradition and his native language, who

uses those resources to describe his own first-hand impressions, will not fail to impress his readers: “for, in describing the boundlessness of nature, and not the limited circuit of his own mind, he is enabled to leave to others unfettered freedom of feeling” (*Cosmos* II:81). While the goal might be unfettered freedom, that goal cannot be confused with the process, which demands hard and disciplined work whether one works with language, paint, or scientific instruments.

I believe that Humboldt’s attention to the “busy-ness” of scientific labor—the astronomer measuring, the botanist counting—pervades all his writing and undercuts the kind of Romantic or mechanical objectivity that demands the death of the author. The descriptive, scientific sections of *Cosmos* are permeated with the language of comparison and measurement, of “aspects” and impressions. Observations are tied to specific observers and studded with footnotes. I would argue, though I don’t have the space to demonstrate this here, that this is characteristic of all of Humboldt’s popular writing. In this sense he is, perhaps surprisingly, not writing a narrative of nature after all, but a narrative of science, to use terms adopted from the linguist Greg Myers. That is, science writing deploys two basic strategies: in the “narrative of nature,” the plant or animal or phenomenon is the subject, the narrative is chronological, and the syntax and vocabulary emphasize Nature’s externality to scientific process. On the other hand, the narrative of science follows the argument of the scientist, arranging time into a series of parallel events all supporting the claim, and emphasizing in “syntax and vocabulary the structure of the discipline” (Myers, 142). What’s striking here is that today the narrative of science characterizes professional science writing, while the narrative of nature is the common popular form of science writing—in which, in other words, following the ideology of objectivity, the agency of the working scientist is suppressed so that nature appears to speak directly to us. Humboldt, therefore, defies the generic division between popular and professional science writing. I would speculate that by foregrounding the agency of the scientist, including himself, Humboldt is experimenting with a genre of popular science writing that defied the emerging ideology of scientific authority, including the demand that the scientist himself “die” out of the text, and so, at least in Anglo-America, came to be widely rejected as unscientific.

If my suggestion is correct, it complicates the frequent assertion that Humboldt’s writing is “disembodied” or, in Lorraine Daston’s terms, “aperspectival,” taking this to mean the ideal which by eliminating all personal idiosyncracies created Thomas Nagel’s oxymoronic “view from nowhere.” Yes, Humboldt does wish to set aside his personal idiosyncracies. Critics often complain about the impersonality of his so-called *Personal Narrative*. And yes, he does aspire to the view from the mountaintop—literally so, if

there are any mountains in the neighborhood (So, by the way, did Goethe). However, Humboldt's reluctance to structure his argument chronologically would be appropriate if he aspired to a narrative of science rather than nature; furthermore, while he may not chatter on about his autobiography, he does constantly refer to particular incidents in his experience and, whenever he deems it relevant, doesn't hesitate to insert his personal impressions about a region or a phenomenon. For example, Humboldt completes his scientific account of earthquakes by describing how they feel. "A moment destroys the illusion of a whole life," he writes; "we no longer trust the ground on which we stand." Animals feel anxious too: Orinoco crocodiles "leave the trembling bed of the river, and run with loud cries into the adjacent forests" (*Cosmos* I: 215-16). Since the impression nature makes on the human being is part of Humboldt's *Cosmos*, his account of the *Cosmos* would be incomplete without recording, as points of relevant data, his own impressions. Sometimes these "impressions" even interfere with the process of science, as when his patient stellar measurements cannot be completed because the ferocious attacks of Orinoco insects make it impossible to steady the instruments.

Taken as science writing, then, Humboldt's popular works, while they do repress his personal ego, consistently value the impressionistic and call attention to the agency of the active, measuring, noticing, collecting scientist. When he consciously attempts to move that agency into the background, as in *Views of Nature*, the resulting prose, as critics have remarked, is dizzying, dramatic, hyper-kinetic (see Slovik, and Pratt: 121-25). It leaps across scale levels from a bee on the hand to a view of the world, across continents and oceans and centuries. Instead of a view from nowhere, his gymnastic prose offers a view from everywhere: Humboldt paints a view of Nature "in the universality of her relations," lest by isolating facts he gives currency to "false ideas." The ties which unite the most varied phenomena—plants, animals, soil, rocks, air, mankind—can be discovered "only when we have acquired the habit of viewing the globe as a great whole," such that the least thing or the greatest is visible as a nexus of natural forces (PN I: 104-5). The result, as Pratt remarks, is a prose that can be exhausting to read: as Humboldt works hard, so does he expect his reader to work too.

Another result, ironically, undercuts one of his most important goals: that his vision and his working methods be shared. Humboldt does not, that is, claim that his is a transcendent genius, caught in rare visionary moments and available only to the privileged few (Compare nineteenth-century stereotypes of Newton, and in our own time, of Einstein). Contemplation of the *Cosmos* is "the property of all mankind," and he strives to write for both his fellow elite and for those who will never measure a meridian altitude. This means he must worry about how best to "remove the scaffolding" of observation,

experiments, and calculations so that general views may be made available to all (*Cosmos* I: 46-48). In effect, he must teach the reader how to read not only Nature, but Humboldt: “to recognize unity in the vast diversity of phenomena, and by the exercise of thought and the combination of observations, to discern the constancy of phenomena in the midst of apparent changes.” Descents to “very special facts” are occasionally necessary, he warns, but only thus can actual connections be traced and the whole of nature be approached (*Cosmos* I: 61). In part, of course, Humboldt succeeded brilliantly. In the United States, some of his readers went on to change the face of American landscape painting, American literature, and the North American continent itself. Yet in adopting his methodology, the great man himself disappeared. His signature was not his own unique organizing consciousness, but the power of any organizing consciousness. Thus Humboldt could never point to a flock of disciples all claiming allegiance to their famous leader, a fact noted by one of his most famous protégés, Louis Agassiz, in his memorial address of 1869: “Every school-boy is familiar with his methods now, but he does not know that Humboldt is his teacher. The fertilizing power of a great mind is truly wonderful; but as we travel farther from the source, it is hidden from us by the very abundance and productiveness it has caused” (Agassiz: 5-6).

Yet for a while at least, everyone knew Humboldt’s name, and here lies the irony. His planetary consciousness was predicated on the hope that everyone could participate. His was a collectivist, populist vision that can be traced right back to his enthusiasm for the French Revolution. As he showed, creating the *Cosmos* was a project of the whole human race. Yet even as democratic, populist America absorbed his ideals and celebrated his name, it became a truism that Humboldt was so great, so expansive, such a virtuoso of all knowledge, that no one could ever replace him. In seeking to avoid transcendence, Humboldt brought it on himself, and so made himself curiously irrelevant to later generations. Who could follow in such footsteps? His program was fragmented, bureaucratized, mechanized, professionalized, and as Agassiz remarked, the new armies that grew up using his maps and his methods forgot his very name.

To summarize and conclude: objectivity was born out of the cauldron of German-Anglo idealism, and with it, the disciplined disarticulation of objective and subjective that led to the crystallization of science and literature as antithetical intellectual realms. We know this and brand it with our own truism, the “Two Cultures,” the unforgettable term coined in a forgettable lecture by C.P. Snow that ever since has named both a fact and, for some, a discontent. Recently, more and more voices have called for a consilience of the humanities and the sciences, for while the disciplinary limits they desig-

nate have been powerfully productive, the realities of the 21st century defy those limits, and we are still groping for a language and a methodology by which mind can be restored to nature. Two hundred years ago, Humboldt was working out a different trajectory, a bold and experimental form of discourse that articulated subject and object together and that bound the arts and sciences in a mutual spiral of beauty and knowledge, discipline and freedom. Yet modernism, as it developed, absorbed and reshaped Humboldt's project into its own, and in its terms, Humboldt appears to us as a curiosity, a fascinating, larger-than-life figure who fits poorly into our historiographies and so, despite his evident importance, seems marginal to all but the most specialized scholarly inquiries. For those of us who seek consilience today, the question might be: Is some version of Humboldt's aesthetic science retrievable? Or is he simply an anomaly, an intellectual platypus? It would be still another irony if the man who rejected mere curiosities, who saw every object and every phenomenon as a nexus in the web of being, should become no more than a curiosity himself.

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Luisa V. De Castillo

Introducción

En su obra *Cosmos* Humboldt afirma:

para que esta obra sea digna de la bellísima expresión de *Cosmos*, que significa el orden en el Universo y la magnificencia en el orden, es necesario que abrace y describa el gran Todo; es preciso clasificar y coordinar los fenómenos, penetrar el juego de las fuerzas que los producen, y pintar en fin, con animado lenguaje, una viviente imagen de la realidad, que comprende desde las profundidades del espacio ocupadas por las nebulosas más remotas, la zona de las estrellas, de que es una parte nuestro sistema solar, la esfera terrestre con su envoltura gaseosa y líquida, con su forma, su temperamento y su tensión magnética, hasta los seres dotados de vida que la acción fecundante de la luz desarrolla en su superficie.¹

Humboldt afirma que para abarcar toda la naturaleza como un Todo, es necesario contemplarla bajo dos aspectos, el científico y el literario. Después de haber observado los fenómenos en su realidad objetiva, con sus contornos fijos y todo el rigor de la ciencia, expresarlos en una forma literaria, que refleje los sentimientos de la humanidad. En el segundo tomo de su obra *Cosmos*, con el título de *Estímulos para el Estudio de la Naturaleza* se ocupa especialmente del aspecto estético de su concepción Total.

Como científico estaba dentro de la corriente del positivismo de la ciencia, que renuncia a todo lo trascendente, que se reduce a la averiguación y comprobación de las leyes dadas por la experiencia, y ello no sólo para los fenómenos físicos, sino también para los puramente espirituales, para el mundo de lo social y moral.

1. Alejandro de Humboldt. *Cosmos. o ensayo de una descripción física del globo*. Madrid: Ed., Vicente García T. 1851-185.

Los dos medios que posee el hombre para la descripción de la Naturaleza son las expresiones estéticas y la pintura...Al efecto afirma Hanno Beck: “inseparablemente ligados a estos resultados científicos de Humboldt se encuentra el ideal clásico humanista y una teoría del arte cuyo realismo se revela tanto en el estilo como en el dibujo.”² Aspiraba a una comprensión científica, que con la ayuda de la imagen real, vendría a ser profundizada y enriquecida. Principalmente le interesaba hallar objetivos visuales, de los que se servía como un pincel fino, a fin de conformar los cuadros en una forma atractiva y a la vez fiel a la naturaleza.

Su obra *Cuadros de la Naturaleza* es un testimonio abierto por primera vez de una nueva literatura, en la que la topografía está mezclada con consideraciones de carácter científico e histórico. *En su Ensayo de una Geografía de las Plantas* nos habla de ese mundo tropical que le causó un gran asombro. Trata de representar cómo influye esa naturaleza sobre el carácter y el sentimiento de los pueblos y lo expresa por medio de la forma literaria y la pintura...El nombre de “selva” primitivo, dice Humboldt, corresponde sólo a los trópicos, porque se trata de un territorio impenetrable en el que no se puede abrir camino con el hacha, pues existen árboles hasta de 12 pies de diámetro. Existen en el Orinoco y en el Amazonas. Debe su exuberancia maravillosa a la influencia combinada de la humedad y el calor. Una característica es la multiplicidad de especies y los ríos con sus innumerables afluentes que son los únicos caminos del país, navegando en un tronco de árbol tallado formando una canoa. La prueba de la impenetrabilidad la proporciona el jaguar, el gran tigre de América.

Admiraba las descripciones de la Naturaleza de Buffon y Bernardin de Saint Pierre, que son capaces de procurar al alma los goces más nobles, además de atestiguar cómo la historia del hombre y de la civilización se relaciona con las ciencias naturales, pues si el comienzo de la civilización es determinado por sus condiciones físicas, al menos el carácter de un pueblo, el humor sombrío o alegre del hombre dependen principalmente de sus condiciones climatológicas. Tenía el convencimiento de la influencia del mundo físico sobre el moral, esa correlación misteriosa entre lo sensible y lo sobrenatural, dan al estudio de la naturaleza, contemplada con elevación, un rasgo muy particular, aún muy poco apreciado. Su interés era la presentación artística de la vegetación. Había realizado estudios sobre la técnica del grabado en cobre y sus trabajos fueron expuestos en Berlín en 1786 y 1788. Posteriormente recibió clases de dibujo en París con Francois Gerard, a fin de que los dibujos y pinturas presentaran una imagen veraz sobre las formas, colores, y las texturas de las plantas estudiadas científicamente.

2. Hanno Beck. *El Arte descubre un continente*. Berlín: Exposición del Instituto Iberoamericano, 1961.

En sus nociones sobre la fisonomía de los vegetales destaca que entre las sensaciones múltiples que el hombre experimenta investigando los misterios de la naturaleza, o midiendo con su imaginación, los vastos espacios de la creación orgánica, no existe más profunda ni más poderosa, que la que hace nacer en él la abundancia de la vida universalmente difundida. En su estudio sobre los seres animados dice que hasta en los polos helados, el aire resuena con el canto de los pájaros y el zumbido de los insectos. Las capas inferiores de la atmósfera, donde flotan vapores condensados, así como las capas superiores, puras, etéreas, son la morada de seres animados.³

Cuando se sabe abrazar la naturaleza con una sola mirada y hacer abstracción de los fenómenos locales, se ve cómo el poder de la vida orgánica crece del polo al ecuador, en proporción del poder vivificante. Pero en esta multitud de producciones, en cada zona son reservadas bellezas especiales: en los trópicos, la multiplicidad y grandeza de formas vegetales; en el Norte, el aspecto de las praderas y el despertar periódico de la Naturaleza al primer soplo de la primavera... Además de las ventajas que le son propias, cada zona tiene una fisonomía distintiva particular. El azul del cielo, la luz, la neblina lejana, la forma de los animales, la exuberancia de los vegetales, el esplendor del follaje, el contorno de las montañas, todos estos elementos determinan la impresión general de un país. Los vegetales hablan a nuestra imaginación por su fijeza y tamaño.

Humboldt, El Poeta y El Científico

Consecuente con sus observaciones científicas y literarias, en la Zona Tórrida, describe la longitud Oeste del primer meridiano suramericana de 4h. 15'18'', de París. Admira la pureza, belleza y esplendor del cielo bajo el fulgor de Venus, que presenta halos luminosos, con los colores del arco iris; continúa con la bóveda estrellada del Sur: el Sagitario, la Corona Austral, la Cruz del Sur, el Triángulo Austral, el Altar y el Centauro, que puede medirse con el Orión. Entonces afirma: "Observo una altura que me hace gemir y transpirar."

En la noche del 4 al 5 de julio de 1799 vieron por primera vez Humboldt y Bonpland la Cruz del Sur. Humboldt exclama:

aquella noche vi cumplirse uno de los sueños de mi temprana juventud...Salúdase una estrella en la soledad de los mares como a un amigo de quien se hubiera estado largo tiempo separado...Teniendo más o menos las dos grandes estrellas que marcan el tope y el pie de la Cruz, la misma ascensión recta, resulta que la constelación está casi perpendicular en el momento en que pasa por el meridiano. Esta circunstancia es conocida por todos los pueblos que

3. Humboldt. *Cuadros de la Naturaleza*, Barcelona: Edit. Iberia S.A. 1961.

habitan más allá del trópico en el hemisferio austral... Cuántas veces hemos oído decir a nuestro guías en las sabanas de Venezuela, “Es media noche; la Cruz empieza a ladearse.”⁴

El primer país visitado por ambos científicos fue Venezuela. Al llegar a las playas de Cumaná le escribe a su hermano Guillermo: ¡Qué país posee el rey católico! ¡Qué árboles! Cocoteros de 50 a 60 pies de altura con llamilletes de un pie de altura de flores de un rojo vivo magnífico, del tamaño de una mano, plátanos y una masa de árboles con hojas monstruosas, de las que no sabemos nada. ¡Qué numerosas son las plantas más pequeñas aún no examinadas y qué colores poseen los pájaros, los peces, hasta los cangrejos! ¡Hasta ahora nos hemos paseado como locos; en los tres primeros días no pudimos decidir nada, porque se rechaza un tema para interesarse por otro!⁵

FIGURE 22-1. Playas de Cumaná, Venezuela



Humboldt descubre nuevamente a América para la ciencia, para la literatura y para el arte. El exotismo, exuberancia y grandeza del paisaje americano se convierten en la meta de ese romanticismo científico que se caracteriza por el afán de conquistar lo desconocido y el infinito, por las ansias de realizar un proyecto fabuloso, una identificación con la naturaleza, por la alegría y la tristeza de vivir, por el deseo de comprender mejor el destino del hombre, el

4. Humboldt, *Viaje a las Regiones Equinocciales del Nuevo Continente*. Buenos Aires: MEN, Imprenta López. T.1, 257.

5. Humboldt, *Cartas Americanas*. Caracas: Biblioteca Ayacuho, 15.

disfrute de lo exótico y el mismo tiempo la nostalgia del pasado. Estos rasgos se observan en las memorias de nuestro viajero.

El Nuevo Mundo le ofrece por primera vez la variedad de paisajes de los trópicos. El prestigio de la imaginación, sin la cual no puede haber obra humana verdaderamente grande—afirma Humboldt—da singular atractivo a las obras de Colón, y Vespucio, de Fray Bartolomé de Las Casas, Antonio de Montesinos, Juan de castellanos Bernal Díaz del Castillo, Clavigero y muchos otros cronistas. Y él mismo, en ese Nuevo Mundo confirmó el conocimiento teórico de la documentación histórica, con la tradición oral y principalmente con la vivencia personal, orientado por su gran cultura. Es el primero en señalar la importancia de los viajes en la evolución de las ideas y la presencia fecundante del exotismo en la vida artística del viejo continente.

FIGURE 22-2. Paisaje



Dentro de su narración literaria, que fluye paralela junto al carácter científico, hace un estudio de la geografía, de los trescientos años de la administración hispánica, de los rasgos presentes todavía en la historia de los pueblos y ciudades hispanoamericanas, la religión, las leyes, las costumbres e ideas, caracteres estos que constituyen nuestra identidad nacional. También, desde el punto de vista científico, fue el pionero de la geografía botánica, ciencias geológicas, sismología, paleontología, climatología, mineralogía ciencias del

mar, espeleología y otras ramas interdisciplinarias, enriquecidas en el continente americano. Y posteriormente en 1829, en su viaje a Rusia.

Al ilustre viajero le parece que cada nuevo país que visita y explora es aún más bello que el que ha descrito anteriormente y le duele no encontrar palabras para expresar las dulces sensaciones que experimenta. El arte hace más vivas las impresiones y añade grandeza y fidelidad a las imágenes. Comparando el viejo y el nuevo continente agrega que en el viaje mundo son los pueblos y los matices de civilización los que le dan al cuadro su principal carácter; en el nuevo, el hombre y sus producciones desaparecen, por decirlo así, en medio de una gigantesca y salvaje naturaleza.

Junto a las investigaciones científicas nos da una visión futura sobre los acontecimientos políticos y sociales que se iban a producir en la América hispana. Estas apreciaciones las transcribió en su *Diario*, obra maestra y menos conocida, donde se observa una gran diferencia sobre algunos conceptos emitidos en su *Viaje a las Regiones Equinocciales*. El viajero alemán tuvo siempre una clara percepción sobre la verdadera situación política y social de los países por él visitados. Refleja un pleno conocimiento de los movimientos en contra de la autoridad española y así hizo un agudo análisis de los cabildos americanos y de cómo habían evolucionado desde los primeros tiempos de la conquista y la fundación de las primeras ciudades. Se sorprendió también nuestro sabio al llegar a Caracas en 1800, que tenía una población de 40.000 personas, de que no tenía imprenta, y por ende, de la dificultad de la difusión masiva del pensamiento y de la cultura.

Las Maravillas de su Odisea Americana

Venezuela tuvo el excepcional privilegio de ser el primer país que visitó el sabio universal en su grandioso periplo, cuyos resultados científicos iban a conmocionar en breve los conocimientos tenidos hasta entonces en muchas ciencias. Fue éste el *Viaje a las Regiones Equinocciales del Nuevo Continente* hecho en 1799, 1800, 1801, 1802, 1803 y 1804, visitando Venezuela, Cuba, Colombia, Ecuador, Perú, México y los Estados Unidos de América, realizado con el sabio botánico francés Aimé Bonpland, hoy reconocido este último, como el primer europeo que captó en toda su profundidad la energía y capacidad del hombre que iba a iniciar la independencia de la América hispana: el Libertador Simón Bolívar, en ese entonces, 1805, un joven de apenas 22 años.

Este singular privilegio de Venezuela de ser la primera tierra americana pisada por Humboldt, significó que una excepcional cantidad de plantas, animales, minerales y fenómenos geológicos de todo tipo, fueran observados por primera vez en Venezuela, país del cual guardó siempre un especial afecto por haber sido su pórtico de acceso al Nuevo Mundo.

Con lujo de detalles y una hermosísima prosa, Humboldt describe las maravillas de nuestro país con una exactitud que hoy, después de 200 años de su visita, asombra por su equilibrio y exactitud. Con su aguda observación nos presenta la emoción poética que llena su espíritu al observar por primera vez los animales, plantas, montañas, las rocas, los minerales, el sistema marítimo y fluvial, la bóveda celeste de los trópicos y otros rasgos jamás soñados en la Europa de la Ilustración y la cultura.

FIGURE 22-3. La Cueva del Guácharo



En el Oriente de Venezuela visita el valle de Caripe y la “cueva El Guácharo” donde habitaba el famoso pájaro, que da su nombre a la gruta, con sus originales estalactitas y estalagmitas, que compara el sabio con el Tártaro de los griegos. Observa los ritos religiosos de los indígenas. Estos acostumbraban celebrar sus ceremonias en el atrio de la cueva. Van allí y consultan a los piaches, que consideraban todopoderosos y que intervenían ante los espíritus malignos que habitan en la oscuridad. Les hablan de sus desgracias y sus enfermedades y sobre los antepasados que han muerto, que según ellos habitan en el fondo de la cueva. Entonces Humboldt concluye que las religiones de los pueblos tienen mucho en común. Las leyendas griegas también nos hablan de la triste mansión de los muertos, situada en las profundidades de la tierra, adonde se llega a través de varias entradas o cavernas. Allí todo es llanto y desesperación y las almas de los malos llegan al Tártaro conducidas por el barquero Caronte. Allí también estaban las arpías, con sus rostros de viejas, sus garras y sus cuerpos de buitres.

El periplo jubiloso de Humboldt y Bonpland continúa en Cumaná, Nueva Barcelona, el Fortín del Morro, La Guaira y la ciudad de Caracas. Con la poesía del virtuoso de las letras y la visión del Geógrafo, describe la belleza en el ascenso de las cordilleras y el panorama de la serena Caracas colonial,

rodeada de haciendas y de paz, pero ya agitada por los movimientos revolucionarios, adonde llega por el antiguo camino de los españoles, que describe poéticamente: “El camino de La Guaira al valle de Caracas es infinitamente más hermoso que el de Honda a Santa Fe, y el de Guayaquil a Quito... ofrece una magnífica perspectiva... se descubre el horizonte de más de 22 leguas de radio; es deslumbrante la masa de luz que refleja el litoral blanco y árido... con sus cocoteros y sus bajeles que entran y salen del puerto... regueros de nubes, fuertemente iluminadas en su parte superior, parecen descansar como islotes movedizos, sobre la superficie inmensa del océano... Descúbranse de tiempo en tiempo los árboles y las habitaciones al través de las aberturas que dejan las nubes empujadas por el viento... Del lado opuesto se descubren los llanos infinitos.⁶

FIGURE 22-4. Ave del Amazonas



Continúa por los valles de Aragua la visita del célebre Samán de Güere, que describe como una especie de mimosa cuyos brazos tortuosos forman una capa hemisférica de 576 pies de circunferencia., con 60 pies de alto y 9 de diámetro... Los brazos se extienden como un hermoso parasol y se inclinan todos hacia el suelo... Señala que era venerado por sus habitantes... Al final de su vida, en 1858, el anciano contempló la imagen del árbol, se echó a llorar y enternecido exclamó: ese hermoso árbol, está lo mismo que lo vi hace sesenta años, ninguna de sus ramas se ha doblado...continúa hacia las fuentes termales de Mariara y de las Trincheras, el Lago de Valencia y Puerto Cabello, cuya serena maravilla natural y acogedora impresionó vivamente a los viajeros como uno de los mejores puertos de ambos continentes. Se desplazan luego hacia el llano adentro, se detienen en varios pueblos y llegan a los llanos, que asombran a los viajeros por su inmensidad. Allí observa las grandes manadas de ganado vacuno y caballar y se emocionan con los peces “tembladores,” las temibles anguilas eléctricas de los caños y pantanos...

6. Humboldt. *Viaje...* T.II, 285.

Pasan por San Fernando de Apure y finalmente se internan en las inmensidades del soberbio Orinoco. El 5 de abril de 1800, Humboldt y Bonpland se encuentran en la confluencia del río Apure y el Orinoco. Una inmensa llanura de agua se extendía ante sus ojos, como si fuera un lago. Blanqueaban las olas levantándose a varios pies de altura, por el conflicto de la corriente con la brisa. Apenas se distinguían en las concavidades de las olas algunos inmensos cocodrilos. El horizonte estaba limitado por una fila de selvas y vastas playas abrasadas por el sol, aparentaban charcas de aguas durmientes. Humboldt señala la soledad y grandeza peculiares del curso del Orinoco... En ese sitio la anchura del río es de 3714 metros de ancho y durante el período de las lluvias alcanza a 10.753 metros. Se encontraron con los indios caribes. El cacique remontaba el río en su piragua para participar en la famosa pesca de los huevos de tortuga. Los indios estaban desnudos y armados con arcos y flechas, sus cuerpos cubiertos de onoto, que les daba un color rojizo a su piel. Eran hombres de una estatura atlética. El viento los condujo a la boca de la Tortuga, isla donde se efectuaba la pesca de los huevos. Allí acampaban en sus chozas techadas con hojas de palmera. Hundían en el suelo una larga pértiga y sondeando con ella, descubrían donde estaban los huevos, al tocar la tierra movediza. Humboldt nombra dos clases de tortuga: la Terekai y la Arrau. Extraían la parte aceitosa y la colocaban en botijas o jarras. La piragua de Humboldt consistía en un tronco de árbol ahuecado de 40 pies de largo y 3 de ancho. Allí llevaban su pequeño zoológico.

Los grandes cuadrúpedos de estas regiones, tigres, dantas y váquiros, practicaron aberturas en el seno de esta selva, por ahí salían a beber al río y como temían poco la aproximación de una canoa, se tenía el gusto de verlos costear libremente la ribera, hasta que desaparecían en la selva: Confieso que tales escenas, que a menudo se repiten, han conservado siempre el mayor atractivo para mí. El placer que se experimenta no se debe sólo al interés que pone el naturalista en los objetos de sus estudios, sino que depende de un sentimiento común a todos los hombres educados en los hábitos de la civilización. Véase uno en contacto con un mundo nuevo, con una naturaleza salvaje e indómita: ya es el jaguar, hermosa pantera de América, que aparece en la ribera; ya el paují, de plumas negras y cabeza empenachada... Sucédanse unos tras otros, animales de las clases más diferentes. Es como el paraíso, decía nuestro patrón. Todo, en efecto, recuerda aquí ese estado del mundo primitivo... La Edad de Oro ha cesado, y en este paraíso de las selvas americanas, como en otra parte cualquiera, una triste y larga experiencia ha enseñado a todos los seres que raras veces se hallan unidas la dulzura con la fuerza.⁷

El río Orinoco al dirigirse de sur a norte, se ve atravesado por una serranía de montes graníticos. Constreñido en dos puntos de su curso, se rompe con

7. Humboldt. *Viaje*.... T V, 293.

estruendo contra unas rocas que forman gradas y diques transversales, formando así los llamados raudales de Atures y Maipures. Forman un torrente espumoso de una milla de anchura, en el centro se elevan rocas de color ferruginoso, como fortalezas en ruinas, en medio de islotes con árboles frondosos. No se trata de una sola catarata como la del Niágara o el Tequedama. Eran diferentes cascadas de diversas formas y tamaños, movimientos tumultuosos del agua, provenientes de las disposiciones del terreno, que formaban chorros y remolinos, islotes y escollos. Para transportar la piragua se tiraban a tierra 23 indios, la colocaban sobre troncos de árboles a manera de rodillos y así la arrastraban hasta el fin de los raudales durante cuatro días. Allí disecaron las plantas y Humboldt redactó parte de su *Diario*. Para Humboldt estos lugares resultaron imponentes: Ni el salto de Tequedama, cerca de Santa Fe de Bogotá, ni las grandes escenas de las cordilleras han podido atenuar la impresión que en mí había producido la primitiva vista de Atures y Maipures.⁸

FIGURE 22-5. Caño Pimichín



Se embarcaron el 6 de mayo en el caño Pimichín para seguir hasta el Río Negro. La comunicación entre el Río Negro y el Orinoco por el Casiquiare era conocida por los misioneros desde hacía 50 años. El propósito de ilustre

8. Humboldt. *Viaje...* 101-102.

científico era determinar, por medio de observaciones astronómicas, el curso del Casiquiare, desde su bifurcación en el Orinoco hasta su entrada en el Río Negro, comprobando así su comunicación con el Amazonas. El Río Negro era de gran importancia para España y Portugal, porque ofrecía un camino fácil a la potencia lusitana para introducirse en las misiones españolas. Después de todo lo que habíamos soportado hasta ese momento, pienso que se me permitirá hablar de la satisfacción que sentimos al alcanzar los afluentes del Amazonas, de haber pasado el istmo que separa dos sistemas de ríos, de estar seguro de llenar el fin más importante de nuestro viaje que era el de determinar astronómicamente el curso de este brazo del Orinoco que cae en el Río Negro, y cuya existencia, después de medio siglo, fue probada y negada alternativamente. El propósito que se persigue por mucho tiempo, parece aumentar en interés a medida que se acerca su realización.”⁹

FIGURE 22-6. Pez eléctrico del Amazonas



Der Zitterer betäubt mit elektrischen Blitzschlägen jedes fremde Lebewesen in seiner näheren Umgebung, oft tötet er es auch.

Luego de no pocas dificultades, los viajeros regresan haciendo centenares de kilómetros por la interminable y magnífica vía fluvial que se extiende desde el caño Casiquiare hasta el Orinoco, para finalizar la grandiosa expedición en territorio venezolano. Llegan a Angostura, hoy Ciudad Bolívar, y vuelven a la ciudad de Cumaná. Habían hecho en 75 días, por los cinco grandes ríos Apure, Orinoco, Atabapo, río Negro y Casiquiare un viaje de 500 leguas.

Siguen su viaje a Cuba, donde modifican el plan de su odisea. Llegan a Cartagena, remontan el río Magdalena, hasta Honda y Bogotá, donde gozan de un recibimiento excepcional del Virrey y del sabio científico José Celes-

9. Humboldt. *Viaje...*156.

tino Mutis. En Popayán continúan sus observaciones magnéticas, como era su costumbre, en todos los sitios importantes y aumentan sus colecciones mineralógicas. Continúan por la cordillera, por el paso de Quindío, de suelo resbaladizo, cubierto de fango, en el que las mulas habían sido sustituidas por seres humanos para hacer el transporte, pues los indígenas llevaban a los blancos en sus espaldas, sentados éstos cómodamente en sillas ajustadas a sus cuerpos. Estos seres humanos eran llamados “caballitos,” lo que le produjo a Humboldt una gran indignación y se negó a ser transportado en las espaldas de los pobres indios y mestizos... Contrató entonces 12 bueyes para llevar su equipaje y siguieron a pie por toda la ruta, en algunos tramos hundidos hasta las rodillas y con los pies destrozados. Humboldt refleja así un hombre de una gigantesca dimensión humana, el que consideraba a sus congéneres como a sus hermanos, el que se conmovía ante cualquier acto generoso, el que levantaba su voz de protesta ante una actitud injusta, el que sufría por las escenas de esclavitud presenciada en la plaza de Cumaná. Ascenden el páramo de Pasto, llegan a Ibarra (2 de enero de 1802). Allí se encuentran con el joven naturalista Francisco José Caldas, con quien sigue hasta Quito, ciudad de 35 mil habitantes, donde conoció al patriota Carlos Montúfar, quien los acompaña en su viaje a los Estados Unidos y el de regreso a Europa.

FIGURE 22-7. Jaguar del Amazonas



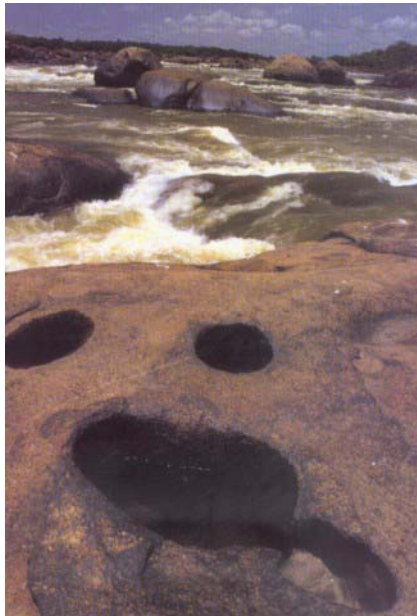
Siguen ambos viajeros hasta Quito, allí realizaron en 9 meses una extensa investigación geográfica. Afirma que la cordillera de los Andes se divide en muchos brazos separados entre sí por valles longitudinales formando una sola masa erizada de cimas volcánicas colocadas en doble fila, las cimas más elevadas forman la cordillera como una doble cresta; cúspides colosales y cubiertas de hielos permanentes, que sirvieron de referencias en las investigaciones practicadas por académicos franceses para la medida del polo ecuatorial. La comisión, integrada principalmente por La Condamine, Bouger y

Godin, estuvo encargada en 1736 de determinar la magnitud y forma de la tierra. El resultado de sus operaciones en el Ecuador se publicó en 1749.

FIGURE 22-8. Río en Ecuador



FIGURE 22-9. Volcán Pichincha, Ecuador



Después de dos intentos, llegaron a escalar el volcán Pichincha, a 14.940 pies de altura sobre el nivel del mar, el Antisana (16 de mayo) el Cotopaxi (28 de abril). Tomaron la topografía de estos volcanes barométrica y geométricamente y las formaciones mineralógicas. Posteriormente el ascenso del Chimborazo, que marca el punto más alto de su investigación geográfica en

las cumbres andinas y se consideraba en esa época como la cumbre de mayor altura del globo terráqueo., 18.096 pies.¹⁰

En Perú estudia detenidamente la cultura Inca, admira las ruinas, las pirámides, los canales, las riquezas de oro y plata, la organización de sus habitantes. En Lima permanecen cerca de dos meses. Vía Guayaquil se dirigen hacia México, y llegan a las playas de Acapulco el 22 de marzo de 1803.

En México hace un estudio de la corteza terrestre, como lo había hecho en los otros sitios visitados; concluye que: en todos los climas la corteza pétreo del globo presenta al viajero el mismo aspecto, reconociendo con emoción sincera, en medio de un nuevo mundo, las rocas de su país natal... La superposición de las rocas secundarias sigue las mismas leyes en las regiones más distantes una de otra; por todas partes, en fin, atestiguan los monumentos igual proceso en las revoluciones que han cambiado progresivamente la superficie del globo.¹¹

En el Virreinato de la Nueva España visita alrededor de 50 sitios diferentes: accidentes de la naturaleza, montañas, volcanes pueblos y ciudades. Hace un profundo estudio del Virreinato en todos los órdenes de la cultura, entendida en su más amplia acepción. Afirma que México debe contarse sin duda alguna entre las más hermosas ciudades que los europeos han fundado en ambos hemisferios.¹² Enumera los edificios e instituciones más importantes de la ciudad, muchos de los cuales no existían en las otras ciudades hispanoamericanas: la Catedral, la Casa de la Moneda, los Conventos, los Hospicios para niños y ancianos, la Acordada, cárcel bastante espaciosa, la Escuela de Minas, el Jardín Botánico, la Universidad, la Biblioteca Pública, la Academia de Bellas Artes, la estatua ecuestre de Carlos IV. Contempla los antiguos monumentos mexicanos, las pirámides de Teotihuacan. Presenta al virrey Iturrigaray las Tablas Geográficas Políticas del Reino de la Nueva España Estudian el Popocatepetl y el Iztaccihuatl. En Estados Unidos deja Humboldt el primer manuscrito de su viaje por sur América.

La Literatura y La Naturaleza

Humboldt tenía el convencimiento de que la obra debía reunir, junto al valor científico, la forma literaria, por ello en su obra convergen los dos factores. Estudia también los primitivos mitos de los pueblos y considera que son la raíz de las primeras nociones cosmográficas y físicas: Los hechos de la historia y de la geografía primitiva no son sólo ficciones ingeniosas, puesto que reflejan las opiniones formadas acerca del mundo real.¹³ Estudia también las

10. Hanno Beck.1985. *Amerikanische Reise*. Stuttgart: Thienemanns Verlag.

11. Alejandro de Humboldt. 1968. *Sitios de la Cordilleras y Monumentos de los Pueblos Indígenas de América*. Buenos Aires: Solar/Hachette.

12. Alejandro de Humboldt. 1984. *Ensayo Político sobre el Reino de la Nueva España*. México. Editorial Porrúa, 15.

descripciones de la naturaleza en las antiguas literaturas. Cómo influye en ellas el sentimiento de la naturaleza, cómo se refleja la vida interior y la emoción que la visión del mundo físico le impone a la imaginación del poeta, aún sin que éste tenga clara conciencia de ello. Analiza la literatura indú, que demuestra una profunda reflexión sobre las leyes de la naturaleza, una tendencia contemplativa, fondo de su poesía. Estudia los Vedas, el más antiguo monumento de los pueblos de Asia Oriental, también el Ramayana, el Mahabarata y los Puranas.

Recuerda que las naciones semíticas y arameas presentan el testimonio del sentimiento profundo de la naturaleza, expresado con grandeza y esplendor en las leyendas pastoriles, los himnos sagrados y los cantos líricos en los tiempos del rey David. Siente que la poesía hebrea ofrece elevación y profundidad. Según Humboldt, uno de los caracteres distintivos de la poesía de la Naturaleza entre los hebreos, es que, reflejo del monoteísmo, abraza siempre el mundo en una imponente unidad, comprendiendo a la vez el globo terrestre y los luminosos espacios del cielo. El Salmo 103 es por sí solo un bosquejo del universo y un canto a Jehová. El libro de Job, con las descripciones de los accidentes meteorológicos en la región de las nubes, con sus caprichosos juegos de luz, la formación del granizo y el trueno, constituye la obra más acabada de la poesía hebrea. También Goethe califica el Libro de Ruth, como el poema más delicioso de la epopeya y el idilio. Estudia los griegos y romanos: Platón, Aristóteles, Virgilio, Horacio, Tibulo, Julio César, Tito Livio, Tácito, quienes reflejan sus concepciones sobre el orden que preside el Universo... En Virgilio observa un conocimiento profundo de la Naturaleza, en los armónicos colores de los cuadros de su epopeya: la calma del mar y la tranquilidad de la noche. Se familiariza también con la literatura árabe, la renacentista, la contemporánea, buscando la huella de las descripciones animadas de las escenas de la naturaleza y cómo ha de influir en diferentes pueblos y épocas distintas... Estudia la literatura del siglo de Oro: Calderón, Cervantes, Lope de Vega... Los románticos, desde la segunda mitad del siglo XVIII: en los que la inteligente contemplación de los fenómenos no ha sido sofocada bajo el peso material de la ciencia, como Rousseau, Klopstock, Schiller, Goethe, Byron.¹⁴ La Naturaleza es para ellos la expresión de una obra creada y ordenada, la expresión viviente de un Dios por todas partes presente en la manifestación de un mundo sensible.¹⁵

El Nuevo Mundo ofrece por primera vez la variedad de paisajes de los trópicos, que ha producido un continuo éxtasis constante en todos los Cronistas de Indias, cuya lectura le es familiar al científico alemán. Del Almirante

13. Alejandro de Humboldt. 1992. *Cristóbal colón y el Descubrimiento de América*. Caracas: Monte Avila Editores.

14. Humboldt. *Cosmos*. 201.

15. Idem.

Cristóbal Colón se desprende la expresión de ver las regiones tropicales como una constante primavera: Las tierras de ellas son altas y en ellas hay muchas sierras y montañas altísimas... Todas son hermosísimas de mil hechuras y todas andables y llenas de árboles de mil maneras y altas, y parece que llegan al cielo; y tengo por dicho que jamás pierden la hoja según lo que pude comprender, que los vi tan bellos y tan hermosos como los vi por mayo en España.¹⁶

En su obra *Cuadros de la Naturaleza* Humboldt hace un hermoso contraste en dos escenas de la vida de los animales en la selva. Son cuadros admirables de sorprendente verdad. La primera es producto de una vivencia personal en la noche, en la época de las aguas bajas, cerca de la confluencia del río Apure con el Orinoco. Es una escena nocturna, cuando pernoctaron cerca de la playa. La segunda es al mediodía, cuando el sol está en el cenit. Con su dominio del lenguaje hace sentir al lector las profundas y conmovedoras escenas de ambos paisajes: la algarabía del reino animal al aproximarse la tormenta y por contraste, la naturaleza en plena quietud aparente. El hombre rodeado de vibraciones, de sonidos que anuncian un mundo de fuerzas orgánicas en movimiento, la vida se agita imperceptiblemente, pero se hace escuchar para el poeta y el científico, es como una de las mil voces que la naturaleza dirige al alma piadosa y sensible del hombre.

Otra escena en Santa Bárbara del río Arichuna: pasaron la noche en una playa arenosa. La luna dominaba el horizonte. Encendieron una fogata para preservarse de los ataques del jaguar. Reinaba un profundo silencio y a las once comenzó un profundo griterío. Aullidos de los monos aulladores, roncidos del mono dormilón, gritos entrecortados del tigre de América, un enjambre de loros y otras gallináceas. Si se pregunta a los indios qué es lo que produce ese tumulto continuo durante la noche, responden riéndose que los animales quieren ver la luna... Los gritos se tornaban cada vez más escandalosos en los aguaceros.

Sobre el arte en Humboldt apunta Hanno Beck: Con sus creaciones los pintores no sólo nos ofrecieron obras de arte, sino que también hicieron un aporte importante a la fisonomía de las regiones tropicales, siguiendo los lineamientos de Humboldt. El arte así no se ve degradado, sino que gana una nueva dimensión.¹⁷

La tesis del científico prusiano era que la obra artística debía ser un vivo y fiel reflejo del mundo natural, conceptos estos aplicados al arte pictórico y a la literatura. Por eso Humboldt descubre nuevamente a América, no sólo para la ciencia, sino también para la literatura y el arte, las descripciones y

16. Isaac Pardo. 1961. *Estudios de las Elegías de Varones Ilustres de Indias*. Caracas. Instituto de filología Andrés Bello.

17. Hanno Beck et al. 1978. *El Arte Descubre un Continente*. Berlín: Exposición del Instituto Ibero-Americano. Patrimonio Cultural Prusiano.

dibujos de Humboldt son un poema de admiración y amor a la naturaleza americana, lo que produjo una corriente de científicos y artistas que vinieron a América, en busca de una tierra de promisión. Entre ellos bastaría mencionar a Karl Moritz, quien realizó magníficas colecciones de Venezuela, depositadas en los museos de Viena, Berlín y Leipzig. A German Karsten, ilustre botánico y geólogo. A Karl Apun, botánico, naturalista, Augusto Fendler, quien exploró la Guayana. Anton Goering, notable naturalista y fino artista, visitó Brasil, México, Uruguay y Venezuela. A Ferdinand Bellerman, quien nos dejó un documento valiosísimo sobre la Venezuela en hermosas imágenes plásticas. Adolfo Ernst, fundador del positivismo en Venezuela. Todo esto es un legado de Humboldt, de universal y permanente vigencia. Entre sus múltiples lecciones está su labor conservacionista y amante de la naturaleza, que paradójicamente la moderna tecnología está destruyendo a paso agigantado, junto con la acción depredadora del hombre. El mayor homenaje que podemos tributarle al sabio alemán es crear conciencia en las generaciones futuras de la importancia de la conservación de nuestros ríos, nuestra flora, nuestros bosques y nuestra fauna, sólo así demostraremos que somos capaces de valorar y aprender el grandioso mensaje que nos legó el ilustre sabio.

Humboldt concluye: Las estrellas resplandecientes alegran y entusiasman, y sin embargo, todo gira en el firmamento en figuras matemáticas.

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Part IV
Life and Travels

Pierre Laszlo

Alexander von Humboldt was a Francophile. Humboldt's Francophilia was induced by the French Revolution. It promised a new historical era and the young German aristocrat was swayed by the prospect of a leap in the quality of life for mankind.

His affection for France cannot be dissociated from his having been nurtured, culturally speaking, in the values of eighteenth-century Enlightenment. Humboldt was very much part in the continuity of the group of intellectuals who wrote the *Encyclopédie*. His own biography, his widespread interests, his skill at writing all make him a kindred spirit to Denis Diderot's.

Moreover, Humboldt was familiar with France. He lived for a number of years in Paris. Actually, that is an understatement: Humboldt lived in Paris for several decades. We tend to forget it, associating a German with Germany. However, Humboldt first arrived in Paris in 1797 at the age of 28. There, he met Aimé Bonpland and together they left for South America in 1799. Returning to Europe in 1804, he settled again in Paris. This is where he wrote his *Voyage aux régions équinoxiales du nouveau Continent* (publication, begun in 1805, would take a full 20 years). In 1828, Humboldt left for his exploration trip of Russia and Central Asia. Only in 1847, a full half-century after his arrival in Paris, did Humboldt leave the capital of France for his native Berlin. He continued to find Paris an irresistible attraction, and he continued to split his time between the two cities.

In Paris Humboldt was fully integrated within the local intelligentsia. He had numerous French friends. Among many other stories, one may recall that in 1808, when François Arago was released from captivity in Algiers (he had been arrested by the Spaniards as a spy, and the subsequent events are from a picaresque novel), he was greeted in Marseilles by Humboldt who had rushed to meet his friend after he was liberated from his ordeal.

I shall offer here a commentary on a brief text which Humboldt wrote in French, the *Essai sur la géographie des plantes*. It originated with a presentation Humboldt made to the Institut de France on January 7th, 1805 (*17 Nivôse de l'an 13*). It was not printed before 1806 and probably not published until 1807. Only 38 pages long, this printed lecture has all the charm of Humboldt's writings, but it suffers from his inability to frame his thoughts in an organized, Cartesian manner, which Arago pointed out to him: "Tu ne sais pas construire; tes livres sont comme des tableaux sans cadre." ("You don't know how to build; your books are like unframed pictures").

What does the *Essai* consist of? The explicit intent, expressed by the title is a disquisition on the geographic distribution of diverse plant species. More interesting yet, are the actual contents. They consist of an attempt at an encyclopædic excursion through the whole of knowledge.

Typical of educated Europeans in his generation, Alexander von Humboldt was nurtured on the *Encyclopédie*. Its volumes had a precious feature, subversive of authorities, primarily of the Church. This was the presence of the numerous cross-references—*renvois*, in French.

One might initially have looked-up some notion, a word perhaps. This was a mere hook. One might have been induced, in the process of reading that entry, to look-up another. The editors thus had built a network of intended connections.

I will submit here that Humboldt acquired his *Wanderlust* in part from reading the *Encyclopédie*. Cross-referencing gave him an ease at crisscrossing existing knowledge. From there, to seek connections between geographic areas, to visit faraway populations and to observe biological organisms over the whole planet, are but logical outcomes of such wide-ranging curiosity.

The *Essai' sur la géographie des plantes* embodies an isomorphism, from the printed page, to the landscape traversed on horseback, or on foot. To Humboldt, to write about his South American travels is restitution. He gives back his personal exhilaration, being privileged to witness so many exotic scenes. His is the appetite for the life of the nomad. There is no intrinsic difference between the personal observations he made in natural history, and institutionalized knowledge, in its various branches. It is all a matter of writing and of reading.

Critical analysis of such an encyclopedic romp can do no better, I submit, than use as its tool a more or less contemporary attempt at organizing the whole of human knowledge. Thus, it should come as no surprise if my looking glass, in this examination of the *Essai*, is provided by André-Marie Ampère's classification of the sciences. Even though it appeared in print almost four decades after the appearance of Humboldt's *Essai*, it helps the modern reader to recapture what Humboldt and Ampère had in mind, when

they independently envisaged the totality of knowledge, with a view to both organize it along its lines of forces and to circumscribe it.

The Essai: Summary of its Contents

The Preface to the *Essai* is all the more interesting that, given the small size of the *Essai*, it is of disproportionate length. The Preface is almost eight pages long, as against a little over 21 pages for the *Essai*. It starts with the rhetoric of modesty: the author, who might have instead published a narrative of his travels and thus drawn attention to himself, pales in comparison to the importance of his topic. He wished to present an overall picture of the planet. A sentence in the Preface makes it clear, both that Humboldt carried the project of writing such an essay for many years, and that George Förster, an associate of Captain Cook's, had encouraged him to do so.

In the very first sentence of the *Essai* proper, Humboldt dissociates himself from botanists: as a group, their research is too specialized, he writes: "Researches by botanists are generally directed towards objects which comprise a very small part of their science." Accordingly, the *Essai* turns out to offer a plea for the equivalent, at the beginning of the nineteenth century, of pluridisciplinarity.

How does Humboldt achieve it? By transposing to the library the experience of the explorer. Instead of physical travel through varied territory, encompassing mountains, deserts, cultivated land, forests, rivers and lakes, the scientist will hop from specialty to specialty. As an Ariadne's thread, he will have his chosen theme, the geography of plants in this case. Hence, Humboldt evokes in succession, systematic botany, historical botany, and the historical sciences, general physics, (the word "physics" under his pen demands however, an explanation), agronomy, paleontology, astronomy, anthropology, imitation arts including painting, poetry, psychology and chemistry. Thus, the *Essai* could also be described as a rambling walk through the sciences.

General Physics in the Essai

That we are on the right track in using Ampère's text to read Humboldt's *Essai* becomes obvious as soon as one looks up the expression *physique générale*. When Humboldt wrote his lecture, geology was still in its prehistory. As writes Ampère, "the distinction between general physics and geology is sufficiently determined in that the former considers bodies in general, while the latter studies them only to the extent they belong to the terrestrial globe" (1.97). Such a meaning of general physics was current in Humboldt's time. It is fleshed out by Ampère who, in his comments (1.98) refers to a

number of phenomena belonging with general physics, not with geology: alignment of the compass needle with the magnetic pole—lifting of a column of mercury by the atmospheric pressure—water evaporation and rain—presence of layers in the soil. Meteorology, for Ampère, belongs with such general physics.

General physics, in other words, had a very different meaning from today's. To Humboldt, as well as to Ampère, it referred to inanimate natural history, to the physical phenomena in nature. To us, general physics has become almost exclusively laboratory physics. It is interesting that the expression still retained its meaning from Early Modern times at the beginning of the nineteenth century, even though experimental science was already a couple of centuries-old.

Indeed, laboratory science is totally excluded from the *Essai*, which reads like a lyrical ode to natural history. Moreover, Humboldt and Bonpland engaged on their trip to Latin America right at the time of the first triumphs of the Industrial revolution in Europe. Their travels can be interpreted as a symbolic gesture. When European society was undergoing a qualitative mutation, the two friends were seeking a passeist retreat into the nomadic existence of hunters-gatherers among the American Indians of South America. It is paradoxical, when European factories became transformed qualitatively and quantitatively by steam power, for the *Essai* to have mechanical philosophy as its blind spot.

Descriptive Botany in the Essai

Humboldt starts the *Essai* with an attack on the myopia of botanists. "They occupy themselves near exclusively," he writes, "with the discovery of new plant species, study of their external structure, of their distinguishing characteristics, and of the analogies which group them into classes and families." He goes on to define the main axes of plant geography, a science which would study plants in terms of their local associations in the different climates. Clearly, Humboldt has our discipline of ecology in mind.

Even though Humboldt pours scorn on descriptive botany, he resorts to it repeatedly. He gives plants their accepted Latin linnean names, and these keep recurring, litany-like, throughout the text of the *Essai*.

The influence of Goethe is obvious. Humboldt seeks among plants the *Ur-Pflanzen*, the primitive form from which all such organisms ultimately derive. He writes (p. 31) that "In the variety of plants which cover the general framework of our planet, one easily recognizes a few general forms to which most of the others reduce themselves," and he goes on enumerating 15 such groups. Earlier on (p. 20), in a paragraph which interrupts the narrative and

descriptive flow, Humboldt wrote: “It is this science [he means plant geography] which examines whether one can recognize a few primitive forms among the immense variety of plant forms; and which examines whether the diversity of species should be considered as the effect of a degeneration which has rendered constant, with the passing of time, species which had appeared accidentally.”

When Ampère gets to botany, he distinguishes the four branches of phytography, plant anatomy, phytonomy and plant physiology. The first identifies with Humboldt’s *géographie des plantes*: “From immediate observation of plants,” wrote Ampère, “results knowledge of their external characteristics, of the nature of the soils they exist in, of the climates they inhabit and of the elevations above the sea level where they are found” (1.104).

Geology in the Essai

On reading p. 19 of the *Essai*, with the sentence “geology bases itself on the analogous structure in coastlines, in the bottom of the Ocean and on the identity of animals inhabiting them,” the reader rubs his eyes. Not only is the word “geology” used, much before Lyell had published his masterpiece and thus started that science, one also has the eerie feeling of a preview of Alfred Wegener’s work which more than a century later would establish the reality of continental drift. Indeed, a couple of sentences later, Humboldt writes of the “separation between Africa and South America (having) occurred before development of organized beings.”

To return to the word *géologie*, it was introduced in volume 1 of the *Encyclopédie*, in 1751, in its *Explication du système des connaissances humaines (Discours préliminaire)*. This was a forerunner to both Humboldt’s and Ampère’s efforts at an overview of the sciences as a whole.

Geology provides the *Essai* with some of its most incisive insights, some of its most daring and ultimately very successful generalizations. There is the vision (p. 23) of the accretion of the planet: “If the most impressive phenomena of geology tell us that the whole mantle of the planet was yesteryear in a liquid state” he writes, and then goes on with, “if stratification and the differences between rocks show us that mountain formation and the crystallization of vast masses around a joint core did not occur simultaneously over the whole surface of the globe.” And he then speculates that the attendant heat release as the earth cooled, might have determined the local climate.

But geology also provides Humboldt’s pen with some of its best-chosen particulars, as in the sentence where he refers to (p. 17) “the great catastrophe which opened the Gibraltar Straits and dug the bed of the Mediterranean.”

Agronomy in the Essai

In writing about agriculture, Humboldt uses an archeological perspective. He goes from man in the state of nature to the agriculturalist, from the nomad to the settled cultivator. He watched the former, the Indian who in-between the valleys of the Orinoco and the Amazon (p. 24) depends on a few plants, very few plants, for his survival (p. 24).

He then enumerates plants essential to mankind which have been acclimated to all parts of the planet. These are predominantly cereals and fruit trees. In so doing, man replaces biodiversity, Humboldt writes (p. 28), with a monotonic uniformity. He earlier penned an impassioned paragraph about the hegemony of heather, responsible for turning much of northern Germany into a wasteland comparable to the desert in Lybia (p. 17). Now, he comes up with a parallel indictment of cultivated plants which also stifle competition and replace diversity with uniformity.

When Ampère writes on agriculture (1. 120), he emphasizes that he considers it in its wider meaning; distancing himself from other authors who restrict agriculture to cultivation of cereals (1. 121). However, Ampère defines another four related sciences. He names *geoponics* (1. 108) the art of the gardener, looking after plants, whether in the wild or in the garden. He terms agricultural *cerdoristics* what we would now call agro-industrial management (1. 109), while to him (as to us) *agronomy* concerns the means by which to agricultural goods and yields are improved. Finally, in this chapter, *plant physiology* is for Ampère the set of causal explanations for all the empirical knowledge about plant cultivation.

Paleontology in the Essai

“To solve the great problem of plant migration,” writes Humboldt (p. 22) “plant geography goes inside the globe. There, it consults antique monuments which nature has left behind in the petrifications, in the fossil woods and the layers of coal, tombs for the first vegetation on our planet.” Humboldt goes on to mention animal remains also; before he raises again the question of the changes in the climate which account for such observations.

Ampère is clearly at a loss as to where to put such a science. He names *oryxionomy* the science of digging the earth and he relates it primarily to metallurgy, i.e., to the extraction of metals from their ores. When writing this part of his treatise (1. 94), Ampère was clearly forgetting that soil does not consist exclusively of minerals, it also contains organic remains.

Astronomy in the Essai

To Humboldt, the geography of plants beckons astronomical knowledge. The link is climactic change. However, he cannot put his finger on it. Could there have been a change, in the distant geological past, in the axis of rotation of the Earth? Could there have been a modified configuration of celestial bodies? Has there occurred a great change in the intensity of light from the sun? As he writes on p. 23, “the present state of our astronomical knowledge” does not allow a choice between these various hypotheses.

Most interestingly, Ampère identifies four sciences having to do with the cosmos. There is *uranography*, i.e., “all what the view of the sky offers to immediate observation” (1. 57). Basically, this is the map of the sky with the fixed stars. Humboldt refers explicitly to such a sight and, in doing so, is guilty of prejudice. He makes a mistake from lack of imagination, surprising on his part. He writes of the (p. 34), “earth unfolding to his eyes a show as varied as the azure canopy of the sky, *which does not hide from him any of its constellations.*” By equating the visible with the existing constellations, Humboldt is guilty of a definite lapse in imagination. To Ampère, returning to his classification of the sciences, *heliostatics* (1. 58) corresponds closely to the conjectures of Humboldt’s. This is the planetary science concerning itself, in Ampère’s words, with “real motion of the earth about its axis, of the Earth and of the planets around the Sun, while assuming the latter motionless in the center of the planetary system.” *Astronomy* deals with Kepler’s laws of motion and with similar empirical laws, induced from observations (1. 58). Celestial mechanics deals with theory of motion, as devised by Newton (1. 59).

History in the Essai

At its core, history is a constant presence in the *Essai*. Humboldt presents himself as the spokesman for a collective anamnesis on the part of Europeans: we should recall, he writes (p. 26) that we owe walnuts and peaches to Persia, apricots to Armenia, cherries and horse chestnuts to Asia Minor, half-a-dozen other fruit trees to Syria. He refers to Hesiod and Homer for testimony to the ancient colonization by olive trees in Greece. Conversely, in the time of Cato, Romans were still ignorant of cherries, peaches and blackberries. He sketches a history of the vine: born on the shores of the Caspian, it came first to Greece, afterwards to Sicily. The populations in the area of Marseilles brought vines to southern France, Romans implanted them along the Rhine river. In another agricultural history, the Roman dictator Lucullus brought back, as part of his public triumph, a single cherry tree, after his vic-

tory over Mithridates. Less than a century later, cherry trees were common in France, Germany and England (p. 27).

To Humboldt, history as it unfolds is not only a narrative of migrations. It is also an equally astounding report on invariants and permanences. Is it not so that the potato flower is identically the same in the Andes as it is in Siberian plains (p. 27)? Barley which fed the horses of Achilles is the same cereal feeding us today. The ibis found in Egyptian catacombs, contemporary with the building of the pyramids, is the same bird still to be found on the banks of the Nile (p. 27).

This won't come as a surprise, Humboldt follows the thought of Jean-Jacques Rousseau in his *Discours sur l'origine de l'inégalité*. To both writers, mankind went from the nomadic state to the agricultural state. Primitive man was a hunter-gatherer (p. 24). One can infer from the paragraphs on p. 25 *et seq.* that human history begins with gardening and agriculture. A latter reference to history emphasizes strife and war. Their causes, for Humboldt, are the fight for valuable plants and their resources. Quinquina, the source of quinine, is an example of a useful medicinal plant.

Here, to help us understand Humboldt's thought, I have to quote Ampère at some length:

It has often been said that societies are like individuals. They are born, they slowly develop. They have neighborhood interactions, they live at peace or at war with the neighboring societies. They are impelled by the feelings and the passions of individuals, which become the feelings and the passions of the crowd. Societies get old, and they die. In order to study such societal lives, one has to start by observing the facts. Indeed, the mere narrative or the simple exposition of facts concerning the life of societies is the science (...) which I term *chronography*.

Imitation Arts in the Essai

Humboldt refers to painting in particular. Images brought back from the tropics will be treasured by Europeans, he explains, for their depiction of plant forms more awesome, more admirable, bigger and more colorful, far more diverse than anything that can be seen in Europe. Nature, near the equator, is more profuse, more inventive, more awesome. It is the province of the artist to convey those impressions.

Ampère terms *terpnography* the science based on the study of art masterpieces. Besides immediate observation of an artifact, one ought to study as well the intentions of the artist, compared with the actual production; which is the purpose of what Ampère terms *terpnognosy*. *Technesthetics*, of which *terpnography* and *terpnognosy* are but two parts, denotes the whole sphere of

human perception of art; as Ampère writes, it refers to “everything which in the arts has to do with feeling.”

To come back to Humboldt’s piece, let us give some attention to the occurrence of the word *painter* in his text. After noting the identity of the oak species crowning the heights of the Tenochtitlan valley with those found along the 45th parallel, Humboldt asserts that (p. 17) “the painter who would travel through those parts of the countries located under the tropics for studying the character of the flora, would not encounter the beauty and the variety of forms displayed by equinoctial plants.” Clearly, he himself identifies with the painter in this sentence. Why does he refer to the painter, when elsewhere he mentions the traveller, as on p. 21 (*d’autres voyageurs*)? Why does he refer to the painter, when elsewhere as on p. 27 he mentions the observer (*l’observateur*)? Why does he refer to the painter when elsewhere (p. 28) he identifies himself with the botanist in his excursions (*le botaniste dans ses excursions*)? The answer is from aesthetics, as noted on p. 30: “a person sensitive to the beauties of nature” (*l’homme sensible aux beautés de la nature*). A few sentences down, he writes that “the mere aspect of nature, the sight of fields and of forests, are causes for enjoyment” (*Le simple aspect de la nature, la vue des champs et des bois, causent une jouissance*). Note in passing that here, Humboldt identifies nature with nature humanized through cultivation.

Psychology in the Essai

Here and there, Humboldt uses adjectives to characterize human types. They partake of a jaundiced view of man, in the tradition of Jean-Jacques Rousseau. Man may have been good originally in the state of nature, but civilization has corrupted him. The *Essai sur la géographie des plantes* reads as a forerunner to *Tristes Tropiques* by Claude Lévi-Strauss.

There is the traveller, as exemplified by Humboldt and by his companion Bonpland. He is termed *l’homme inquiet et laborieux* (p. 27), which might be rendered as the worried and hard-working man. Such a pessimistic note is reiterated toward the end of the book, where Humboldt refers to the European, “a man isolated on an aridic shore” (p. 34). There is (p. 29) the Amerindian, dwelling on the shores of Rio-Negro or Cassiquiare, who is termed *aussi mélancolique que méfiant*: as melancholy as he is distrustful.

Humboldt’s deep sadness whenever he mentions the human animal contrasts with his enthusiastic depiction of the world of plants, in their majesty, beauty and empire over the whole of the natural world.

Circulators

But how does Humboldt contrive to move from one science to another in his *Essai*? Does he use a single rhetorical tool or a set of devices to effect such textual switches? A scrutiny is worthwhile.

Consider fossils, as the entry point for paleontology. The switch occurs on p. 22 of the *Essai*. Humboldt has just denounced “the error from those geologists who reconstruct the entire globe on the model of the hills nearest to them.” The next paragraph asserts, in a non sequitur, that the solution to the problem of plant migration is to be sought inside the Earth. The circulator, in this case, is the return to the nagging question of plant migration. Humboldt the traveller has observed that plants also travel. Why do they do so? At this point, Humboldt concludes from the evidence of fossilized plants, that marked changes in climate have taken place during what we now term the geological past. He then conjectures astronomical changes, maybe another configuration in the stars, maybe the tumbling of the rotation axis of the Earth.

Another transition is needed, when the *Essai* changes its focus from geology to agriculture. Humboldt accomplishes it in three segments. First, he characterizes geology as a fictional medium, as (I quote) something which “offers to the imagination of man a field as rich as it is worth cultivating” (p. 24). Next, he contrasts plants and animals in that the latter, not the former, are capable of motion. Hence, and this is the third part of his switch, how come plants are endowed with an apparent mobility?

Enumeration of factors such as winds, currents and birds precedes mention of the main actor, man, responsible for the dispersion of plants. Humboldt, then and only then, deftly changes the topic to plant cultivation.

To return to changes in climate and to their cause, astronomical or terrestrial, who is to decide whether such a perturbation indeed occurred? *L'imagination de l'homme*, he answers (p. 24). This re-centers on man his meditation. Has not man been, Humboldt writes on p. 24, the prevailing cause of plant migration. This is the circulator ushering in agriculture (p. 25). After a couple of pages devoted to examples of cultivated plants and to classical authors documenting their ancient dwellings, Humboldt recapitulates this whole section on p. 27 with the mention of “a sequence of events having spread the human race on the whole surface of the globe,” in other words, to a history of human migrations.

In order to connect agriculture to political history, Humboldt uses psychology as a link. “The influence of food, (which can be) more or less of a stimulant, on the type and on the intensity of passions, the history of voyages and of wars waged for disputing productions from the world of plants: those

are topics which connect the geography of plants to political and moral history of mankind” (pp. 29-30). Humboldt then goes on to relate the aspect of plants on taste and the imagination, which circulator serves to introduce descriptive poetry and imitative arts, such as painting and sculpture (p. 30). A few pages later, the author returns to such arts as the resource by which Europeans can experience the splendid view of plants from the Equator, from the “equinoctial regions” which Humboldt has explored and which has left him with such indelible impressions.

Conclusion

The *Essai sur la géographie des plantes* belongs in a class of texts, belle-lettrist essays written by scientists with a talent for literature, which also include, just to quote a few which followed and which might have been influenced by Humboldt’s. Some of the writings by Humphry Davy not to mention novels of ideas such as Adelbert von Chamisso’s *Peter Schlemihl* (1814), and of course Mary Shelley’s *Frankenstein* (1818). A common thread running through these texts is the pre-Romantic notion of the lonely individual roaming the wilderness in bewilderment. If scientific curiosity and the urge to observe the wonders of natural history draw the scholar in an endless exploration of the planet, they also remove him from the society of his fellow human beings. The geography of plants bestows not only admiration for biodiversity, it also brings with it the desolation of removal and exile.

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Maler, Legacy and Mexico

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Alexander von Humboldt (1769-1859), the “brilliant adventurer,” and “the most prominent citizen of the world,” as a recent *Spiegel* magazine article dubbed him,¹ left an important mark on subsequent German travelers in Latin America. His determination, endurance, rigor, and thoroughness were a yardstick for all explorers who headed to the New World after him. In this paper, I will compare the work of Humboldt and Teobert Maler (1842-1917), who, like his famous predecessor, re-discovered parts of the Americas and made them more tangible for a European audience through his travel narratives and illustrations. By comparing their Mexico expeditions, their methodologies, their views of this country, especially their ethnological remarks on the native people, and the role of nature description and illustration in their oeuvres, I will demonstrate how Maler’s observations on Mexico fit into the Humboldtian tradition established by *Vues des cordillères des peuples indigènes de l’Amérique*, his *Political Essay on the Kingdom of New Spain*, his travel diaries, published as *Reise auf dem Río Magdalena, durch die Anden und Mexico*, and to a lesser degree, *Kosmos*. Even in areas where Maler’s approach differed most from Humboldt’s, notably in his archaeological observations, which reflect advancements made in archaeology during Maler’s time, as well as his close interest in this field and better preparation for conducting fieldwork, certain comments prove surprisingly similar. Despite the decades of important scientific developments that followed Humboldt’s publications and a change towards more specialized knowledge, his legacy lived on in the work of Teobert Maler.

Alexander von Humboldt’s ninety years of life coincided with a very active and fascinating time in German cultural history, a cultural flowering which produced intellectual giants like Goethe, Schiller, Lessing, and Kant.

1. Matthias Matussek, “Der geniale Abenteurer.” *Der Spiegel*, September 13, 2004.

His epoch was also an agitated period in European history, witnessing the French revolution, the Napoleonic wars, the 1848 revolutions, and the conservative reactions to these. During his lifetime, French, English, and Spanish captains (Bougainville, Cook, Malaspina) were exploring many parts of the world not yet known to Europeans. And such illustrious people as Goethe and Frederick the Great frequented his home when he was still a boy. Alexander was born in Berlin on September 14, 1769, into an educated, noble Prussian family. His father was a decorated officer of Frederick II of Prussia, while his mother came from a bourgeois family of Huguenot descent. He was schooled according to the enlightened ideas of the time, which stressed tolerance, universality of knowledge, and humanism. Humboldt indeed was a product of his time; his later achievements reflect this universal education and position him within the tradition of the eighteenth-century cultivated traveler.²

Even though Humboldt's mother had planned a career as public servant for her younger son, Alexander managed to pursue his own interest—the study of travel literature, geography, botany, geology, and eventually mining.³ While pursuing a higher education, Humboldt traveled to many different places and learnt under many renowned people of the time. He studied botany, for example, with the young but already famous botanist Karl Ludwig Willdenow in Berlin in the late 1780s. Willdenow was in part responsible for awakening Humboldt's fascination for the foreign. After seeing his collection of exotic plants, Humboldt was seized by the desire to travel to the places from where they originated. Later, Humboldt enrolled in the University of Göttingen, which had a highly vibrant and innovative academic culture, and studied with influential scholars like Johann Friedrich Blumenbach, one of the founders of the discipline of anthropology. At Göttingen he also became acquainted with Georg Foster's work, which was based on his function as scientific observer of James Cook's second Pacific voyage, and he saw the ethnological objects and specimens of the fauna and flora Foster brought back to enrich Blumenbach's ethnological collection.⁴ Humboldt developed a real friendship with Foster and accompanied him on a journey to Holland, England, and France.⁵

In 1796 Humboldt announced his interest in a voyage to the West Indies, meaning not only the Caribbean islands but also the adjoining mainland countries.⁶ Yet, this trip required several more years of preparation. In the

2. See Beck, *Alexander von Humboldt*, 1:1-8; O. de Bopp, "Alemania en la época de Humboldt," 13-28.

3. Beck, *Alexander von Humboldt*, 1:36-37.

4. Gascoigne, "Blumenbach, Banks, and the Beginnings," 86-88.

5. Beck, *Alexander von Humboldt*, 1:25.

6. *Ibid.*, 1:86.

meantime he aborted a planned journey to Egypt, French captain Thomas Nicolas Baudin requested his company on a tour around the world, which didn't materialize either, and he met his future companion Aimé Bonpland, with whom he traveled to Marseille and eventually Spain. In Spain, he realized his dream of a longer expedition, managing to get an audience with the royal family, who eventually gave him the permission to travel to the Spanish-American colonies. Finally, in June of 1799, he left Europe aboard the ship *Pizarro*, en route to Havana and the West Indies via Tenerife.⁷ His great travel and exploration plans had materialized, and he was about to conduct the largest inland exploration of the Spanish-American colonies Vague—seems disconnected from the list of things you mentioned earlier in the paragraph (getting married, traveling elsewhere, etc.), which started in Cuba, led him to present-day Venezuela and Colombia, Ecuador, Peru, and eventually Mexico and the United States.

The time of Humboldt's America exploration coincided with the last years of Spanish rule in Latin America. Already the first decade of the 19th century witnessed independence movements in present-day Argentina and Venezuela. And in the 1820s most Latin American countries had achieved their independence. When Humboldt visited Mexico, it was still known as Viceroyalty of New Spain, and Viceroy Iturrigaray, was the King of Spain's representative. After 1821, most of the Viceroyalty of New Spain became Mexico, an independent country that was shaken by many civil wars and lost big parts of its territory before reaching the 20th century.

Teobert Maler was born roughly 70 years after Humboldt on January 12, 1842, in Rome. He came from a well-established, educated bourgeois family, and his father, Friedrich Maler, was a major in the army and the grand duke of Baden's *chargé d'affaires* at the Vatican. During his stay as diplomat in Rome, Friedrich Maler acquired art and antiquities for the Grand Duke of Baden's collection.⁸ After he was relieved from office in July 1843, the Malers returned to the Grand Duchy of Baden, and on their way to Germany, Teobert's mother suddenly fell ill and died.⁹ According to his autobiographical manuscript, *Leben meiner Jugend*, Maler had a very unhappy childhood, since his "father was a gloomy, distrustful, and miserly man, whose mean attributes even grew into a certain degree of insanity."¹⁰ Unlike Humboldt, whose primary schooling was done at home and fostered by his parents, Maler grew up in a less propitious environment; according to his memoirs,

7. *Ibid.*, 1:132; 137.

8. Schneider, "Die Erwerbung der antiken Sammlung."

9. See Noack, "Friedrich Maler zum Gedächtnis," 36; Graham, "III. Teobert Maler: Eine Lebensskizze," XVII-XIX; Kutscher, "Teobert Maler (1842-1917)," 9-10.

10. Teobert Maler, *Leben meiner Jugend* [ca. 1868], TS, Band A73 Teobert Maler, Hamburg Museum für Völkerkunde, 1.

his father didn't give him enough money to buy the necessary books to study, and thus his advancement in school was mostly due to his own effort.¹¹ After completing his general schooling in Baden-Baden, Maler studied engineering and architecture at the Polytechnic school of Karlsruhe.¹²

Maler's studies and youth were not as driven by a yearning for foreign countries, but he nonetheless traveled to Munich and Vienna in 1862 and decided to go to Mexico when he was only twenty-two years, suggesting at least some fancy for adventures. In November 1864, he enlisted as a cadet in the pioneer company of the Austro-Belgian volunteer corps, created by Maximilian of Habsburg, whom the French had recently installed as emperor of Mexico. This episode in Mexican history, known as the Second Empire, is worth a brief parenthesis. The Second Empire was created by French Emperor Napoleon III and supported by Mexican conservatives, after the French had won a military intervention in Mexico. This intervention had started as a punitive expedition by France, Britain, and Spain, who sent their gunboats to Mexico to force the government of the republican president Benito Juárez to service the debt payments, which it had ceased to pay. But once Britain and Spain realized that the French had ulterior motives, that, in fact, they wanted to colonize Mexico in order to start creating a Latin League that would include the Mediterranean countries and the former Iberian possessions in the New World, they quickly withdrew from this joint venture. The French expeditionary force defeated the Mexican republican army, and Napoleon III placed a pair of puppets on the Mexican throne, Maximilian of Habsburg and his wife, Charlotte, the daughter of the King of Belgium. Initially, Maximilian and Charlotte enjoyed French military backing and British economic support, but Emperor Maximilian quickly understood that he had to become more independent. Thus, he created a corps of Belgian and Austrian volunteers to help him pacify the country, which was torn by guerrilla warfare that pitted the remnants of the republican army against Maximilian's army.

Teobert Maler joined this volunteer corps in November 1864, and he disembarked with his company about a month later in the port of Veracruz, Mexico. From January 1865 to June 1867 he fought many battles for Emperor Maximilian in today's states of Veracruz and Puebla against the republican insurgents. But he nevertheless had time to start appreciating the country he was in. According to his memoirs, he soon developed a fascination for the ancient Mexican civilizations. After having seen the ruins of El Tajín, near Papantla, Veracruz, he asked General Thun, who was in charge of the volunteer corps, if he could get a leave of absence to buy books in Mexico

11. *Ibid.*

12. *Ibid.*

City to study Náhuatl, an ancient Mexican language. He wasn't granted this leave, but instead he was transferred to a quieter company on duty at the castle of Chapultepec in Mexico City, where he took advantage of peaceful hours to learn this language.¹³

The Second Empire, this bizarre interlude in Mexican history, ended quickly after domestic and international pressure forced Napoleon III to withdraw troops and financial support in 1867. Maximilian decided not to abdicate, even though the republican forces had reconquered much of Mexico. But his army of relatively untrained Mexican draftees and a few remaining Austrian troops could not withstand the increasing pressure by the republican forces. In the end, Maximilian and his two leading generals were executed by a republican firing squad on June 19, 1867. Unlike most of his peers from the volunteer corps, Maler decided to remain in Mexico after the fall of the Second Empire. He initially went into hiding, but once things were a bit calmer, he started exploring the country—first the center-north and then the south. The reports of these trips, some of which were published in European journals, constitute the first travel writings Maler produced.

Humboldt's and Maler's Mexico expeditions were of a very different nature, but both developed a keen interest in Mexico in a somewhat fortuitous way. Humboldt planned to cross Mexico from Acapulco to Veracruz fairly quickly in order to reach Europe as soon as possible, because his collections and instruments couldn't bear much more time on the road, as he mentioned in his *Political Essay*, but the *vómito negro* that raged in the coastal regions of Veracruz prevented him from reaching that city.¹⁴ He ended up staying almost a full year in the viceroyalty of New Spain, visiting mines, spending time in Mexico City archives, accompanying the viceroy Iturrigaray on his yearly visit to the *desagüe* (drain) of Huehuetoca, climbing several volcanoes, establishing the height of these volcanoes, constructing a profile of the Mexican landscape from Acapulco to Veracruz, and more generally inquiring into the reasons why there was such a difference in cultural advancement between the viceroyalty of New Spain and the regions of South America he had just visited.¹⁵ So, despite his initial plans, in the end he spent enough time in Mexico to gather information for an influential treatise on New Spain.

Maler's fascination with Mexico also seems a bit accidental in the sense that initially he attempted to pursue a military career, and it led him to Mexico as a soldier of Maximilian's volunteer corps. Before enlisting in this corps, he wanted to join the franc-tireurs who formed up in Altona, near Ham-

13. Maler, *Leben meiner Jugend*, 22.

14. Humboldt, *Aus A. Humboldts Versuch*, 9:IX.

15. Humboldt, *Aus A. Humboldts Versuch*; Humboldt, *Reise auf dem Río Magdalena*; Beck, *Alexander Humboldts Amerikanische Reise*.

burg, during the Danish-German war that ensued over the Schleswig-Holstein question. But he arrived too late and soon afterwards decided to join the volunteer corps to go to Mexico.¹⁶ His initial interest in this country may have been fortuitous, but when Maler, aged forty-three, returned to Mexico to conduct his extensive Yucatan explorations after a seven-year sojourn in Europe, he had a clear idea of what he wanted to accomplish. Indeed, he had a very ambitious project in mind: he wished to survey the Maya region, dedicating the following thirty-two years of his life to the discovery, description, and photographic depiction of Maya ruins. He displayed a narrower interest in the country than Humboldt, for he was mainly fascinated by the ancient pre-Hispanic civilizations. Even though he included more general political or cultural observations in his writings, the mainstays of his oeuvre were archaeology, anthropology, and the study of ancient Mexican history.

Whereas Humboldt's visit to the viceroyalty of New Spain constituted only the last (long) leg of these expeditions, Mexico played a much more central role in Maler's life and work. But their writings seem to suggest a different story. Humboldt's *Political Essay* comprised six volumes, and it covered everything from a physical description of the viceroyalty, to an account of the inhabitants and the different races, a statistical report on the different intendancies, a sketch on the state of farming and mining, and his views on the state revenue as well as the military defense of the kingdom. In addition, he also prepared an illustrated volume on New World landscapes and ancient monuments, the *Vues des cordilleras*. Maler on the other hand, encountered greater difficulties in getting his work published. Although a considerable amount of his archaeological writings and photographs were published during his lifetime, his posthumous publications are more copious. And his publications were less diverse than Humboldt's, all pertaining to a greater or lesser degree to the description of ancient ruins. Only his earliest texts contain a more general travel narrative, with discussions of Mexican politics, ethnological observations on indigenous women's customs, and many personal anecdotes.

Having compared the histories, purposes, scopes and outcomes of their expeditions in Mexico, I would like to turn to Humboldt's legacy in Maler's work. The most obvious elements are the scientific rigor and method both used. Humboldt explained in *Kosmos* that the basis of all knowledge was observation and experimentation. He proposed to then use this data as foundation to establish empirical laws through analogy and induction.¹⁷ Much like his predecessor, Maler too used a very methodic approach in his observations and depictions of the different ruins he explored. His many accounts reveal

16. Maler, *Leben meiner Jugend*, 2.

17. Humboldt, *Kosmos*, 1:66.

an astute observer who paid attention to every little detail. This meticulous way of studying the ancient ruins made him a real expert and careful observation often led to intuitive conclusions: frequently he discovered new buildings in an archaeological site out of a hunch and located new sites because of his painstaking way of searching for them. He used to establish a base at one of the ruins and then look for further archaeological remains by advancing into the surrounding territory in a star-like manner. He was aware that thanks to such a thorough system, his “excursions turned out truly grandiose.”¹⁸

Similarly to Humboldt, Maler displayed much endurance. He didn’t shrink from moving stelae to take the best possible photograph of them, and once he was done, he returned the stone slabs, so that everything was where it belonged. Thanks to his determination to conduct a thorough expedition in a very inhospitable climate and to defy the dangers of getting infected with malaria or other tropical maladies, he helped advance the research in Maya questions a great deal. His many hundreds of photographs, descriptions, and maps of Maya ruins were of greatest importance for the development of Maya archaeology, and his photographs were particularly useful in supporting the efforts to decipher the Maya glyphs.¹⁹ However, although Maler gave his own readings of the purpose of ancient sites and of the people depicted on stelae, he mostly refrained from offering general interpretations of the Maya civilization. He often wrote that specialists would have to interpret the phenomena he observed. In this sense, he didn’t fully follow through Humboldt’s scientific approach.

Both Humboldt and Maler made critical remarks concerning social inequality and the position of the indigenous people. In his diaries, Humboldt commented that the misery and destitution in the streets of Mexico exceeded any he had seen before, and he decried the inequality of fortunes between those of European and those of indigenous descent.²⁰ Maler, too, pointed out the poverty and marginalization of the indigenous people, but unlike Humboldt, who identified several causes for the neediness of Mexican Indians, among them one that located the roots in the despotic nature of the Aztec government,²¹ Maler blamed a somewhat more recent cause: the repressive rule of the Spaniards. In fact, he was very much influenced by the “black legend” that explained the conquest as a struggle between barbarous Spaniards – the cruel conquistadors—against the good savages.

18. Teobert Maler to Consul Otto Rosenkranz, 15 November 1893, Rosenkranz Collection, Lippisches Landesmuseum, Detmold.

19. See the articles of two important archaeologists who praise Maler’s work. Graham, “III. Teobert Maler;” Kutscher, “Teobert Maler (1842-1917).”

20. Humboldt, *Reise auf dem Río Magdalena*, 323.

21. *Ibid.*

Humboldt and Maler both approved of the indigenous people as workforce. In fact, Humboldt was an early defender of the Indians against claims made by anti-American writers like “[Abbé] Raynal, [De] Pauw and so many other incidentally respectable men, who have complained about the degeneration of our species in the hot zones.”²² When describing the work performed by the *tenateros*—the laborers in the silver mines, who transported 112 to 125 kg of ore on their backs, carrying them up a staircase of over 1,800 steps, eight to ten times a day, thus climbing around 32,000 steps—Humboldt made it clear that he considered these people very industrious and that he didn’t agree with others who “accused the Indian race of weakness.”²³ On the contrary, he actually viewed the Indians as much stronger and strenuous than the Europeans: “What a contrast! Daily it is spoken of the energy of the white race and the weakness of the *indios*. The latter make 8 to 10 trips with weight, and we, we crawl when we climb up once from the shafts of the Valenciana mine, without weight and well-fed.”²⁴ When making these observations about the Mexican mine workers, Humboldt also connected the Indians’ plight to the outcome of the conquest: “Unlucky descendants of a race that was deprived of its property. Where are examples of an entire nation that has lost all of its property?”²⁵ Likewise, Maler saw the indigenous people as Mexico’s major workforce and the main producers of food; he argued that the only reason the indigenous people survived is because they “feed the Spaniards, and it is not the Spaniards who feed the Indians.”²⁶ He blamed the Spaniards for the Indians’ ignorance, considering that they should have made available to them an education in their native languages.²⁷

To better situate Humboldt’s and Maler’s remarks on Mexico’s Indians, a quick summary of the history of European accounts on indigenous people is useful here. Ever since Europeans met natives of the New World, the topic of the otherness of the inhabitants of the Americas has been of interest. Europeans positioned themselves as civilized and described the indigenous people of the recently discovered continents as barbarous. Enlightenment thinkers, however, proposed new ways of looking at indigenous people: they began to consider the relativity of their own cultural standpoints and did no longer judge the other from the accustomed Eurocentric stance. Jean-Jacques Rousseau’s seminal work *Discours sur l’inégalité parmi les hommes*, written in 1754, emphasized the dialectics between nature and culture rather than divine providence in the history of mankind. There, he described the “natural man,”

22. Humboldt, *Aus A. Humboldts Versuch*, 9:45.

23. Humboldt, *Reise auf dem Río Magdalena*, 368.

24. *Ibid.*

25. *Ibid.*

26. *Ibid.*, 312.

27. *Ibid.*, 306.

his vision of mankind before living in society and before being corrupted by jealousy and greed. He thought that the natural man was beyond good and evil, full of benevolence and mercy. Towards the end of the eighteenth century, the image of the noble savage, which resembles Rousseau's natural man, became popular among European romantics. Savage was no longer equal to barbarous, and native people from far-away places in the New World, who had not been corrupted by an interaction with the Europeans, were increasingly seen as authentic and noble rather than degenerated and barbarous.²⁸

Humboldt and Maler's remarks on the indigenous people fit into this Enlightenment tradition. Humboldt viewed the Indians as "primitive people" or savages who had not achieved the same level of culture as the conquistadors. But this comment was meant as an explanation for the outcome of the conquest. He argued that the ancient Mexicans were "on the first step of civilization," while the Spaniards were already "very advanced in the arts" and thus considered their encounter as an "unequal dispute."²⁹ In addition, Humboldt did not represent all Americans as equal. On the contrary, he highlighted the multiplicity of traits and characteristics among the natives of the American race.³⁰ In fact, he corrected the wrong conviction prevailing among Europeans that people of brown skin all look alike.³¹ He emphasized the variety of languages spoken by the American people and the diversity of geographical locations, in which they settled, ranging from tropical forests to mountain ranges. These comments reveal a greater consciousness of the multiplicity of humankind, and thus echo the relativist stance of Enlightenment thinkers.

Maler also made distinctions between natives, but these were based on the degree of purity of the indigenous people. The less corrupted they had been by the Spanish, both in blood and culture, the more highly he thought of them. When referring to his porters and workers, he often used negative words:

When my work in Yaxchilan was finished, my men were completely discouraged with regard to undertaking further explorations and ardently longed to return to Tenosique. Such is the character of these people that even for the highest wages and with the best treatment, they cannot be induced to continue at one pursuit for any length of time. My success in having secured their services for seven months may be regarded as the utmost that can be accomplished.³²

28. See also Bitterli's synthetic work, *Die 'Wilden' und die 'Zivilisierten,'* 232-7.

29. Humboldt, *Aus A. Humboldts Versuch*, 9:54.

30. Humboldt, *Sites des cordilleras*, 6.

31. *Ibid.*, 56.

32. Maler, "Researches in the Central Portion," 1903:198.

He also described these same workers as “the three vagabonds [he] had brought from Tenosique, who were many degrees inferior to the Indians in every respect,”³³ which suggests that he did not consider them as pure Indians but viewed them as “half-breed,” which he despised for having been corrupted by the Spaniards. Only the indigenous people who were pure and maintained their traditional lifestyles awakened his passion. This distinction becomes clearest when he writes about indigenous women. While he praised pureblood, traditional Indians for their natural, authentic beauty and thought them “friendly and modest,” he described the *mestizas* as fake and affected – women who hid behind make-up and fashion novelties.³⁴ Thus, Maler’s vision of the indigenous people differs from Humboldt’s in that he equals savagery to goodness and despises those who have adapted their lifestyles to that of the Spanish. His view echoes the image of the noble savage that prevailed in the late eighteenth and early nineteenth centuries.

Moreover, Maler admired the ancient Indians most, those who had achieved a great civilization and built all the ruins he surveyed with such assiduity. But he did not show the same esteem for the descendants of these civilizations, especially the semi-nomadic Indians who populated the regions around the Usumacinta river. In the following quote, Maler wonders why this beautiful landscape no longer fosters great civilizations:

In all my journeyings on the treacherous waters of the Usumatsintla between El Cayo and Saiyaxché, I have been forcibly struck by the extraordinary contrast between the lavish beauty of nature and the extreme degradation of the remnants of humanity existing there. Luxuriant vegetation of emerald hue bends in flower-laden branches to the water’s edge, overarched by a sky of purest azure; brilliant-hued butterflies and humming birds with metallic sheen fly from flower to flower; gorgeous birds build their nests in every tree; even the snakes and iguanodons are graceful and beautiful; but humankind produces no such splendid forms as are to be seen in the Caucasus or in Asiatic Turkey. It is long since a respectable, stationary population inhabited these fruitful shores, and the dubious elements sunk in sloth, filth, and every possible vice, whose miserable habitations are met with here and there, are constantly shifting since they acquire no fixed property rights.³⁵

Much like Humboldt, who saw part of the reason for the Indians’ hard labor in their having lost all their property, Maler considered the Indians’ lost property as cause for their destitution—a both in terms of intellectual and material culture. This quote also reveals an understanding that the surrounding environment plays a key role in fostering cultural development. Maler

33. Maler, “Explorations of the Upper Usumacinta,” 1908, 2:61.

34. Teobert Maler, “Reise des Hauptmann Maler von México nach Tehuantepec 1876,” TS, Band A73 Teobert Maler, Hamburg Museum für Völkerkunde.

35. Maler, “Explorations of the Upper Usumacinta,” 1908, 1:4.

thus saw the connectedness of nature and culture that had already been referred to by Rousseau. A beautiful landscape, according to the above quote by Maler, should positively influence the inhabitants of the region and foster their cultural achievements.

Humboldt, too, saw the close relationship between nature and culture. In *Sites des cordilleras*, he argues that in Equatorial America the mountain people, or *peuples montagnards*, achieved the greatest civilization since they had to struggle to survive in a hostile environment, and they prevailed.³⁶ Throughout his writings, Humboldt emphasized nature's influence on culture. Richard Konetzke argues that for Humboldt "nature" included "human life and thus history." History was embedded in and connected to nature, and the historian's task was "to recognize the natural conditions of human cultural life and show 'the influence of the physical world on the moral.'"³⁷ Humboldt's understanding of the connection between nature and history is perhaps clearest in his introduction to *Vues des cordilleras* that "there is no doubt that the climate, the shape of the soil, the facet of a smiling or savage nature influence the progress of the arts and the style that distinguishes their productions. [...] In order to understand the origin of the arts, one has to study the nature of the site that saw them arise."³⁸

Humboldt and Maler used drawings or photographs of the monuments they described to make the objects more palpable and to accentuate their connection to the beautiful landscapes in which they were situated. The drawings Humboldt commissioned based on his sketches for the *Vues des cordilleras* gave Europeans a glimpse of things most would never have had a chance to see in reality. Humboldt also encouraged contemporary German landscape painters to travel to the tropics, which according to Humboldt offered ideal subjects. Johann Moritz Rugendas, whom Humboldt had met in Paris, followed the German scientist's advice and traveled to South America, painting many of the sites Humboldt mentioned in his oeuvre.³⁹ In *Kosmos*, Humboldt reveals why he considered landscape painting such an important genre: "Like a lively description of nature, landscape painting too is appropriate to increase the love of the study of nature. Both show us the outside world in all its rich diversity; both are able [...] to tie the sensual to the non-sensual."⁴⁰ Thus, for Humboldt, landscape painting was a way of connecting to nature, perceiving and understanding it, and it taught one about the different physiognomies of nature. Similarly, the representations of ancient monuments helped viewers to understand more fully the civilizations that built them and,

36. Humboldt, *Sites des cordilleras*, 12.

37. Konetzke, "Alexander Humboldt," 537; Humboldt qtd. in Konetzke.

38. Humboldt, *Vues des cordillères*, 3.

39. Diener, "Humboldt und die Kunst," 147.

40. Humboldt, *Kosmos*, 2:76.

for that reason, the New World as well. This juxtaposition of nature and monuments helped viewers to see “the origin of the arts,”⁴¹ as Humboldt put it.

Maler went one step further with the photographs that accompanied his archaeological texts. They no longer served only as illustrations of the text, but became a fully integrated element, crucial for the interpretation of the ancient monument. If the details of a façade were clearly visible in a photograph, then Maler refrained from giving an exhaustive account of the monument—he would just refer to the photograph. In his oeuvre, text and image went hand in hand, and since his images were photographs of extremely good quality and sharpness, they were indeed useful for the study of ancient Mexican cultures. In his texts he hints at how he spared no pains to obtain the perfect picture, which included building a scaffolding in order to take a picture from a better angle, splashing the frescoes with water or moving stone slabs into the sun to obtain a starker contrast, as well as cutting down trees and shrubs to get a better view. Maler’s photographs accomplished what Humboldt encouraged landscape painters to pursue: a realistic picture of exotic landscapes and monuments for a European audience. And the recently discovered photographic method was much more apt to produce a realistic portrait of nature than landscape painting, but this was, of course, a kind of staged realism too.

Despite similarities in style, method, and attitude, Humboldt and Maler differed, most obviously in their archaeological work. Of course, archaeology was Maler’s pet subject, while it played a less central role in Humboldt’s oeuvre, although he dedicated the greatest amount of space to renderings of archaeological monuments in his *Vues des cordilleras*. Yet surveying Mexico’s ancient monuments was definitely not a priority for Humboldt while in Mexico. In fact, he only visited Cholula, a pyramid in the proximity of the city of Puebla, but thanks to the research he conducted while in Europe, he also wrote about several more he hadn’t seen. Notwithstanding it is intriguing to compare Humboldt’s perception of ancient buildings with Maler’s much later work, given how much advancement had been made in the field of archaeology in the interim.

It is surprising that a traveler of the importance and erudition of Alexander von Humboldt only visited Cholula and not even Teotihuacán, Xochicalco or Mitla—all three well-known ruins at the time. Ignacio Bernal attributes this to the fortuity of his Mexico expedition; Humboldt did not plan to stay in Mexico for long, and consequently he had not prepared himself sufficiently to explore Mexico’s cultural remains more thoroughly. In fact, most of his erudition on things Mexican was due to the post-voyage study of the sixteenth-century Spanish chroniclers, conquistadors, and subsequent schol-

41. Humboldt, *Vues des cordillères*, 3.

ars.⁴² Humboldt openly acknowledged in his *Vues des cordilleras* that he did not visit Xochicalco because “he was unaware of the existence of the hill of Xochicalco” and thus relied on Mr. Alzate’s account of these monuments.⁴³ Since so many of his accounts of ancient monuments were based on descriptions made by earlier travelers and scholars, they reflect the state of archaeology of the time in which his sources were written, rather than proposing novel observations and theories. Not surprisingly, Humboldt copied mistakes. In the case of Xochicalco, for example, he described crocodiles spitting out water represented on the walls of the pyramids,⁴⁴ when in fact, these bas-reliefs depicted the feathered serpent, Quetzalcóatl or Kukulcán, a mythological being of great importance all over Mesoamerica.

Maler, on the other hand, not only benefited from the greater amount of scholarship done in Mexican archaeology since Humboldt’s publications, but he also read the relevant books *before* starting his in-depth explorations in Mexico. Of course, Maler also focused more narrowly on the study of pre-Hispanic culture. Moreover, his professional training as architect helped him a great deal in the specifications of the ruins, in which he included information on the layout, construction, size, shape, and decoration. Often he also ventured an interpretation or explanation of the objects he portrayed, and thus did not just simply repeat what archaeologists before him had already observed, but added both greater detail and original theories.

The description of Mitla nicely illustrates the different traditions to which Humboldt and Maler belong—more universal vs. more specified knowledge, respectively, which also positions Humboldt more fully in the Enlightenment and Maler in the nineteenth century. Humboldt based his account on the Mexican architect Don Luis Martin’s plan and account of these Zapotec ruins, thus further exposing his lack of dedication to the exploration of ruins. Maler’s narrative, in contrast, reveals his personal impressions and analysis, making his presence there very realistic. He is also more careful with his portrayal of the ruins. While describing what he called the main palace, he noted that it was not clear whether this building really functioned as such, or whether, since all other buildings were “so terribly destroyed, it appeared to us as the most important.”⁴⁵ Humboldt, on the other hand, simply referred to it as the main palace, as if its central role were unquestionable.

Humboldt also exposes himself as Enlightenment thinker in that he classified ancient Mexican buildings comparing them to other ancient civilizations,

42. Bernal, “Humboldt y la arqueología mexicana,” 124-5.

43. Humboldt, *Vues des cordillères*, 41.

44. *Ibid.*, 39. In his notes on Humboldt’s *Vues des cordillères*, Maler makes a mocking comment on Humboldt’s drawing of Xochicalco. He calls it a “ridiculously bad drawing.” Notizbücher, Nachlass Maler, Ibero-Amerikanisches Institut, Berlin.

45. Maler, “Reise des Hauptmann Maler,” 21.

most often those of Greece and Egypt. He considered Mitla, for example “of a very remarkable elegance,” unlike all “the [other] barbarous monuments that only offered a purely historical interest,”⁴⁶ and compared the decorative mosaics of the main palace to the “vases of Great-Greece and [to] other ornaments that can be found spread over almost the entire ancient continent.”⁴⁷ However, he didn’t consider these ruins an indicator of a “very advanced civilization.”⁴⁸ On the contrary, he saw this archaeological site, like others he described, as evidence of the “dawn of art,” citing the columns found in Mitla as corroboration of this, since they lacked capitals and were thus of a brutish style.⁴⁹

Maler also mentioned the columns of Mitla, but his analysis of them was of a less comparative nature. He looked at them within their own Mexican context, without drawing comparisons to other civilizations. He observed that columns were all sculpted out of one stone, that “they [had] neither foot nor head, but [that] they [swelled] lightly and [tapered] at the top.”⁵⁰ Unlike Humboldt, who described this Zapotec site rather dryly, Maler’s narrative description led the reader through Mitla’s buildings, which produced a very vivid effect, while giving details on the thickness of the stucco, the mosaics, and his reflections on the manner of construction.⁵¹

Humboldt’s comparative approach to examining New World civilizations was also driven by the desire to point out antecedents and maybe direct links between Old World and New World cultures. He was very much aware of the different theories that tried to explain the origins of the civilizations of the New World. In his *Political Essay* he came closest to seeing a link between the Mongols and the ancient Toltecs, which he regarded as the first civilized culture of central Mexico, the ones who had invented the art of hieroglyphic writing, the calendar, and the pyramids.⁵² According to Humboldt, the ancient Toltecs shared common ancestors with the Hiongu—a Mongol tribe that had migrated towards northern Siberia and from there to the New World.⁵³ Here Humboldt was far ahead of contemporary and even later scholars, who advanced all kinds of theories arguing that only more recent descendants of the lost tribes of Israel or the Greeks could have constructed the pyramids of the New World, since its current inhabitants were all savages.⁵⁴

46. Humboldt, *Vues des cordillères*, 270.

47. Humboldt, *Sites des Cordillères*, 267.

48. *Ibid.*

49. *Ibid.*, 265.

50. Maler, “Reise des Hauptmann Maler,” 21.

51. *Ibid.*, 21-4.

52. Humboldt, *Pittoreske Ansichten*, 32-33.

53. Humboldt, *Aus A. Humboldts Versuch*, 51.

54. Bonor Villarejo, “Introducción,” en Stephens, *Viaje a Yucatán*, 1:15.

Maler too proposed an endogenous explanation to the puzzle of the pyramids in the New World: he thought that the Aztecs, Mayas, Zapotecs, and other nations had built the pyramids themselves. And he proposed a comparative linguistic study of the Aztec and the Mongol language in order to figure out whether they shared a common antecedent. Much like Humboldt, he speculated that the Aztec people might have descended from an ancient ancestor of the Mongol tribes. Thus, both located early ancestors of New World Indians in Asia, and both viewed New World Natives as having reached a sufficiently developed stage that allowed them to have constructed the pyramids themselves. Yet, Humboldt and Maler differed in their appreciation of these monuments. While Humboldt judged them as barbarous and as of purely historical interest (always comparing them to ancient Greek buildings), Maler always admired the beauty and architectural perfection of these buildings.

Maler's writing was in keeping with the Humboldtian tradition of theoretical speculation deduced from careful empirical observation. Despite the differences in their backgrounds, how they got involved in Mexico, their attitudes toward it, and the political, cultural, and scientific changes that came between them, one can map many similarities in observation and attitudes between the two. This serves as testimony to Humboldt's progressive, innovative, and detailed ways of looking at the New World. And this is even more stunning since they belonged to two different types of explorers. Whereas Humboldt still largely represents the traditional Enlightenment traveler with universal interests and broad education, who tried to paint a global picture and emphasized the unity of what he observed, Maler belongs to the category of explorers who devoted his time to the pursuit of a more narrow and specific field of knowledge. Humboldt and Maler thus stand for two different stages in the history of explorations. In addition, Maler proposed new approaches to Mexico by exclusively focusing on pre-Hispanic vestiges. Not only did he help shift the center of European attention in Mexico from a natural and geological interest to a more cultural one—a trend that has lasted to this day—but he also introduced a narrower focus that is typical of more specialized knowledge—another process that would not be reversed. Yet, it speaks to Humboldt's depth of knowledge and his keen ability of observation that there are so many parallels between an early and a late nineteenth-century traveler.

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Sandra Rebok

El objeto de este estudio es analizar un aspecto de la vida de Humboldt que, hasta hace poco, apenas había sido estudiado en la investigación realizada a nivel internacional sobre este famoso científico y viajero: su vinculación con España durante toda su vida a consecuencia de su estancia de cinco meses en la Península Ibérica, que comenzó en la primavera de 1799. Esta relación con España se refiere al especial significado que este país tuvo en su proyecto americano, que preparó e inició desde allí, a la imagen que el científico creó y difundió de este territorio y, finalmente, a la historia de la su acogida en las distintas aspectos de la sociedad española de su época.

En el transcurso de esta investigación sobre la mutua percepción y recepción entre el viajero alemán y España¹, ambas funciones de este proceso fueron analizadas separadamente. Respecto a la mirada del famoso prusiano hacia este país, se distingue entre su visión de la España coetánea para él por un lado, y su visión histórica de este país por el otro, condicionada esta última por su intenso estudio de la historia colonial española. Con respecto a la recepción de Humboldt en España, este fenómeno será reconstruido a través de las distintas miradas existentes en el interior de la sociedad española, de lo que por inducción se compondrá una visión generalizada. Muestras de estos enfoques son su representación en la prensa española, la presentación de distintos *modi* de recepción dentro del mundo científico e intelectual, así como la historia de la edición y recepción de sus escritos en la sociedad española. A continuación se analizará la influencia de Humboldt en distintas instituciones científicas de España, y finalmente será tratada la per-

1. El presente trabajo fue realizado en el marco del Proyecto BHA2000-1230 Plan Nacional I+D+I (2000-2003), con una beca de la fundación Alexander von Humboldt (Bonn), y a continuación con una Beca I3P del CSIC (MCYT). Este artículo es un resumen de una investigación más amplia que recientemente fue presentada como tesis doctoral. Está prevista la próxima publicación de la tesis tanto en alemán como en español.

cepción de su persona en el sector político de este país, que comenzando a partir de su primer contacto con la corte española en el año 1799, y pasando durante el absolutismo por tiempos de desconfianza política hacia él debido a sus convicciones liberales, llegaría en sus años tardíos a la concesión de condecoraciones por parte del gobierno liberal de Isabel II.

El marco temporal de este análisis comienza con la llegada del famoso viajero a España en 1799 y, mientras en el caso de Humboldt este proceso se extiende durante toda su vida, o sea, hasta el año 1859, en el caso de España el enfoque principal también está puesto en este período, pero además se extiende hasta finales del siglo XIX, y en algunos aspectos incluso hasta los primeros años del siglo XX, a fin de poder incluir también la percepción de él en las primeras décadas después de su muerte.

Uno de los aspectos novedosos de esta investigación es el hecho de que mientras el enfoque tradicional de las prácticas de percepción se limita por lo general a una visión unilateral, en este trabajo fue estudiado la reciprocidad de este proceso, es decir, fueron analizadas ambas miradas.

Es conocido que el proceso de percepción representa una aproximación a una cultura ajena, que parte del propio punto de vista del autor e incluye a éste de una manera más o menos consciente. Por lo tanto, el resultado es que la percepción constituye una conexión específica entre la influencia de la propia cultura y las condiciones de la cultura ajena. Todo este proceso además está condicionado por los intereses particulares o personales del espectador: tanto los aspectos que uno percibe como los que pasan desapercibidos ofrecen tanta información sobre lo ajeno como sobre lo propio. Por lo tanto, el inicio a partir de una situación específica, en conexión con una aproximación a lo ajeno, guiado por los propios intereses, lleva al fenómeno de que cada mirada al otro, cada proceso de percepción es un caso único.

Como ya ha sido anunciado, en esta investigación se aplica esta teoría a las recíprocas estrategias de percepción entre el viajero y científico Alejandro de Humboldt, por un lado, y España como unidad político-cultural por el otro. Un aspecto particular de este análisis es el hecho de que por una parte se trata de la mirada de una única persona, y por otra, de la de una sociedad compuesta de distintas facetas, pero que finalmente está constituida por un conjunto de personas que se mueven supuestamente en el mismo marco socio-político e ideológico, y que están involucradas en las mismas condiciones históricas. Interesante de ver en este último caso, fue el hecho que se pudieran detectar corrientes e intereses muy diferentes dentro de las diversas realidades de este país. Esto resulta muy evidente al contrastar la recepción política con la recepción científica de Humboldt, además de las diferencias entre los sectores conservadores y los liberales, así como finalmente en la

representación oficial, es decir, por parte del gobierno, comparada con la no oficial.

Por lo tanto, al analizar una percepción colectiva por un grupo siempre hay que diferenciar entre una estrategia de recepción individual y la oficial, dirigida por el gobierno. Además, también en el sentido individual se han podido demostrar grandes diferencias, ya que según la propia orientación resultaron distintas miradas a Humboldt, por lo que para este análisis surgió la necesidad de analizar la visión particular de algunas personas.

A continuación serán resumidos brevemente los resultados del análisis de los aspectos antes mencionados.

La mirada de Humboldt hacia España

Como ha sido inicialmente expuesto, en relación con la mirada de Humboldt hacia España se observa la diferencia entre su visión de la realidad española, tal como se le presentó durante su estancia, y su visión de las condiciones históricas del país, es decir, su pasado colonial. Para ambos temas se llevó a cabo una búsqueda exhaustiva de sus comentarios o juicios sobre las distintas facetas de este país, así como sobre temas relacionados con ello.

Imagen de la España de su época

Respecto a la imagen de la España coetánea para él, en general hay que adelantar que se encuentran pocas referencias a este país en las obras de Humboldt. Los escasos comentarios que se han podido hallar provienen sobre todo de su correspondencia privada. Así podemos tomar de la siguiente carta, dirigida el 1.6.1799 al Barón Philipp de Forell, el embajador de Sajonia (Puig-Samper 1999, 330-332), pocos días antes de su partida desde La Coruña, una idea de lo que podría haber sido la primera impresión general que Humboldt tuvo de este país (Jahn/Lange 1973, 477):

(...) tous ces petits traveaux m'ont fait oublier les mauvaises auberges, le manque de comestibles et l'insipide Compagnie d'une jeune Officier (...)
Quelle pauvreté et quelle industrie des habitans! L'aisance n'est pas toujours le fruit du travail.

Un tema sobre el que resultó posible hallar varios comentarios fue las particularidades del paisaje español. Una de estas observaciones se encuentra ya en un texto publicado en 1809 por Alexandre Laborde en su obra *Itinéraire descriptif de l'Espagne*, que dice (Humboldt, CXLVJJ):

Aucun pays de l'Europe ne présente une configuration aussi singulière que celle de l'Espagne. C'est sa forme extraordinaire qui explique l'aridité du sol dans l'intérieur des Castilles, la force de l'évaporation, le manque de rivière,

et celle différence de température que nous observons entre Madrid et Naples, deux villes situées sous le même degré de latitude.

Principalmente le entusiasmó el paisaje tropical alrededor de Valencia, con sus temperaturas agradables y sus palmeras, como comenta en una carta del 28.2.1799 y otra fechada el 20.4.1799 (Jahn/Lange 1973, 649; 662), pero también en el único artículo que le dedicó a su estancia en España y que fue publicado en el año 1825 en la revista alemana *Hertha*.²

Más entusiasmo incluso le provocaron las Islas Canarias, y en particular Tenerife, donde pasó seis días antes de continuar el viaje hacia América (19.-25.6.1799). Esta isla canaria parece haber sido para él el primer avance de aquel mundo trópico, que anhelaba encontrar en el Nuevo Continente. Por lo tanto dedicó mucho espacio a la descripción de este mundo tanto en sus cartas como en su narración de viaje, la famosa *Relation Historique*, donde le concedió un capítulo entero (Humboldt 1991, 115-241).

Otro tema al que Humboldt hace alusión en varios contextos son los logros y los progresos de la ciencia española, destacando sobre todo el interés científico de este país por sus colonias. Así, por ejemplo, en una carta del 8.11.1803 hace el siguiente comentario dirigido a Manuel Espinosa y Tello, el hermano del director del *Depósito Hidrográfico*, sobre el enorme avance de la marina española en la astronomía náutica (Moheit 1993, 253):

(...) la posterioridad más remota agradecerá a los marinos españoles los inmensos e importantes trabajos que han sabido acopiar en los últimos 20 años, yo a lo menos no conozco otra nación que hubiese adelantado más la Astronomía náutica en publicando más mapas exactos en tan corto tiempo.

También en su estudio sobre México se encuentra un comentario muy halagador para España (Humboldt 1997, 151):

Depuis la fin du règne de Charles III et depuis celui de Charles IV, l'étude des sciences naturelles a fait de grands progrès non seulement au Mexique, mais en général dans toutes les colonies espagnoles. Aucun gouvernement européen n'a sacrifié des sommes plus considérables pour avancer la connaissance des végétaux, que le gouvernement espagnol. Trois expéditions botaniques, celle du Pérou, de la Nouvelle-Grenade et de la Nouvelle-Espagne, dirigées par messieurs Ruíz et Pavón, par don José Celestino Mutis et par MM. Sessé et Mociño, ont coûté à l'État près de deux millions de francs.

Incluso, independientemente de su tajante crítica general hacia el sistema colonial, al contrastar la política del gobierno español en sus colonias con las de otras naciones europeas, destaca los aspectos positivos, sobre todo en relación con el trato que se les daba a los esclavos (Humboldt 1998, 192). Lo que hay que tener presente, al evaluar este tipo de comentarios, es su pro-

2. Este artículo fue recientemente traducido al español (Puig-Samper/Rebok 2002).

fundo agradecimiento a la corona española por haberle posibilitado esta expedición por territorio español. Además de esta lealtad, Humboldt se auto-definía en primer lugar como científico y ello le llevaba a no inmiscuirse demasiado en los asuntos políticos de otros países.

Lamentablemente, no se encuentran apenas referencias a la población española, a diferencia del caso de su hermano Wilhelm von Humboldt quien, a resultas del viaje por España que realizó pocos meses después, nos dejó muy interesantes descripciones de la sociedad española de aquella época (Humboldt, Wilhelm 1998). Alexander al contrario, solamente en el caso de Tenerife incluyó el factor humano en su descripción general.

Preocupación por el pasado español³

A continuación se analizó su preocupación por los documentos que dejaron los primeros cronistas españoles sobre la realidad americana y el significado que Humboldt les concedió para su propio trabajo sobre América. Sobre todo en sus obras *Examen critique*, *Vues del Cordilleras* y el *Cosmos* Humboldt elaboró sus reflexiones sobre estos documentos tan valiosos para la reconstrucción del estudio del Nuevo Continente.

Como dice el propio Humboldt en su obra *Examen critique* (Humboldt 1836-39, X-XI):

(...) j'ai trouvé un charme particulier à la lecture des ouvrages qui renferment les récits des *Conquistadores*. Des investigations faites dans quelques archives en Amérique et dans les bibliothèques de différents parties de l'Europe, m'ont facilité l'étude d'une branche négligée de la littérature espagnole.

En sus obras se encuentran muchas referencias a varios cronistas, pero sobre todo al jesuita José de Acosta y su obra *Historia Natural y Moral de las Indias*. Interesante en este contexto es el hecho que sobre el estado de la investigación de ellos postula (Humboldt 1836-39, 5-6):

Lorsqu'on se livre à l'étude des premiers historiens de la conquête, et que l'on compare leurs ouvrages, surtout ceux d'Acosta, d'Oviedo et de Garcia, aux recherches des voyageurs modernes, on este surpris de trouver souvent le germe des vérités physiques les plus importantes dans les écrivains espagnols du seizième siècle.

Con esta alta apreciación de la temprana producción literaria o pre-científica española, Humboldt dio a estos documentos un valor que no tenían en aquella época, ya que generalmente eran más bien considerados como “cuentos de frailes.” De esta manera rescató del olvido las contribuciones españolas a la investigación del Nuevo Mundo y ayudó al prestigio científico de este país, generalmente no muy apreciado en aquella época.

3. Sobre este aspecto se publicó un trabajo preliminar: (Rebok, 2001).

La mirada española hacia Humboldt

Respecto a la recepción de Humboldt en España, la situación se presenta con una mayor complejidad; por consiguiente se imponía la necesidad de analizar las distintas facetas de la sociedad de una manera separada. Con estas miradas, realizadas desde ángulos muy distintos, se puede construir una imagen general de este famoso prusiano.

Percepción de Humboldt en la prensa española⁴

El método aplicado a fin de captar la percepción de Humboldt por parte de la prensa española consistió en una revisión de una gran cantidad de publicaciones periódicas en búsqueda⁵ de todo tipo de comentarios sobre o de Humboldt, y en consecuencia, un análisis subsiguiente del contenido y carácter de estas referencias sobre él así como del tipo de escritos que acerca de Humboldt se publicaron. Debido a la situación política de aquella época, aquí se diferencia entre la prensa moderada que se imprimía dentro de España, y la prensa liberal que se publicaba por el exilio español en Londres.

Resumiendo, es lícito decir que, en general, se ha podido encontrar una gran cantidad de referencias de todo tipo a Humboldt, tanto en la prensa liberal como en la moderada. Estas se clasifican en: referencias concretas, dentro de un determinado contexto científico, en que se mencionan sus resultados científicos; informaciones o noticias generales sobre sus actividades; y elogios al gran sabio y a sus méritos, a menudo sin vínculo científico concreto.

Respecto a la diferencia entre la prensa liberal y la moderada, básicamente se ha podido detectar que solamente en la prensa del exilio se encuentran comentarios sobre los aspectos políticos de sus obras; que únicamente en la prensa publicada en España se hacen continuas referencias a la ayuda que se le había prestado por parte del gobierno español; y, finalmente, que exclu-

4. Una primera versión preliminar de esta investigación está ya publicada (Rebok, 2000). Además existe una versión posterior en alemán (Rebok, 2002).

5. Se trata de las revistas: *La Abeja*, Barcelona; *El Álbum Pintoresco Universal*; *La Alhambra*, Granada; *Anales de historia natural*, Madrid; *Anales de la Sociedad Española de Historia Natural*, Madrid; *Boletín de la Sociedad Geográfica de Madrid*, Madrid; *Crónica Científica y Literaria*, Madrid; *Diario de Barcelona*, Barcelona; *El Europeo*, Barcelona; *El Español*, London; *El Español Constitucional o Miscelánea de Política, Ciencias y Artes*, London; *Guardia Nacional. Eco de la razón*, Barcelona; *El Instructor o repertorio de historia, bellas letras y artes*, London; *Memorial Literario o Biblioteca Periódica de Ciencias y Artes*, Madrid; *Memorias de Agricultura y Artes*, Barcelona; *Memorias de la Real Academia de ciencias naturales y artes de Barcelona*, Barcelona; *Mercurio de España*, Madrid; *Minerva o Revisor General*, Madrid; *El Museo de Familias*, Barcelona; *Museo Universal*, Madrid; *Museo Universal de Ciencias y Artes*, London; *Ocios de españoles emigrados*, London; *Semanario de Agricultura y Artes para párrocos*, Madrid; *Semanario Pintoresco Español*, Madrid; *Varietades de Ciencias, Literatura y Artes*, Madrid; *Varietades o Mensajero de Londres*, London.

sivamente en estas publicaciones se hallan comentarios sobre sus actividades científicas anteriores a su expedición americana.

Recepción de sus obras en los círculos intelectuales y científicos de España

A continuación se analiza la percepción de Humboldt en la obra de algunos representantes del mundo científico e intelectual español. De esta manera se realizó una búsqueda de todo tipo de comentarios sobre el famoso prusiano en los escritos de: Marcelino Menéndez y Pelayo (1856-1912), personaje destacado de la erudición española; Marcos Jiménez de la Espada (1831-1898), miembro de la famosa *Comisión Científica del Pacífico* que España promovió a mediados el siglo XIX (1862-1865); Ramón de La Sagra (1797-1871), importante naturalista que dedicó toda su actividad científica a la exploración y al estudio de Cuba; José Rodríguez Ferrer (1815-1889), otro viajero por Cuba, procedente del ámbito militar y mucho menos conocido; y, finalmente, Ramón de Manjarrés y de Bofarull (1827-1918) y José Rodríguez Carracido (1856-1928), ambos escritores eruditos españoles a quienes no unía con Humboldt un campo de expedición e investigación común, a diferencia de los dos casos anteriores.

No obstante, es necesario resaltar que lo importante en este análisis no fue determinado por las personas en sí, toda vez que éstas más bien sirvieron para exponer, por una parte, diferentes lecturas de Humboldt, y por otra, distintas formas de referirse a él. Por lo tanto, analizando el tipo de referencia a su persona, se pudo establecer la siguiente clasificación de tipos de recepciones, sin que uno de estos grupos se redujeran necesariamente a una única persona. Este análisis demostró, más bien al contrario, que a veces se pueden encontrar diversas formas de ver la realidad multifacética del famoso prusiano y sus obras en la misma persona; así mismo, también se ha constatado la existencia en algunos casos de una evolución, a lo largo de la vida de las personas mencionadas, de su postura ante este mito de la ciencia. Se pueden distinguir grupos de personas con:

Una postura explícitamente crítica, principalmente hacia su ideología liberal y su supuesto apoyo hacia los movimientos independentistas en América; pero también motivada por la convicción de que a Humboldt se le habían atribuido diversos méritos que, supuestamente, pertenecían a científicos españoles.”

Una postura explícitamente positiva, donde destacan las referencias elogiosas a sus obras y, además, una tendencia que alaba al científico expresamente por haber revalorizado la ciencia española y por haber proporcionado una imagen positiva de este país, que se diferencia mucho de la difundida por la *Leyenda Negra*.

Una postura meramente científica, donde se engloban las actividades referidas exclusivamente a los contenidos científicos de la labor humboldtiana, sin que sean utilizados para otros fines ni de contenido político ni de pura alabanza personal.

Una postura orientada implícitamente a la obra de Humboldt, donde se encuentran principalmente aquellos que realizaron expediciones por regiones que el prusiano había visitado anteriormente y que adoptaron sus métodos o conclusiones sin hacer una referencia explícita a las obras de Humboldt.

Traducciones y ediciones en español

Dado que una recepción de las obras de Humboldt en España requiere fundamentalmente la traducción de las mismas al español, en este análisis se incluye también la historia de las ediciones de los distintos trabajos y el diferente impacto que estas obras tuvieron en España. Lamentablemente, por cuestiones de espacio, no puede ser desplegada aquí la historia editorial completa de las obra humboldtiana en España, en razón de la complejidad de la misma. Así mismo se encuentra ésta marcada en parte por una aparente desorganización, dándose la existencia simultánea de varias ediciones de algunas obras, proyectos de edición inconclusos, traductores que se mantienen en el anonimato y otras irregularidades. Existen no obstante dos aspectos que quizás pueden sorprender en este contexto: por un lado se da el hecho de que la primera obra de Humboldt publicada en España no tenía relación alguna con su viaje americano, al tratarse de su trabajo sobre el *Galvanismo* (1803), que había sido publicado en su versión alemana pocos años antes (1799). Por el otro, se da la circunstancia de que la obra que podía haber interesado más en España—su estudio sobre el pasado colonial *Examen critique*, traducido bajo el título más prometedor *Cristobal Colón y el descubrimiento de América* (1892)—es una de las obras que más tardaron en traducirse y menos impacto han tenido.

Resumiendo, en esta parte del presente estudio se puede constatar que los criterios para la realización de una edición española eran de naturaleza distinta: por una parte, naturalmente, se trataba de aquellas elaboraciones que científicamente resultaban más interesantes, es decir, abarcaban un terreno amplio—y en menor medida los trabajos especializados—así como aquellos trabajos que en el ámbito internacional causaban más repercusión. Además se puede decir que, de nuevo con la excepción de su trabajo sobre el galvanismo, el interés de España se refería sobre todo a su famoso proyecto americano. Pero, por otra parte, como se comentará con mayor detalle más adelante, también existían intereses políticos e ideológicos detrás, tanto en lo que se refiere a la elección de las obras, como al tiempo transcurrido hasta su publicación en cada caso. Así, en la edición de sus escritos en España se

puede observar un vínculo claro con el contexto político correspondiente o el grado de libertad político-científica subyacente.

Percepción en las instituciones científicas

Prosigue el trabajo con un estudio de la influencia y la importancia que Humboldt tuvo en distintas instituciones científicas de España. En este punto es preciso diferenciar básicamente entre aquellas instituciones, con las que ya durante su estancia en España había mantenido contacto—el *Real Jardín Botánico* y el *Real Gabinete de Historia Natural* de Madrid—y otras que posteriormente se refirieron a Humboldt o publicaron trabajos de o sobre él, debido a la posición que entre tanto había conseguido el sabio dentro de la esfera científica en el ámbito internacional.

Respecto a las primeras instituciones, el vínculo con las mismas había quedado oficialmente establecido desde el principio, ya que en su pasaporte, expedido por el Rey Carlos IV, figura expresamente la consigna de enviar a España objetos de historia natural con el fin de enriquecer las colecciones de dichos sitios (Puig-Samper, 1999: 340-341). En este caso se puede destacar que durante toda su expedición el prusiano se había preocupado de enviar diversas colecciones mineralógicas, de semillas, etc., desde América a estas instituciones, sin que apenas recibiera contestación de las mismas. Y ello a pesar de que, por parte del *Real Jardín Botánico* (Puerto Sarmiento 1988, 138), ya en el año 1799 hubiera sido nombrado corresponsal.

En el segundo caso se incluyen instituciones como la *Sociedad Española de Historia Natural*, la *Real Sociedad Geográfica*, la *Academia de Medicina de Madrid*, donde fue nombrado corresponsal en 1811, como atestiguan las actas de la *Real Academia de Medicina* (Madrid, 24.1.1811), y la *Real Academia de Ciencias Exactas, Físicas y Naturales de Madrid* que ya en el primer año de su existencia, en 1847, le nombró académico corresponsal extranjero (Lorente, 1848: 21). Analizando la manera de ver a Humboldt por parte de estas instituciones se advierten claramente dos aspectos: en primer lugar, que el interés por este viajero aumentó considerablemente con el significado que éste tuvo posteriormente para la ciencia ya en el ámbito internacional, y que además se caracteriza más bien por el mérito concedido que por un verdadero estudio del contenido de sus trabajos o el interés de estudiar aspectos específicos de su obra o persona. El segundo aspecto a tener en consideración se refiere a que su recepción en las instituciones español—al igual que en otros casos—estaba muy vinculada con el contexto político español existente en las diferentes etapas y la mirada oficial al famoso científico prusiano.

Percepción política de Humboldt

El último capítulo de este apartado se dedica a la percepción de su persona dentro del sector político de España, incluyendo desde su primer contacto con la corte española en 1799, pasando por los oprobiosos años del despótico reinado de Fernando VII, cuando se manifestó una cierta desconfianza hacia él debido a sus ideas políticas, hasta el cambio de su recepción bajo el reinado más moderado de Isabel II, cuando se le reconoció finalmente su mérito concediéndole diversas condecoraciones.

Así, hubo pues distintas fases en las que se manifestaron diferentes miradas hacia Humboldt: como ya fue mencionado, durante su estancia en España se le valoró como científico—joven pero ya con bastante experiencia y con un interesante proyecto a desarrollar—para el cual se le había prestado todo tipo de ayuda. Sin embargo, tras su vuelta a Europa no se le tributó ningún reconocimiento por parte del gobierno español, lo que parcialmente se puede explicar por la tumultuosa situación política que España estaba viviendo en estos años debido a la ocupación francesa. Durante el reinado absolutista de Fernando VII, en el año 1830, surgió una nueva posibilidad de realizar un viaje por España—propuesto por el ministro español de San Petersburgo Juan Miguel Paéz de la Cadena—pero que finalmente no se pudo llevar a cabo, debido a una postura negativa o desconfiada en otros círculos diplomáticos de España—como la del representante español en Berlín, Luis Fernández de Córdova—que se opusieron a este proyecto, haciendo referencia al supuesto apoyo de Humboldt al movimiento independentista de las colonias americanas (Bleiberg, 1959).

Y, finalmente, con el reinado de Isabel II, que se caracteriza por una política bastante más moderada, cambió también la mirada hacia el prusiano hasta tal punto, que finalmente en el año 1845, por parte de esta reina le fue concedida la *Gran Cruz de Carlos III*, una distinguida condecoración y uno de los mayores reconocimientos políticos que desde 1771 habían sido entregados a personas por especiales méritos en relación con la Corte española (Puig-Samper/Rebok 2004).

Por lo tanto, en el caso de la percepción política se ve más claramente cómo ésta se encontraba estrechamente vinculada a los intereses de los respectivos gobiernos.

Conclusión

En la conclusión de esta investigación se llevó a cabo una comparación de estos dos procesos respecto a las diferencias y paralelismos que se manifiestan, así como a las condiciones a las que están sometidos ambos casos. De esta manera se discute de nuevo el proceso de la recepción, la subjetividad de

la percepción y finalmente su dependencia de la particular constelación política, histórica y cultural de cada situación.

Analizando estos dos procesos de una manera separada y contrastándolos después, se hacen evidentes tanto los factores comunes como las divergencias: las diferencias se manifiestan en que, por parte española, el interés constaba de muchas facetas diferentes, en algunas ocasiones incluso antagónicas. Además, en este caso la crítica podía ser expresada de una manera mucho más libre; en el caso de Humboldt, al contrario queda oculto lo que podía haber sido su posible crítica u opinión negativa. Los paralelismos consisten en el hecho de que en ambos casos se trata de un enfrentamiento con algo nuevo, sobre el que anteriormente no se disponía de mucho material. Además, en ambos casos la percepción estaba muy vinculada a los propios intereses. Finalmente, en los dos casos la aproximación al otro estaba determinada además por las condiciones externas: respecto a España, debido a la postura liberal de Humboldt, sobre todo en relación a la independencia de las colonias españolas; y, en relación a Humboldt, éste veía a su recorrido por este país más bien como una preparación para su viaje al Nuevo Continente, toda vez que el enfoque principal de su proyecto de investigación estaba dirigido hacia América. Bajo condiciones distintas, las estrategias de representación indudablemente hubieran sido diferentes en ambos casos.

Con este estudio además se ha podido demostrar que la percepción recíproca está marcada por una compleja red de condiciones: por el lado de España hay que mencionar en primer lugar el contexto político-histórico-social de cada época, así como la posición o la importancia de Humboldt dentro del desarrollo de la ciencia internacional que se modificaba debido a la fama que acumuló durante los años. Por parte del famoso científico se puede resumir que su visión de España—o por lo menos la que manifestaba en sus diversos escritos—estaba muy vinculada a su lealtad hacia el gobierno español, debido al permiso obtenido para realizar esta expedición por el territorio colonial español; además de cierta precaución para no hacer evidente la crítica, a fin de evitar problemas tanto durante su expedición como posteriormente. Al margen de ello, también influía allí su autodefinición como naturalista en primer lugar, lo que hacía que su enfoque estuviera dirigido principalmente a las ciencias y no a la situación política en la que se encontraba. Y, finalmente, su profundo estudio de las primeras crónicas españolas sobre América, y sobre todo el valor que les atribuía, amplió su mirada hacia España.

Otro aspecto interesante en esta investigación es el hecho de que aunque Humboldt no concedía mucho espacio al estudio y la descripción de la población de España, en cierto sentido se puede hablar de un elemento antropológico dentro de su mirada. Me refiero a la mirada desde el exterior,

que percibe aspectos que desde el interior no son vistos o percibidos de otra manera. Este fue sobre todo el caso relacionado con su valoración de las primeras crónicas españolas, independientemente de que en esta época dichos documentos se hallaban en el olvido.

En conclusión, se puede afirmar que el papel clave de España en el proyecto americano de Humboldt no se ha de reducir solamente a la preparación administrativa y científica de este proyecto; la relación del prusiano con España se caracteriza más bien por una influencia mutua y una intensa cooperación a lo largo de toda su vida. Esto se manifiesta, entre otros factores, en la relevante presencia de Humboldt dentro de la discusión científica en España, así como en su ocupación con investigaciones realizadas por españoles, además de su inspiración por las fuentes históricas.

Otro resultado derivado de este trabajo es la demostración de que la historia de la recepción y representación de Humboldt en España es fundamentalmente distinta de la de otros países. Un análisis de su percepción en Alemania, Francia o en los países americanos llevaría a resultados bastante diferentes.

Por lo tanto, con esto se confirma la hipótesis de la que se partió en esta investigación: que la percepción del *otro* depende en gran medida de la posición de lo *propio*, es decir, de la propia orientación y de sus intereses.

Finalmente, también se pudo ver que Humboldt no solamente creó una imagen específica de América, sino también de España, aunque esta imagen hasta ahora ha sido mucho menos investigada en este país que en los estados americanos. Sin embargo, un estudio de esta cuestión demuestra que esta visión innovadora de España—y en muchos sentidos bastante positiva— fue percibida en los círculos españoles: fundamentalmente, su valoración de la ciencia española y su distanciamiento de los discursos negativos sobre España, tan habituales en la Europa de la época.

Y por último, esto también se puede considerar como una prueba del hecho de que la percepción es un proceso bilateral que está sometido además a una evolución. Es decir, la representación positiva de algunos aspectos de la realidad española, por parte de Humboldt, llevó a una recepción positiva de su persona en este país.

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Georgia de Havenon

When Alexander von Humboldt returned to Paris in 1804 from his five year South American expedition he was lionized by society and academia alike. Two important serendipitous factors contributed to the success of Humboldt's voyage and the publications that followed. A visit to the Spanish court resulted in the explorer's having been granted permission to travel to all of the Spanish colonies in the Americas, especially significant as no French expeditions had taken place in the interior of South America since La Condamine in 1735. With this consent, Humboldt was able to realize his belief that in order to "discover the direction of the chains of mountains, and their geological constitution, the climate of each zone, and its influence on the forms and the habits of organized beings" (PN I, p. vii), he could expand his voyage from previous maritime voyages along coastlines and could travel to the interior of the regions, thus greatly enlarging the known information about the Americas.

The alluringly exotic illustrated volume of his journey, *Vues des Cordillères*, was published as a folio edition in France in 1810; subsequently it was published in other languages and in more affordable formats (fig. 26-1). This, and the publication between 1814 and 1829 of *Personal Narrative of a Journey to the Equinoctial Regions of the New Continent*, further enhanced Humboldt's reputation as a scientist/explorer. These publications helped fuel the quest for knowledge and exploration of the New World that was still largely undocumented, especially in terms of scientific data. As Mary Louise Pratt has commented, "Humboldt experimented with nonspecialized forms of writing in which he sought to mitigate the dullness of scientific detail by meshing it with the aesthetic, while still seeking to preserve the authority of science over the 'merely personal'" (Pratt, 590) (fig. 26-2).

FIGURE 26-1. Frontispiece, *Vues des Cordillères*. Paris: F. Schoell, 1810

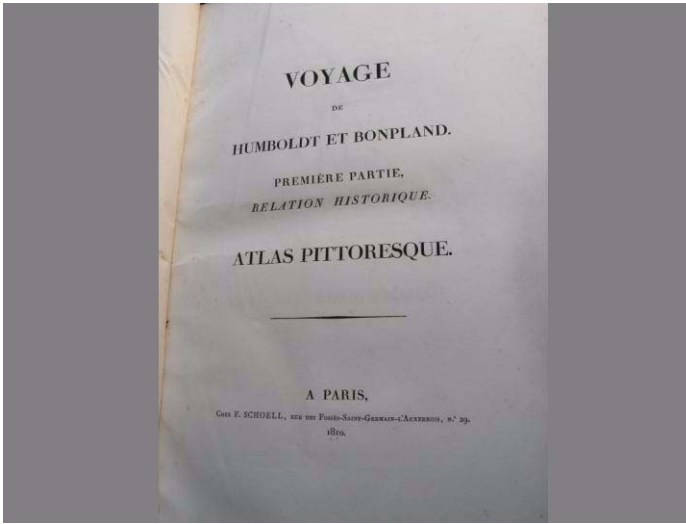
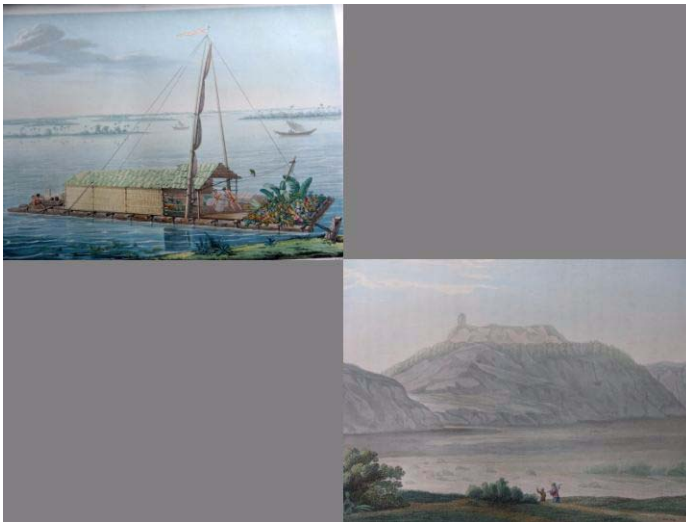


FIGURE 26-2. Two illustrations from *Vues des Cordillères*, Hill in the Puebla Valley, Mexico, Plate 34 and Boat on the Guayaquil River, Plate 63



Humboldt did not travel to Bolivia, but in *Vues des Cordillères* he wrote of the pre-Columbian site of Tiwanaku on the altiplano near the shores of Lake Titicaca (fig. 26-3). Although Humboldt only briefly mentioned Tiwan-

aku, he invested the site with a mysterious conception as the cradle of an ancient civilization, referring to its characterization established in the 16th century by Cieza de Leon (fig. 26-4). Modern scholarship has substantiated that Tiwanaku, which flourished between 500-1000, was one of the seminal pre-Columbian cultures. It is virtually unique in the Andes for having examples of freestanding sculpture. Tiwanaku, like much of the architecture of the Americas, is not at first glance spectacular (fig. 26-5). Humboldt recognized this phenomena, but also the importance of New World monuments when he explained in the *Vues* (fig. 26-6), and I quote: “American architecture, we cannot too often repeat, can cause no astonishment, either by the magnitude of its works, or the elegance of their form, but it is highly interesting, as it throws light on the history of the primitive civilization of the inhabitants of the mountains of the new continent” (Humboldt, 1810-[1813]: 199).

FIGURE 26-3. Peruvian Monument at Canar, Plate 17, *Vues des Cordillères*



FIGURE 26-4. Inca-Chungana, Plate 19, *Vues des Cordillères*

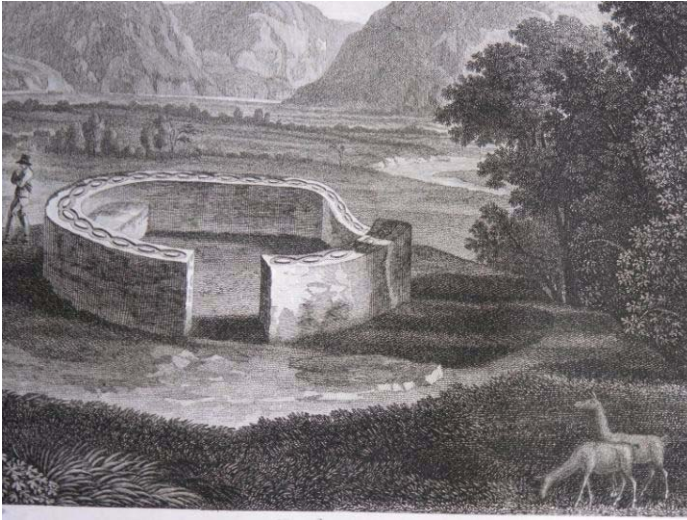


FIGURE 26-5. Ponce Monolith and Gateway of the Sun, Tiwanaku



FIGURE 26-6. Kalassaya wall, Tiwanaku

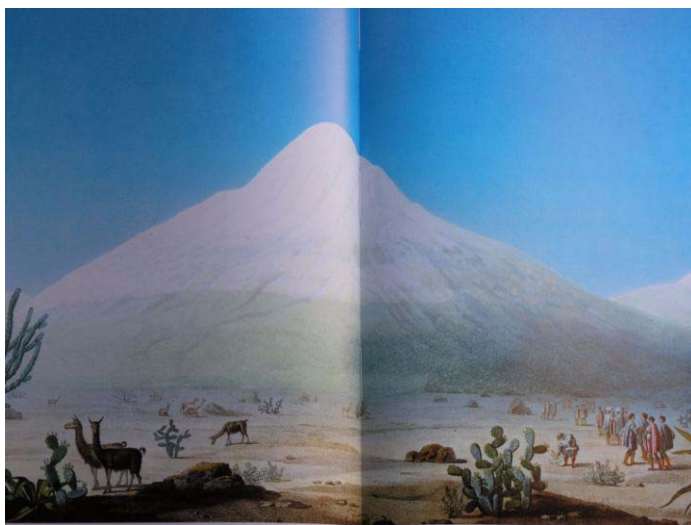


Since *Vues des Cordillères* was first published in France and Humboldt lived in Paris from 1804-1827, it was not surprising that his voyage was a catalyst for subsequent French exploration and cataloging of the New World (fig. 26-7). This paper will explore the Humboldtian legacy as it relates to three Frenchmen who visited Tiwanaku over the next century: Alcide d'Orbigny who was in Bolivia from 1826-1834, Léonce Angrand who was there in 1848, and Georges Courty, who was there in 1903. One of Humboldt's priorities was "the great problem of the physical description of the globe." In the early 19th century, the way in which cultures of the New World were approached changed from Humboldt's general paradigm of travel oriented, scientific literature to paradigms reflecting the more specialized disciplines of ethnology, anthropology and archaeology. Each of these traveler's approaches to the site of Tiwanaku will be analyzed in terms of their changing perspectives, the development of new specialized disciplines, and the evolution of more pronounced nationalist, colonial responses.

A new era of exploration became possible for the French through an alliance with Spain via the Bourbon connection of Carlos IV who reigned from 1788-1808. In tandem with a scientific priority to order the diversity of the populations of the world, the new freedom of access made travel to the Americas desirable. In 1825, the administration of the French Museum of Natural History deemed Peru and Chile the top priorities on their list of places warranting investigation (Rivale, 363). In 1826, Le Baron de Ferussac announced the formation of the French Musée du Trocadero that was

“intended to give shelter to the various monuments of the skills of the savage (savages) or the semi-civilized, monuments that become more rare every day...” (Hamy, 145). A core collection was hastily assembled at the Trocadero, including New World material from the explorations of d’Orbigny and Angrand. Whereas the motives for Humboldt’s journey were primarily scientific, the rush to create an encyclopedic museum that took place in the following decades was, in part, the result of the prevailing desire to preserve Old World dominance by amassing an accurate inventory of the world from which to garner knowledge of all the disparate, unindustrialized races (Condominas 187; Riviale, 6 & 7). Amassing this inventory was an important motive for all three expeditions.

FIGURE 26-7. Mt. Chimborazo, Plate 25, *Vues des Cordillères*



Based on a study he had made of mollusks, Alcide d’Orbigny (fig. 26-8) was chosen in 1825 at the age of 24 by the administration of the Natural History Museum to lead a scientific expedition to the New World. During the ensuing year which d’Orbigny used to prepare for the voyage, he visited Humboldt who sent him off with introductions and one of his coveted barometers. In the year of d’Orbigny’s departure, the Natural History Museum of Paris published the first edition of a handbook for travelers. This publication mandated the collection of craniums, in order to classify all the human types of the world. At that time, the only cranial examples from the New World in France were those donated by Alexander von Humboldt after his voyage. D’Orbigny’s initial objective was to collect cranial types, but he found it dif-

difficult to locate pristine examples because most of the graves he visited had already been robbed of their contents.

FIGURE 26-8. Portrait of Alcide d'Orbigny

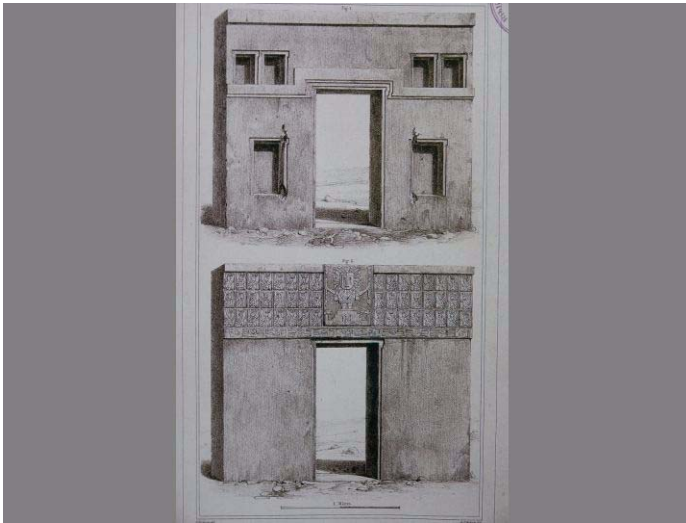


In 1833, towards the end of his extensive South American voyage (fig. 26-9), d'Orbigny went to Tiwanaku and produced drawings of the monuments and the iconography carved on them that became, for many years, the most important references to the site. D'Orbigny was the first to speculate on the symbolism of the Gateway of the Sun, the major monument at Tiwanaku, relating the central figure to a religious or political genesis of power. After his return to France, d'Orbigny worked from 1835 to 1847 on publishing *Voyage dans l'Amérique meridionale*, an 11 volume record of his trip. He deemed Tiwanaku the cradle of Andean civilization, recognizing as Humboldt had before him, the antiquity of the site (fig. 26-10) (d'Orbigny, [2000]: 335).

Returning to France with 400 previously unknown species, d'Orbigny was awarded numerous medals and was appointed to the first chair of paleontology at the Museum of Natural History; however, seven attempts to become a member of the revered Scientific Academy were unsuccessful (Boone, 391). Of the three voyages to be discussed in this paper, Alcide d'Orbigny's was the most similar to Humboldt's in terms of its multi-faceted elements combining science, nature, and commentary (figs. 26-11, 26-12, 26-13). Unfortunately, d'Orbigny never attained the renown of his predecessor, most likely because of less rigorous scholarship, a less entrepreneurial nature, and

the changing mores of the scientific community. The younger scientist had been so inspired by his German mentor that in 1839 he dedicated his book, “l’Homme Americain” to Humboldt, citing him as “the genius that Europe has proclaimed the example and model of a ‘philosopher/voyager’” (d’Orbigny, 1836: dedication page).

FIGURE 26-9. Drawing of the Gateway of the Sun, Alcide d’Orbigny



Léonce Angrand was sent to Peru in 1848 for slightly more than one year as the vice-consul in charge of commercial relations between France and Peru (fig. 26-14). The internal discord in Bolivia at that time negatively impacted commerce and gave Angrand an opportunity to satisfy his interest in recording ancient monuments. Although his upbringing was similar to Humboldt’s, having come from a well to do family and traveled at a young age, he lacked Humboldt’s extensive education in the sciences. The most likely post chronicle references about Tiwanaku he would have read before embarking were those by Humboldt and d’Orbigny (fig. 26-15).

Angrand’s reputation rests largely upon the many objects he transported to France that become the basis of the new Musée Trocadero, later the Musée de l’Homme and now to be the Musée du Quai Branly (fig. 26-16). As Elizabeth Williams has suggested, from the 19th century on the French saw themselves as “cultural arbiters of universal history” (Williams: 127), justifying their relentless acquisition of objects.

FIGURE 26-10. Head of a Colossal Statue and Details from the Gateway of the Sun, Alcide d'Orbigny

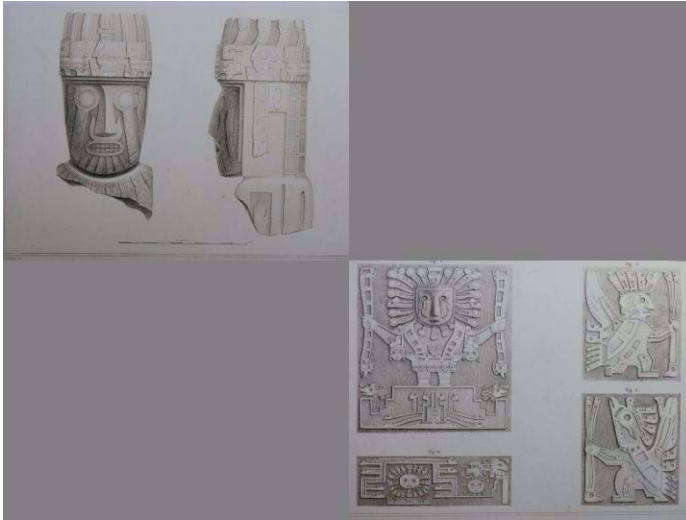


FIGURE 26-11. Men in a reed boat, Alcide d'Orbigny



FIGURE 26-12. Aymara Indians, La Paz, Alcide d'Orbigny



FIGURE 26-13. left: Michoacan dolls, from *Vues des Cordillères* (detail); right: Indians from the Province of Chiquitos, Alcide d'Orbigny (detail)



FIGURE 26-14. Gateway of the Sun, Tiwanaku by Léonce Angrand

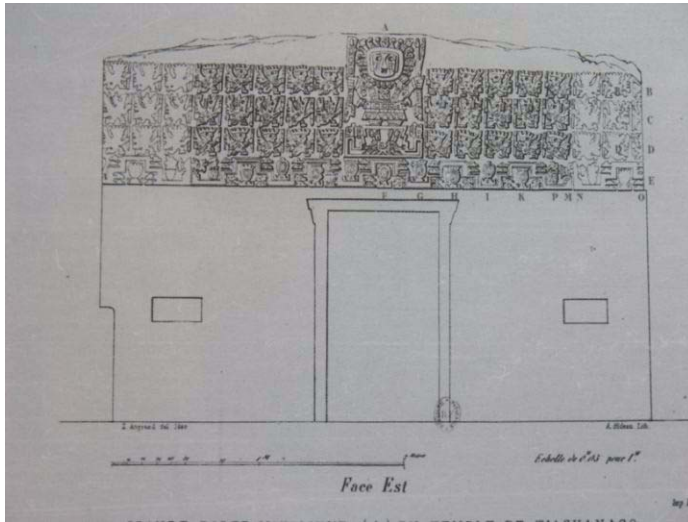


FIGURE 26-15. Tiwanaku, December 26, 1848 by Léonce Angrand

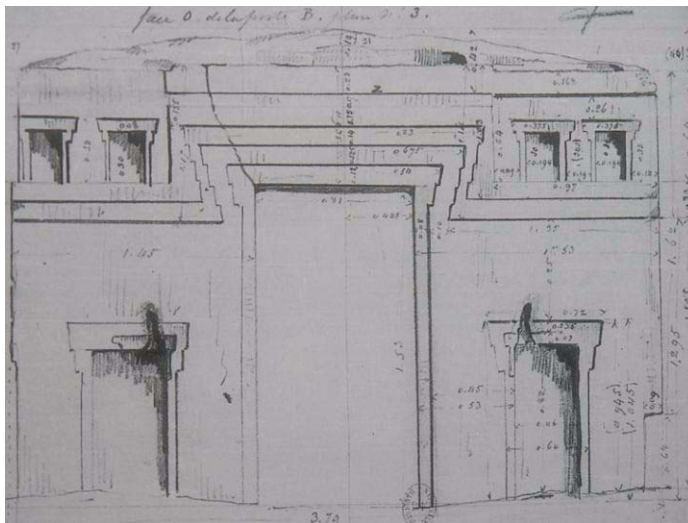
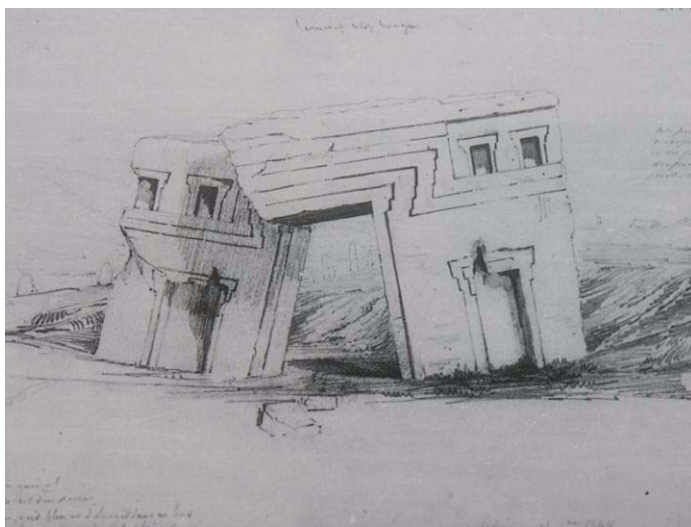


FIGURE 26-16. Rear view of the Gateway of the Sun, Léonce Angrand

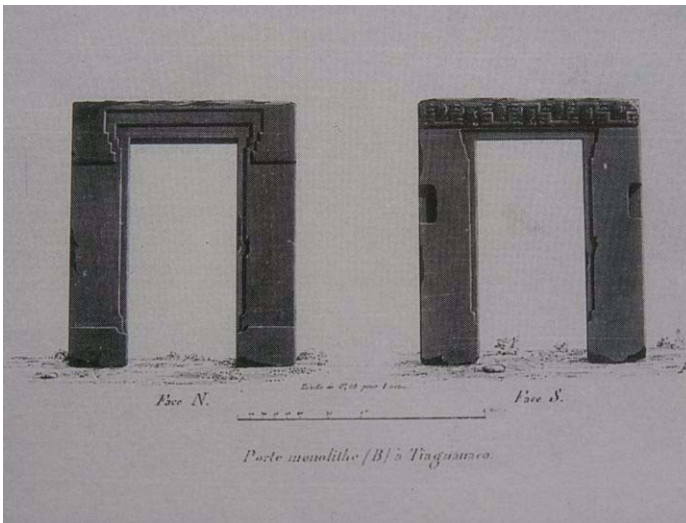


Rendered in a style of photographic precision far superior to d'Orbigny's rather inaccurate examples, Angrand's drawings were unfortunately not widely published. Today these drawings and Angrand's papers reside in the Bibliothèque Nationale de Paris and are valuable records of the site. Angrand viewed the New World from a perspective that was more anthropological than that of his two predecessors. One might even say Angrand was captivated by anthropology as many of his drawings are of indigenous people performing every day chores or engaged in activities such as dancing (figs. 26-18, 26-19). A romantic subjectivity pervades Angrand's anthropological work, his was an aesthetic intertwined with the human subject, an approach that differed from the way Humboldt represented native peoples (fig. 26-20).

The *Mission Scientifique Française à Tiahuanaco* was organized by the French government in 1903 (fig. 26-21). It is certainly safe to assume that before embarking, the members involved would have been aware of Humboldt, especially since he transported artifacts to France that were housed in institutions in Paris. The mission is often referred to by the name of its sponsor, Le Comte Georges de Créqui-Montfort, who spent only five days in Tiwanaku. Because the principal archaeologist of the mission, Adrien de Mortillet, returned shortly thereafter to France due to ill health, George Courty volunteered to finish the mission's work. Courty stayed three months, after which his return to France was also precipitated by ill health. Mortillet's absence from the excavations was disastrous. Courty did not have any trained assistants, and he almost certainly had a surreptitious plan to amass artifacts

that would then be shipped to France to further glorify its hegemony. The Sintich brothers, local photographers working in La Paz, were engaged to formally record the results and these photographic images are in many ways the most complete records extant of the excavations (fig. 26-22). One of only two known copies, the album from which these images were taken is presently in the collection of the Art Reference Library of The Brooklyn Museum of Art and has recently become accessible on the Internet.

FIGURE 26-17. Monolithic gateway at Tiwanaku, Léonce Angrand



Créqui-Montfort refers to Courty's "researches," a hint as to how the work was perceived (Créqui-Montfort, 532) (fig. 26-23). In accordance with the developments of formalized disciplines of anthropology and archaeology, the Count de Créqui-Montfort described the Mission as a "study of men of the High-Plateaus, of their languages and their environment both past and present"; the scant published reports of the expedition deal with these themes. In a review of an exhibition of the material taken to France by the French Mission, the author Leon Lejeal refers to the grand success of the exhibition and to the brilliant debut of Courty in his new research. He mentions Courty's reaction to his geological background which mutated into an archaeological bent, "Creusez et vous trouverez!" or "Excavate and you will discover!" (Lejeal: 325), no doubt an excellent assessment of the objective of the expedition. In contrast to Lejeal's glowing assessment of the mission, modern scholars have described it with such words as "destructive", "acquis-

itive” (Kolata, 1993: 149), or “deplorable” and “devastating” (Ponce Sanguinés 1995, 112).

FIGURE 26-18. left: Alcaldes at the Fiesta of the Conception, Léonce Angrand; right: detail from the Gateway of the Sun, Léonce Angrand

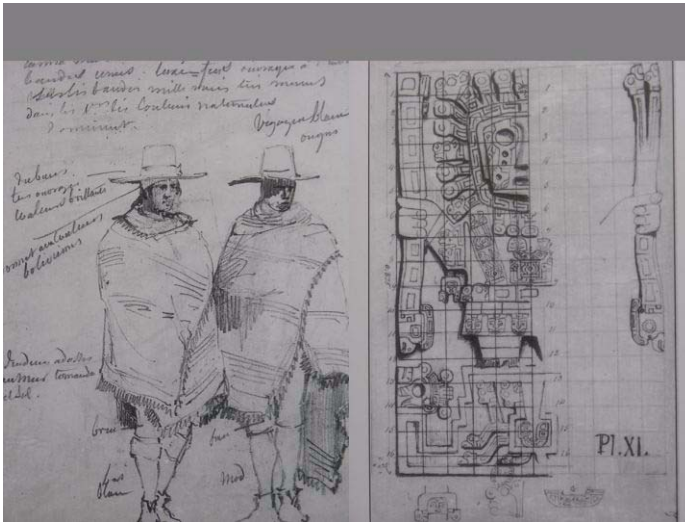


FIGURE 26-19. Scenes of local women, Léonce Angrand



FIGURE 26-20. Balsa boat, Léonce Angrand

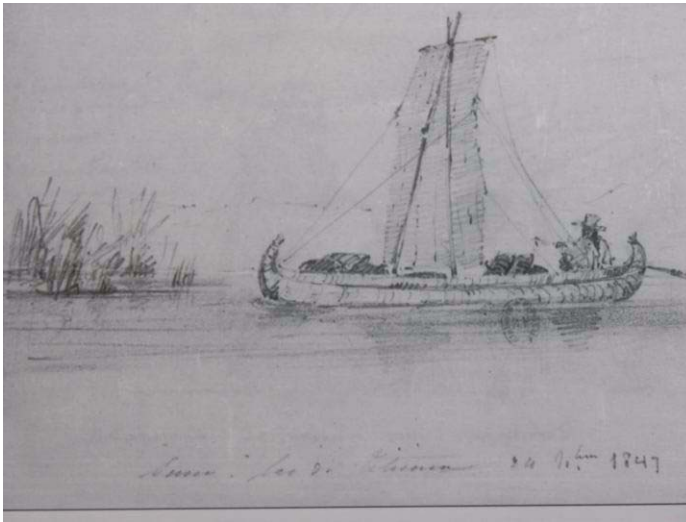


FIGURE 26-21. Members of the French Scientific Mission, 1903



FIGURE 26-22. left: Statue discovered by the French Mission; right: Grand staircase, Tiwanaku



FIGURE 26-23. Discoveries of the French Mission, three small rooms to the west of the “grands alignements”



Similar destruction from earlier excavations in the New World had argued compellingly for the establishment of more stringent parameters governing

archaeological access (fig. 26-24). In response, new methodologies of guardianship of patrimony were established by the host countries and are still in effect today. During the second half of the 19th century, Mexico and Peru passed legislation protecting their patrimony from export (Riviale: 95). This legislation was in clear conflict with the French Mission of 1903 that set off with a goal of recording the origins of Tiwanakan civilization in conjunction with a certain competitive expectation that the already large French collections of New World material would be augmented by carrying on the tradition of grand collecting of ethnographic specimens (Hamy: 285).

FIGURE 26-24. Rear view of the Gateway of the Sun, the French Mission



The French Scientific Mission of 1903 has to be judged a failure (fig. 26-25). Nonetheless, its impact on future expeditions and attitudes of inhabitants in countries in which expeditions were sponsored and took place was profound. When Courty attempted to leave Bolivia nefariously with excavated objects and ship them to France via Antofagasta in Chile, The Geographic Society of La Paz became aware of his plan and demanded that all the crates be returned to La Paz where the material was divided under the auspices of officials from both France and Bolivia (Ponce Sanguinés: 115). Shortly after Courty's return to Paris, the French Government handed down an official reprimand to Courty for his surreptitious actions, a reprimand that suggested a changed attitude. In reaction to the damages of this mismanaged expedition, legislation was passed in 1906 by the Bolivian senate stating that Tiwanaku was the property of the state. It prohibited removal of objects from the ruins,

unauthorized excavating, and the destruction of the monument by indigenous people (Ponce Sanguinés: 110). In terms of the French involvement in Bolivia, this was the distressing end of an era, one that consistently felt the echo of Humboldt's influence in its grand scheme of exploration, yet was seemingly not yet fully equipped, from both the French and the indigenous standpoint, to take on the responsibilities of new models of the investigative process.

FIGURE 26-25. Gateway of the Sun. French Mission



Witkiewicz and the Course of Mid-Eastern History

Daniel Gerould

In January, 1812 Alexander von Humboldt wrote to his Russian friend, General Rennenkampf in St. Petersburg, about the invitation extended by Czar Alexander I to explore the Ural Mountains and the ranges of Mongolia, to offer advice about mining, and collect scientific data for the Russians.

Humboldt explained that what he now had in mind was a journey of exploration to Russia lasting seven or eight years that would also take him to Bukhara, Kabul, and Tibet. Politics intervened—in the form of the war between France and Russia and its aftermath—and that trip did not take place.

When his long awaited dream did materialize in 1829, Humboldt was sixty years old and the expedition was scaled down to six months travel that took him and his party through the Ural Mountains and Siberia to China and on the return to the Caspian Sea.

During that trip, at Orsk he met a handsome young man forty years his junior who would fulfill his dream by penetrating to Bukhara and Kabul. It was Humboldt who launched the short, extraordinary, and tragic career of that young man, thus becoming indirectly responsible for a major diplomatic confrontation that took place ten years later between Britain and Russia. The young man was Jan Witkiewicz, and my paper tells the story of his meeting with Humboldt and its consequences.

Jan Witkiewicz's Road to Orsk

Born in 1809 in Samogitia, Zmudz, Jan Witkiewicz was a well-to-do young nobleman in Polish Lithuania. The Witkiewicz family of small landowners was a large one; Jan was one of ten children. In 1824 as a student at the Polish gymnasium in Kroze (some 100 miles from Vilnius), he was one of the

founders of a semi-clandestine patriotic student association, the Black Brothers. In the early 1820s, twenty-five years after the final partition of Poland, secret societies started to spring up at Polish educational institutions, especially at Vilnius University.

The Black Brothers were essentially a social group devoted to playful games, discussions, and songs that occasionally took on a patriotic tone alarming to the Russian forces of occupation. One month after the establishment of the group, on the basis of information provided by another student, Jan Witkiewicz—along with five other members—was arrested by the Czarist secret police and accused of anti-Russian political activity.

FIGURE 27-1. Jan Witkiewicz in a Czarist army uniform. A lost portrait attributed to Walenty Wankowicz. Reproduced in Jan Reychman, *Peleryna, ciupaga i znak tajemny*, Cracow, 1976



After a thorough investigation was launched from St. Petersburg, both the students at Vilnius University and those at the secondary school at Kroze were tried by a military court. The university students, including the twenty-four-year-old poet Adam Mickiewicz, received relatively light sentences of banishment to Russia (where Mickiewicz was treated as a celebrity); but, in an attempt to make a frightening example of the high school students, Jan Witkiewicz was condemned to death at the age of fifteen.

Because of his youth Witkiewicz's sentence was commuted to life imprisonment. He lost all rights to his property and was stripped of his title of nobility. He was to be sent in exile to serve one year at a fortress at the foot of the Ural Mountains and then to remain for life an ordinary conscript in the Russian army without the right to promotion and subject to punishment by flogging.

The young Polish prisoners were sent to Moscow by wagon (and obliged to pay for the trip). Then from Moscow they were transported on foot and in manacles (weighing twenty-pounds), each to a different place of exile along the so called Orenburg line, which consisted of a number of military posts along the eastern border of the Russian empire clustered around the Orenburg fortress. The entire journey of 1500 miles took seven months. Witkiewicz's destination was the Orsk fortress. To the south lay wild, dangerous, and uncharted territory full of Kazakh and Uzbek tribes, where the Russian colonizers dared not penetrate too deeply.

The barracks at Orsk were primitive with long rows of wooden platforms serving as bunks. Military service for an ordinary conscript like Jan Witkiewicz meant endless mind-deadening drill and inhumanly strict discipline, any slight breach of which could result in flogging.

Jan Witkiewicz had good luck in having as the fortress's commander a humane and educated officer, Colonel Isayev, who was highly impressed with the boy's energy and determination in finding time to study the totally unknown languages, history, and ethnography of the peoples of Central Asia. Isayev took Witkiewicz under his wing, made him a tutor to his children, and used him as an interpreter in negotiations with the nomadic Kazakh tribes. Well-educated and highly motivated, the Polish political prisoners had intellectual abilities the Russian colonizers badly needed, and they did not hesitate to make use of them.

After a year at the fortress, Witkiewicz was allowed to live in private quarters outside the barracks. Required to pay for his room and board (which included a servant), he received money from his family for his upkeep. Now relieved of the drudgery of camp life, Witkiewicz diligently pursued his study of the Central Asian languages (including local dialects) as well as Persian, and mastered the geography, customs and manners of the entire area.

It is possible that Jan Witkiewicz was plotting his escape through the steppes and then to Persia and India, but it is more likely that he was already planning a career with the Russians. For that to be possible, however, he needed to move up the ladder and gain freedom of movement.

In 1828 the general governor of Orenburg supported the request of the Polish exiles from Kroze that, in reward for their good behavior, they be transferred to active service and sent to the Turkish-Balkan front where a war

was raging. Distinction on the field of battle would mean restoration of their titles of nobility and property as well as their receiving the rank and pay of officers. The Russian Minister of Military Affairs had to decide the issue and then the Czar must give his approval. Nothing came of this matter until Humboldt appeared on the scene and intervened. Were it not for his meeting with Humboldt, Witkiewicz might well have spent the rest of his life in Orsk.

Humboldt's Road to Orenburg

Humboldt's long deferred trip to Russia (conceived as early as 1794) finally became a reality in 1829. A member of the Russian Academy of Sciences since 1818, Humboldt held a high opinion of Russian science and maintained contact with a large number of Russian scientists.

When he reached St. Petersburg, he was feted everywhere and dined with the imperial family almost everyday. "Everywhere I go they offer me money like hay and anticipate every wish," he wrote. Humboldt received twenty thousand rubles for the trip; over seven thousand remained unspent, which he requested be used to facilitate the research of two young Russian scholars, Helmersen and Hofman.

Even though the trip had been scaled down from his earlier grandiose dreams, the twenty-five-week journey in 1829 took Humboldt across nearly every part of European Russia.

Because the Russian surveillance of their guest was so thorough, we know that the Humboldt party (starting from Berlin) covered 11,500 miles—500 miles on rivers with 53 river crossings—and that they stayed at 568 different accommodations and were transported by 12,250 horses.

These Russian documents indicate that the police kept a vigilant eye on Humboldt's every movement. His itinerary was prearranged in every detail, and throughout the entire trip Humboldt and his party were provided with German or French speaking guides and monitors, entertained by pre-chosen local officials, scholars, and mining engineers. Nothing was left to chance.

Secret reports were submitted covering all of Humboldt's activities. I should like to quote from the surveillance letter of the mayor of a small town in Siberia, which reads as though it came from the pen of Gogol.

To the Governor General:

A few days ago a certain German, named Humboldt, arrived here, a slim fellow of unimpressive stature, but since he presented a letter from Your Excellency asking me to be polite to him and extend him all possible assistance...I followed your orders and treated the German accordingly...However, I take the liberty to inform Your Excellency that this man seems to me a highly suspicious and even dangerous type. I disliked him from the start, he's been com-

plaining and turning up his nose at my food that I offered him from the goodness of my heart He wouldn't even touch a delicious cordial of my own concoction...thus treating slightly my person and my hospitality...Moreover, he clearly disdained the most respected citizens and civil servants of our town and allegedly called them idiots. On the other hand, he's always been seen in the company of those political criminals, the Poles, who have been sent to our town for resettlement and placed under my steadfast supervision...

I humbly ask Your Excellency's forgiveness for my being so bold...but these relations with the political criminals could not escape my attention, all the more so that in recent days after a long meeting that he held with those Poles, they all went out at night to a nearby mountain and from a case that they were carrying with them took out some implement resembling a long pipe, which to my mind...looked like a large cannon, placed said cannon on a tripod-shaped gun-carriage pointing at our town, and then every person in the company took his turn by coming over to it and taking aim at the town. Seeing a danger to the inhabitants of our town, for whose safety I am responsible and taking into account that all the structures are wooden, I have immediately ordered the internal guard, consisting of six soldiers and one junior officer, to have arms at the ready and keep a constant watch on the activities of this German. If the incendiary plans of this individual should prove a menace to us, we would gladly give our lives for Our Czar and Holy Russia.

FIGURE 27-2. Jan Witkiewicz in an Eastern costume. As Fig. 1



Known throughout the world as an impassioned opponent of slavery, for the trip to Russia Humboldt was required by the Czarist authorities to limit his public comments to scientific matters. After all, serfdom was the law of the land, and political prisoners in manacles were widely visible. Humboldt had been obliged to write to the Russian Minister of Finances, "It will be well understood that we confine ourselves to observations of an inanimate nature, and avoid everything connected with the government or the conditions of the poorer classes." But, as we shall see, Humboldt made efforts to help both Polish exiles and Russian victims of autocracy.

It was on September 19, 1829 on the return loop of his trek through the Urals and Siberia that the Humboldt expedition reached Orsk. Humboldt proceeded the same day to Orenburg, but his companions, the geologist Rose and the botanist Ehrenberg, remained at Orsk to collect samples and data, and Witkiewicz accompanied them. Members of the group rejoined Humboldt at Orenburg where they stayed six days from September 20 to 26 before leaving for the Caspian Sea.

Humboldt was deeply impressed with the handsome young Pole's knowledge of the geography, ethnography, and languages of the area, and he pitied Witkiewicz's fate. He was also astounded by the fact that Witkiewicz—an exile in a distant outpost—had in his possession one of his works: volume three of "Essai politique sur la Nouvelle Espagne."

Back in St. Petersburg on November 13, Humboldt intervened with the Czar on behalf of Witkiewicz and the other Poles. It is possible that Humboldt met with the Czar and spoke directly to him on this matter; it is certain that he wrote to the Czar twice to help Witkiewicz. Humboldt's letters to Nicholas I—one dated November 26, 1829, one undated—were responsible for getting the Polish conscripts promoted to the rank of junior officers.

Now as a second lieutenant, Witkiewicz was granted the all-essential freedom of movement previously denied him, as well as immediate opportunities for advancement.

Highly ambitious and a personal friend of the Czar's, Major General Vasilii Perovsky, the new Governor General of the province of Orenburg, had his own program for expanding Russian influence in Central Asia. In need of a clever secret agent, Perovsky appointed Lieutenant Witkiewicz to his personal staff as adjutant, claiming that the young Pole knew more about the region than any other officer past or present and that his negotiating skills were indispensable.

Lt. Witkiewicz was now widely used for gathering intelligence among the Muslim tribes along the frontier between Russia and Kazakhstan. He traveled freely throughout the entire region, often wearing native garb, sometimes in disguise. In 1835 he penetrated by unknown routes as far as the emirate of

Bukhara—an unheard of exploit—sounding out the emir’s possible support for Russia and preparing extensive maps for future use.

Interested in the regional independence movements, at home among the local tribes, and accepted by their leaders, Witkiewicz was sometimes suspected of being a double agent; for this was a time of romantic Byronic attachments to the political causes and struggles for independence of captive nations and people. Here is an eyewitness account:

With clean-shaven head, dressed in Tartar clothing, he used to mount a camel and penetrate the steppes in the company of Bashkirian caravans... During his reconnaissance trips in the steppes he would appear in various Asiatic costumes, and in keeping with Koran would join in prayers many times a day, saying them in the language of the region he happened to be in so faultlessly that he was considered as one of them.

If Witkiewicz had wished to flee, he obviously could have done so. In fact, he was even granted a leave to visit his family in Lithuania at Christmas in 1835; he went in December with his Kirghiz servant and in January returned to his post in Orenburg, realizing his career lay with Russia.

Jan Witkiewicz becomes a Player in the Great Game as the Result of Meeting Humboldt

At the time of Humboldt’s trip, Russia was in the process of becoming an expansive empire and the dominant power in Central Asia. Russia’s rise to great power status alarmed Great Britain, concerned for its own commercial supremacy in the region and for the security of its Indian colonies, and caused intense rivalry in Anglo-Russian relations. From its base in India Britain sought to extend its control into Afghanistan and to oppose the intrusion of Russian influence there. This imperial struggle, involving conspiratorial moves in a shadowy battle of wits, was called by the British “The Great Game,” and it would eventually lead to one of the worst catastrophes ever to befall a British army. For a brief but crucial period the obscure Polish political prisoner Jan Witkiewicz became a major Russian player in “The Great Game.”

At this time Afghanistan was divided into different feudal centers—Herat, Kabul, Kandahar, and Peshavar—each ruled over by a different leader. Dost Muhammad, the Emir of Kabul—an intelligent and farsighted statesman—began the struggle for the reunification of the Afghan territories, a move encouraged by the Russians and opposed by the British as a threat to their Indian frontiers.

Acting on the basis of Witkiewicz’s observations and advice, Perovsky decided to counter the British actively. The unification of Afghanistan and its

alliance with Persia now became the main object of Russia's diplomacy in Central Asia. When the Persians laid siege to Herat, the Russians supported them. Because of his enormous skill as a linguist and diplomat, Witkiewicz at the age of twenty-seven was made head of the Russian mission to Kabul. He first went to Teheran to confer with Count Simonich, the Russian Minister to Persia.

On his way to Kabul on November 1, 1837 he was spotted in eastern Persia by Major Henry Rawlinson, who became suspicious of his activities and rushed back to Teheran some 700 miles away to inform the British legation about meeting an enigmatic Russian who was en route to Kabul. Since September the British already had their secret agent at the court of Dost Mohammed in Kabul in the person of Captain Alexander Burnes, (who had come up from India posing as head of the British trading mission.

As Witkiewicz rode into Kabul on December 19, 1837, he was the first ever Russian representative in Afghanistan. In the high style of "the Great Game," Lt. Witkiewicz was invited by his rival, Captain Burnes, to Christmas dinner, where the Pole made a most favorable impression both because of his fluency in Turkish, Persian, and French as well as in many Central Asian languages and also because of his diplomatic skills and gentlemanly behavior.

In Kabul Witkiewicz succeeded in winning over Dost Mohammad and in advancing the Persian-Kandahar alliance that would unite Afghanistan and Persia in an anti-British coalition and check British expansion in Central Asia. But finally, as war seemed close to breaking out between the two great powers, the British Prime Minister Palmerston insisted that Simonich and Witkiewicz be withdrawn and that the Russians declare that they did not have the authority to negotiate the Persian-Kandahar pact in the Czar's name.

Unwilling to risk a war with Britain, the Russians backed off. Witkiewicz—a pawn in the game—was recalled to St. Petersburg, where he was promoted to rank of captain, warmly received in military and diplomatic circles, and declared in line for the award of an order and transfer to the guards.

But a week after his return, on May 8, 1839 Captain Witkiewicz was found dead in his hotel room. The official account was that he shot himself after having destroyed all his Afghanistan notes.

His suicide could have been motivated by his feeling that he had been repudiated by the Russian Foreign Minister Nesselrode as "an adventurer" and his brilliant strategy for an anti-British coalition scuttled at the last minute.

Or Witkiewicz might have been driven to suicide by shame and guilt because a fellow Polish exile called him a traitor for serving the Russian empire while Poland remained captive. On the other hand, he could equally

well have been attempting to foment trouble between Russia and Britain so that Poland would have the opportunity—in the resulting chaos—to regain its independence.

Other theories hold that Witkiewicz was recalled to St. Petersburg to be murdered on the orders of the Russian government as a player who knew too much or because of his alleged double-dealing with the British.

FIGURE 27-3. Jan Witkiewicz. Pencil sketch in the Tatra Museum, Zakopane. Photograph by K. Goradowska.



The mystery of Witkiewicz's death remains unsolved. Was he a hero or a traitor, a devious agent or a disillusioned one? Was he a suicide or the victim of a political murder? Why and in what circumstances did all the documents relating to his life and activities disappear without a trace?

Jan Witkiewicz was a product of the age of Romanticism, a hero in quest of great adventure as well as the victim of diplomatic intrigues. In this he resembled his British counterpart, Burnes, who was the also a master of languages and disguises. For his services to Britain, Burnes was knighted, but along with his brother, Sir Alexander was murdered in Kabul by the insurgent

crowd in November 1841 at the start of a disastrous war in which the British lost some 20,000 troops.

Because of his views on Russian autocracy, hatred of all forms of oppression, and compassion for its victims, Humboldt had identified strongly with the fate of the young Polish exiles deprived of liberty to move about or to express themselves freely. The Witkiewicz episode was one he did not want to talk about later on. "The Russian journey," Humboldt wrote, "has changed my outlook on life more than any of my explorations. It made me more serious and conscious of my age." Humboldt's responses to his Russian journey were varied. The scientific accomplishments of the trip were immensely gratifying: all across Russia observation stations on earth magnetism were established. Extensive studies on Russia's geology resulted; diamonds were discovered in the Urals; and thousands of mineral and rock specimens were collected.

We know, however, that he followed the subsequent destiny of Jan Witkiewicz. He was regularly informed by various people he had met in Russia about the young Pole's exploits. Witkiewicz's enterprise, valor, brains, and charisma were human qualities that Humboldt prized highly. In the Preface to the first volume of the three that constitute his great work on Central Asia published in 1843, Humboldt recalls Witkiewicz, mentions how talented he was, and laments his tragic fate.

Always generous to others, and yet a skillful courtier, Humboldt maintained his good relations with the Russian authorities and at the same time succeeded in helping not only Witkiewicz and his fellow Poles, but others as well, including many Russians. But that is another story.

Influencia en los artículos de Bello

Alister Ramírez Márquez

El presente estudio trata con mayor amplitud la influencia de Humboldt en los delineamientos de la crítica literaria que Bello publicó en “Biblioteca Americana” (1823) y “Repertorio Americano” (1826-27). “Biblioteca Americana” y “El Repertorio Americano” fueron publicadas en Londres por una Sociedad de Americanos. Sus redactores principales fueron Andrés Bello (1781-1865) y el colombiano Juan García del Río (1794-1856).¹ Otros miembros colaboradores eran: Agustín Gutiérrez Moreno, Luis López Méndez, y P. Cotez, quien trabajó para Francisco Miranda en la redacción de “El Colombiano.” La responsabilidad económica no recaía ni en Bello ni en García del Río, sino en la de un grupo de americanos y españoles que estaban interesados, en la difusión de sus propios escritos, pero también en la emancipación cultural y política de las nuevas naciones hispanoamericanas.

Humboldt y Bello

La llegada del explorador alemán y del médico naturalista a Caracas causó curiosidad y admiración. Fueron acogidos con el beneplácito de las autoridades españolas en la Capitanía General. Humboldt se convirtió en participante de las tertulias caraqueñas y allí conoció a Andrés Bello. Desde el primer encuentro hubo simpatía entre ambos. Sin duda Bello estaba en una etapa fundamental de su formación, y quería absorber conocimientos de primera mano. Aristides Rojas comenta: “Ninguna ocasión más brillante para un

1. Juan García del Río: escritor nacido en Cartagena, Colombia y fallecido en Ciudad de México. Fue secretario del general José de San Martín, en Argentina, de Simón Bolívar en Perú, de Santa Cruz en Bolivia, y de Juan José Flórez en Ecuador. Fundó en Valparaíso “El Argos de Chile.” Se fue a vivir a Inglaterra en 1822 y estableció amistad con Bello y los españoles exiliados. En Bogotá publicó sus “Meditaciones colombianas” (1829). En 1843 trabajó en “El Mercurio” en Chile. Véase el estudio de Miguel Antonio Caro. “Escritos de don Andrés Bello.” Introducción y notas de Carlos Valderrama Andrade. Bogotá: Instituto Caro y Cuervo, 1981, pág. 42-43.

joven entusiasta, tan ávido de instrucción, como Bello, que la amistad del viajero naturalista.”² En efecto, Bello formó parte de la expedición venezolana de Alejandro de Humboldt y Aimé Bonpland (1800).³ Asimismo, el alemán conservó su aprecio por el venezolano. En su relación de las “Provincias de la Capitanía General de Venezuela” destacó los datos recogidos por Bello: “según las evaluaciones parciales hechas por tres personalidades ilustradas de la localidad, don Andrés Bello, don Luis López Méndez y don Manuel Palacio Fajardo [...]”⁴ El encuentro entre el barón alemán y el aprendiz caraqueño tuvo gran trascendencia en la perspectiva americanista de Bello. Es notable la publicación de varios artículos científicos y traducciones de los escritos de Humboldt en las dos revistas ya mencionadas, que fundó y editó Bello en Londres: “Biblioteca Americana y El Repertorio Americano.” Algunos ejemplos de la obra humboldtiana que el caraqueño estudió fueron: “Paisaje de la naturaleza, Viaje a las regiones equinociales, Relación histórica, Ensayo político de la Nueva España y Atlas Geográfico.” En “El Censor Americano” (3 de septiembre de 1820) se publicó la versión que hizo Bello de la “Relación histórica” de Humboldt y Bonpland: “Topografía de la provincia de Cumaná, San Fernando, Arenas, Turimiquire, valle de Capire y cueva de Guácharo.”⁵ En “Biblioteca Americana” (tomo I, 1823) Bello publicó un artículo, “Palmas americanas,” basado en los “Viajes de Humboldt y Bonpland.”

Cesia Ziona Hirshbein subraya la influencia de Humboldt sobre el trabajo de Bello:

“[...] tanto su visión de la naturaleza que expresa en su poesía, como en sus ensayos, traducciones y fundamentalmente en su obra de divulgación científica para los países recién fundados por la emancipación americana: Cosmografía. Ambos sabios americanistas, a su estilo, se relacionaron, y debemos decir en la obra de Bello es apreciable la huella de Humboldt, pero que igualmente Humboldt siempre se interesó por la obra de Bello [...] Vidas tan distintas las de Alejandro de Humboldt y Andrés Bello. El primero que prefirió siempre los palpables placeres de la experiencia aventurera y el otro los place-

2. Véase nota en “Obras Completas” de Bello, tomo 24. Caracas: Ministerio de Educación, 1951, pág. 271.

3. Humboldt y Aimé tenían como misión ascender a la silla del Ávila, cima del monte de Caracas. Permanecieron en Venezuela desde noviembre de 1799 hasta enero de 1800. Véase escritos de Bello sobre Humboldt como “Viaje a las regiones equinociales del Nuevo Continente por Alejandro de Humboldt y Amado Bonpland” en “Obra completa de don Andrés Bello.” Caracas: Fundación de Casa Bello, 1986, volumen XX, págs. 271-279. Para profundizar en los viajes del barón alemán al Nuevo Mundo, véase el libro de Jaime Labastida. “Humboldt, ciudadano universal.” México, D.F.: Siglo Veintiuno Editores, 1999. En el capítulo tercero de mi estudio se establece la influencia de Humboldt en los escritos de Bello, y en particular los artículos publicados por Bello en “Biblioteca Americana” durante su etapa de Londres.

4. Alejandro de Humboldt y A. Bonpland. “Relation Historique.” tome trois 鑑 e.

5. Véase “Obras Completas,” tomo 24, pág. 271-2.

res del pensamiento y la secretas aventuras del espíritu [...] Toda colaboración es misteriosa, porque eran muy distintos los dos y las vicisitudes y el tiempo sirvieron para que el uno supiera del otro y fueran ambos poetas en el sentido más amplio de la palabra.⁶

En efecto, el interés, estudio y admiración de Bello por la naturaleza serán fundamentales para realizar sus escritos literarios. Un ejemplo es “Poesías de José María Heredia.” Este ensayo fue publicado en “Repertorio Americano” en el tomo segundo de enero de 1827. En el tomo primero de octubre de 1826, Bello ya había anunciado en la sección de notas bibliográficas la aparición de este libro: “producciones de un joven habanero, en las cuales, a vueltas de algunos descuidos de lenguaje, se descubre una fantasía vivaz y rica, un corazón afectuoso, y otras eminentes calidades poéticas.”⁷

Bello comenta la edición de 1825, preparada y publicada en Nueva York por el mismo Heredia (1803-1839).⁸ Se refiere a la juventud del poeta cubano. Con sólo veintitrés años, su pluma es precoz e inquieta: “aunque imita a menudo, hay, por lo común, bastante originalidad en sus fantasías y conceptos; y le vemos trasladar a sus versos con felicidad las impresiones de aquella naturaleza majestuosa del ecuador, tan digna de ser contemplada, estudiada y cantada.”⁹ Conviene observar que Bello es conocedor de esa misma naturaleza, no sólo por las imágenes que ha plasmado estéticamente en sus “Silvas,” sino, como ya se ha indicado previamente, por experiencia personal en Caracas durante sus excursiones como ayudante de Humboldt. De hecho en el “Boletín Bibliográfico de Repertorio Americano” de abril de 1927 (tomo tercero), Bello hizo una reseña de una traducción al español de “Viaje a las regiones equinociales del nuevo continente hecho en 1799 hasta 1804” por A. Humboldt y A. Bonpland, redactado por A. de Humboldt, con mapas geográficos y físicos. El libro del barón alemán fue publicado en París en 1826. En verdad, Bello es uno de los pocos redactores de la revista que puede leer una obra de esta naturaleza y ofrecer juicios acertados: se queja de la mala traducción al español: “[...] y nos dolemos de que no haya emprendido esta obra algún traductor dotado de las cualidades necesarias para su empeño, que además del cabal conocimiento de los dos idiomas, requiere cierta familiaridad con el lenguaje técnico de las ciencias físicas, y nociones más que medianas de historia natural.”¹⁰ ¿Quién más que un estudioso como

6. Cesia Ziona Hirshbein. “Andrés Bello (1785) y Humboldt (1769-1859),” www.humboldt200.cl/bello, 2002.

7. “Obras completas,” tomo IX, pág. 234.

8. José María Heredia. Nació en Santiago de Cuba y murió en México. Poseía un íntimo convencimiento de su frustración y de su fracaso lo cual lo acercó más al Romanticismo. Véanse los estudios de Pedro Manuel González. “Historia y crítica de la literatura hispanoamericana, tomo II, del Romanticismo al Modernismo.” Barcelona: Grupo Editorial Grijalbo, 1991, págs. 129-134. Véase también el prólogo de Arturo Usler Pietri. “Obras Completas. Temas de crítica literaria,” tomo IX, pág. XXII.

9. “Obras Completas,” tomo IX, pág. 235.

Bello puede tener los conocimientos científicos generales para señalar sin arrogancia los problemas de una traducción?; y prosigue Bello:

“Por falta de estos indispensables requisitos está plagada de errores de traducción, señalándose a menudo los objetos con denominaciones bárbaras e ininteligibles. He aquí unos pocos ejemplos que nos han saltado a los ojos en menos de treinta páginas del tomo I, y aún no son todos. A las hojas pintadas llama el traductor peludas; a los cocos, cocoteros [...]; a las tunas o cactus, raquetas y cacteros [...]; a la culebra de cascabel (*serpent à sonnettes*), serpiente de campanillas [...]; a las palmas, palmeros”¹¹.

En tal sentido, suena la voz precisa del Bello que se preocupa por escoger el vocablo correcto del idioma. Siempre está presente el pensamiento sistemático de un catalogador que reclama un lenguaje propio para denominar las especies del Nuevo Mundo. Asimismo tanto Humboldt como Bello reflejan en sus obras la concepción de la naturaleza como un todo. El alemán afirma que: “Para que esta obra se digna de la bellísima expresión de Cosmos, que significa el orden del universo, y la magnificencia en el orden, es necesario que abrace y describa el gran todo”¹². Por su lado, Bello dice: “[...] todas las verdades nos tocan, desde las que formulan el rumbo de los mundos en el piélagos del espacio; desde las que determinan las agencias maravillosas de que dependen el movimiento y la vida en el universo de la materia [...]”¹³

Luisa Veracoechea de Castillo afirma:

Ambos creían en la educación integral del ser humano. Humboldt lleva a Europa la más grande obra de divulgación cultural, de independencia en el vivir, en el saber en sí mismo. Bello realiza en el continente americano la obra de mayor trascendencia. Los encuentros en la Caracas colonial son el preludio de la obra humboldtiana en Bello. Ambos sabios le dejaron a la humanidad el legado de sus obras inmortales [...]”¹⁴

Es así como Bello sostiene que la literatura obedece a un proceso continuo de creación, lo cual es consecuente con su concepto de un cuerpo sistemático e integrado que se moviliza a través de distintas épocas; por ejemplo de ello son los distintos géneros en diversos períodos. De hecho establece relaciones importantes entre la Edad Media y la Moderna para mostrar el lazo íntimo que vincula épocas diferentes. Sin duda, Bello mostró una posición equilibrada tanto en sus estudios filosóficos como en sus ensayos

10. “Repertorio Americano,” tomo III, pág. 297.

11. *Ibid.*

12. Andrés Bello. “Obras Completas. Cosmografía y otros escritos.” Caracas: La Casa de Bello, 1981, tomo 24 pág 16. Véanse también las alusiones a la obra de Humboldt, págs. 67, 79, 98, 157, 211, 212, 213, 656 y 665.

13. Andrés Bello. “Discurso pronunciado en la Universidad de Chile el día 17 de septiembre de 1843.” “Obras Completas.” Caracas: La Casa de Bello, pág. 29.

14. Luisa Veracoechea de Castillo. “Alejandro de Humboldt y Andrés Bello” “El asombro” (1999): 93-97.

críticos, que fue producto de una visión universal heredada de Humboldt, y desarrollada a través de sus lecturas, reflexiones y experiencia personal.

El paisaje americano a través de los ojos de Humboldt: Ilustraciones publicadas por Bello en Biblioteca

Las escasas ilustraciones en “Biblioteca,” una del ñandú o avestruz de América y la otra de una vista del Chimborazo desde la mesa de Tapia por D. Harding, muestran paisajes, plantas y animales exóticos americanos. Estas refuerzan no sólo la imagen de una naturaleza exuberante que aún tienen los europeos del Nuevo Mundo sino que también funciona como un espejo para los propios habitantes de los estados americanos. Los textos y las ilustraciones que se publican en la revista tienen un doble objetivo: informar y a la vez ayudar a los lectores americanos para que se reconozcan en su propio mundo. Cabe precisar que la imagen de América es mediada a través de los ojos civilizadores de Europa. De hecho Alejandro de Humboldt viajó durante cinco años por el territorio que comprende Venezuela, Ecuador, Perú, Colombia, Cuba y México, que en ese tiempo formaban parte del imperio español. Humboldt desembarcó en Cumaná, capital de la Nueva Andalucía en Venezuela, el 16 de julio de 1799, procedente de España y con amplias recomendaciones del rey Carlos IV. Bello conoció a Humboldt en Caracas hacia finales de 1799 y lo acompañó en varios de sus recorridos por la capital. Es fundamental reconocer la huella que Humboldt dejó en Bello, tanto en la visión de la naturaleza que Bello expresa en su poesía, como en sus ensayos, traducciones y principalmente en sus artículos de divulgación científica, en los cuales se destaca la gran admiración e influencia de los trabajos de Humboldt¹⁵.

Un día cotidiano de Humboldt por tierras venezolanas

Al llegar a la Capitanía General de Venezuela el aristócrata alemán iba acompañado de un grupo selecto de pintores europeos que dibujaban con precisión científica la flora y la fauna. Asimismo, Humboldt también enviaba las plantas secas a los ilustradores más famosos de la época en el Viejo Continente para que hicieran un dibujo fiel del modelo original. Jaime Labastida, al comentar el método de trabajo de Humboldt, advierte:

15. Véase escritos de Bello sobre Humboldt como “Viaje a las regiones equinociales del Nuevo Continente, por Alejandro de Humboldt y Amado Bonpland” en “Obra completa de don Andrés Bello.” Caracas: Fundación de Casa Bello, 1986, volumen XX, págs. 271-279.

“Podemos comentar cualquier otro día de trabajo, otro más de las jornadas científicas de Humboldt en América. En cada caso, desde luego, cambiará el objeto y el lugar será otro; el instrumento usado será otro también. Pero Humboldt no se apartará nunca de su rutina. Telescopio, péndulo, sextante, microscopio, barómetro, termómetro, cianómetro o hidrómetro le permitirán, antes que nada, determinar con exactitud los datos. Esto quiere decir, por lo tanto, que los datos que Humboldt ofrece no son nunca los datos brutos de los sentidos [...] Se trata, quiero subrayarlo así, al mismo tiempo, de una obra que jamás abandona su propósito científico, por un lado (o sea que es rigurosa); pero, por otro lado, se trata de una obra de arte: bella plástica, estéticamente impecable, con grabados realizados por los mejores artistas de Europa, en el mejor papel, con las mejores tintas, en los mejores talleres de Roma, París o Berlín. Es un trabajo editorial de primer orden, hecho a lo largo de casi 30 años y que arruina al barón prusiano”¹⁶.

Aunque los redactores de “Biblioteca” continúan dentro de la línea del grabado paisajista, tan popular, en Inglaterra en las primeras décadas del siglo XIX, prefieren las cordilleras y los ríos americanos en vez de las sentimentales escenas en las campiñas inglesas. Pues bien, las ilustraciones en la revista fueron realizadas por ingleses; los temas son recogidos de los diarios y los dibujos de los viajeros europeos, pero la técnica sigue siendo parte de la tradición del grabado en la literatura inglesa de finales del siglo XVIII y principios del XIX¹⁷.

No cabe duda que en la primera etapa literaria de Bello recibió formación bajo la influencia neoclásica del siglo XVIII español. De igual forma, ciertas circunstancias históricas de la segunda mitad del Siglo de las Luces, como las políticas borbónicas del despotismo ilustrado español y el contacto directo con Humboldt, repercutieron directa e indirectamente en la educación y evolución del pensamiento crítico de Bello. Su conocimiento de latín, inglés y francés lo pusieron en contacto, a través de su trabajo en la “Gazeta” de Caracas, con la información más reciente que llegaba de Europa a la capitania venezolana. El aprendizaje de los idiomas lo prepararon también para realizar sus estudios críticos de las obras de los autores sobresalientes del romanticismo europeo, en particular de la lengua inglesa.

16. Jaime Labastida. “Humboldt, ciudadano universal.” México, D.F: Siglo Veintiuno Editores, 1999, págs. 31-32.

17. Para estudiar las técnicas de grabado europeo de finales del siglo XVIII y principios del XIX, que se usaban para representar el Nuevo Mundo, véanse los grabados de las cartas geográficas, por ejemplo, del istmo de Panamá hecha por el mismo Humboldt, o las impresiones en su libro “Sitios de las cordilleras y monumentos de los pueblos indígenas de América,” en una edición en español de 1878, publicada por la Imprenta y Librería de Gaspar Editores. Además, véanse las ilustraciones de especies animales y vegetales en los estudios sobre Humboldt que hizo Jaime Labastida. “Humboldt, ese desconocido.” México: Secretaría de Educación Pública, 1975, y en “Humboldt, ciudadano universal; con una antología de los textos de Alejandro de Humboldt.” México, D.F: Siglo Veintiuno Editores, 1999.

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- Ibid.

A Humboldtian Explorer in New York¹

Aaron Sachs

In April, 1818, Secretary of State John Quincy Adams received a bizarre handbill in the mail, from a man called John Cleves Symmes, Jr., of Ohio. It was addressed “TO ALL THE WORLD!” In it, Symmes declared that “the earth is hollow, and habitable within...and that it is open at the poles 12 or 16 degrees.” Thus was born the Symmes Theory of Concentric Spheres.

“I pledge my life in support of this truth,” Symmes wrote, “and am ready to explore the hollow, if the world will support and aid me in the undertaking...I ask one hundred brave companions, well equipped, to start from Siberia in the fall season, with Reindeer and slays, on the ice of the frozen sea; I engage we find warm and rich land, stocked with thrifty vegetables and animals if not men, on reaching one degree northward of latitude 82; we will return in the succeeding spring.” Symmes also took the opportunity to announce his forthcoming “Treatise, on the principles of matter, wherein I show proofs of the above positions [and] account for various phenomena.” And, finally, Symmes listed his three “protectors:” the famous physical chemist Sir Humphry Davy; Samuel L. Mitchill of the New York Lyceum of Natural History; and “Baron Alex. de Humboldt.”²

It’s becoming more common to talk about Humboldt’s influence on various aspects of American culture in the mid-19th century: you can find it in mainstream writers like Emerson and Thoreau; artists like Frederic Church; the work of the U.S. Army Corps of Topographical Engineers; and the development of German-American communities and institutions. My own work has to do with Humboldt’s influence on American explorers, and here I want to focus on one in particular—someone closely associated with Symmes—

1. This paper is adapted from my Ph. D. dissertation, “The Humboldt Current: Avant-Garde Exploration and Environmental Thought in 19th-Century America,” filed in 2004, at Yale University, in the American Studies program. The book version is forthcoming in 2006, to be published by Viking Penguin.

whose career suggests that Humboldt was already an incredibly strong influence in the 18-teens, 20s, and 30s. This paper, then, lines up with research done by other scholars on Humboldtian elements in the early-19th-century careers of people like George Catlin, Washington Irving, and Albert Gallatin.³

Now Symmes, of course, was a total quack. Even Humboldt, normally so generous and open-minded in his treatment of aspiring scientists, wound up making fun of him: the infamous “hollow sphere,” Humboldt wrote, in the first volume of *Cosmos*, “has by degrees been peopled with plants and animals, and...it was further imagined that an ever-uniform temperature reigned in these internal regions...Near the north pole, at 82 latitude, whence the polar light emanates, was an enormous opening, through which a descent might be made into the hollow sphere, and Sir Humphrey Davy and myself were even publicly and frequently invited by Captain Symmes to enter upon this subterranean expedition: so powerful is the morbid inclination of men to fill unknown spaces with shapes of wonder.”⁴ Yet Humboldt himself had fed Symmes’ fire through his early publications by providing isothermal evidence that the equatorial regions were not always the hottest on the planet. One of Symmes’ most learned boosters even cited Humboldt’s description of fish being erupted from a volcano as possible evidence for Symmes’ idea that

2. The handbill, now in the National Archives, is reproduced in Herman J. Viola and Carolyn Margolis, eds., *The U.S. Exploring Expedition, 1838-1842* (Washington, D.C.: Smithsonian Institution Press, 1985), p. 10.

On Symmes in general, see Elmore Symmes, “John Cleves Symmes, The Theorist,” an article in three installments in the *Southern Bivouac*, New Series 2 (February, March, and April 1887), pp. 555-66, 621-31, and 682-93; Paul Collins, “Symmes Hole,” in *Banvard’s Folly: Thirteen Tales of People Who Didn’t Change the World* (New York: Picador, 2001), pp. 54-70; P. Clark, “The Symmes Theory of the Earth” *Atlantic Monthly* 31 (April 1873), pp. 471-80; E.F. Madden, “Symmes and His Theory,” *Harper’s New Monthly Magazine* 65 (October 1882), pp. 740-4; John Wells Peck, “Symmes’ Theory,” *Ohio Archaeological and Historical Publications* 18 (1909), pp. 28-42; and Reginald Horsman, “Captain Symmes’s Journey to the Center of the Earth,” *Timeline* (Sept./Oct. 2000), pp. 2-13.

3. See, for instance: Laura Dassow Walls, *Seeing New Worlds: Henry David Thoreau and Nineteenth-Century Natural Science* (Madison: U. Wisconsin Press, 1995), pp. 76-166; Kevin J. Avery, *Church’s Great Picture: The Heart of the Andes* (New York: Metropolitan Museum of Art, 1993), pp. 12-22; Kent Mathewson, “Humboldt and the Development of North American Geography,” paper delivered in Washington, D.C., June 4, 2004, at the conference “Alexander von Humboldt and North America,”; Andreas Däum, “Celebrating Humanism in St. Louis: the Origins of the Humboldt Statue in Tower Grove Park, 1859-1878,” *Gateway Heritage* 15 (Fall 1994), pp. 48-58; Ingo Schwarz, “Shelter for a Reasonable Freedom’ or Cartesian Vortex: Aspects of Alexander von Humboldt’s Relation to the United States,” *Debate y Perspectivas* 1 (2000), pp. 169-70; Schwarz, “The Second Discoverer of the New World and the First American Literary Ambassador to the Old World: Alexander von Humboldt and Washington Irving,” *Acta Historica Leopoldina* 27 (1997), pp. 89-97; Michael Anthony Wadyko, “Alexander von Humboldt and 19th-Century Ideas on the Origin of American Indians,” Ph.D. Dissertation, W. Virginia U., 2000.

4. Humboldt, *Cosmos*, Vol. 1 (Baltimore: Johns Hopkins University Press, 1997), p. 171.

another world existed inside the earth's core. Certainly, the Captain's contention that there were open polar seas rather than ice caps was based not on his imagination but on his compulsive reading of exploration narratives, many of which did mention that there were whales and seals and birds and even signs of vegetable life at the highest latitudes attained, and that the ocean was in fact more navigable once you passed through the thickest ice fields between about 60 and 65 degrees North or South.⁵

Indeed, Symmes actually achieved a degree of fame in the 1820s, and when his disciple J.N. Reynolds started lecturing about exploration and global dynamics in New York City, his ideas were warmly embraced by the intellectual community. The Yale chemist Benjamin Silliman, a devoted Humboldtian and probably America's leading scientist, noted publicly that "Mr. Reynolds... handled his subject like an accomplished scholar," and Silliman even invited Reynolds to his home in New Haven on a number of occasions. Reynolds's candle-lit lectures at New York's Tammany Hall in May and June of 1826 were the sensation of the season; they attracted many o New York's self-styled intellectual sophisticates. Here's a writer from the New York "Mirror" talking about himself in the third person:⁶

A gentleman of this city, who, never having heard the theory of the concentric spheres properly explained, had always viewed it as the wild chimera of a half-disordered imagination, lately attended one of Reynolds' lectures. He went, as he himself confessed, in hopes of hearing something sufficiently absurd to give good exercise to his risibles; but soon felt more inclined to listen than to laugh, and by the time the discourse was finished, became a thor-

5. Humboldt's most widely read study of isotherms is "Des Lignes Isothermes et de la Distribution de la Chaleur sur le Globe [On Isothermic Lines and the Distribution of Heat on the Planet]," in *Mémoires de Physique et de Chimie de la Société d'Arcueil* 3 (1817), pp. 462-602.

The Symmes supporter who cited Humboldt is James McBride, "Symmes's Theory of Concentric Spheres" (Cincinnati: Morgan, Lodge, and Fisher, 1826), p. 105. Belief in the Open Polar Seas lasted well into the 19th century: see Edward L. Towle, "The Myth of the Open Polar Sea," "Proceedings of the Tenth International Congress of the History of Science" (Paris, 1965), Vol. 1, pp. 1037-41. J.N. Reynolds discusses the possibility of an open sea in the Antarctic in his official report of 1828 to Navy Secretary Samuel Southard, "Pacific Ocean and South Seas", reprinted in 1835 as House Document 105, 23rd Congress, 2nd Session, p. 26. Of the sealers he interviewed who had been South of 70°, Reynolds noted: "They all agree that... the greatest impediment to navigation from ice will be found from 62° to 68° S." Also see his "Remarks on a Review of Symmes' Theory, which appeared in the American Quarterly Review" (Washington, D.C.: Gales and Seaton, 1827), p. 40. Edmund Fanning, in *Voyages Round the World* (New York: Collins and Hannay, 1833), pp. 473-4, notes: "The report of all (within the author's knowledge) that have passed beyond the 68th degree is, that above this degree of latitude, the sea was found to be mainly clear of ice, and the climate becoming more mild, with prevailing winds from the southward. "The report of that persevering navigator, Weddel, who has sailed farther south than any other navigator has been known to do, is this, viz., to the latitude of 74° 15' S., he states, that at this position the weather was mild as summer, the wind at the time being from the south, while the sea was clear in that quarter, as far as the eye could discern from the masthead."

ough believer in what he had lately derided. Such sudden conversions, perhaps, are not the most permanent; but they are sufficient to prove that the above theory is more worthy of investigation than of ridicule.”

Of course, there were also listeners who were content to respond with ridicule. Reynolds had become increasingly popular in part because he had aligned himself with New England’s whaling and sealing industries and had begun lobbying for an expedition directed toward the South Pole, leaving the North to the British and to Captain Symmes, with whom he had broken. Symmes in fact felt so betrayed by Reynolds that he challenged him to a duel. Reynolds refused, but one newspaper editor suggested that the U.S. government could step in and resolve the dispute: all Congress had to do was “grant two appropriations, one to Reynolds for the antarctic regions, another to Symmes for the arctic regions, furnish them with cannons, and let them fight their duel” through the earth’s hollow core, using “snow-balls as ammunition.”⁷

Reynolds simply ignored such abuse and continued laying down the core principles of his science, based squarely on Humboldt’s cosmopolitan empiricism: we don’t know what’s out there and how it all fits together, Reynolds argued, so we’d better join the universal effort to collect facts, make contact with other nations, and start figuring out the best ways of living in harmony

6. New York *National Advocate*, May 28, 1828, cited in Elmore Symmes, p. 565; *New-York Mirror* 3 (June 17, 1826), p. 375. For more coverage of Reynolds and Symmes in New York, also see the *Mirror* of April 15 (p. 303) and May 27 (pp. 350-1). Silliman quote is from the *New England Palladium and Commercial Advertiser*, June 16, 1826, p. 1; also see Philip I. Mitterling, *America in the Antarctic to 1840* (Urbana: U. Illinois Press, 1959), p. 86. For more on Silliman and Reynolds, also see Reynolds, *Address on the Subject of a Surveying and Exploring Expedition to the Pacific Ocean and South Seas. Delivered in the Hall of Representatives on the Evening of April 3, 1836* (New York: Harper and Brothers, 1836), pp. 112-15. For more on Silliman and Humboldt, see Benjamin Silliman, *A Visit to Europe in 1851*, Vol. 2 (New York: George P. Putnam, 1853), pp. 317-22. For background on Reynolds, the best source is an unpublished biography, the typescript of which is in the Special Collections at the Princeton University Library: Richard G. Woodbridge III, *J.N. Reynolds—American*. Woodbridge has made snippets of his research more readily available in Woodbridge, “J.N. Reynolds: Father of American Exploration,” *Princeton University Library Chronicle* 45 (Winter 1984), and Woodbridge, *Condensed Biography of J.N. Reynolds—American*, typescript (Princeton, 1995), New York Public Library. There’s also an important cache of Reynolds’s letters in the Samuel L. Southard Papers, Special Collections, Princeton University Library. Other Reynolds sources include: Kenneth J. Bertrand, *Americans in Antarctica, 1775-1948* (New York: American Geographical Society, 1971), pp. 144-97; Robert F. Almy, “J. N. Reynolds: A Brief Biography with Particular Reference to Poe and Symmes,” *Colophon* 2 (New Series) (Winter 1937), pp. 227-45; Aubrey Starke, “Poe’s Friend Reynolds,” *American Literature* 11 (May 1939), pp. 152-9; William Coyle, ed., *Ohio Authors and Their Books* (Cleveland: World Publishing Co., 1962), pp. 523-5; and Henry Howe, “The Romantic History of Jeremiah N. Reynolds,” in Howe, *Historical Collections of Ohio in Two Volumes: An Encyclopedia of the State* (Columbus: Henry Howe and Son, 1889), Vol. I, pp. 430-2. Most scholars refer to Reynolds as Jeremiah, but he always referred to himself by his initials, and there is good reason to believe that his real name was probably James Neilson Reynolds.

7. Elmore Symmes, p. 623.

with nature. "Inquiries concerning the figure of the earth we inhabit, are among the noblest speculations of the human mind. They enlarge our views, and frequently bring remote parts of the earth into a knowledge and interchange with each other." In the end, the proposed expedition could help us acquire "much useful information in the hydrography and geography of the Antarctic regions; as well as many important and interesting observations on the atmospherical, magnetical, and electrical phenomena, which cannot fail materially to advance the science of Meteorology; and also in many valuable collections of objects in natural history, which inhabit a part of the globe, where few researches have yet been made in this branch of science."⁸

A little later in his career, Reynolds made his Humboldtian program of research even clearer: he wished "to collect, preserve, and arrange" specimens from all over the globe, "from the minute madrapore to the huge spermaceti," and figure out how they connected to each other and to "man in his physical and mental powers, in his manners, habits, disposition, and social and political relations"; scientists should feel duty-bound "to examine vegetation, from the hundred mosses of the rocks, throughout all the classes of shrub, flower, and tree, up to the monarch of the forest," all in relation to "the phenomena of winds and tides, of heat and cold, of light and darkness." And, indeed, in lobbying for the scientific exploration of the South Seas throughout the 1820s and 30s, Reynolds frequently cited Humboldt explicitly, and between 1829 and 1834 he actually got to follow in Humboldt's footsteps—sailing along the South American coast taking temperature and pressure readings and also climbing some Andean volcanoes.⁹

I want to say a little more about his experiences in South America, but first let me just explain my own background understanding of Humboldt's significance in the realms of environmental history and colonial politics. I think Humboldt was clearly the first ecologist, and I also consider him a fairly radical critic of colonialism and defender of native cultures. This perspective flies in the face of a fair amount of scholarly literature, and especially Mary Louise Pratt's scathing critique of Humboldt in her now-canonical book, *Imperial Eyes*.¹⁰ But I've tried to establish my own position in an article that came out last December in a special environmental issue of the journal *History and Theory*.¹⁰

8. Reynolds, "Remarks on a Review of Symmes' Theory", pp. 42 and 69

9. Reynolds, "Address", p. 72. For a couple of direct citations of Humboldt, see Reynolds, *Voyage of the United States Frigate Potomac, under the command of Commodore John Downes, during the Circumnavigation of the Globe, in the years 1831, 1832, 1833, and 1834* (New York: Harper and Brothers, 1835), pp. 438 and 445.

10. Aaron Sachs, "The Ultimate 'Other': Post-Colonialism and Alexander von Humboldt's Ecological Relationship with Nature," *History and Theory* 42, Theme Issue on the Environment (Dec. 2003), pp. 111-35.

And this perspective on Humboldt has in turn led me to re-evaluate the scholarly assumption that all 19th-century American explorers were essentially agents of empire and the exploitation of peoples and resources.¹¹ I think people like J.N. Reynolds went out into the world eager to question their assumptions and expose themselves to new perspectives and especially to the power of Nature. And I think Reynolds's responses to South America and the South Seas bear this out.

For one thing, Reynolds followed Humboldt in quite simply celebrating "the Titan scale upon which nature has operated, and is continuing to operate in these regions." Also, despite having very little scientific training, he did with islands, reefs, rocks, winds, currents, and marine mammals what Humboldt had done with mean temperatures and vegetation patterns. His efforts to collate data even led him to perhaps the first American statement of concern about the limits of natural-resource extraction: he calculated in 1828 that American whalers were killing some 10,000 whales a year, and thus decimating certain whaling grounds. Fascinatingly, he became America's foremost proponent of scientific exploration, but at the same time he railed against capitalist expansion: "what place is exempt," he asked, "what creature safe, from the intrusion of man! Boast as he may of his humanity, he is in a state of perpetual warfare with every living thing which can satisfy his wants or pamper his appetite, for luxuries; and his path, almost the world over, may be tracked by blood."¹²

Perhaps most importantly though, Reynolds followed Humboldt in attacking colonial governments—including that of the United States—for their brutal exploitation of native peoples. When Reynolds returned from his expedition in 1834 to find that President Jackson had forced through the Indian Removal Bill in 1830, he felt it was his duty to point out that throughout the world, "the kind reception and hospitality of the natives have been requited by acts of rapine, cruelty, and oppression." Indeed, Reynolds hoped that by pointing out the admirable qualities of native peoples around the globe, he might elicit more sympathy among his fellow-citizens for "the much wronged and oppressed aborigines of our own country." Taking his cue directly from Humboldt's writings, Reynolds even compared the United States' treatment of Indians to that of Spain, and made explicit the systematic connection between resource extraction and violent repression: "From whence issued those immense streams of wealth which flowed from the colonies into the lap of the mother country, during the three hundred years of her

11. See, for instance, John L. Allen "Where We Are and How We Got There: Surveying the Record of Exploration Studies," in Edward C. Carter III, ed., *Surveying the Record: North American Scientific Exploration to 1930* (Philadelphia: American Philosophical Society, 1999), pp. 3-18.

12. Reynolds, "Leaves from an Unpublished Journal," *New-York Mirror* 15 (April 21, 1838), pp. 340-1; Reynolds, "Pacific Ocean and South Seas", p. 3.

tyranny and dominion, but from the poor and subjugated Indian? Who can reflect, without horror, on the destruction of eight millions of these wretched beings, who, in Peru alone, perished under the cruel and unjust exactions of the *Mita*?"¹³

Reynolds's own experiences among native peoples in Peru, and especially Chile, had convinced him for good that it was only on frontiers that you could judge the true character of your civilization. Reynolds knew that the Indian Removal Bill had passed only by the skin of its teeth—a the vote in Congress was 103-97—and he felt sure that if the people's representatives had better understood the possibility of white-Indian consort and cooperation, they never would have passed such an abominable law. So in his speeches and the narratives he wrote of his expedition, Reynolds consistently evoked his own finding that native peoples tended to be not warlike brutes, nor merely noble savages, but members of reasonable, complicated, generally peaceful communities.

The Araucanians had a particularly savage reputation, and the first chief Reynolds meets, whom he at first describes as "warlike" and "splenetic," paces and mutters when he hears that Reynolds wants to explore in his area—but then Reynolds suddenly realizes, with the help of his interpreter, that Uai-quimilla's rage is "related to the former wars of his people with the Spaniards, and his belief that we, like them, were come to search for gold and silver."¹⁴ So the violence of these Indians is not some sort of natural characteristic, but a moral response to a political situation, and it is now incumbent on the invading white man to prove that he is not like the Spanish gold seekers—or even, say, like American sealers, intent upon extracting valuable natural resources from distant lands.

The rest of Reynolds' experience among the fierce Araucanians turns out to be essentially a pastoral gambol. You thought they were savage hunters? No—their "farms displayed a perfection of agriculture that would have done credit to a civilized people." Native communities feed him dinners of lamb and green peas, and in the morning the entire village comes to see if he has slept well in the humble bed they have provided. And besides being hospitable, they seem amazingly savvy in the political realm: "These people...not only kept aloof from the colonial contests, but, what is better and more wonderful, they have continued almost from time immemorial at peace with all their neighbors. They lived comfortably on the fruits of their industry." The Araucanians were even "well clothed: indeed we had not seen an Indian

13. Reynolds, *Voyage of the United States Frigate 'Potomac'*, pp. 81, 105, and 478.

14. Reynolds, "Rough Notes of Rough Adventures," *Southern Literary Messenger* 9 (December 1843), p. 709.

poorly clad since crossing the river Imperial.” It is only the touch of Empire, in other words, that turns Indians into warring savages.¹⁵

In 1834, when he got back to the United States, Reynolds stopped briefly in Boston and deposited his collections with the Boston Society of Natural History. But then he settled back in New York and continued lecturing and writing on scientific exploration. There were articles about him in periodicals like the *New-Yorker* describing the apartments where he lived and did his work (one on Astor Place, for instance), with books and Congressional reports scattered all around him.¹⁶ In 1835, he received an honorary degree from Columbia (a small college just north of CUNY), which put him in the company of many other Humboldtians, including Gallatin and Irving.¹⁷ He corresponded with Poe, and Poe stole passages from his work to use in his own imaginative writings, especially his only novel, *The Narrative of Arthur Gordon Pym* (and it is worth noting here that Poe’s final book, *Eureka*, was dedicated to Humboldt “with very profound respect”).¹⁸ In 1839, when Herman Melville was just 19 and still hadn’t even set out on his own South Seas adventures, Reynolds published *Mocha Dick*, about an aggressive white whale that swam the Humboldt Current near the Isle of Mocha just off the Chilean coast.¹⁹ And from various lecterns in New York, Reynolds became the foremost proponent of what eventually became the famous United States Exploring Expedition (often called simply the Ex Ex, or the Wilkes Expedition, of 1838-42), which confirmed the existence of the Antarctic continent. Because of various political conflicts and controversies during the preparations for the expedition, however—Reynolds attacked Wilkes for, among other things, failing to stock the ships’ libraries with a complete set of Hum-

15. *Ibid.*, pp. 711-12.

16. See J.F. Otis, “Current Calamities,” *Southern Literary Messenger* 5 (April 1839), pp. 254-6; reprinted in the *New-Yorker* 7 (April 27, 1839), p. 100.

17. On the 1835 Commencement, see the *Columbia University Annual Commencement Scrapbook, 1830-1849*, in the Columbian Archives, Columbia University. The scrapbook also has a clipping from the *New York Evening Post* of October 8, 1835. Also see *Minutes of the Trustees of Columbia College*, Vol. 3, Part 2 (May 6, 1828, to December 4, 1837), p. 1618 (typescript in the Columbian Archives). I am grateful for the skillful assistance of Jocelyn Wilk, Assistant Director of the University Archives and Columbian Library. For the honorees, see the *Columbia University Alumni Register, 1754-1931* (New York: Columbia U. Press, 1932), pp. 594, 723, and 1182-3. Also see Reynolds’ letter to Columbia President William A. Duer, dated October 13, 1835, New York, in the College Papers, Special Manuscript Division, Columbia University.

18. Poe, “Eureka”, in James A. Harrison, ed., *The Complete Works of Edgar Allan Poe*, Vol. 16 (New York: AMS Press, 1965), pp. 179-315, quote on p. 181. Also see Almy; Starke; Robert Lee Rhea, “Some Observations on Poe’s Origins,” *University of Texas Bulletin, Studies in English* 10 (July 8, 1930), pp. 135-46; J.O. Bailey, “Sources for Poe’s ‘Arthur Gordon Pym’”, ‘Hans Pfaal,’ and Other Pieces,” *PMLA* 57 (June 1942), pp. 513-35; Keith Huntress, “Another Source for Poe’s ‘Narrative of Arthur Gordon Pym,’” *American Literature* 16 (March 1944), pp. 19-25; and Randel Helms, “Another Source for Poe’s ‘Arthur Gordon Pym,’” *American Literature* 41 (January 1970), pp. 572-5.

19. “Mocha Dick: Or The White Whale of the Pacific: A Leaf from a Manuscript Journal,” *Knickerbocker* 13 (May 1839), pp. 377-92.

boldt's writings—Reynolds himself got left off the expedition, and quickly faded into obscurity.²⁰

It's my opinion that Reynolds did more than anyone except Humboldt himself to establish the significance of scientific exploration in American culture in the 19th century. This conference represented an important effort to begin restoring Humboldt's legacy—and it seems to me that a huge amount of work also remains to be done to recapture Reynolds's significance.

20. See William Stanton, *The Great United States Exploring Expedition of 1838-1842* (Berkeley: University of California Press, 1975), esp. pp. 8-72; William H. Goetzmann, *New Lands, New Men: America and the Second Great Age of Discovery* (Austin: Texas State Historical Association, 1995; originally published 1986), pp. 273-97; and Nathaniel Philbrick, *Sea of Glory: America's Voyage of Discovery, The U.S. Exploring Expedition, 1838-1842* (New York: Viking, 2003), esp. pp. 3-41. For the reference to Humboldt, see Reynolds, *Exploring Expedition Correspondence*, undated pamphlet, copy consulted at Beinecke Library, Yale University, Letter 6, July 28, 1837, New-York, pp. 39-41.

Influences of ‘Kosmos’ in ‘Earth and Man’

Philip K. Wilson

In January and February 1849, a newly emigrated European natural philosopher, Arnold Guyot, delivered a series of twelve lectures before the Lowell Institute in Boston. These “enormously popular” lectures introduced several hundred listeners to a new depth of geographical understanding.¹ For in these lectures, Guyot expanded the view of geography from a descriptive gazetteer of places and chronology of discovery to an all encompassing view of geography as “the mutual [inter]actions of...different portions of physical nature upon each other...the perpetual play of which... might be called the life of the globe.”²

Although the newly arrived Guyot was, beyond his investigations into glacial motion, still a relatively unknown figure in the world of science, his lectures attracted many New England savants including Edward Everett, Henry Wadsworth Longfellow, Nathaniel Hawthorne, Horace Mann, Benjamin Pierce, George Ticknor, and Cornelius Conway Felton, the Elliot Profes-

1. Antonello Gerbi, *The Dispute of the New World: A History of a Polemic, 1750-1900* (Pittsburgh, PA; University of Pittsburgh Press, 1973), p. 525.

2. Arnold Guyot, *Earth and Man: Lectures on Comparative Physical Geography, in its Relation to the History of Mankind*, 2nd ed., rev., (Boston: Gould, Kendall and Lincoln, 1849), p. 21. For relatively recent assessments of Guyot, see especially Edith Ferrell, “Arnold Henry Guyot 1807-1884,” *Geographers: Biobibliographical Studies* 5 (1981): 63-71; George Kish, “Carl Ritter’s Influence on American Geography,” in Karl Lenz (ed) *Carl Ritter—Geltung und Deutung* (Berlin: Dietrich Reimer, 1981), pp. 205-211; Philip K. Wilson, “Arnold Guyot and the Pestalozzian Approach to Geology Education: A Model for 21st-Century College Science?,” *Eclogae Geologicae Helvetiae* 92 (1999): 321-325; and Richard J. Schneider, “‘Climate Does Thus React on Man’: Wildness and Geographical Determinism in Thoreau’s ‘Walking,’” in Richard J. Schneider (ed) *Thoreau’s Sense of Place: Essays in American Environmental Writing* (Iowa City, IA: University of Iowa, 2000), pp. 45-60. Philip K. Wilson is currently preparing a book-length scientific biography of Guyot, tentatively entitled *Glaciers, God, and Geography: Neuchâtel’s Arnold Guyot (1808-1884) at Princeton*. Guyot is also featured in the collaborative work that Robert H. Silliman and Philip K. Wilson are preparing, tentatively entitled, *Naturalists from Neuchâtel: The Agassiz Circle in American Science*.

sor of Greek Language and Literature who worked with Guyot to translate the lectures, delivered in French, into English for readers of the *Boston Daily Traveler* newspaper. These translations were gathered later that year into the book titled, *Earth and Man: Lectures on Comparative Physical Geography, in its Relation to the History of Mankind*.

As a brief testimony of Earth and Man's immediate success, I turn to a few contemporary commentators. American Congregational mission administrator Rufus Anderson regarded it as "among the most valuable works produced in the age to which we belong."³ Benjamin Pierce, Harvard's Perkins Professor of Astronomy and Mathematics, claimed that Guyot "set himself to work at the foundation of an almost new science, with the ability and simplicity of a true master; he has developed profound and original views . . . in the most attractive and eloquent... language." The new publication, he continued, shows Guyot's "ingenious investigations, sustained by faithful and conscientious research," to be "an invaluable addition to science; while the vivid and picturesque earnestness of their utterance, cannot fail to charm the least learned of his readers."⁴

Given Guyot's Swiss heritage, one might expect his geohistorical view to have taken the form of a vast *paysage* or landscape. The Swiss portrait of nature was, after all, an archetype of the Romantic vision. Guyot's pursuits, however, extended far beyond the aesthetic, metaphysical appreciation of the earth so common among Romantic period writings. Having studied both history and geography, Guyot combined these two fields in his vision of the earth as a primary document and argued that the earth held special significance to everything that had been connected to it throughout its history.

Interrogations and interpretations of the earth depended upon the observers' viewpoint and refinements in the observer's instrumentation; both categories that typified the Humboldtian scientific traveler of Guyot's era.⁵ By considering the earth as an interpretable document, Guyot, like Humboldt, began to shift the paradigm of earth studies from the subjective theoretical realm to one which perceived the earth as a measurable object. This paper examines how Guyot promoted reading the earth primarily within a Humboldtian context. A brief background of Guyot shows that he developed views consistent with Humboldt in explaining the earth as a diverse, yet interconnected organic whole. Guyot's explicit reliance upon Humboldtian

3. Rufus Anderson to Arnold Guyot, July 11, 1849, Princeton Historical Society.

4. "Advertisement," in Guyot, *Earth and Man*, p. 3.

5. For a generalization of Humboldtian science, see Susan Faye Cannon, "Humboldtian Science," in her *Science in Culture: The Early Victorian Period* (New York: Dawson and Science History Publications, 1978), pp. 73-110, and Anne Marie Claire Godlewski, "From Enlightenment Vision to Modern Science? Humboldt's Visual Thinking," in David N. Livingstone and Charles W.J. Withers (eds) *Geography and Enlightenment* (Chicago: University of Chicago, 1999), pp. 236-275.

methods of observation and measurement as physiographical explanations of the world around him is examined, although one key distinction between their world views is acknowledged. Curiously, Guyot’s elaboration upon this physiographical distinction points to another similarity between his views and those of Humboldt on the issue of slavery. Finally, *Earth and Man* is argued to be one of the best known U.S. popularizations of the physical geography sections that Humboldt addressed in *Kosmos*.

Arnold Guyot’s Berlin Influences

Prior to migrating to the States, Guyot had gained renown for his University of Berlin studies on the morphology and temperatures of lakes and for his post-doctoral scientific investigations demonstrating that the earth and its coverings co-existed in a dynamic relationship.⁶ Spending six weeks studying the Central Alps with Louis Agassiz during the summer of 1838 had provided Guyot with new insight into his Helvetic homeland.⁷ As he reported to the Geological Society of France in the following September, Guyot had uncovered some key findings regarding glacial structure and motion.⁸ His explanations were consistent with a view that all nature experienced an ongoing conflict between progress and regress over time. Like glaciers, the earth itself had developed according to struggles between opposing physical forces. If the earth appeared to be a static organism, it was only because the counterpoised forces had reached some temporary state of resolution or equilibrium.⁹

Guyot’s explanation of nature’s eternal struggle resonated with much of the natural philosophy and theology he had studied in Berlin. Guyot matriculated at the University of Berlin in 1829 intending to study theology, but soon turned his interest toward natural philosophy (i.e., science).¹⁰ While in Berlin, Guyot was directly exposed to the *Naturphilosophie* influence of the Univer-

6. Guyot’s 1835 doctoral dissertation, *De Naturali Lacuum Divisione*, is dedicated to Humboldt and Ritter.

7. James D. Dana, “Memoir of Arnold Guyot 1807-1884,” *Biographical Memoirs of the National Academy of Sciences* 2 (1886): 321.

8. Guyot’s talk, “Observations sur Les Glaciers des Alpes,” before the Société Géologique de France in Porrentruy was noted in the *Bulletin de la Société Géologique* 9 (1838): 407. Guyot gained geological renown in Switzerland for his studies on the morphology and temperatures of the lakes of Neuchâtel and Morat, and for uncovering the laws of glacial motion. In the US, his extensive and comparative hypsometrical measurements allowed him to produce accurate topographical maps of the Appalachian, Allegheny and Catskill Mountain ranges. In addition, through the support of Joseph Henry, then Secretary of the Smithsonian Institution, Guyot established fifty weather stations in New York state—modeled upon the earlier stations he designed in Switzerland—from which he gathered standardized climatological data. As James Roger Fleming discussed in *Meteorology in America, 1800-1870* (Baltimore: Johns Hopkins University Press, 1990), pp. 117-122, Guyot’s stations expanded into the Government Signal System, now known as the U.S. Weather Bureau.

sity's elite. Many of these individuals focused Guyot's thinking of the struggles represented in history and geography in terms of progressive evolution. Georg Wilhelm Friedrich Hegel analyzed the progressive migration across the globe in terms of the intermingling of the folksongs of one nation with another. Leopold Ranke reinforced the idea of progress in the content of nation building. Heinrich Steffans encouraged Guyot to look at natural history and geography in terms of moral and physical evolution. Johann Neander, who approached theological history through biography, viewed progress as the result of divine influence upon individual human life.

But an even greater influence upon Guyot's progressive view of geohistory came through the ideas of the Berlin geographer and pedagogue, Carl Ritter. The earth, according to Ritter, had been divinely provisioned as "the school of man; its highest function being to assist him in his training, and to prepare him for the discharge of the noblest duties of life."¹¹ It was a dynamic, living organism, that contained regions of text like a book within which the history of all life forms could be found and upon which the history of mankind's progress could be read.

Guyot focused primarily upon the regional development of the continents. Peculiar characteristics "lead US to suspect the existence of a general law," he surmised. The continents "disclose an arrangement which cannot be without purpose . . . [and it is] our duty to seek to comprehend it."¹² "[S]cience may attempt to comprehend . . . the destinies of nations, by examining with care the theatre, seemingly arranged by History for the realization of the new social order, towards which humanity is tending with hope."¹³ Guyot hoped

9. After orally sharing his discoveries with the natural philosophy community in September 1838, Guyot was persuaded by Agassiz to contribute his findings into the collective pool of knowledge that Agassiz was assembling. These findings were published as *Études sur les Glaciers in 1840*, with Agassiz receiving recognition for what, in actuality, was a collective effort. This work secured Agassiz's recognition as the glacial evangelist of Ice Age geology. The extent to which Guyot and others received due recognition for their respective discoveries during their lifetimes remains unresolved. It is clear, however, that Guyot remained faithful to the agreement made with his lifelong friend and countryman. Only after considerable persuasion did Guyot publish the true account of the discoverers' respective findings in "Observations sur Les Glaciers des Alpes en 1838," *Bulletin de la Société des Sciences Naturelles de Neuchâtel* 13 (1883): 156-169, long after Agassiz's death.

10. William Libbey, Jr., Memoir of Arnold Guyot," *Third Annual Report from the E.M. Museum of Geology & Archeology* (Princeton: The Princeton Press, 1884), p. 16.

11. Carl Ritter, "The External Features of the Earth in their Influence on the Course of History," a paper delivered before the Royal Academy of Berlin, translated by William Leonard Gage in Gage's edited *Geographical Studies of the late Professor Carl Ritter of Berlin* (Cincinnati and New York: Van Antwerp, Bragg & Co., 1861), p. 314. Ritter's influences upon geographical thinking are developed nicely in Hanno Beck, *Carl Ritter Genius of Geography: On His Life and Work* (Berlin: Dietrich Reimer, 1979), Manfred Büttner (ed) *Carl Ritter: Zur Europäisch-Amerikanischen Geographie an der Wende vom 18. zum 19. Jahrhundert* (Paderborn: Ferdinand Schöningh, 1980), Karl Lenz (ed) *Carl Ritter—Geltung und Deutung* (Berlin: Dietrich Reimer, 1981), and *Carl Ritter: Werk und Wirken* (Gotha: VEB Hermann Haack, 1983).

12. Guyot, *Earth and Man*, p. 48.

to “disclose” this “hidden influence” which the arrangements of and life on the continents “exercise upon the life of man.”¹⁴

Humboldt's Influence upon Guyot

Guyot's thinking was also profoundly influenced by Alexander von Humboldt. No one during Guyot's formative years had personally observed more of the total earth and its inhabitants than the polymathic naturalist, explorer, and bio-geographer, Humboldt. Guyot arrived in Berlin shortly after Humboldt had gained wide acclaim from delivering what became the foundation for his magnum physiographical opus, *Kosmos* published two decades later. Humboldt was a regular attendee at Ritter's lectures on geography—lectures that Guyot also attended as a student.¹⁵ Guyot paid tribute to Humboldt in many of his own writings and employed Humboldtian empirical skills in his physiographical explorations and measurements throughout Europe and North America.¹⁶

Guyot adopted Humboldt and Ritter's expressed belief in *Zusammenhang*—or a literal “hanging togetherness” of all things. In organicist terms, the earth must be viewed as a whole, dynamic, developing organism comprising Nature, man, and moral and intellectual life all interconnected or “hanging together.” Humboldt's brother, Wilhelm, acknowledged that it was Alexander who had brought “for the first time true harmony” into the study and measure of the universe. This interconnectedness implied a “grand harmony,” but a harmony that could be discussed in terms of unifying many diverse geographical parts.¹⁷

Unity, for these comparative physiographical geographers, frequently implied uncovering laws of nature. As Guyot stated in his regionalized discussion of the continents, a “comparison of the characteristic[s]” of these landforms leads to “certain features of resemblance” that suggest the “existence of a general law” accounting for all landforms across the globe.¹⁸ Such similarities, he noted, included the finding that “the southern points of all the continents [were] high and rocky . . . extremities of mountain belts,” that east of each of these southern points one finds a large island or groups of islands,

13. Guyot, *Earth and Man*, p. 33.

14. Guyot, *Earth and Man*, p. 241.

15. *The Life and Times of Alexander von Humboldt* (New York: Rudd and Carleton, 1859), pp. 426-427.

16. Upon Humboldt's death, Guyot was invited to speak in New York at the American Geographical and Statistical Society's Tribute to the Memory of Humboldt. His remarks were later published in *Journal of the American Geographical and Statistical Society* 1 (1859): 242-245.

17. Margarita Bowen, *Empiricism and Geographical Thought: From Francis Bacon to Alexander von Humboldt* (Cambridge: Cambridge University Press, 1981), p. 215.

18. Guyot, *Earth and Man*, p. 48.

and that a “deep bend” is found along the western sides of these southern continents.¹⁹

Guyot’s fixation upon terrestrial distinctions was greatly enhanced through Humboldt’s new views of the New World. Indeed, Guyot embedded Humboldt’s findings within a system of geographical ordering that he delineated as the three Laws of Contrasts:²⁰

- Contrasts between the Continental (Northern) Hemisphere and the Oceanic (Southern) Hemisphere.
- Contrasts between the Old and New Worlds.
- Contrasts between the 3 Northern and 3 Southern Continents.

In regard to the first contrast, Guyot shared Humboldt’s views that the seas held significant influence upon the distribution of temperatures, rain and winds over land. As to the second contrast, here relying heavily upon both Ritter and Humboldt, Guyot developed general distinctions between Old and New world geography. He characterized the Old World as being more of a continental mass, elongated by countries East to West, most of which experienced similar temperate climates. In contrast, most parts of the New World were, he argued, relatively closer to the vast oceans, elongated North to South, and they experienced a gradual transition in climates, temperate and tropical, across the long axis. Guyot also compared the “assemblages” of physical characteristics on the Northern versus the Southern continents, suggesting what he called “three double worlds” of varying habitation.²¹ Historical contrasts between northern/southern, temperate/topical regions of the Old World were, he argued, “reproduced in the New World more strongly...between North America with its temperate climate, its Protestant and progressive people, and South America, with its tropical climate, its Catholic and stationary inhabitants.”²²

In the words of historian Susan Faye Cannon, “Any romantic can climb a mountain; the Humboltian wanted to use its height as a laboratory for observing extreme conditions of existence.”²³ Many of Guyot’s early investigations of nature and his *Earth and Man* lectures show his alignment with the Humboldtian, empirically-based *Naturforscher* (students of nature) who relied upon direct observation, measurement and experimentation of the geographical world around them. He found the isothermal lines that Humboldt had introduced to be visually helpful to his own mapping of geographical spaces. He also found a great “usefulness” of employing continental “profiles” based upon the altitude of specific regions to add another visual dimen-

19. Guyot, *Earth and Man*, pp. 36-37.

20. Guyot, *Earth and Man*, pp. 115-116.

21. Guyot, *Earth and Man*, p. 42.

22. Guyot, *Earth and Man*, p. 317.

23. Cannon, *Science in Culture*, p. 78.

sion to geographical knowledge. Although a “few thousand feet of height...are nothing to the mass of the globe,” he argued, they “change entirely the aspect and the character of a country.”²⁴ Thus learning the altitude of a place was a “necessary complement” to knowing its geographical placement in order to fully appreciate its habitability.

Humboldt had closely related his hypsometric measurements of altitude with plant biogeography. His identification of similar plant assemblages in similar topographical spaces exalted him to the level, in historian Janet Browne's view, of the “statesman...of the vegetable world.”²⁵ But, as evidenced in the title of his work, *Earth and Man*, Guyot focused more upon the importance of altitude and climate to human assemblages.

In his 1849 *Earth and Man*, Guyot placed human history within the earth's geological past. In this way, the progressive development of the earth since the origin of mankind was mutually dependent upon the progressive development of humanity. Humans and nature were thought to “share the same destiny.” By working towards an in-depth understanding of nature, humans began to better appreciate the necessity of their care and conservation of nature. Humans' social responsibility for nature was, in essence, a form of self preservation. It was a dynamic, living organism that contained regions of text like a book within which the history of all life forms could be found and upon which the history of mankind's progress could be read.

Key Distinction between Guyot and Humboldt

For a discussion of man, however, Guyot found Humboldt's 1820s lectures and his later *Kosmos* to be incomplete. Only two of Humboldt's 61 lectures in 1827 had been devoted to ethnography.²⁶ Although *Kosmos* clearly documented the “intellectual advancement of man,” Humboldt left the place of human geography over the course of history as “unresolved.”²⁷ To advance these ideas further, Guyot relied upon the input of the Berlin geographer, Carl Ritter—the individual whom he claimed actually “put a soul into the material body of Humboldt's *Cosmos*.”²⁸ According to Ritter, “It is a strong faith that our globe, like the totality of creation, is a great organism, the work of an all-wise Divine Intelligence, an admirable structure, all the parts of which are purposely shaped and arranged, are mutually dependent, and by the will of the Maker fulfil, like organs, specific functions which combine themselves

24. Guyot, *Earth and Man*, p. 52.

25. Janet Browne, *The Secular Ark: Studies in the History of Biogeography* (New Haven: Yale University Press, 1983), p. 52.

26. *The New Englander* 70 (1860): 293.

27. Bowen, *Empiricism and Geographical Thought*, p. 246.

28. Arnold Guyot, “Carl Ritter: An Address to the Society,” *Journal of the American Geographical and Statistical Society* 2 (1860), Pt. 1, 62-63.

into a common life.”²⁹ Through Ritter, Guyot began to perceive that the dynamic progressive forces associated with structural changes on the earth and in man were processes that were employed by the creator since the creation of the globe. In striking distinction from Humboldt, Guyot argued that a complete understanding of the interconnectedness of earth and man was interpretable only within a teleological context—one which would also provide an enhanced understanding of the Creator.

Ritter has argued that the progressive development of human civilization was dependent upon the diversity of physical terrestrial features. Similarly, Guyot’s dual investigations into history and geography led him to conclude that when we “glance upon the annals of Nations” we find that “the civilizations representing the highest degrees of culture...at different periods of history, do not succeed each other in the same places, but pass from...one continent to another, following a certain order.”³⁰ This arrangement of and life on the continents he deemed the geographical march of history. Asia, Europe, and North America represented what he claimed to be “the three grand stages of humanity in its march through the ages.”³¹ By virtue of the physical structure and qualities, each continent contributed towards particular developmental stages in mankind’s “education.” Asia was the “cradle where man passed his infancy, under the authority of law, and where he learned his dependence upon a sovereign master.” Europe provided the “school where his youth was trained, where he waxed in strength and knowledge, grew to man, and learned at once his liberty and moral responsibility.” America, according to Guyot, served as “the theatre” of man’s activity “during the period of manhood; the land where he applies and practices all he has learned, brings into action all the forces he has acquired, and where he is still to learn that the entire development of his being and his own happiness, are only possible by willing obedience to the laws of his Maker.”³²

Guyot’s argument appeased many progressive-minded U.S. readers who envisioned grandiose future developments within their own country. Supporting the Manifest Destiny thinking that resonated with many of his Lowell Lecture listeners, Guyot argued, that history and geography have worked for America “not to give birth and grow [in]to a new civilization, but to receive

29. Guyot, *Carl Ritter*, p. 48.

30. Guyot, *Earth and Man*, p. 300.

31. Guyot, *Earth and Man*, p. 327.

32. Guyot, *Earth and Man*, p. 327. Curiously, Guyot omitted Africa in this grand march. Ritter had described Asia as the sunrise, Africa, as the noon, and Europe as the sunset of this progress, with North America representing a new sunrise. For Ritter, who had written extensively on this continent, as being in the “consistent midday” position of the grand march. This position was attributed to its “smoothness of outline as well as the uniformity of climate” which enticed its inhabitants to “slumber and to shun outside contacts.” Preston E. James and Geoffrey J. Martin, *All Possible Worlds: A History of Geographical Ideas*, 2nd ed., (New York: John Wiley and Sons, 1981), p. 129.

one ready-made, and to furnish forth for man, whose education the Old World has completed...the scene most worthy of his [future] activity. It is here that all the peoples of Europe may meet together, with room enough to move in; may commingle their efforts and their gifts; and carry out, upon a scale of grandeur hitherto unknown the life-giving principle of modern time—the principle of free association.”³³ “Will any one believe that...[it] was only an accidental occurrence” that “Luther drew the Bible forth from the dust of libraries...at the moment when Columbus discovered the New World.”³⁴

Similar Abolitionist Perspectives

Although Humboldt did not share Guyot's views about this progressive march or, more especially, the role of the Creator, it was this part of Guyot's work that brings out a strikingly similar viewpoint between these two geohistorians. *Earth and Man* garnered the support of several leading Boston abolitionists including Charles Sumner, a leader among US political opponents to slavery; George Hillard, Sumner's one-time law partner who had also written on geography and history, though more from a view of commerce that was evident in Guyot's work;³⁵ and Edward Kirk, the Congregationalist minister who would later travel with Guyot in the Southern States.³⁶ Boston publishers Gould, Kendall and Lincoln, included these abolitionists' views as testimonial support in the preliminary pages of several editions of this work. What was the special appeal of this work among these abolitionists? Guyot had, after all, only recently arrived in the States and was still a relatively unknown figure in the world of science. Moreover, his close friend and previous Academy of Neuchatel colleague, Louis Agassiz, had already offered support to polygenist thinking, noting that negroes descended from a different ancestral lineage than whites—a view that garnered Agassiz considerable support from Southern slave owners.³⁷ Indeed, many may have assumed that Guyot, whose work also received Agassiz's strong endorsement, held similar but, as of yet, unspoken beliefs. Such assumptions, however, would have been false.

Perhaps the abolitionists supporting Guyot coincidentally represented a sampling of the Boston's intelligentsia whose words any publisher would

33. Guyot, *Earth and Man*, p. 297.

34. Guyot, *Earth and Man*, p. 322.

35. George S. Hillard, *The Connection Between Geography and History* (Boston: William D. Ticknor, 1846).

36. David O. Mears, *Life of Edward Norris Kirk, D.D.* (Boston: Lockwood, Brooks, and Co., 1877), pp. 257-269.

37. Louis Agassiz's "Sketch of the Natural Provinces of the Animal World and their Relation to the Different Types of Man," previously published in 1845 as "Notice sur la Géographie des Animaux" in "Revue Suisse" appeared as a prefatory essay in J.C. Nott and G.R. Gliddon, *Types of Mankind* (London: Trübner, 1854), pp. lviii-lxxvi.

have been all too happy to cull from in order to enhance book sales. Alternatively, perhaps these men were selected as local supporters of Manifest Destiny—a theme that had attracted proselytizers on both sides of the slavery issue.³⁸ Many in the U.S. held high hopes that their young nation would continue to look into her own soil and substance for something more than agricultural almanac wisdom. Fulfilling such a plan required devotion to the study of both earth and man. In their view, Guyot had arrived at precisely the right time, with a new scientific outlook, that would accelerate the fulfillment of their destined quest.

All of this may have been true, but perhaps the abolitionists also envisioned Guyot as offering something more to United States' readers. His appeal to abolitionist ideology is evident through the narrative he crafted, particularly regarding the interconnectedness between the earth and its inhabitants. To further explore this appeal, I turn briefly to two different focal points.

As one point, Guyot's endorsement of the progressive geographical march of history turned his readers' attention specifically to North America. But in the minds of many, the despicable, savage nature of slavery would forever impede the United States from reaching its geohistorically determined destiny. As another point, interspersed among his Humboldtian descriptions of continents, oceans, and climates, Guyot crafted his narrative with metaphors that vividly involved the image of slavery. As such, the work of this newcomer held a timely appeal for his North American audiences.

History, Guyot noted, had unfolded according a pattern of distinct human races, all descended from one common ancestor, but diversely distributed throughout the globe. Similar to the forces underlying continent developments, the forces of history, too, may have been universal, but they were not universally distributed. The balmy tropics, he argued, were inhabited by inward looking beings who, isolated from other cultures, were forced to look only upon their own earthly surrounds to discern intellectual and spiritual meaning. Being isolated, they had "nothing to temper or correct them," and thus they remained a stationary culture for thousands of years. Change may have affected the natural history of these lands, but tropical humans remained as savage and uncivilized as they had since the beginning of man. Guyot also sought evidence of a progressive march across continents in terms of moving towards advanced stages of moral and intellectual character.

38. For recent overviews that discuss slavery within Manifest Destiny thinking, see Thomas R. Hietala, *Manifest Design: American Exceptionalism & Empire* (Ithaca: Cornell University Press, 1985, revised edition 2003), and Anders Stephanson, *Manifest Destiny: American Expansion and the Empire of Right* (New York: Hill and Wang, 1995).

Looking further into the specifics of this moral progressiveness, we find Guyot's heavy reliance upon the rhetoric of slavery. For example: When man, "a child still" is "brought into the presence" of the "massive forms" and "physical vigor" of nature, he "must have felt himself, not merely a dependent, but a slave." The river, the sun – "everything becomes to him an object of worship. He acknowledges the powers of nature as his gods, to whose mercy he feels himself to be committed, and accepts for his supreme rule the inflexible law that governs the heavenly bodies. He is falling from the world of liberty into that of necessity."³⁹ "During long centuries of these first ages, man has...learned...that he depends on the will of a master, but that master is an inexorable despot, devoid of love. He can only fear him, if he obeys him, it is as a slave; he loves him not, nor adores him, for love presupposes liberty."⁴⁰

Guyot's physical geography was, in essence, comparative geography. In regards to man's enslavement to nature, he argued that in the tropics, the "life of the body over masters that of the soul; the physical instincts of our nature [over] those of higher faculties; passion, sentiment, [and] imagination predominate over intellect and reason." Here, man is "conquered" by nature – he "submits to the yoke, and becomes again the animal man, in proportion as he abandons himself to these influences, forgetful of his high moral destination."⁴¹ This enslavement was contrasted to life in the temperate regions where "physical nature is not a tyrant, but a useful helper" and the "soul [rules] over the body" as man does over nature.⁴² People within these regions have experienced what he called a "great emancipation from the dominion of nature."⁴³

I find that many times Guyot appears to have been talking about the freedom from enslavement in a specific religious context. That is, the freedom offered by turning to Christ, more specifically a Protestant perspective of Christ. The "physical man," Guyot argued, "is not the true man...but a beginning. There is another, new-born, but destined to grow up in him, and to unfold the moral and religious nature until he attains the perfect stature of his master and pattern, who is Christ."⁴⁴ Living with Christ, there is "no more idolatry, no more servitude; for he liberates man from the yoke of evil that restrains the freedom of his moral being."⁴⁵

39. Guyot, *Earth and Man*, p. 305.

40. Guyot, *Earth and Man*, pp. 305-306.

41. Guyot, *Earth and Man*, p. 269.

42. Guyot, *Earth and Man*, p. 270.

43. Guyot, *Earth and Man*, p. 323.

44. Guyot, *Earth and Man*, pp. 264-265.

45. Guyot, *Earth and Man*, p. 311.

The “progress, whereto at present all civilized society aspires,” Guyot claimed, is shown “by the beautiful formula, drawn from the gospel, but so shamelessly perverted by the false friends of progress...in words that are the motto of the present age—Liberty, Equality, Fraternity.” Liberty to “unfold all the living forces, and all the good tendencies of man.” Equality of “rights lying in the moral nature of man.” Fraternity, “which is the law of the gospel...that unites and makes alive; a free people...unobstructed [in their] individual growth...[yet maintaining a] diversity in [their] unity.”⁴⁶

However, this gospel-based freedom is also tied in to the U.S. fulfilling her destiny in the great march. Just how America will reach her goal, Guyot argued, “will be in proportion as man shall be faithful to the law of his moral nature, which is the divine law itself.”⁴⁷ Moving from the rhetorical to the literal, Guyot admonished slavery. Fulfillment of the divine destiny in the U.S. will only be achieved, he argued, “when slavery, that fatal heritage of another age, which the Union still drags after it, as the convict drags his chain and ball, shall have disappeared from this free soil, freed in the name of liberty and Christian brotherhood, as it has disappeared from the fundamental principles of its law.”⁴⁸ Slavery was a “taint” in the United States that “continued to betray the nature of the continent and the period of human progress to which [the United States] belongs.”⁴⁹

For Guyot, slavery was the lingering impediment that kept the U.S. from fulfilling her divinely inspired geohistorical destiny. He was confident that, in due course, freedom would win over slavery. He was a visionary, promoting scriptural and scientific reasons for reforming the racial injustices. Yet, at least in *Earth and Man*, Guyot does not appear to have been as agitated about a pressing need to immediately free the slaves as were abolitionists like Sumner, and Hillard, and Kirk and Humboldt. Rather, he was a believer in gradual processes. Destiny was of critical concern to this devout Calvinist. However, he appreciated that change over time, progress over the earth and in man moved, we might say, with glacial swiftness. His belief about this rate of change was consistent with what he observed in determining the laws of glacial motion. Although more of a gradualist in this thinking, his sentiment was similar to that of the immediatist thinking of Humboldt. “Without doubt,” Humboldt argued, slavery was the “greatest of all the evils which have afflicted mankind.” Humboldt has criticized the savagery of slavery he found in Cuba and in New Spain, but he directed his greatest ridicule against the slavery perpetuated within that country that proclaimed freedom as its cornerstone—the United States.

46. Guyot, *Earth and Man*, pp. 319-320.

47. Guyot, *Earth and Man*, p. 327.

48. Guyot, *Earth and Man*, p. 298.

49. Guyot, *Earth and Man*, p. 302.

Curiously, Humboldt and Guyot's writings both faced unwanted abridgements in the hands of others. Humboldt's findings on slavery in Cuba were first published in French (1826) and Spanish (1827); the first English translation appearing in 1856. In the English version, the pro-slavery Southern translator, J.S. Thrasher, omitted any reference to slavery in attempt to downplay Humboldt's characterization of its savage brutality. Humboldt's indignation with Thrasher's treatment played out in a number of New York newspapers until the end of Humboldt's life (1859).⁵⁰

In an 1850 British publication of Guyot's *Earth and Man*, an editor expunged "every sentence favourable" to the United States.⁵¹ It seems that three-quarters of a century after the American Revolution had not quelled all of England's animosity towards the States. Although the editor sought to popularize much of Guyot's new view of geography, he prevented readers from encountering Guyot's argument that the New World, and especially the United States, was the ultimate seat of humankind's perfection.

Guyot, who was otherwise generally reserved and reticent in his mannerisms, launched an attack against this publication in the revised U.S. edition of *Earth and Man* also published in 1850. This "mutilated edition," Guyot argued, included many passages "not advanced by the author." Moreover, in other places, "over thirty pages of the original edition...have been suppressed" which were "essential to the continuity of the argument" as well as "containing [the] conclusions" about the United States that Guyot had previously drawn.⁵²

'Earth and Man' popularizes 'Kosmos'

Although new and original to many U.S. readers, Guyot's *Earth and Man* popularized a geohistorical view that had been central to German Romantic idealism. Employing the ethos of Humboldt, Guyot guided his readers both across the globe and through history. Like Humboldt, he took his argument one step further than many of the romantics, venturing from the realm of the speculative to that of a measurable reality. Guyot evoked Ritter's belief that Humboldt "endowed with the spirit of antiquity and with a mathematical method, passed through the entire domain of physics...astronomy, geology, and...physiology" whereupon he convincingly "employed his method as the measuring rod of the world."⁵³ For Guyot, the *Totalorganisation* of the Cosmos was physically observable within the earth and in its inhabitants. Civili-

50. For a documented overview of Humboldt and slavery, see Philip S. Foner (ed), *Alexander von Humboldt on Slavery in the United States* (Berlin: Humboldt-Universität zu Berlin, n.d.)

51. "E. Gover, Sen." published this so called "Revised" edition. Review of *Earth and Man*, *The Princeton Magazine* 1 (1850): 335.

52. Guyot, *Earth and Man*, Preface to the Second Edition, p. 8.

zation became perfected in proportion to developmental advances. The “physical domain” of the civilized nations of each continent expanded its extent and population accordingly. Physical development of both the earth and humanity corresponded to moral development. Progress occurred, according to divine guidance, in precisely the regions that allowed for the passage of both the geographical and the human soul.

The popularity of *Earth and Man* prompted at least thirty one printings in the U.S. into the twentieth century, as well as five British editions, and foreign translations in German (1851, 1873) and French (1888). Although it may be virtually unknown today, Guyot’s *Earth and Man* was the *National Geographic* of its age. Contemporaries had argued that Humboldt’s *Kosmos* and Ritter’s *Erdkunde* would “together be handed down to posterity as an enduring monument of the extent to which the knowledge of nature, and especially of its relation to man, had been carried into the nineteenth century.”⁵⁴ To “define the relative value” of Humboldt and Ritter was “needless,” contemporaries argued, since their works complemented each other, adding to a grand and complete summation of knowledge of the natural world. Perhaps the lasting appeal of Guyot’s *Earth and Man* was primarily due to the author’s ability to extract key components from both Humboldt and Ritter and to synthesize them into what one contemporary reviewer claimed to be the “most clear, attractive, and simple introduction to one of the most useful and grand studies to which the human mind can be devoted.”⁵⁵

53. Carl Ritter, Introductory Essay to General Comparative Geography (*Erdkunde*), William Leonhard Gage, trans., *Geographical Studies of the late Professor Carl Ritter of Berlin* (Cincinnati and New York: Van Antwerp, Bragg & Co., 1861), p. 128.

54. *The New Englander*, p. 280. Ritter’s “*Die Erdkunde im Verhältniss zur Natur und zur Geschichte des Menschen*” appeared in German in 19 volumes between 1822 and 1859.

55. *The Methodist Magazine* (New York) 3rd Series, 9 (1849): 501.

Part V
Knowledge and Worldview

Rousseau's Anticipation of Plant Geography

Alexandra Cook

Points of connection between Rousseau and Humboldt¹

Jean-Jacques Rousseau and Alexander von Humboldt shared a deep appreciation of magnificent, abundant nature. Rousseau has often been identified as one of the founders of the so-called romantic feeling for nature: "I feel ecstasies and inexpressible raptures in merging myself so to speak with the system of beings, in identifying myself with all of nature" (Rousseau, 1959: 1065-6). Humboldt writes to Don Antonio Joseph Cavanilles (Spanish ecclesiastic and botanist [1745-1804]), from Mexico on 22 April 1803, "...in our own experience we have never enjoyed such energy as in contemplating the beauties and magnificence that nature offers here. Its grandeur, its infinite and new productions electrify us, they transport us with joy and make us so to speak invulnerable" (Humboldt, 1869: 162).²

Rousseau believes that plants could not be fully appreciated if examined from motives of greed or physical self-interest. In *Rêveries du promeneur*

1. Some links have been made between Humboldt and Rousseau; as Hermand (1996) points out, Goethe and Humboldt are often invoked together with Rousseau as proponents of the natural or English gardens on the Continent. The naturalistic Elysium garden in *Julie* prepared the popular ground for a new style in gardening. Minguet's study (1969, 29, 65) points to direct and indirect Rousseauian influences on Humboldt. But I believe the connections are even more extensive, marking Rousseau's botany as transitional between the classificatory impulse of the seventeenth and eighteenth-century botanists and the ecological science of Humboldt and his successors. I have yet to locate any scholarship linking Rousseau's botanical work as such with that of Humboldt.

2. "...d'après notre propre expérience...jamais nous n'avons joui d'autant de forces qu'en contemplant les beautés et la magnificence qu'offre ici la nature. Sa grandeur, ses productions infinies et nouvelles nous électrisaient, elles nous transportaient de joie et nous rendait pour ainsi dire invulnérables." All translations mine, unless otherwise indicated.

solitaire he writes, “as soon as we mingle a motive of interest or vanity with [botany]...as soon as we want to learn in order to instruct, as soon as we look for flowers only in order to become an author or professor, all this sweet charm vanishes. We no longer see in plants anything but the instruments of our passions. We no longer find any genuine pleasure in their study...” (Rousseau, 1959: 1069).

In *Cosmos* Humboldt explores the effect of nature upon the human spirit, expressing himself in a way that Rousseau could have appreciated:

In speaking of vegetal forms, I think of the *emotion* that their appearance can produce, not at all of the assistance that one can derive from them for the study of botany.... In this exuberant nature, what should fix our gaze...is the picturesque union of the great and noble plant forms that cover the western part of the course of the Orinoco and wooded shores of the Amazon and Hualaga rivers... (emphasis added; Humboldt, 2000: 423-4).

Humboldt explicitly recognized Rousseau’s appreciation of nature; Humboldt praises Rousseau for his descriptions of Swiss landscapes in *Julie, ou la nouvelle Héloïse*. “...I recall here the entrancing eloquence of Rousseau, the picturesque descriptions of Clarens and la Meillerie on the shores of lake Geneva.” These compared favorably in Humboldt’s view, with “the immortal poetry of Klopstock, Schiller, Goethe [and] Byron” (Humboldt, 2000: 399).

Three particular features of Rousseau’s botanical thought are, I argue, central to Humboldt’s geographical perspective on plants: (1) the observation that climate and other features of habitat play a crucial role in whether plants flourish or languish; (2) that transplantation therefore leads to changes, even degeneration (a phenomenon already well-established in the botanical literature of Rousseau’s day); and (3) the conclusion that the best way to study nature is to observe it *in situ*. Rousseau’s criticism of Linnaeus in his *Confessions* sums up this position: “he [Linnaeus] studied botany too much in herbaria and gardens and not enough in nature itself” (Rousseau, 1959: 643).³ Humboldt, perhaps more than any naturalist of his era, demonstrated the validity of Rousseau’s criticism of Linnaeus. Inspired from a young age by tropical vegetation—the dragon tree of the Berlin botanical garden and his father’s collection of exotic trees at Schloss Tegel—as well as by the paintings of the Ganges by William Hodges (who accompanied Cook’s second world voyage and traveled in India and Russia) and Bernardin de Saint Pierre’s *Paul et Virginie*, he set out to explore nature as no European before him had ever done (Humboldt, 2000: 346).

3. It should be noted that Rousseau is no mere rote classifier, pace Starobinski (1971, 279); his perception of the importance of habitat, as well as his other botanical activities, described briefly below, demonstrate that he saw plants situated within the larger natural and global context. See also Cook, 2003b: 108.

Humboldt and Rousseau both argued that organisms should be studied in their native habitats, and for the same reasons: plants in their native habitats are (1) free, and therefore (2) vigorous: "The ideas of vigor and liberty are also inseparable in the profusion of nature..." (Humboldt, 2000: 425). The plant in its native habitat has not been changed or diminished by transplantation to a foreign climate. We now understand, as beneficiaries of Darwin's investigations, that organisms adapt themselves to their habitats through generations of natural selection.⁴ Before Darwin, Rousseau and Humboldt were already aware of the intimate connection between geography (understood as climate and habitat) and plant life.

It likewise follows from the principles laid down by Rousseau and Humboldt that naturalists must travel in order to compile a complete inventory of nature because organisms cannot be understood if torn from their habitats, transplanted or observed as dead specimens.

Finally, both men abhorred slavery, a topic that I do not have the scope to explore here.⁵

In what follows I discuss those aspects of Rousseau's botanical views and undertakings that illuminate the ways in which he may have influenced Humboldt. Given limitations of space, I do not attempt any extensive elaboration of Humboldt's theory of the geography of plants. I shall merely note that Humboldt held that similar (but not the same) plant species appear in climatically similar zones, such that species akin to European ones (e.g. from the same genera) can be found in elevated regions of the torrid zones, but not in the same ratios. The species in the torrid zones always differ from those in the temperate zones because the "distribution of heat" is different over the course of the seasons (Humboldt, 1816: 8-9).⁶

Jean-Jacques Rousseau

Jean-Jacques (1712-1778) encountered the chemistry of plants as a young man; this encounter had two modes: (1) the herbalist-pharmaceutical variety of botany practiced in the household of Mme de Warens, and (2) the aca-

4. This view echoes that of Michel de Montaigne who analogizes wild peoples to wild plants, neither as yet 'bastardized' by civilization; they are products of nature acting "by herself and in her own way" (Montaigne, 1958: 109).

5. See his condemnations of slavery in Book I, ch. 4 of *Du Contrat Social* (Rousseau, 1964: 355-8) and in *Julie* (Rousseau, 1997: 339-40).

6. Humboldt does not consider himself the originator of the idea; rather, he attributes the notion even to primitive peoples, such as the Orinoco, and finds the germ of the idea already in Tournefort's "Relation d'un voyage au Levant" (Paris, 1717) and in the dissertations (186 in all) of Carolus Linnaeus, "Amoenitates academicae," 10 vols. (Stockholm, Leiden, Erlangen and Amsterdam, 1749-1790). Terms such as "alpine plants" and "plants of hot countries" in ordinary language "prove that men's attention has been constantly fixed on the distribution of plants and their relations with air temperature, the elevation of the soil, and the nature of the terrain they inhabit" (Humboldt, 1816: 1-2).

demie variety Rousseau later pursued with his patron, Dupin de Francueil (Rousseau, 1959: 180-1, 293). He later wrote that “[i]t must certainly be that I was born for this art,” that is, botany (Rousseau 1959, 181). In 1762 *Emile* and *Du Contrat Social* were condemned as subversive and Rousseau had to flee France, going first to Switzerland. While in Switzerland, he became acquainted with a physician who taught him the rudiments of Linnaean botany. He later studied with a close associate of the great Swiss botanist, Albrecht von Haller, Abraham Gagnebin of La Ferrière in the Swiss Jura. In 1765 Rousseau likewise had to leave Switzerland (ejected from the Île St. Pierre in the lake of Bienné by the Senate of Bern), and his next port of call was England, where he was a guest of David Hume. Rousseau soon fell out with Hume, and left London with all its social pressures; he spent much of his time botanizing in the English countryside with Margaret Cavendish Harley Bentinck, Duchess of Portland (1715-1785), through whom he became acquainted with English botanists such as John Ray.

Rousseau left a number of writings on botany, all published posthumously; he worked on a dictionary of terms of usage in botany, which he never finished⁷ and corresponded with several botanists, among them leading Linnaean botanists in France: Antoine Gouan and Marc-Antoine-Louis Claret de Latourrette, as well as Carolus Linnaeus himself. At the same time, Rousseau was well-acquainted with the French botanists who followed Bernard de Jussieu’s natural family system (as opposed to the artificial sexual system of Linnaeus). He herborized with Jussieu’s nephew, Antoine-Laurent, as well as with André Thouin, both of the Jardin du roi, Paris; he also visited the garden of the Trianon at Versailles, which housed more species (many exotic) than any other garden in France (Cook, 2003b). He read the largely Latin botanical literature starting with Theophrastus and ending with Regnault; he owned many botany books, and took notes from texts on South American flora.⁸

Rousseau’s most famous botanical work is his so-called *Lettres élémentaires sur la botanique*, eight letters framed as a botany course for a friend’s young daughter. These were read with interest by, among others, Johann Wolfgang von Goethe. Rousseau also made herbaria in various formats, some

7. The *Dictionnaire des termes d’usage en botanique* may have been composed as late as 1777-78 when Rousseau had access during the winter to the Abbé de Pramont’s copy of Nicolas Regnault, *La Botanique mise à la portée de tout le monde* (Paris, 1774); Rousseau returned the Abbé’s copy by a letter of 31 April 1778 (Rousseau, 2000: 249). This conclusion is based on an analysis of the entries, many of which he appears to follow Regnault, Michel Adanson or Joseph Pitton de Tournefort. See Kobayishi, 2003: 19.

8. Cook 2002 and Cook 2003a. See also the notes to Rousseau’s botanical writings, which document his extensive reading in upwards of seventy botanical sources (Rousseau, 2000: 298- 333). Since compiling these notes, I have located references to additional works that Rousseau owned and/or consulted. This material is in preparation for publication.

intended to be portable, one even miniature, to serve as an introduction to botany; several of these survive, notably in collections at the Musée Jean-Jacques Rousseau, Montmorency, the Zentralbibliothek Zürich and the Musée des arts décoratifs, Paris; these make a striking impression, presenting specimens in dramatic ways, as in Fig. 31-2.⁹ There is only one plant on the page, framed by thin lines in ink. It is carefully attached with bands rather than with glue or wax. The entire impression is one of elegance and concern for the preservation of the specimen.

FIGURE 31-1. *L'homme de la nature*.



Colored lithograph by C. de Last, after Mayer, *Vues de différentes habitations de Jean-Jacques Rousseau*, 1819.

Rousseau studied methods of plant preservation and herbarium fabrication, and devoted one of his eight letters on botany to Mme Delessert to a thorough discussion of this exacting practice (Rousseau, 2000: 159-63). Rousseau demonstrates his interest in plant habitat and habit in the notes he included with the specimens in his herbaria, a practice he may have adopted from his correspondent, the jurist and botanist, Marc-Antoine-Louis Claret de

9. I am currently preparing an article on Rousseau's herbaria, a topic that has received very little scholarly attention.

Latourrette. For example, the note accompanying the specimen in Fig. 31-2 reads: “This plant flowers only at the end of autumn. Its pretty flax-gray flower that emerges directly from the earth, with neither stem nor leaves, makes a charming effect in the meadows, which are sometimes completely covered with it. The top and the fruits do not appear until the following year, such that the flower and the leaf never appear at the same time” (Dufour, 1906: 263).

FIGURE 31-2. *Colchicum autumnale*



From the herbarium of 100 plants and one alga prepared by Rousseau for Julie Willading-Boy de la Tour, 1772 (Rousseau 2000, 136). Permission to photograph courtesy of the Handschriftenabteilung, Zentralbibliothek Zürich.

Latourrette, founder of the botanical garden of the Veterinary School of Lyon, created a personal herbarium of considerable scientific significance, containing seven thousand plants, four thousand indigenous to the Lyon region (Magnin, 1885: 49). Rousseau visited his correspondent in Lyon and no doubt saw his herbarium, as suggested by the description of “his rich collection [that] gathers in a small space almost all the productions of nature”

(Rousseau, 2000: 225). Magnin points out that Latourrette's ecological notes were unusual for his day: "at this time, the majority of naturalists attached little significance to these detailed reports of localities, stations, etc" (Magnin, 1885: 50).¹⁰

Rousseau's awareness of the intimate relation between plant and habitat is likewise evident in his critique of acclimatization of so-called exotic plants in Europe, describing them as "exiled and denatured in the gardens of the curious" (Rousseau, 2000: 248). In his *Dictionnaire des termes d'usage en botanique*, he writes, "[p]lants transported out of their climate are subject to variation...Some plants that are perennials in hot counties become annuals among us, and this is not the sole alteration that they undergo in our gardens." He concludes: "Hence the exotic Botany studied in Europe provides often very false observations" (Rousseau, 2000: 129). "Exotic botany," the practice of acclimatizing non-native plants to Europe had been taking place since at least Antiquity; it gained considerable momentum during the Renaissance in conjunction with European voyages of exploration; by the eighteenth century it had become a matter of state scientific and economic policy in Britain and France (Cook, 2002).

Transplantation schemes were taken to extremes by Linnaeus, who developed his "faulty hypothesis" that held it would be possible to transplant tea, cotton and other non-European species to northern Europe.¹¹ Yet Linnaeus himself was aware of the phenomenon of degenerate transplants, and advocated special scientific "gardens of paradise" where they could receive the best possible cultivation (Mueller-Wille, 1999: 189-90).

The degenerate transplant was already attested in the literature by 1727, if not earlier; the Dutch botanist Hermann Boerhaave put the matter thus: "...when they [exotics] are transplanted from other Climates, they change in this foreign soil, if therefore one wants to depict them one represents the same plant under the form of several different ones..." (Boerhaave, 1727: n.p.).¹² The Dutch-Austrian botanist Nicolaus-Joseph Jacquin wrote, "I must warn botanists that plants in hothouses will often have a habit of growth which differs greatly from that in the wild. Some are beautiful in nature and unseemly in cultivation, with others it is the other way around" (Jacquin, 1971: F20).

Rousseau gave these views wider currency by incorporating them in popular works such as *Emile* and *Julie*. Rousseau's general thesis is that what

10. "...à cette époque, la plupart des naturalistes attachaient peu d'importance à ces constations minutieuses de localités, de stations, etc."

11. Koerner 1994, 144-169, and Koerner 1999, ch. 6.

12. "...lorsqu'elles sont transplantées dans d'autres Climats, elles changent de nature dans ce fond étranger, si alors on veut les dépeindre, on représente la même plante sous la figure de plusieurs différentes..."

nature does is best, and what man does in imitation of nature (e.g. Emile's education and Julie's Elysium) is good. When man disturbs or alters the course of nature, he does ill: "Everything is good, coming from the hands of the author of all things: everything degenerates in the hands of man. He forces one soil to nourish the productions of another, one tree to carry the fruits of another. He mixes and confounds the climates, the elements, [and] the seasons" (Rousseau, 1969: 245). In *Julie* Rousseau creates Elysium, his answer to the French geometric garden with its imported contents. Elysium appears completely natural, but is in fact entirely the product of art. In Elysium St Preux reports, "I thought I was looking at the wildest, most solitary place in nature" (Rousseau, 1999: 387). Elysium avoids degenerate horticulture, using only local vegetation: "I did not find exotic plants and products of the Indies, I found the local ones arranged and combined in a manner that yielded a cheerier and pleasanter effect...A thousand wild flowers shone there, among which the eye was surprised to detect a few garden varieties, which seemed to grow naturally with the others" (Rousseau, 1999: 388).

Rousseau's writings on botany reflect these general views. In a letter to Chrétien-Guillaume de Lamoignon de Malesherbes of 19 December 1771 Rousseau writes, "the long habit of rummaging through the countryside has made me familiar with the majority of indigenous plants. It is only in gardens and among exotic productions where I find myself in unknown territory." Further on in the same letter he comments, "in my view the greatest charm of botany is to be able to study and know the nature around one rather than nature as it is in the Indies" (Rousseau, 2000: 231). This idea was congenial to Goethe, who commented, "he [Rousseau] takes examples from the immediate vicinity, speaking only of *indigenous* plants, and not presuming to consider exotic ones, even those known and cultivated domestically" (Goethe, 1989: 158; Goethe, 1955: 158-9).¹³ Goethe suggests Rousseau does this in order to communicate effectively with women in the eight letters, but this hardly seems the case given his repeated references to studying and enjoying indigenous nature, most notably in *Julie*, and his characterizations of transplants as "exiled and denatured" (Rousseau, 2000: 248).

This should not be taken to suggest, however, that Rousseau rejected the study of exotic nature, but he thought this study should be conducted to its own habitat, and that exotic plants should not be exported, trafficked or transplanted, for these exercises yield only profits, not knowledge or spiritual benefits. Like Humboldt, Rousseau took a particular interest in the flora of South

13. "Denn da er an Frauenzimmer zu reden hat, versteht er...auf Gebrauch, Nutzen und Schaden hinzuweisen, und dies um so schicklicher and leichter, da er, alle Beispiele zu seiner Lehre aus der Umgebung nehmend, nur von dem Einheimischen spricht und auf die exotischen Pflanzen, wie sie auch gekannt sein und gepflegt werden mögen, keine Ansprüche macht."

America and the Caribbean, although he never traveled there; he took notes from Jacquin's *Selectarum stirpium Americanarum* (Vienna, 1763), and he owned a copy of Fusée Aublet's *Histoire des plantes de la guiane française*, 4 vols (Paris, 1775). He may have even been personally acquainted with Aublet, the first European to explore French Guiana since he acquired one of Aublet's herbaria in May 1778; specimens from this herbarium can be seen in the Rousseau collection at the Musée Jacquemart-Andre, at the Abbaye de Chaalis, outside Paris.

Rousseau applauded voyages of exploration such as those of Cook, and read travel accounts, as is clear from the lengthy notes to the *Discours sur l'origine de l'inégalité*: "The accounts of voyagers are full of examples of the force and vigor of men of barbarous Nations and Savages" (Rousseau, 1964: 198). In a letter to the Duchess of Portland of 23 January 1772 he wrote of Cook's second *Endeavour* voyage, "I learn that animated by his success [Daniel Solander] is going to brave new perils in order to extend the inventory of riches of the human species...O great and worthy enterprise! What would have I not given to be able to follow in his footsteps..." (Rousseau 2000, 189).

Like most Enlightenment philosophers, Rousseau was intrigued by the potential of voyages of exploration for advancing the understanding of nature and man. Particularly appealing was the possibility of finding the most primitive of men still living in the state of nature: Caribs, Tahitians, or even the "forest-man" of the East Indies, the orang-hutan. Rousseau cites a wealth of examples available to him at the time of writing the *Discours sur l'origine de l'inégalité*. He was no more sanguine, however, about the transplantation or acclimatization of people, than he was about exotic botany, writing in a note to the *Discours*: "It is an extremely remarkable thing that, for the many years that Europeans torment themselves in order to bring the Savages from various countries to their manner of living, they still have not been able to win over a single one of them....Nothing can overcome the invincible repugnance they [the Savages] have against...living in our way" (Rousseau, 1964: 220).

Rousseau's mediators: Goethe and Bernardin de Saint Pierre

Humboldt no doubt knew Rousseau already from his youth; as Minguet argues, Goethe and the *Sturm und Drang* are unimaginable without Rousseau (Minguet, 1969: 65). Humboldt likewise knew the works of Rousseau's disciple, Bernardin de Saint Pierre; Bernardin had served as an army engineer in Mauritius, the French colony then known as the Île de France. His account of that experience, *Voyage à l'Île de France*, made him known to Rousseau,

with whom he botanized in the 1770's. Indeed, it is to Bernardin that we owe the sole written description of Rousseau's attempt to render in symbols what others unsuccessfully tried to do in words (Bernardin, 1799: 2, 78-9).

Bernardin's *Paul et Virginie* was one of Humboldt's favorite works and accompanied him to the tropics, while Bernardin's *Études de la nature* was "a work which, among a large number of inexact ideas concerning the nature of the earth, includes some profound and ingenious views about the forms, relations and habits of plants" (Humboldt, 1816: 2).¹⁴ Humboldt attributes the notion of the geography of plants to a number of precursors, including Bernardin: "The same name [that of the geography of plants] is found in the *Studies of Nature* of Bernardin de Saint Pierre, a work of the imagination, it is true, but one of a lively and brilliant imagination" (Humboldt, 2000: 334; see also Bernardin, 1799: I: 43).¹⁵

Bernardin's *Études* were influenced by his conversations with Rousseau; Bernardin shares with Rousseau a teleological, theistic perspective on nature that is not Humboldt's. Yet Bernardin could also be an acute and exact observer, using quantitative observations to make his case for God the beneficent Creator, and nature, which makes nothing in vain. For example, he measured the angle of inclination the branches form with the stem to illustrate the marvelous adaptation of mountain vegetation to damp environments. Bernardin found this angle consistently to be thirty degrees, "the same with that which is formed, in a flat country, by the course of many rivulets and smaller rivers, with the great rivers into which they discharge themselves... The same Wisdom has regulated the level of the branches in trees, and the course of the stream through the plains" (Bernardin, 1799: II: 124).

While all German intellectuals of the late eighteenth century can be assumed to have read Rousseau, another important figure could have mediated the connection between Rousseau and Humboldt, namely, the poet and statesman, Johann Wolfgang von Goethe.

Goethe's view of Rousseau

Rousseau enjoyed great popularity among German *Aufklärer* in the late eighteenth century; Goethe read Rousseau's posthumous works soon after their appearance in 1782, when he was starting his career as Privy Councillor in the Duchy of Sachse-Weimar, with forestry as one of his portfolios. His official duties set him on the path of nature study, and he claims Rousseau played

14. "...ouvrage qui, parmi un grand nombre d'idées inexactes sur la physique du globe, renferme quelques vues profondes et ingénieuses sur les formes, les rapports et les habitudes des végétaux" (Humboldt, 1816: 2).

15. "Le même nom [géographie des plantes] se retrouve dans les "Études de la nature" de Bernardin de Saint Pierre, œuvre d'imagination il est vrai, mais d'une imagination vive et brillante."

a pivotal role in making that path accessible and attractive. In the history of his botanical studies Goethe spends several pages discussing Rousseau's botany, citing him as a critical influence:

His method of narrowing down the plant world lends itself to the classification of plants according to families...and since I too at that time had been led to conclusions of this kind, I was all the more forcibly impressed by his presentation.

And just as young students prefer young teachers, so also does the dilettante like to learn from the dilettante. This would of course be questionable...if experience did not show that dilettantes contribute a great deal to science....(Goethe, 1989: 158-9).¹⁶

Goethe and von Humboldt became acquainted in late 1794 through Alexander's older brother Wilhelm; Goethe alludes to his cordial relations with the brothers in a letter of December 1794 (Goethe, 1964: 191). Goethe was serving as a Privy Councillor to the Duke of Sachse-Weimar, while Humboldt was still an official on the fast track in the Prussian Ministry of Mines. They remained in contact from this time onwards and were particularly close in the mid-1790s when they studied anatomy together in Jena under J. Ch. Loder (Minguet, 1969: 49). On 18 June 1795 Goethe writes of wishing to visit Ilmenau (where he had ministerial obligations in the mining sector) with Humboldt. Goethe expresses to Humboldt the hope of seeing him from time to time, and having the opportunity to "become ever more familiar with what you think and do" (Goethe, 1964: 198).¹⁷

Despite their mutual interests, the profound differences in their way of working and thinking about the natural world soon became apparent; in a letter of 18 June 1795 Goethe wrote to Humboldt: "Since your observations proceed from the element, mine from the form, we cannot therefore move quickly enough to meet each other in the middle" (Goethe, 1964: 197-8).¹⁸ Humboldt studied nature into the minutest details, employing quantitative measures whenever possible, while Goethe sought to grasp the *Phänomen* in its essence. Humboldt nonetheless shared with Goethe the view that nature is ultimately one great whole.

16. "Seine methode das Pflanzenreich ins Engere zu bringen, neigt sich, wie wir oben gesehen haben, offenbar zur Einteilung nach Familien; und da ich in jener Zeit auch schon zu Betrachtungen dieser Art hingeleitet war, so machte sein Vortrag auf mich einen desto größeren Eindruck.

Und so wie die jungen Studierenden sich auch am liebsten an junge Lehrer halten, so mag der Dilettant gern vom Dilettanten lernen. Dieses wäre freilich...bedenklich, wenn nicht die Erfahrung gäbe, daß Dilettanten zum Vorteil der Wissenschaft vieles beigetragen [haben]" (Goethe, 1955: 159).

17. "mit dem, was Sie denken und tun, immer bekannter zu werden."

18. "Da Ihre Beobachtungen vom Element, die meinigen von der Gestalt ausgehen, so können wir nicht genug eilen, uns in der Mitte zu begegnen."

Goethe continued to take an interest in Humboldt's work. Writing to Sulpiz Boisseree on 14 June 1816, Goethe comments, "Alex. Von Humboldt has sent me a short but extremely significant work: on the laws that are observed in the distribution of plant forms, which has, despite all distraction, once again set me on the long trod and familiar nature path..." (Goethe, 1965: 358; see also Humboldt, 1816). As a sign of his regard, Humboldt dedicated the first volume of the German translation of the *Relation historique du voyage aux régions équinoxiales du nouveau continent* to Goethe. Upon receiving the second volume of the *Relation historique*, Goethe wrote to Humboldt: "...I must add that among the most pleasant memories of an earlier time the cohabitation with you and your brother remains a bright spot..." (Goethe, 1965: 505-6).¹⁹ Finally, Goethe commented to Eckermann, 11 December 1826: "What a man he is! I have known him so long, and nevertheless I am astonished by him anew. One could say he does not have his equal in information and lively knowledge. And a many-sidedness, which I have also never seen before. Wherever one turns, he is everywhere at home and showers us with spiritual gifts" (Goethe, 1984: 109; Moheit, 1999: 246).²⁰

Goethe could have conveyed his regard for Rousseau's botany to Humboldt during their scientific labors in Jena or at any other time. My point is that Goethe attributed his own inspiration to study botany to a very large extent to Rousseau, and it would be only natural for him to relay that enthusiasm to Humboldt.

Humboldt's View of Rousseau

Humboldt considered Rousseau to have evoked the beauty of nature for his readers in a peculiarly effective way. Had Humboldt seen Rousseau's herbaria, he might have expressed a similar opinion of them as well; these were, however, all in private hands at the time, and there is no evidence that Humboldt was even aware of their existence. Goethe refers to them in the account of his botanical studies, but concludes, quite erroneously, that Rousseau "probably had neither the skill nor the perseverance to give much attention to the preservation of plants on his many excursions..." (Goethe, 1989: 159). In *Cosmos*, Humboldt writes:

19. "Wie ich denn hinzusetzen muss, dass unter den angenehmsten Erinnerungen früherer Zeit mir das Zusammenleben mit Ihnen und Ihren Herrn Brueder ein lichtester Punkt bleibt: denn wie viele hoffnungs- und tatenreiche Anfänge habe ich denn in meinmen Leben so folgerich fortsetzen und glanzreich wachsen sehen?"

20. "Was ist das für ein Mann!-Ich kenne ihn so lange, und doch bin ich von neuem über ihn im Erstaunen. Man kann sagen, er hat an Kenntnissen und lebendigem Wissen nicht seinesgleichen. Und eine Vielseitigkeit, wie sie mir gleichfalls noch nicht vorgekommen ist! Wohin man rührt, er ist überall zu Hause und überschuettet uns mit geistigen Schatzen."

If I recall here the entrancing eloquence of Rousseau, the picturesque descriptions of Clarens and la Meillerie on the shores of lake Geneva [in *Julie*], it is in the main writings of this zealous, but unschooled, herborizer, writings that are twenty years in advance of the *Epochs of nature* of Buffon, in which enthusiasm [for nature] overwhelms [the reader] as much as in the immortal poetry of Klopstock, Schiller, Goethe [and] Byron[,] and manifests itself especially in the precision and originality of the language. A writer can, without having had the direct results of science in view, inspire a lively taste for the study of nature, by the appeal of his poetic descriptions, even when they concern very circumscribed and well-known places (Humboldt, 2000: 399).²¹

While it would appear that for Humboldt, Rousseau is a mere herborizer, a plant collector—zealous, but possessing little or no scientific knowledge, this assessment in Humboldt's masterpiece tells only part of the story, for Rousseau's influence is apparent in many aspects of Humboldt's life and work: (1) his desire ca. 1795 to lead a peaceable life in a naturally idyllic setting such as that of lake Lucerne (Minguet, 1969: 96); (2) his emotional response to the beauty and magnificence of nature (cited in the introduction to this paper), and (3) his advocacy, above all, of studying plants in their native habitat.

More telling are Humboldt's comments about the relative value of transplanted plants versus herbarium specimens. Hothouses, he writes, are "hospitals for languishing plants," offering "a weakened reflection" of "the spectacle, of which we cannot think without sighing after those countries where the life force flows with greater abundance" (Humboldt, 2000: 424). Herbaria are preferable to such weakened transplants: "The ideas of vigor and liberty are inseparable also in the profusion of nature, and to the eyes of the zealous botanist who has traveled the world, the plants cut on the Cordilleres or on the plains of India and dried in a herbarium often have more worth than the same living species that have grown up in one of our European hothouses" (Humboldt, 2000: 424).

Humboldt agrees therefore with Rousseau that hothouses can only show us degenerate plants, exiled and denatured from their native climes. Somewhat surprisingly, he privileges herbaria specimens over these hothouse degenerates. On the other hand, transplants may preserve enough of their

21. "Si je rappelle ici l'éloquence entraînant de Rousseau, les descriptions pittoresques de Clarens et de la Meillerie sur les bords du lac de Geneve, c'est que dans les principaux écrits de cet herborisateur peu instruit mais zélé, écrits qui ont devancé de vingt années les "Époques de la nature" de Buffon, l'enthousiasme déborde aussi bien que dans les immortelles poésies de Klopstock, de Schiller, de Goethe, de Byron, et se manifeste surtout par la précision et l'originalité du langage. Un écrivain peut, sans avoir eu en vue les résultats directs de la science, inspirer un goût vif pour l'étude de la nature, par l'attrait de ses descriptions poétiques, alors même qu'elles portent sur des lieux très circonscrits et bien connus."

original grandeur that they can move the hearts of sad Europeans dwelling under gray skies surrounded by a relatively impoverished vegetation. “But even if the general impression is diminished, this inferiority [of hothouse plants] is compensated for by the domination that reality exercises everywhere on our senses” (Humboldt, 2000: 424). “It is one of the most beautiful fruits of European civilization that today it is possible for man, in the less favored countries, to taste, thanks to collections of exotic plants, the magic of landscape painting...” (Humboldt, 2000: 430).

We thus return at the end of volume II, chapter 3 of *Cosmos* to Rousseau’s gratitude for nature’s ability to move men: “...the earth offers man in the harmony of the three realms a spectacle filled with life, interest, and charm, the only spectacle in the world of which his eyes and his heart never weary” (Rousseau, 1959: 1062).

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A German minerologist visits Peru

Scarlett O'Phelan Godoy

Humboldt and Mining

Alexander von Humboldt became interested in mining in his youth. His first book, *Mineralogical Observations on Some Basalts in the Rhine Basin*, was published in 1790 when he was just 21. In 1791-92 Humboldt studied in the renowned Mining Academy of Freiburg, under the supervision of Professor Abraham Gottlob Werner, and was named “Asesor cum voto” in the Prussian Department of Mines in 1792. In 1793 Humboldt began his work as Superintendent of Mines in Franconia, and was appointed the following year as Counsellor on Mines. In 1795 Humboldt was appointed as Minister of Mines, the highest echelon below that of Prime Minister.¹

His years in the Freiburg Academy placed Humboldt in direct contact with mining deposits, as it was usual for the theoretical lessons to be supplemented with practical work. Therefore, like the miners, students had to make their way on workdays to the mineshafts at six in the morning, where they had to work all morning helping a miner. Lessons were given in the afternoon. Professor Werner required his students to prepare monographs on specific topics, and stimulated them to collect minerals. Humboldt was influenced in the Academy by the theories of Lavoisier—who turned chemistry into a modern, quantitative natural science—which he would later disseminate in his journeys.²

International scientists gathered at Freiburg under Professor Werner's guidance during the time Humboldt was there; such as Spaniards, Portuguese and Norwegians, and other foreigners. By the late eighteenth century the

1. *Alejandro de Humboldt, 1769-1969*. InterNationes. Bad Godesberg, 1969, p. 162.

2. *Ibid.* p. 25.

Academy had clearly become the most important centre in Europe in the mining sciences.³

Humboldt's strong knowledge of mining was obviously of great help to him during his journey across America, not just when carrying out his geologic and especially his vulcanological studies, but also in purely practical terms—like when his advice on some mining deposits was requested during his stay in the Viceroyalty of Mexico. A man of his time, Humboldt also made some inventions, which were designed to assist miners in their surveys and extractive tasks. For instance, he invented an “inextinguishable lamp” and a “respiratory machine.” The lamp was a forerunner of the famed Davy lamp, and the second was a predecessor of modern gas masks.⁴

Hualgayoc: A Second Potosí?

Humboldt entered Peru in 1802 from the north through the province of Cajamarca finally arriving at the silver mines of Hualgayoc. In his own words, “the mountain Hualgayoc somewhat recalls the effect of the dolomitic cones, or rather the cracked crest of Montserrat in Catalonia, which I had the opportunity to visit...the mountain reveals a hundred galleries that crisscross it in all directions...the people call these apertures “the windows of Hualgayoc.”⁵ (see Figure 32-1) The previous visit Humboldt had made to the Quito Audiencia allowed him to compare these apertures with those on the slopes of the Pichincha volcano, which were also called the “windowlets of Pichincha.”⁶ It has been stressed that Humboldt used to record the shape of the mountains that called his attention, making a precise drawing of them.⁷

At the mines of Hualgayoc Humboldt was impressed by the ruggedness of the landscape and the isolation of the town of Muicupampa, which lies at 3,620 metres above sea level, and where a population of 3,000-4,000 people lived “in a wasteland, without vegetation.”⁸ The weather was also annoying for him, as he noted that “the weather in Muicupampa is unpleasant.” Elsewhere Humboldt pointed out that “the weather in these towns is horrible ... at night the thermometer remains at 0.2°, and at 7 or 8 hours (in the morning) is still at 1°...it rarely goes over 8° at noon. Of course there are no trees nor nat-

3. Ibid. p. 26.

4. Ibid. p. 27. For further information on his inventions see: Douglas Botting, *Humboldt y el Cosmos. Vida, obra y viajes de un hombre universal*. (1769-1859). Ediciones del Serbal. Barcelona, 1995. pp.32, 33.

5. Estuardo Núñez y George Petersen. *Alexander von Humboldt en el Perú. Diario de viaje y otros escritos*. Banco Central de Reserva. Lima, 2002. pp.101,102.

6. Ibid. p. 102.

7. Jaime Labastida. “Una jornada de trabajo de Alexander von Humboldt: su método científico.” Leopoldo Zea y Hernán Taboada (compiladores) *Humboldt y la Modernidad*. F.C.E. México, 2001. p.55.

8. Núñez y Petersen. *Alexander* p.102

ural greenery.”⁹ One gets the impression that the combination of altitude and low temperatures affected Humboldt¹⁰ and maybe discouraged him to explore other mines located even higher as Pasco or Huancavelica. However, the German traveller ascertained that despite the manifest aridity of the land, the mines of Hualgayoc were not lacking in supplies at all insofar as goods were constantly brought from Jaén, Chota, Chachapoyas, and Cajamarca.¹¹ But the commercial network provisioning Hualgayoc was actually far larger. For instance, the customs records (*Libros de Aduana*) at Cajamarca registered the arrival of fish from Lambayeque, coca from Chachapoyas, sweets from Cajamarca and Lambayeque, brandy (*aguardiente*) from Ica through Callao-Pacasmayo or Callao-Huanchaco sea route; and from Lima *yerba mate*, textiles and imported goods from Castille, and hardware.¹²

During his stay, Humboldt also noticed that whereas Hualgayoc and Fuentestiana held a great amount of water, in the mine of Purgatorio (Purgatory) on the contrary there was a complete lack of it.¹³ This mine had been given that name due “to the heat inside it, which is considerable in regard to the altitude of the region as it comes to 19°C, whereas outdoors it is 5°C.”¹⁴ Hence the workmen carried out their tasks clothes-less, and considered the heat in Purgatorio to be stifling.

The mines of Hualgayoc had been discovered in 1771 by Don Rodrigo de Torres y Ocaña and Don Juan José de Casanova in the ranch of Apán, some fourteen leagues from Cajamarca.¹⁵ By 1776 there were 96 running mills (*ingenios corrientes*). The mines attracted many peninsulars who came not only from the Basque region, as usually happen in the colonial mining centers, but also from Catalonia, Asturias, Jaén, Toledo, Galicia, Andalusia, becoming mine owners. Labour, on the other hand, had a multi ethnical composition, including *mestizos*, *zambos*, mulattoes, and Indians from the neighboring provinces of Cajamarca, Huamachuco, Pataz, and Conchucos¹⁶.

9. Ibid. p. 65

10. He was, for example, unable to reach the summit of Chimborazo, in Quito. See: Wolf Lepenies. “Alexander von Humboldt: su pasado y su presente.” Leopoldo Zea y Hernán Taboada (compiladores) *Humboldt y la Modernidad*. F.C.E. México, 2001. p.65. Not surprisingly Humboldt underlined the fact that Muicupampa was 700 mts. higher than Quito. Núñez y Petersen. *Alexander*. p.132.

11. Núñez y Petersen. *Alexander*. p.65.

12. Archivo General de la Nación, Lima. Libros de Aduana de Cajamarca.

13. Núñez y Petersen. *Alexander*. p. 104.

14. Ibid. p. 145.

15. Joaquín Ramón Iturralde. “Relación Descriptiva del cerro de Hualgayoc descubierto con poderosas vetas de plata en la provincia de Cajamarca, con noticias exactas de su fatal estado, 1776.” Fernando Silva Santisteban, Waldemar Espinosa Soriano, Rogger Ravines (compiladores). *Historia de Cajamarca. Siglos XVI-XVIII*. I.N.C. Cajamarca, 1986. p.316.

16. Scarlett O’Phelan Godoy. “Vivir y morir en el mineral de Hualgayoc a fines de la colonia.” *Jahrbuch für Geschichte...Lateinamerika*. No.30 (1993) pp. 81, 86.

Hualgayoc had not been granted *mita* labourers, as was the case of the mines of Huancavelica and Potosi, and thus had to extensively rely on free workers. Even so, a project was prepared by the Bishop of Trujillo, Don Baltazar Jaime Martínez de Compañón, which intended to transfer settlers to the areas surrounding the mines, who would be given patches of land in exchange for their working in the mines.¹⁷ It was estimated that about one thousand settlers were required, who according to José Ignacio de Lequanda would have to settle permanently in the mines.¹⁸ This project was an answer to the constant complaints made by the mine owners regarding the lack of labourers, or the temporary condition of many of the workmen.¹⁹

Humboldt was a sharp critic of the mining techniques used in colonial Peru. For him, the mines were worked following the whim of the owners and without the supervision of a technician acquainted with the subject.²⁰ On one occasion he remarked that Peru was a country “where the government is not concerned by technology.” Some work methods alarmed him, as when he found that in some mines the counterforts, columns and props holding up the roof had been removed, therefore causing their collapse.²¹ Humboldt was also surprised to find that instead of installing carts or rollers (*rodillos*) to haul the mineral, the workmen carried it in baskets and sacks on their back, along narrow and dangerous corridors²² (see Figure 32-2). He was likewise astonished to find that inside the mine the mineral was not moved through the ventilation shafts but along galleries, and that no carts were used²³ (see Figure 32-3). Humboldt also was intrigued by the fact that iron hammers, so widely spread throughout Europe, were not used in the Andes. He wrote: “the wedges are inserted with a dreadful instrument called a *comba*, a mace weighing between 28 and 30 pounds, [which is] too heavy to guide, [and] slow because two or three successive blows cannot be given... It is somewhat understandable, with such miserable tools, no piecework, and almost no supervision, why a gallery [made] at an ass’s pace has, for example, cost 500-800 pesos, and even 1,200 pesos.”²⁴

But who were the miners who worked the deposits of Hualgayoc with methods described as inefficient? During his stay, Humboldt had the opportu-

17. Ibid. p. 77. See also Carlos Contreras. *Los Mineros y el Rey. Los Andes del norte: Hualgayoc 1770-1825*. IEP. Lima, 1995. pp.98,99.

18. José Ignacio de Lequanda. “Descripción de la provincia de Caxamarca.” *Mercurio Peruano* (1792), tomo X. p.210.

19. Baltasar Jaime Martínez Compañón y Bujanda. “Sobre el ruinoso estado de las minas de Hualgayoc y modo de restablecerlas.” *Historia de Cajamarca. Siglos XVI-XVIII*. I.N.C. Cajamarca, 1986. p.213.

20. Nuñez y Petersen. *Alexander*. p. 57.

21. Ibid. p. 60.

22. Ibid. p. 58.

23. Nuñez y Petersen. *Alexander*. p. 63.

24. Ibid. p. 64.

nity to establish contact with some of them. His host seems to have been Don Joaquín de Arvayza, whom he described as “a very wealthy man, and with an open and energetic character.”²⁵ Arvayza had been born in Cajamarca, but his father came from Spain. Humboldt also mentioned three other families of miners in Hualgayoc: the Espinach, the Casanova, and the Bueno.

The Arvayza and the Bueno were kin. Thus Tomás Bueno y Ravines was a native of Cajamarca who had mining interests in Hualgayoc. Melchora Torres y Sánchez, his first wife, bore him no children. After widowing, Don Tomás married a second time with Ana María Arvayza y Escalante, the legitimate daughter of the wealthy miner Joaquín de Arvayza. He had a son with his second wife, Jose Antonio, who was to be his heir.²⁶ Endogamy seems to have been wide spread among the mining guild in order to increase properties and fortunes.

As for the Espinach, the reference obviously meant Don Miguel Espinach, clearly one of the most important and influential individuals in Hualgayoc. A native of Catalonia, Espinach combined his mining activities with those of a supplier. He had also held several positions of authority, such as Mining Deputy for Hualgayoc, mayor of Cajamarca, and subdelegate of the *Partido* of Chota. He was a man who wielded power. In 1798 Espinach owned 7 mines, and had 18 employees and 167 labourers. He had smelted 343,830 silver marks (close to 20 per cent of the total output of Hualgayoc) in 29 years dedicated to mining (1775-1803), thus amassing a sizable fortune.²⁷

The Casanovas were another family mentioned by Humboldt. He clearly meant the family formed by Don Juan José Casanova, a native of Pamplona, Spain, and the discoverer of the mine, who died in 1791. At his death Rudecindo, his son, took over the mining firm. He married Doña Isabel Estrada and had no legitimate children. But he did have two illegitimate ones: Blas and Casimiro, born in his illicit liaison with Doña Juana Urrutia. Rudecindo left each of his sons 20 mine *varas* in the Purgatorio lode in Hualgayoc.²⁸

According to Humboldt, the Espinach, Casanova and Bueno “seize everything and labour to destroy one another. Lawsuits are filed and whoever can sacrifice the most wins.” The German traveller even noted that whereas in Saxony a miner was distinguished by his moral qualities, in Peru “this class is the most profligate and licentious.” The truth is that colonial miners comprised all kinds: some, like the Count of the Real Confianza even boasted

25. Ibid. p. 57.

26. Scarlett O’Phelan Godoy. “Hijos naturales ‘sin impedimento alguno.’ La ilegitimidad en el mineral de Hualgayoc, Cajamarca. (1780-1845)” Scarlett O’Phelan e Yves Saint-Geours. (comp.) *El Norte en la Historia Regional*. Cipca/lfea. Lima, 1996. p.227.

27. Carlos Contreras. *Los mineros y el Rey*. p.45.

28. Scarlett O’Phelan Godoy. “Hijos Naturales...” p.232.

their titles of nobility, and in fact Don Juan José de Casanova himself was related with the Marquises of Casa Boza.²⁹ On the other hand, it is true that there were miners who were “adventurers,” like those described by Tandeter in his study on Potosí.³⁰ However, Humboldt did have a better opinion of Mexican families involved in mining activity, as the Fagoada or the Alamán, whom, in his own words, were “well illustrated and phylantropists.”³¹

Despite all of the limitations noted by Humboldt in terms of mining in Peru, he concluded that with a more enlightened government Hualgayoc would be a second Potosí, “as in fact its minerals are richer than those of Potosí itself, more stable in their yield than those of Huantajaya, and their extraction is simpler than at Yauricocha.”³² His enthusiastic prediction would not, however, be fulfilled. Hualgayoc entered a period of stagnation shortly after his visit, and Cerro de Pasco became the major mining centre throughout the nineteenth century.

Pasco, the Worst Managed Mines in Spanish America

The mines of Pasco were discovered in 1630. In 1758 a new gallery was opened—an undertaking that was finished in 1760 with the extraction of some 50,000-89,000 marks. The productivity of the mine rose to 122,000 silver marks in 1780, and by then Pasco was considered “the most valuable of the mines.”³³ In the 1790s the output level increased remarkably, reaching for example 291,254 marks in 1794. It was precisely in this period that the protectionist policies the Bourbon project had for mining came into effect, and crystallised in the establishment of the *Tribunal de Minería* and the *Banco de Rescates*.

Unlike Hualgayoc, Humboldt did not visit the mines of Pasco. However, he noted that “thanks to the mineralogical collection of Baron Nordenflicht, and his many plans and descriptions of mines, I am perfectly able to form a geognostic idea of the mining site of Pasco.”³⁴ Again, the inefficiency of the production system of Pasco astounded and worried Humboldt. For instance, he noticed that the abundant waters present in Pasco were extracted, “not by means of hydraulic wheels or *malacatas*—as is done in Mexico—but with pumps powered by the arm of a man; ... draining the mines is thus exceed-

29. Scarlett O’Phelan Godoy. “Vivir y morir...” p.77.

30. Enrique Tandeter. *Coacción y mercado. La minería de la plata en el Potosí colonial, 1692-1826*. Centro de Estudios Regionales Andinos Bartolomé de las Casas. Cuzco, 1992. p.186.

31. Salvador Méndez Reyes. “Humboldt y las elites de origen colonial. Algunas notas acerca de su relación con Alamán y los Fagoaga.” Leopoldo Zea y Mario Magallán. (compiladores) *El Mundo que encontró Humboldt*. F.C.E. México, 1999. pp.76, 77.

32. John Fisher, *Minas y Mineros*. p.53.

33. Nuñez y Petersen. *Alexander*. p.133.

34. *Ibid.* p. 136.

ingly costly ... The mine of Yauricocha would yield the same amount of silver as Guanajuato if hydraulic machines or steam pumps were built in it...³⁵

The truth is that although there were plans to manufacture hydraulic machines, these came to nothing. Thus in 1793 the Hualgayoc miner Don Tomás Bueno hired the services of Don Ignacio Martorell, to build a “bronze machine to drain said mines” for 3,000 pesos. Humboldt later mentioned Martorell as “a mason who has himself called a maths professor, who promised the miners to make the water disappear through tin siphons.”³⁶ For him, the experiment was a complete failure. This incident shows that although there were plans to modernise the production process in mining, the problem here lay in the scant preparation of those who acted as technicians, and had not received proper training. It should not be forgotten that although the Bourbons had a plan to establish a *Colegio de Minería* in Perú, it did not open, unlike Mexico, where since 1792 it benefited the miners and the mining industry of New Spain. At the *colegio* students were taught mineralogy, metallurgy and other subjects less specialized, such as French and Mathematics. Among the board of teachers there were distinguished professors, as Andrés del Río, who did study with Humboldt in Freiburg.³⁷

The Distressing Accident of the Mine of Santa Bárbara, in Huancavelica

While Humboldt was in Peru, the famed mine of Santa Bárbara was completely abandoned due to the collapse that had taken place in the Brocal mining claim. For the German traveller, “greed and neglect were the causes of this distressing accident.” According to Humboldt’s account, the intendant of Huancavelica removed the pillars which supported the ceiling of the mine in order to increase productivity, thus causing its collapse. Humboldt once more blamed this on the deficient training of Peruvian miners. He said: “the procedure had consequences that any educated miner would easily have guessed: with the support gone, the rock yielded to pressure, the roof caved in, and this collapse affected most of the upper claim, namely, the Brocal, and therefore work had to be stopped.”³⁸ Entangled in the affair, the intendant defended himself arguing that he had removed the pillars after consulting with master miners. In other words, the incompetence pointed out by Humboldt had some validity.

35. Ibid. p. 131.

36. Núñez y Petersen. *Alexander*. p.62.

37. David Brading. *Mineros y Comerciantes en el México borbónico, 1763-1810*. F.C.E. México, 1975. p.227.

38. Núñez y Petersen. *Alexander*. p.139.

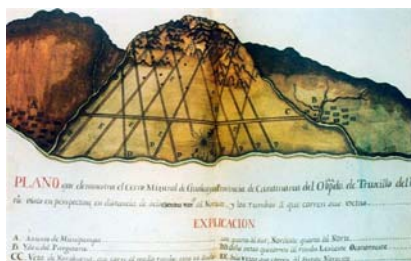
Humboldt fully agreed with Nordenflicht in that it was false that the mine of Santa Bárbara was worked out when it collapsed. What happened was that the miners in charge of excavating the deposit had no knowledge of subterranean geometry, and had therefore been digging where the mineral was least abundant. In any case, his recommendation was that the collapsed mine should not be cleared as this would require extensive resources, and the gallery system was so poorly laid out that no benefit could be had in this state.³⁹

Humboldt and the Expedition of Baron Nordenflicht

In order to place the journey of Humboldt to Peru in its proper context, a reference must be made to the mineralogical expedition under Baron Nordenflicht that preceded him. Although Humboldt arrived at Peru twelve years after the Baron, the connections are clear. It was not just that he lived in Lima in the Baron's house, using the laboratory the Tribunal de Minería had assembled for his host; Nordenflicht also became his closest interlocutor in matters regarding the extractive activity. Undoubtedly the Baron's experience in Peru predisposed Humboldt's opinion in several matters. It will be useful, therefore, to have a brief look at the Baron's expedition in Peruvian soil.

In October 1790, after leaving Potosí, Nordenflicht reached Huancavelica, where he joined Helms, who had been busy replacing the not-too-efficient furnaces of Almadén used to process the mercury, with a smaller number of the modern furnaces from Idria.⁴⁰ But when Nordenflicht arrived at Huancavelica, Helms and his work were paralysed due to an astounding increase in the cost of the exploitation; this was because in order to benefit with the operation, the intendant had supplied the building materials at exorbitant prices.⁴¹

FIGURE 32-1. The Windows of Hualgayoc



39. Núñez y Petersen. *Alexander*. pp.141, 142.

40. John Fisher. *Minas y Mineros*. p.131.

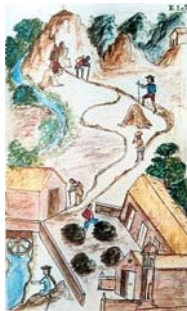
41. *Ibid*.

In early 1791 Nordenflicht, already established in Lima, presented a report to the viceroy where he requested that the mines of Huancavelica be closed for two years, while a central shaft and lateral galleries were built that would allow the work to be done safely and efficiently. The Baron also explicitly noted in his report that he had no intention of returning to Huancavelica, and suggested that Friedrich Mothes, another member of his expedition, should relieve him at the command of the mine.

Although Mothes remained in Huancavelica until late 1792, he did not receive the official permission to begin modernising the mine. He would shortly thereafter be entrusted with the excavation of a shaft in Hualgayoc, where the Saxon technician arrived in September 1794. For Fisher, Mothes was “the most able of Nordenflicht’s assistants, after Helms.”⁴²

The presence of Mothes in Hualgayoc was controversial, and it split the miners into two sides—those who strongly resented the contempt Mothes had for the local technical traditions, and those who showed an interest for the proposed innovations, which could increase their profits. But the sector that resisted Mothes included two of the most prominent miners: Miguel de Espinach and Rudecindo Casanova. Both doggedly opposed the appointment of Mothes as *Perito Facultativo y Director del Mineral*.⁴³

FIGURE 32-2. Mine Workers Carrying Baskets and Sacks on their Back



It is therefore very likely that in the many conversations he must have had with Humboldt, Nordenflicht acquainted him with the opposition against Mothes, and the campaign made to discredit him and the new techniques the Baron and his mission were trying to implement, organised by the above-mentioned miners of Hualgayoc. This would explain the acid comments Humboldt made in his journal, specifically against Espinach and Casanova, the main detractors of Mothes, and therefore of Thaddeus von Nordenflicht.

42. Ibid. Capítulo IV.

43. Carlos Contreras. *Los mineros y el Rey*. pp.132,133.

It could be said, therefore, that in many occasions Humboldt saw things through Nordenflicht's eyes.

The Peruvian miners somehow felt that first Nordenflicht, and then Humboldt, had arrived to convince them of the superiority the European techniques had in processing the metal.⁴⁴ Even Viceroy Gil de Taboada commented that Nordenflicht had not realised that Peruvian minerals were different from those found in Germany, and therefore required a different treatment.⁴⁵ Helms, in turn, did not hesitate in pointing out that the members of the Mining Tribunal “lacked any mineralogical knowledge whatsoever.” In other words, they were ignoramuses.

FIGURE 32-3. Galleries inside the Mine



However, the evidence suggests that although Born's barrel method helped save time and lowered the number of labourers required to extract the silver, it was not necessarily better than the traditional patio system, and even worse, it did not lower the consumption of quicksilver (see plate 4). Something similar happened in Mexico, where Sonneschmidt had to admit—in his famed treatise on amalgamation—that “with ten years of work I have been unable to introduce, either Born's refining process or any other method preferable to that of the patio.”⁴⁶ Not surprisingly the Spanish minerologist Fausto Elhuyar and Sonneschmidt concluded—in the Mexican case—that Born's method was not adequate for the type of extractive silver industry that had developed in Spanish America, where the mining centres were scattered and isolated; where good timber and iron were hard to come by; and where miners had shown a preference for the existing systems over the risks entailed by innovations of uncertain results.⁴⁷ There was even the extended opinion that Born's method was only a slightly variation from the *cazo*

44. John Fisher. *Minas y Mineros*. p.134.

45. *Ibid.* p.139.

46. *Ibid.* p.141.

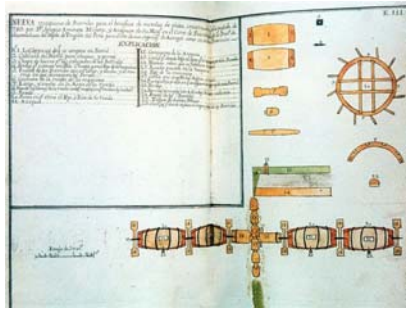
47. John Fisher. *Minas y mineros*. p.151.

method invented by the Peruvian Alonso de Barba in the XVIIth century.⁴⁸ The poor reception given to the barrel technique comes through clearly in the bitter remarks made by Humboldt: “during my stay in the Andean Cordillera, I only saw two mining districts where Mr. Born’s method of amalgamation in barrels was followed with some success, to wit, Tallenga and the Real de Recuay, in the *Partido* of Cajatambo.”⁴⁹ His visit to the Peruvian mines was therefore, not very stimulating.

Miners and Military

In coming in contact with the miners, Humboldt was able to ascertain the importance the military career was acquiring in Spanish America. The establishment of a regular army, subject to permanent training, was one of the goals of the Bourbon project: ports had to be watched guarded, frontiers had to be garrisoned, the plebeians had to be controlled, and the cities safeguarded. Even so, it was only in the 1760s that the reorganisation of the army and militia came into effect in Spanish America. In Peru, the presence of Viceroy Amat was crucial for the implementation of the military reforms.

FIGURE 32-4. Traditional Patio System



For the Bourbons, nobility and the army were no longer mutually exclusive. The data Juan Marchena presents on the social composition of the veteran officer corps in the Spanish American army is most revealing in this regard.⁵⁰ For example, whereas in 1740-49 only 12.5 percent of the veteran corps were nobles, in 1770-79 the number of nobles included in the army had risen substantially to 51.6 percent. This means that numerous individuals of

48. David Brading. *Mineros y Comerciantes*. p.227.

49. Núñez y Petersen. *Alexander*. p.143.

50. Juan Marchena Fernández, “The Social World of the Military in Peru and New Granada”. J. Fisher, A. Kuethe, and A. McFarlane (eds.) *Reform and Insurrection in Bourbon New Granada and Peru*, Louisiana State University Press, 1990, p. 57.

noble origins decided to follow the military career. Humboldt was astonished to find, during his Peruvian sojourn, that even in the provinces merchants had become colonels, captains and sergeant-majors. Members of notable families, on the other hand, aspired to the rank of colonel or brigadier.⁵¹

During his stay in Cajamarca, Humboldt lodged in the house of Don Santiago Pizarro, a well-known miner in Hualgayoc. Don Santiago was a legitimate son of Matías Pizarro, a native of the Canary Islands, and of Petronila Rodríguez, who was born in Contumazá, Cajamarca. He must have been a wealthy man, because when he married Manuela Guerrero, he contributed with the Hacienda Galindo, for which he paid 36,000 pesos in cash. He also owned land, mills where minerals were ground and several houses.⁵² Humboldt must have stayed in one of these houses.

While being in Cajamarca, Humboldt was under the impression that there were miners like Colonel Don Tomás Bueno or the Subdelegate Eduardo Pimentel, who were “conceited with the militia regiments and all the officers in the high command.”⁵³ In the specific case of his host, the above-mentioned Santiago Pizarro, Humboldt notes that he had offered to “give 25,000 pesos to the king if he made him a colonel in the army.”⁵⁴ According to Humboldt’s estimates, “there were over 1,200 civilians dressed as officers, honouring one another, but the soldiers only have wooden rifles, are not trained and surely do not have 4,000 weapons.”⁵⁵ In his opinion, all this paraphernalia was nothing more than “a ridiculous comedy, harmful in the present state of public service because the jurisdictional exceptions rose with the military commissions.”⁵⁶

But there was more. Humboldt noted that although in their present condition the militias would not be overly useful nor would they have any significant role, they could become an imminent danger for the king of Spain should their discipline and weaponry be improved. He was not mistaken in this regard. With the development of a regular army, properly equipped and trained, the Bourbons sowed the seeds of their own destruction, as was clearly shown years later, during the wars of independence.

51. *Ibid.*, p. 59.

52. Scarlett O’Phelan, “Hijos naturales...” p. 234.

53. Núñez y Petersen, *Alexander*. p. 71.

54. *Ibid.* p.71.

55. *Ibid.*

56. *Ibid.*

Mexican Reception of 'Political Essay'¹

Richard Weiner

Introduction

One might argue that historians' neglect of Carlos Díaz Dufoo's 1918 work, *México y los capitales extranjeros* (*Mexico and Foreign Capital*), is justified. After all, it did not achieve its goal of stemming economic nationalism and persuading policymakers to create a more favorable climate for foreign capital. But his book was significant in another way. It was the first comprehensive critique of Mexico's legendary wealth, that is, the popular narrative that Mexico was immensely prosperous because of its rich and abundant natural resources. He attacked the legend because he maintained that it erroneously led Mexicans to believe that foreign capital was unnecessary, and even harmful. His criticism, which influenced contemporaries, was a historic event since the legend had a very long record. Díaz Dufoo dated its origin back to Alexander von Humboldt's extremely influential late-colonial-era work, *Ensayo Político sobre el reino de la Nueva España* (*Political Essay on the Kingdom of New Spain*). Interestingly, Díaz Dufoo's attack was not based on new knowledge about Mexico's natural resources, but rather his distinct conception of wealth, which emphasized capital investment above all else. Despite his criticisms, his appraisal of the Mexican economy was very optimistic. Thus, while he challenged the legend he did not undermine the idea of Mexico's economic greatness, which was associated with it. He maintained that a different force was needed to achieve that prominence, however. In the legend God's creation, that is, Mother Nature was the source of Mexico's grandeur. But Díaz Dufoo maintained that Mother Nature was deficient. Instead, he placed his faith in man, who could overcome the obstacles posed

1. I would like to thank Carlos Marichal, Tom Pasananti, and Paolo Riguzzi for their insightful comments on an earlier version of this paper.

by nature and generate wealth via modern technologies, which were financed with heavy doses of foreign capital.

Díaz Dufoo was well aware that his positive portrayal of foreign capital countered the revolutionary nationalism of the contemporary era. In fact, his book was published on the heels of the 1917 Constitution, which manifested some of the nationalist sentiments of the era by strengthening national sovereignty by limiting foreign capital's property rights. Not only the content of his work, but also the fact that he had been a member of the old *científico* political clique (he had been a prominent journalist and a national politician), which had wielded significant influence during the long reign of Porfirio Díaz's long (1876-1910), put him at odds with nationalist revolutionaries. After all, revolutionists, who asserted that científicos had sold out the nation to foreign interests prior to the 1910 Revolution, had branded *científicos* traitors.

Díaz Dufoo's Critique of the Humboldtian Legend

Díaz Dufoo referred to the conception of wealth associated with the legend as "spontaneous." That is, the popular legend conceived of Mother Nature as the autonomous generator of riches, especially in the "mining" and "agricultural" sectors. Stressing this point he asserted that "public opinion" perceived Mexico's mineral wealth as "exceptional, marvelous, spontaneous and free . . . it was [like] a lottery, in which not one but all entered the game and all won the prize."² He recounted a colonial-era tale that captured this attitude: precious metals were so abundant and accessible that they could be easily picked up by hand. Underscoring this overflowing wealth that Mother Nature provided, another fable claimed that there were such abundant riches that Spaniards felt that it was only "dignified" to collect gold; they left the "silver" leftovers for "Indians and slaves."³ Díaz Dufoo had a parallel assessment about Mexicans' notions of the nation's oil wealth. He quoted Manuel Flores, a contemporary who held a similar opinion. Flores maintained that "legends had been created about the [oil] industry," which suggested that little labor brought immense profits, for Mother Nature did all the work. First, where the oil existed was determined with "mathematical precision." Second, a hole was made in the correct spot, and gushing "torrents" of oil came forth.⁴

Díaz Dufoo spoke of this natural-resource-based notion of Mexico's wealth as a "fantastic concept" and maintained that Mexicans needed to be "awoken" from this "dream."⁵ He especially lamented the negative views

2. Díaz Dufoo, *México*, 170.

3. *Ibid.*, 154.

4. *Ibid.*, 186.

5. *Ibid.*, 154.

about foreign investment that stemmed from this surreal state. The legend of immense and spontaneous natural resource wealth erroneously implied that foreign capital was unnecessary to generate riches. But there was another unfair charge against foreign capital, which he suggested was especially strong during the revolutionary era he lived in: the legend encouraged the wrongheaded idea that foreign capital robbed Mexico of its wealth. Díaz Dufoo made this point several times, and put it this way on one occasion: "The exaggerated concept of our wealth has as a corollary, namely, the ill will of foreigners, who egotistically take our riches and use them for their own benefit without contributing to the wealth of the nation."⁶ For him, these were gross misconceptions. He especially regretted their impact on policy. In a chapter metaphorically entitled "the chicken with the golden eggs" he explained the consequences. After discussing nationalist policies he stated that "never has the fable of the chicken with the golden eggs been invoked more absolutely."⁷ Apparently Mexico was the fowl and the golden eggs were her valuable resources. Foreigners would not be permitted to confiscate them. Thus, the legend inspired economic nationalism and anti-foreign policies. (Díaz Dufoo spilled much ink combating this predatory depiction of foreign capital).⁸

Díaz Dufoo located the source of the contemporary legend in Alexander von Humboldt's late-colonial multi-volume *Ensayo político*. Díaz Dufoo did not fully explain how Humboldt had started the legend, however. All he stated was that Humboldt's text had caused Mexicans to look at their nation with rosy "tinted glasses."⁹ Since Humboldt's extensive discussion of Mexico's natural resources was so well known perhaps Díaz Dufoo thought his reference to Humboldt was self explanatory.¹⁰ Indeed, Díaz Dufoo cited and quoted a recent work entitled *Humboldt en América* that underscored Humboldt's impact in Mexico, which was by Mexican writer Carlos Pereyra.¹¹ More importantly, throughout the nineteenth century, Mexican writers had quoted and discussed Humboldt's writings about Mexico's resources extensively. Humboldt, whose physiocratic conception of wealth underscored soil quality, emphasized the centrality of nature in creating wealth.¹² In keeping with his assessment, leading post-independence thinkers, such as Liberal José Mora and Conservative Lucas Alamán, called for population growth in order

6. Ibid., 214, 298, 326.

7. Ibid., 436.

8. Especially see chapter 12, which was entitled "what foreign capital has brought," 365-98.

9. Ibid., 153.

10. On the impact of Humboldt's work in Mexico see Bernecker, "el mito;" Miranda, *Humboldt*; and Weiner, "Mexico's Economic Decline."

11. Díaz Dufoo, *México*, 153.

12. For a discussion of Humboldt's conception of wealth see Weiner, "Redefining Mexico's Riches."

to exploit the nation's untapped riches.¹³ Consequently, Díaz Dufoo's claim that Humboldt's work played a pivotal role in the dissemination of the legend had merit.¹⁴

Given Díaz Dufoo's assertions about the negative impact that misperceptions associated with the legend had on policy, it is unsurprising that he spent much of his book debunking the legend. Of course, he was by no means the first to question Mexico's natural resource wealth. And his book fully acknowledged his forerunners. In fact, he cited dozens of authors (mostly nineteenth century Mexicans) to sustain his critique.¹⁵ But his criticism was not merely a rehashing of old arguments. Most of the authors Díaz Dufoo cited were analyzing specific aspects of the economy rather than attempting to dispel general perceptions. True, a few (most notably científico Justo Sierra¹⁶) explicitly attacked the myth of Mexico's natural-resource-based wealth. Nevertheless, Díaz Dufoo made a novel contribution, for he creatively wove all these writings together and thereby made the first sustained and comprehensive attack on the legend. By stressing Mexico's deficiencies he provided a revisionist interpretation of the economy. He countered contemporary conventional wisdom, for, as scholar Paolo Riguzzi has shown, during Porfirio Díaz's reign (1876-1910) many (especially national and foreign promoters) depicted Mexico as very prosperous.¹⁷

Díaz Dufoo's revisionism was evident in his depiction of Mexico's natural resources, for he portrayed nature as a hindrance to economic progress. He recounted a colonial-era story that emphasized how Mexico's mountainous topography was a severe obstacle to commerce. The tale, in which a Spaniard crumbled up a flat sheet of paper to portray Mexico's bumpy terrain, underscored how difficult it was to transport goods.¹⁸ Rainfall also posed a dilemma. Not only was it insufficient for agriculture, but it also was irregular, which meant that both torrential rain and dry spells cause problems. From the perspective of Díaz Dufoo's human-centered notion of wealth, climate was another obstacle, for in some areas Mexico's extreme climates inhibited population growth. Adding to his incisive critique, Díaz Dufoo directly challenged two tenets of the legend: Mexico's rich soil and subsoil. He countered the popular idea that Mexico's soil was especially fertile and

13. Mora, México; and Alamán, *Documentos*, 16-17.

14. While all scholars agree that Humboldt played a pivotal role, some depart from Díaz Dufoo by locating the origins of the legend in the age of the Spanish Conquest. Especially see Cosío Villegas, "La riqueza."

15. For an account of this broader nineteenth century critique see Weiner, "Mexico's Nineteenth Century Economic Decline."

16. Díaz Dufoo extensively quoted Justo Sierra's 1885 work entitled *México social y político*.

17. Riguzzi, "México próspero."

18. Díaz Dufoo, *México*, 123.

maintained that Mexico's minerals (especially precious metals) had little value in their natural state, for they were impure.¹⁹

In Díaz Dufoo's description, Mexico's natural resources by no means autonomously created wealth. They did play a role, however. He frequently called natural resources "latent" wealth or "potential" wealth.²⁰ But to turn this "latent" wealth into concrete riches the most significant factor was capital investment. He made this point over and over again. Díaz Dufoo showed that key sectors of the economy (agriculture, mining, oil, and manufacturing) all needed significant capital investment if they were to prosper. He lamented the fact that only a fraction of Mexico's land was currently utilized for agriculture and maintained that irrigation and transportation needed to be greatly expanded if Mexico was to utilize more of its territory for growing crops. He used Humboldt's discussion of the Valencia mine as the exception that proved the rule that greater investment was needed in the mining sector. The Valencia mine had been so productive, Díaz Dufoo maintained, precisely because significant amounts of capital had been invested in it.²¹ An obstacle faced by the contemporary mining sector was a lack of coal, which was needed in the refining process (wood sources, i.e., forests, had already been depleted). Mexico had coal, but it was in the North and transport was so expensive that it was sold mostly to the USA instead of being consumed internally. (A shortage of coal also impeded the progress of Mexican manufacturing). The transportation problem not only affected coal, but also oil. Oil reserves existed; but even if they were exploited a transport system to ship them to the coast did not.²²

He complemented this empirical argument with a foray into theory, in which he took on some major economic theorists.²³ He summarized theories about wealth creation by influential economists, including Pablo Leroy Beaulieu, John Stuart Mill, Charles Gide, and Alfred Marshall. Díaz Dufoo noted that these economists stressed three main forces that worked together to generate wealth: the natural environment, human labor, and capital. Of the three, Díaz Dufoo maintained that economists generally agreed that the natural environment was most important and capital least important. He countered this position by maintaining that capital was most significant. He supported his assertion with many historical examples taken from different parts of the globe, which were based on the scholarship of numerous researchers. Even if his approach might have been more precise and focused, he nevertheless did

19. For Díaz Dufoo's critique of Mexico's resources especially see chapter 5, which was entitled "Our Natural Wealth."

20. For example, a subheading on page 69 was entitled "Potential Wealth and Public Misery."

21. *Ibid.*, 176.

22. *Ibid.*, chapter 6, 151-194.

23. He critiqued economic theorists in chapter 2.

effectively use examples to make his case. He argued that capital was more significant than labor in numerous ways. Capital was a magnet for human populations, and thus actually was the dominant of the two. For example, areas that were uninhabitable for health reasons could be made more healthful via investment, which resulted in migrations to the region. Similarly, areas that were uninhabited for lack of economic opportunity became populated after industries moved in. But capital not only created labor, but also replaced it via mechanization. Shifting to the relative importance of capital and the natural environment, he provided examples that showed capital was more significant than soil in agriculture (via dry farming which enabled cultivation in areas it had previously been impossible) and mineral deposits in mining (via the use of carbon). He especially highlighted capital's importance in the "big industries," which had arisen since the "first quarter of the past century," such as the textile and iron industries.²⁴

Unequivocally, capital was the most significant factor in generating wealth, according to Díaz Dufoo. In fact, stating that wealth was a modern phenomenon which dated back only to the second half of the nineteenth century (perhaps he selected this date since capital investment increased significantly after this period), he suggested that without capital wealth could not even exist.²⁵ For him, capital was an all-powerful force that not only generated wealth, but also transformed the global economic landscape. He called this transformation the "law of progress: the economy of power—has presided over the industrial evolution of societies: from the small industry, with tools and machines of little value, to the large industry, with expensive installations, factories of vast size and concentration of business operations."²⁶ In other words, the age of economies of scale, with massive production, immense capital investment, and scores of workers, had dawned. Owing to his unwavering belief in progress, he predicted that increased economic concentration was on the horizon. Ironically, aspects of Díaz Dufoo's economic vision resonated with Marx's (of course, Díaz Dufoo did not make the association). Both believed in the inevitability of material progress, which manifested itself in increasing concentration and industrialization.

This notion of inevitable progress was evident in Díaz Dufoo's predictions about Mexico's economic future. He described Mexico as one of the "new countries," which had significant latent wealth in resources, thus much economic potential. All that was needed to realize that potential were large doses of capital, more specifically, foreign capital, for "new" countries lacked their own capital reserves. He cited Francisco Bulnes' *El porvenir de las naciones latinoamericanas* to bolster his predictions for Mexico's promis-

24. *Ibid.*, 34.

25. *Ibid.*, 46.

26. *Ibid.*, 50.

ing future, maintaining that even the prominent científico Bulnes, who was somewhat of a pessimist, acknowledged that Mexico could achieve economic grandeur almost on par with the wealthiest nations.²⁷

Díaz Dufoo maintained that capital investment would transform Mexico's agricultural and extractive industries. His discussion of Humboldt in this context is telling about how economic attitudes changed over time. Díaz Dufoo cited a section of *Ensayo Político* that asserted that northern Mexico could not support agriculture owing to the arid climate. Díaz Dufoo maintained that this region, which was now the U.S. Southwest, had been transformed from deserts into gardens via capital investment.²⁸ For Humboldt, Mother Nature was the basis of wealth, thus where she was deficient the economy was unproductive. But Díaz Dufoo, who wrote during an era in which technology reached unprecedented heights, believed that humans could overcome the limits imposed by nature.

Given Díaz Dufoo's infatuation with industries that required extensive capital and technology, it is unsurprising that his vision of Mexico broke with the international division of labor. True, he underscored the need for capital and technology in Mexico's agricultural and extractive industries. But he also emphasized the importance of creating manufacturing industries in Mexico, as his lengthy promotions of protectionism and attacks on free trade and the international division of labor demonstrated.²⁹

Mexican reception of 'México y Los Capitales Extranjeros'

During the Revolutionary period in which he lived, Díaz Dufoo's text had to fight an uphill ideological battle. He boldly attacked the conventional wisdom of the era, severely criticizing nationalism and indigenism. Again and again, he criticized nationalist policies, contending that they would scare away foreign capital and lead to economic ruin. What made matters worse, said Díaz Dufoo, was that during the age of WWI there was already a shortage of capital, for Europe was reinvesting in its own reconstruction and thus had little money to invest in Mexico. Consequently, the main source of foreign capital, he predicted, would be the United States.³⁰ His message was clear: create an environment which would be conducive to foreign capital, for it was essential for Mexico's industrialization. Unsurprisingly, his book harshly attacked the economic vision of revolutionary ideologue Fernando

27. Ibid., 151. For an analysis Of Bulnes' book see Weiner, "Mexico and the International Division of labor."

28. Díaz Dufoo, *México*, 84-6.

29. Ibid., 340-6, 501-5.

30. He re-emphasized these themes in chapter 15, the concluding chapter of his book.

González Roa. Díaz Dufoo maintained that the revolutionist eschewed economies of scale and modern technology and instead championed small-scale crafts-style production. Díaz Dufoo depicted this as an antiquated vision which would deny Mexico of its rightful industrial grandeur.³¹ His charge against indigenism, that is, the popular ideological movement to return to pre-Hispanic traditions and economies which emerged during the Revolution, was consistently implied. After all, his modernizing vision had no sympathy or use for indigenous production methods or culture. And his heavy criticism of indigenous workers and high praise of laborers from Europe and the United States made this implicit attack explicit.³²

Given his strident attack on the conventional wisdom of his era, little wonder that in the preface to a later edition of the book he confessed that in 1918 he had feared that the government would not allow his text to be published.³³ Obviously, his fears proved unfounded. But even if his book was not forbidden, it was harshly attacked in the press. Before condemning his book, Fernando González Roa summarized its contents, asserting that the book worshipped “industrialism” as Mexico’s “salvation” and also championed “protecting capitalism.” González Roa maintained Díaz Dufoo’s “thesis” was a “grave error” that needed to be countered so it would not “wrongly sway public opinion.”³⁴ Ironically, according to Díaz Dufoo, González Roa’s attack brought his book much publicity, for the headline on the long series of newspaper articles in which González Roa put forth his counter-position featured Díaz Dufoo’s name.³⁵

Notoriety did translate into influence on policy, however. Indeed, during the revolutionary period of the 1920s and 1930s nationalist and indigenist policies prevailed. This was especially the case during the Cardénas administration (1934-40), for not only did the president expropriate foreign oil interests, but also significantly expanded indigenous communal lands. Even if Díaz Dufoo’s book did not impact policy, it appears that it did influence perceptions of Mexico’s natural resource wealth. The eminent Mexican economist and social critic Daniel Cosío Villegas was the most clear-cut case in

31. *Ibid.*, 530-35.

32. *Ibid.*, 195-204.

33. The second revised edition was titled *Comunismo contra capitalismo*.

34. Fernando González Roa, “La reconstrucción de México: A propósito de la obra del señor Carlos Díaz Dufoo,” *Diario Oficial*, 9 November 1918, 679-85.

35. Díaz Dufoo’s claim that the first edition quickly sold out lent support to his assertion that González Roa inadvertently popularized his book. Díaz Dufoo, *Comunismo*, 5-7. González Roa published a series of about 25 articles that featured Díaz Dufoo’s name in the headline. (However, only the first article critiqued Díaz Dufoo’s book. The rest put forth González Roa’s alternative economic vision.) They were originally published over a period of several months in *El Economista*, beginning October 1918. They were all reprinted in *Diario Oficial*, and appeared from November 1918 through December 1919 (In 1918: Nov. 9, 16, 23, 30; Dec. 7 In 1919: Jan. 18, 25; March 8, 18, 22, 27, 29; April 21, 25, 28; May 3, 7, 9, 17; Oct. 21; Nov. 1, 4, 15, 24; Dec. 2, 11, 15).

point. Not only did he repeat Díaz Dufoo's critique of the legend, but also credited Díaz Dufoo as being the originator of the analysis.³⁶ Secretary of education José Vasconcelos wrote descriptions of Mexico's deficient natural environment that bore resemblances to Díaz Dufoo's portrayal, although Vasconcelos did not credit Díaz Dufoo.³⁷

Díaz Dufoo thought that there would be more sympathy for the policy implications of his book after the Cardénas presidency ended. Indeed, he justified the publication of a second edition in 1941, in part, on his observation that the conventional wisdom of the 1920s and 1930s was finally being questioned and "new ideas" were emerging.³⁸ His judgment was perceptive, for despite the persistence of economic nationalism, policies during the "Mexican miracle" (a label selected for the 1940-70 period because of consistent high economic growth rates) were more in keeping with his prescriptions. His vision of economies of scale based on substantial investment finally became a reality, as industrialization (the significant growth of the manufacturing sector) and "green revolution" (large-scale capital-intensive agri-business) that characterized the era attests to. Mexico's economic grandeur based on man's improvement upon deficient nature, which Díaz Dufoo had predicted, seemed to have finally been achieved. Díaz Dufoo was a forerunner to this new trend in thought.

Nevertheless, there were dissenters to the new orthodoxy. In 1939, at the onset of the "miracle," Cosío Villegas' critique of Díaz Dufoo was a kind of warning against the new mentality. Cosío Villegas agreed with, and even praised Díaz Dufoo's somber account of Mexico's natural resource wealth. But Cosío Villegas stated that Díaz Dufoo was too optimistic about the power of capital to generate wealth. For Cosío Villegas, the limits imposed by nature could not totally be overcome by the volition of man. He, for example, maintained that Mexico's lack of coal would hamper industrialization. By questioning imported technology's ability to successfully adapt to local conditions, he also problematized technology transfer, which was yet another way to challenge Díaz Dufoo's depiction of almighty capital. Based largely on the nation's limited natural resources, Cosío Villegas had much more modest predictions for Mexico's economic future.³⁹ Despite the fact that he challenged new dogma, I found no commentary on his article.

In 1950 U.S. scholar Frank Tannenbaum took Cosío Villegas's critique a step further.⁴⁰ Like Cosío Villegas, Tannenbaum maintained that Mexico's

36. See Cosío Villegas' works "La riqueza" and "El territorio."

37. In order to challenge racial explanations for Mexico's economic woes, Vasconcelos emphasized the ways that Mexico's physical environment posed an obstacle to economic development. See Vasconcelos, "The Latin American Basis of Mexican Civilization."

38. Díaz Dufoo, *Comunismo*, 7.

39. Cosío Villegas, "La riqueza."

40. Tannenbaum, *Mexico*.

natural resources were extremely limited. He backed this assertion with an in-depth description of Mexico's natural environment. Also in keeping with Cosío Villegas, he did not conceive of technology as a tool that could free Mexico from the limitations posed by nature. His forecast of Mexico's economic future was more modest than Cosío Villegas's, however. Tannenbaum maintained that Mexico's economic future lay in indigenous economic traditions: a small-scale agricultural economy, with production mostly for auto-consumption. Mexican reception of his work departed significantly from the silence that surrounded Cosío Villegas's article, for many scathing critiques were written that chastised his book. In fact, an entire issue of the significant journal *Problemas agrícolas e industriales de México* critiqued his book.⁴¹

One can only speculate about why his book provoked such a strong reaction and Cosío Villegas's article did not. Even if Tannenbaum was an established long-time friend to Mexico, he was still a foreigner, which might have been a factor that accounted for the loud and critical response to his work. But I think three other issues which centered on the distinct nature and timing of his critique was more important. First, Tannenbaum's critique (a full monograph) was much more developed than Cosío Villegas's. Second, Tannenbaum's challenge to accepted dogma was more radical than Cosío Villegas's. (Indeed, even Cosío Villegas, who defended Tannenbaum's work, admitted that it perhaps underestimated Mexico's economic potential).⁴² Finally, Tannenbaum's work came out a decade after Cosío Villegas's. Perhaps by 1950 the Mexican elite, enamored with their own economic grandeur after a decade of impressive economic growth, would not tolerate a naysayer. In about three decades the ideological tables had turned completely. In 1918 Díaz Dufoo had been chastised for his grand modernizing anti-indigenous economic vision. But by 1950 Díaz Dufoo's idea had become hegemonic and the small-scale Indianist position had been marginalized.

Conclusions

Carlos Díaz Dufoo's 1918 work, *México y los capitales extranjeros*, was the first comprehensive critique of Mexico's legendary wealth, a colonial-era narrative that had conceived of Mexico as immensely prosperous owing to its rich and abundant natural resources, which had been popularized by Humboldt's *Ensayo Político*. Rather than a consequence of more complete or perfect knowledge about Mexico's extant natural resources, Díaz Dufoo's critique was largely the product of distinct economic sensibilities that can be dated back to the latter part of the nineteenth century that spilled over into the twentieth century, even if political motivations were also a factor. The turn of

41. *Problemas agrícolas e industriales de México* 4: 3 (1951).

42. Cosío Villegas, "Tannenbaum."

the twentieth century was an epoch marked by economies of scale, mass production, sophisticated technological processes, unprecedented levels of investment, and ballooning global trade. From Díaz Dufoo's late-nineteenth-century perspective, capital, not natural resources, was the most important generator of wealth. But not only was his concept of what generated wealth a departure from earlier analyses, but also his notion of what constituted riches. Veering from raw resources associated with the legend, his conception of riches stressed processed industrial products. Despite these distinctions, his economic vision was in keeping with the legend in that he, too, envisioned a Mexico of economic grandeur, albeit of a different type. In the context of the Mexican Revolution, with its nationalist and Indianist elements, there was little sympathy for his economic vision, but many aspects of it were embraced about two decades later, when the era of the "Mexican miracle" began.

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The Mexican Mining Bubble that Burst¹

Ivani Vassoler

Similar to the 17th century “Tulipmania” in Holland when tulip bulbs became a top commodity causing a speculative fever that, in the end, ruined thousands of Dutch investors,² Mexico, in the first decades of the 19th century, became a hot spot for Europeans eager to reap huge profits from Mexican silver mines. Yet the mine-investing rush quickly proved to be much less profitable than European investors assumed, and foreign companies withdrew from Mexico, thus souring the newly independent country’s relationship with international investors. While the episode undoubtedly created a bumpy start for an emerging nation desperately in need of capital to finance its development, much less clear, however, is why it happened. As the expectations of high investment returns went unfulfilled, financiers in Europe alleged the one mostly to blame was Alexander von Humboldt (Kellner, 1963: 110) for his assessment of the Mexican mines’ potential, described in details in his *Political Essay on the Kingdom of New Spain* (1811). The accusations therefore raise questions as to what really prompted the cash. Did Humboldt exaggerate the quality and abundance of minerals in Mexico and their potential for huge profits, or were his writings misinterpreted, and possibly distorted, by financial experts? Was the crash, in the end, just the product of investors’ greed?

1. During colonial times Mexico, was for the Spanish Crown, simply New Spain. In this article New Spain and Mexico will be employed interchangeably for the sake and clarity of my arguments.

2. According to one estimation, (*The Netherlands Flower Bulb Information Center*) the market frenzy allowed traders of tulip bulbs to earn 60,000 florins (approximately US\$44,000) in a month. This was an astronomical sum that made people desperate to cash in on the speculative bulb market. Local governments tried to outlaw the commerce, but they were unsuccessful. As profits rose, family jewels were traded and small businesses were sold, so the revenues could be invested in the tulip business. In 1637, when a group of merchants was unable to get the high prices for the bulbs, the market crashed, leading investors to bankruptcy.

Alexander von Humboldt (1769-1859) spent a year in Mexico, between 1803 and 1804 during a five-year journey of discovery in the Americas. The trip included extended visits to Venezuela, Ecuador, Peru and Cuba, and a three-week stay in the United States. In 1799 he set off on his expedition to Latin America, at that time under control of the Spanish Crown, from which Humboldt received full support to travel to the region. The Spanish king Carlos IV issued Humboldt and his companion, Aimé Bonpland,³ a *carte blanche*-style letter of recommendation, which allowed the two explorers to travel all over the Spanish territories in the New World, with complete freedom to conduct research, make inquiries and collect materials as they wished. Aware of the existence of extensive mineral reservoirs in the Spanish-controlled colonies in the Americas, the king's expectation was that Humboldt's expertise in mineralogy would contribute to an increase of gold and silver production, which in turn would provide fresh resources to the Crown's dilapidated treasury.⁴

Humboldt was, in fact, highly qualified to examine the conditions of the mineral sector in Mexico and possibly that of any other country at that time. He studied geology in Saxony (now Germany) at the Mining Academy in the University of Freiberg, an influential silver-mining community, where a mining code was developed in the early 14th century.⁵ Studying in a mine-focused town under the guidance of professor Abraham G. Werner,⁶ Humboldt acquired conceptual and practical knowledge that he later employed in his research and publications. In Freiberg, Humboldt met a miner scholar from Spain, Andres Del Rio⁷, who was influential in Humboldt's decision to visit Latin America. After his studies in Freiberg, Humboldt started a career

3. Born in La Rochelle, France, in 1773; died in Santa Anna, Uruguay, in 1858. He studied medicine and was also a botanist. During the expedition, in company of Humboldt, Bonpland collected and classified about 6,000 plants, which he later described in details in *Plantes Equinoxiales* (Paris, 1810). In Buenos Aires, he was appointed professor of natural history, a position he left to explore other parts of South America. In Paraguay he was arrested, in 1821, accused of being a spy and spent 10 years in jail. Once free, he moved to Santa Anna. Experts consider his principal scientific work to be *Nova Genera et Species Plantarum* (Paris, 1815). See Appletons, 2001.

4. Increased revenue was a major objective of the Spanish Crown. As explained by Keen (1992, 129) "a major purpose to which that revenue was applied was the strengthening of the sea and land defenses of the empire."

5. As cited in the *Encyclopedia Britannica*.

6. Born in 1750; died in 1817. German geologist, who in the last part of the 18th century was the most notable figure in the investigation of rocks and minerals. He was the first to classify minerals systematically. Under his direction, the mining academy at Freiberg became one of the leading schools in Germany (Columbia 2001).

7. Born in 1764; died in 1849. Studied chemistry and mineralogy at Freiberg, where he befriended Humboldt. In 1794 he went to Mexico and taught at the newly founded *Colégio Nacional de Minería*. Del Rio's course in mineralogy is considered the first formal instruction in the subject in the New World. His book *Manual de Geología* is the first textbook of mineralogy to be published in the Americas (Watson, 2004). Del Rio is also famous for the discovery of vanadium, a metallic chemical element used in the strengthening of steel.

in mineralogy in his native country, first as an advisor to the Mining and Smelting Department in Berlin, and later as director general of mines in Franconia. Yet, a career as a government official was not what inspired Humboldt. Taking advantage of a substantial family inheritance, which he shared with his famous brother Wilhelm,⁸ Humboldt prepared what would be forever recognized as a pioneering and one of the most fruitful voyages of exploration and discovery ever made in Latin America (Kellner, 1963).

In the company of his friend Bonpland, and carrying almost four dozen scientific instruments, Humboldt touched land for the first time in the New World on July 15, 1799. The first stop on their scientific journey and personal adventure was Cumana, Venezuela. Their travels led them to Mexico, where they arrived on March 23, 1803. During the year in Mexico, which the Spanish Crown had named “New Spain”, Humboldt explored mountains, rivers and volcanoes, examined the ruins of ancient civilizations, observed the traits and attitudes of the native population, analyzed the country’s geography and, its natural environment, and dedicated considerable time to the study of Mexican mines. In Mexico City, Humboldt contacted his old colleague from Freiberg, Andres Del Rio, then director of the National Mining School (Colégio Nacional de Minería) and author of a manuscript that later, with Humboldt’s contribution, would become the first textbook of geology in the Americas. Their partnership deepened Humboldt’s interest in the mineral conditions in Mexico. The results of his meticulous research are presented in *Political Essay on the Kingdom of New Spain*, a firsthand description of the Mexican mining industry. His work, as a compilation of research and vivid descriptions of the working conditions, has never been supplanted. Past and present, those studying Mexico’s economy in the 18th and 19th centuries in one way or another rely on Humboldt’s work and his findings.

Humboldt arrived in Mexico a few years before the end of a colonial era that was financially based, almost exclusively, on the mining industry (Rodriguez O., 1980). Soon after the Conquista,⁹ the production of silver became an unmatched influence on the lives of those residing in New Spain and beyond it. The 3,000 mines scattered throughout the territory, employing around 15,000 men, had a demographic impact, as people moved close to the places of work. Distribution of population also affected agriculture and cattle raising; in the mining towns, personal incomes grew, thus creating markets for other industries (Florescano and Gil Sanches, 1980). Writing about the “silver boom” at that time, Mexican historian Lucas Alamán y Escalada (1849)

8. Born in 1767; died in 1835. A philosopher and philologist deeply involved in the reform of Prussian education. His goal was to promote a school system capable of molding citizens who would be able to think for themselves (Wertz, 1993).

9. Officially started with the arrival of the first Spaniards in Mexico (1519), under the command of Hernán Cortez.

observed that “without mining neither agriculture, internal trade nor industrious occupation of any kind prospers; population decreases or at any rate is stationary; consumption falls and annihilation of foreign trade follows.” So influential was the mining industry in New Spain that even religious life felt its impact, as Franciscans used to say “where is no silver, there is no bible” (Florescano and Gil Sanches, 1980: 557-8). For Spain, the precious metals produced by the colonies in the Americas were a much-needed source of income as the Spanish Crown was sinking into massive debt as a result of its military adventures and interest payments to European bankers (Lira, 1974).

Beginning with the discovery of the first mines in Zacatecas (1546), Guanajuato (1554), Durango (1563) and subsequently several others, New Spain in 1800 was the world’s number one producer of silver, responsible for more than two-thirds of the global output (Lira, 1974). The Spanish Crown allocated the great wealth that resulted from holding the monopoly on silver production to the interests of Spain, which meant very little of that considerable income circulated in New Spain. In what is very revealing of the disastrous economic policies of Spain in the colonies, the Spanish rulers imposed a 10 per cent tax on all silver extracted, and at the same time it monopolized the sale of mercury, which was employed in the amalgamation process of silver ore. Loaded with innumerable regulations and facing constant bureaucracy, the Mexican miners operated without the freedom to invest in their operations and prosper. As expected, the monopolistic system, worsened by mismanagement, curtailed the efficiency and productivity of New Spain’s mining sector. The situation was aggravated by labor shortages caused by epidemics among natives, who were victims of poor working conditions, and sickened by the effects of mercury exposure (Lira, 1974).

The antiquated Mexican mines did not escape Humboldt’s attentive eyes. His writings stress the shortcomings of the mining methods, including the absence of machines, and that bags of ore weighing between 150 and 350 pounds were lifted to the surface by ropes; in other cases, the ore was brought to the surface by workers who had to climb ladders of about 1,800 steps. His narrative details the difficult experiences of 5,000 men who mixed mercury and pounded metal while working bare feet, and condemns the practice of extracting water from the mines using animal traction. His views on the backwardness of the Mexican mines were, however, tempered by his estimations that productivity could be increased threefold through a variety of technical improvements and more efficient means of pumping out water.¹⁰

During the year Humboldt spent in New Spain, the country’s mining sector produced \$4,620,000 sterling pounds of silver. He estimated that under better conditions, production would increase. He stressed the comparative advantage of Mexican mines for their location at lesser heights and in a tem-

perate climate, contrasting to the higher elevation of Peruvian mines that operated in cold weather. According to him, silver production at Guanajuato mines alone (Central Mexico) was much higher than at the famous mines of Potosi (now Bolivia). Humboldt also recognized the superiority of the Mexican mines when compared to those in Himmelsfurst, Saxony's richest mine at that time (Humboldt, 1811). Despite his critical view of mining conditions, Humboldt left New Spain in 1804 convinced that Europeans knew little, if anything, about the wealth of the New World. His faith in the Mexican mines may have awakened the interest of European investors, until then oblivious to the Americas' potential (Kellner, 1963). But did his enthusiasm cloud his assessments to a point of misleading investors?

From Mexico, Humboldt travel to Havana, Cuba, and from there to Washington as a guest of honor of president Thomas Jefferson. He left the United States for Europe and never returned to the Americas. Several years later, his Political Essay on the Kingdom of New Spain was published in France, and subsequently in London, in 1811. In that same year, New Spain was engulfed in a major upheaval that would culminate 10 years later with a declaration of independence.¹¹ The end of colonial rule in 1821 was preceded by more than a decade of a bloody revolt that, in addition to giving birth to a new country, also doomed the Spanish Crown and hurt the mining industry in Mexico. As the War of Independence progressed, thousands of workers joined the rebel armies against the Spaniards, causing crippling labor shortages. The instability and insecurity that prevailed in the country basically paralyzed all economic activities; lack of mercury and tools, and the absence of workers led to the abandonment of a great number of mines, causing a dramatic drop in silver production (Cue Canovas, 1995).

At the end of its struggles, Mexico emerged as an independent country, but its economy was in ruins, and the mining sector in crisis.¹² Nation-building would require capital that only foreigners could provide, and this was a route that the fresh Mexican ruling elite decided to take. Thus, in 1822, about a year after the independence, Lucas Alamán y Escalada, Mexican minister

10. In his writings, Humboldt also made reference to Mexico's poverty and socioeconomic inequalities. In *Political Essay* (1811, 103) he observes that "Mexico is a country of inequality. Nowhere perhaps exist a more frightful inequality in the distribution of wealth, of civilization, of cultivation of the soil, and of the population. The Mexican Indians, seen in the mass, present a picture of profound misery. Relegated to the less fertile districts, indolent by nature and even more so by their political situation, they live only for the day. It is almost impossible to find among them men who enjoy a moderate fortune."

11. The War of Independence officially started on the night of September 15 1810 with the *Grito de Dolores*, the clamor for national liberation led by the Roman Catholic priest Miguel Hidalgo, a resident of Dolores, Guanajuato.

12. According to Rodriguez O. (1980), in 1820 the greatest mining region, Guanajuato, produced silver worth of \$22,000,000 pesos, while in 1801 this value was calculated at \$47,000,000 pesos.

of foreign affairs, and a miner, recruited a French company to invest in silver production in Mexico (Kellner, 1963). Jumping for the first time as a sovereign nation into the changing waters of the international economy, Mexico experienced firsthand the volatility of the international markets. With an initial capital of \$240,000 pounds, having Alamán as chairman of the board, and in possession of several mines close to Guanajuato, the Franco-Mexican Association simply failed.¹³ Its remnants were transferred to London under the name United-Mexican Association, inaugurating a 25-year period in which foreign investments in Mexican mines would be made essentially by the British. Between 1825 and 1850, a half-dozen British mining companies were established in Mexico. They all collapsed. Because foreign companies started operations in Mexico after the War of Independence, weren't European investors aware of the poor conditions of the country's mines and the destruction caused by the prolonged warfare? If investors relied on Humboldt's writings to make their financial decisions, as they said they did, was there nobody to alert them to the fact that his famous book was based on a field study conducted before the armed conflict that so greatly damaged the mining sector?

While it is plausible to assume that Humboldt's expertise, fame, notable book and faith in the Mexican mines did persuade investors to place their hopes in Mexico's silver production, one could argue that the very same reasons would be enough to convince investors to act with moderation. Although it is true that Humboldt believed there were mineral riches in Mexico, he also publicly exposed the industry's great shortcomings, and the need for sound technical improvements. He never spoke of quick, easy huge profits. Rather, he stressed the superiority of the Mexican mines when compared to others that he knew elsewhere, and the potential for increases in silver production in Mexico provided the mines underwent a process of modernization. Yet, investors apparently took his words as a guarantee of huge profits. Some of them were apparently ignorant of the ruined Mexican mines and the climate of chaos that prevailed in Mexico in the aftermath of war, while others were simply unscrupulous traders pursuing quick, easy money. In the end they all invested in Mexican mines, through a handful of British firms, which in their inflated prospectuses recommended investors read Humboldt's *Political Essay on the Kingdom of New Spain* (Cornish, 2004).

13. Kellner (1963, 107) observes that the Franco-Mexican Company offered the position of chairman of the board to Humboldt, who declined the offer with the following statement: "My disinclination for public affairs has been the reason for my repeated refusal of the honorable offers... You know how much I have been provoked by the mere idea of lending my name to the direction of the mining company... With this mental attitude for which I am known, with this innate horror for everything appertaining to the alleged mysteries of diplomacy, how could I be tempted to deviate from a position to which I have adhered for a long time and which seems the only one tenable for a man of letters living in a foreign country."

Employing Humboldt and his writings as involuntary tools of their marketing strategies, the firms promoted Mexico as a land of almost inextinguishable mining resources. Their public relations campaigns were reinforced by English diplomat Henry George Ward who, after visiting the town of Durango in 1826, declared that the Mexican mines would have a great future with the influx of foreign capitals.¹⁴ And John Taylor, the well-known English mining engineer who founded the British Real del Monte (one of the firms with operations in Mexico) published a document in 1825 – “Statements respecting the profits of mining in Mexico”—in which he contended that with prudent administration, profits of between 30 and 50 percent might be secured from the Mexican venture. Yet, Taylor went further to say that...

The collateral evidence to support the probabilities of such expectation is to be derived from the great amounts of profit formerly acquired and the statements of the proportion of costs in working mines to the actual amount of value of return. Many particulars of this kind are before the public and particularly in the works of Baron Humboldt: they have I know, excited ridicule of some, and have been treated seriously by others as exaggerations brought forth to tempt the unwary. The fact of enormous profit in many cases rests upon very good evidence; supposing that there were also very numerous cases of loss, that will only prove what I am all along ready to admit that mining to be profitable must be attended with skill and care...My inference from the whole is that mining in neither a certain source of immeasurable wealth, to be obtained by everyone who was lucky enough to get a share in any mine, in any place and under any kind of arrangement, nor is mining as it seems now the fashion, all a bubble, cheat and delusion...In Mexico, the number of unoccupied mines is still very great, but though that is the case, it is not capital alone that will work them. A great quantity of skill, experience and of labor also is required, and therefore, as the number both of able managers and experienced workmen is limited, so must be the extent of prudent enterprise.¹⁵

It is somewhat intriguing that with his experience and critical view, the sensible Taylor did not foresee the upcoming disaster. His company, British Real del Monte, lost in Mexico the astronomical sum, at that time, of \$5,000,000 pounds. The prospect of 50-percent profits proved to be extremely unrealistic. In the beginning, and taken by the notion of a highly profitable New World, Europeans and particularly the British embarked on a risky financial enterprise, thus contributing to a market frenzy when the shares' prices skyrocketed. Yet, as one company's failure led to another, stocks' values collapsed, ruining investors. As the Mexican mining bubble burst, foreign investors turned their anger against Humboldt, who received

14. Great Britain officially recognized Mexico as an independent nation in 1825.

15. As cited by Kellner (1963, 109-110).

the allegations with a great deal of indignation (Kellner, 1963). In the face of the accusations, Humboldt found defenders who stressed that the Mexican mining bubble and the subsequent market failure were attributable to a wave of speculation. In 1830, the British publication *Quarterly Mining Review* summarized the events as follows:¹⁶

By fraud and trickery and by putting in practice every art in which gamblers and swindlers are conversant, and in which several persons in elevated ranks in society were strongly suspected of being concerned, the trafficking in shares was carried to such extent as it can only be paralleled by the once famous, or rather infamous, tulipmania of Holland.

But since not all investors were speculators, it seems more appropriate to examine their ruin and the British firms' debacle as a result of sheer ignorance and investors' bad timing, the latter being a consequence of the former. To begin with, soon after gaining the independence, Mexico was plagued by political instability. The new Mexican government was coping with constant internal strife, illustrated by the fact that between 1821 and 1850 only one president, Guadalupe Victoria, completed his term, in 1828. In the two subsequent decades the country was ruled by 20 governments and about 100 cabinets (Rodriguez O., 1980). Compounding the problem, foreigners did not know how to deal with the heavy bureaucracy the country had inherited from the colonial administration. Tasting freedom for the first time, Mexican workers were restive, and several labor disputes ensued. In addition, the War of Independence heavily damaged the country's infrastructure, leading to delivery delays, a situation worsened by poor communication systems. It is well known, for instance, that several steam engines that were shipped from England to Mexico were never used because they were stranded on precarious roads, unable to reach the mining areas (Rodriguez O., 1980). Facing high costs of necessary imports, and operating in red, the companies refused to sink more money into the enterprises, leading to their demise.

Humboldt was influential, but it takes more than a book to attract foreign capital to a country. Once the foreign investors arrive, it certainly takes more than enthusiasm and optimism to transform investments into profitable enterprises. It does not require a great stretch of imagination to conclude that Humboldt's comprehensive description of New Spain's mineral deposits and his positive assessment of the mines' potential did in fact awaken the interest of Europeans in the New World. To assume, however, that he was responsible for the wave of speculation and the debacle that ensued is another story entirely. Lack of knowledge, bad timing and poor management played a huge role in the firms' failures, which made Mexico's first contact with the agents of the international economy an unpleasant experience. In any, and to some

16. Ibidem.

extent ironic case, Humboldt's faith in the Mexican mines was vindicated in the end. As the 19th century progressed and Mexico settled down, silver production became a quite lucrative business for companies and individuals.

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Writing In and Out of Time

Ann C. Colley

When Charles Darwin set sail on the *Beagle*, one of the prized possessions he carried with him was Alexander von Humboldt's *Personal Narrative*. The volumes were a parting gift from his university tutor, John Henslow, who recognized his student's admiration for the renowned natural historian.¹ On botany field trips, Henslow had listened to Darwin read aloud the "most glorious passages" from Humboldt's narrative.² Furthermore, the tutor had known of Darwin's attempts to emulate his hero by arranging an expedition to the Canary Islands. Although Darwin never succeeded in organizing this trip, he was eventually able to follow Humboldt's trail by joining Captain FitzRoy on his 1832 voyage to South America. At many points during his subsequent journeys, on land or by sea, Darwin used Humboldt's narrative as a guide.

Consequently, when the *Beagle* approached Teneriffe, the place where Humboldt had once landed on the Canary Islands, Darwin turned to the *Personal Narrative* to help him understand what he was seeing for the first time. He opened its pages and repeated to himself its "sublime" portraits of the unfolding tropical landscape.³ Later, recognizing that perception often depends upon preconceived ideas, Darwin proudly admitted that many of his thoughts and points of view were molded by Humboldt's observations.⁴ In a

1. Henslow inscribed his gift with the following words: "J. S. Henslow to his friend C. Darwin on his departure from England upon a voyage round the world. 21 Sept. 1831."

2. Janet Browne in her biography of Charles Darwin writes that Darwin "insisted on reading out what he called the most glorious passages from the book [Humboldt's *Personal Narrative*] during botany field trips" (Browne, 1995: 134).

3. In a 18 May 1832 letter to Henslow, Darwin wrote: "At Santa Cruz, whilst looking amongst the clouds for the Peak and repeating to myself Humboldts [*sic*] sublime description, it was announced we must perform 12 days strict quarantine" (Burkhardt and Smith 1985, 1: 236). As a result of this quarantine, Darwin never did get to visit Teneriffe.

4. In a letter home, Darwin explained: "I formerly admired Humboldt, I now almost adore him; he alone gives any notion, of the feelings which are raised in the mind on first entering the Tropics..." (Burkhardt and Smith, 1985: 1: 237).

sense, Humboldt's commentary helped Darwin navigate his emerging narrative (*Voyage of the Beagle*).

Given that Humboldt and Darwin were both naturalists, one might assume that Humboldt served primarily as a model of a scientist who thinks meticulously and energetically about what lies before him. Indeed, Darwin did respect these qualities and esteemed Humboldt's mastery of a wide range of data, but, for him, these virtues were not exclusively compelling. Darwin was also drawn to the emotional and aesthetic tenor of Humboldt's observations. He identified with Humboldt's sense of awe and confusion upon entering a new land where 'a civilized man has seldom trod' (Browne and Neve, 1989: 376). Darwin was also captivated by Humboldt's sensitivity to vast landscapes that stretch beyond the vanishing point—to spaces where the imagination can wander; to the scattered sublime and aesthetic moments that, at times, not only soften the measured timbre of Humboldt's prose but also alleviate the burden of the factual details weighing down his *Personal Narrative*.⁵

In a letter to Henslow, Darwin remarked on Humboldt's 'sublime descriptions' (Burkhardt and Smith, 1985: 1: 236) and, in so doing, participated in a culture all-too-ready to seek the rugged, dangerous, and massive elements in a landscape. Just as Humboldt's text paid tribute to the sublime, Darwin's own narrative indulged in the idiom and took its cue from the prescriptive qualities of grandeur, gloom, and peril that occasionally found their way into Humboldt's pages. As a result, in his travels, Darwin looked at a sky and remarked that its "profundity" is "everything Humboldt had ever described" (Browne, 1995: 290). And when Darwin wrote of "ominous" scenes that portray a "savage magnificence" (Engel, 1962: 281 & 211), or when he thought of what a "sublime spectacle" it is "to watch the shadows of night" (Browne and Neve, 1989: 298), he was responding not only to an accepted perspective but also to passages in Humboldt's narrative that spoke of the hazardous gloom spawned by the shadows of mountains that stretch over the surface of the ocean.⁶ Both Humboldt's and Darwin's appreciation for the sublime was also made more acute by their travels that brought them face to face with the immense and exhilarating forces within the earth's crust—the earthquakes, the volcanoes—and with the violent tempests in the air, all of which evoked a sense of danger, pleasure, and power.

5. For examples of the sublime moments in Humboldt's *Personal Narrative*, see: Williams 1818, 1: 75, 1:95, 1: 102, 1: 155-56, 1: 176, 1: 181, 1: 185, 3: 88, and 3: 106.

6. The passage from Humboldt's *Personal Narrative* reads: "The black mountains of Graciosa appeared like perpendicular walls of five or six hundred feet. Their shadows, thrown over the surface of the ocean, gave a gloomy aspect to the scenery. Rocks of basalt, emerged from the bosom of the water, wore the resemblance of the ruins of some vast edifice Y. Every thing which surrounded us seemed to indicate destruction and sterility Y" (Williams, 1818: 1: 95).

Both also occasionally participated in a specifically painterly sublime. Appreciative of Humboldt's artistic eye that 'never wearied admiring the beauty of the nights,' and that admired the way the moon, 'at intervals,' shot across the sky's vapors and exposed its disk on a firmament of the darkest blue (Williams, 1818: 1: 156), Darwin, thinking back to Humboldt's descriptive passages, also wrote about the light of the moon or the tint of the setting sun upon the mountains. Like Humboldt, Darwin noted how the transparency of the air rendered gradations of color. Both were interested in art (Humboldt actually more than Darwin), so that, periodically, upon viewing a prospect, each saw a framed copper engraving, a painting, a mezzotint, a da Vinci or a Claude Lorrain landscape. Both displayed a sensitivity to the way light creates delicate shades as well as a telling contrast between an object's form and its color.⁷

Yet, for all these parallels and for all the admiration that Darwin had for Humboldt, each narrative has its own distinctive ambience. A page from Humboldt cannot be confused with one from Darwin's narrative. Just what is this basic difference? One way to isolate the essential difference between the two is to think of the way each writer places the sublime moments within his text. The context, not the particulars of the aesthetic event, makes the difference. Basically, the distinction depends upon Humboldt's and Darwin's idiosyncratic relationship to time. Humboldt, who is primarily interested in discovering a universal set of scientific data, surrounds his sublime episodes with a narrative that is not concerned with time; whereas, Darwin, who is continuously struck by the mutability of his surroundings, positions his in a landscape mapped by his acute consciousness of the process of time.

Because of Humboldt's perspective, the sublime and aesthetic episodes do not strike the reader as being an absolutely integral part of the text. They seem almost extraneous (a peripheral bonus) to the narrative. Perhaps they even function as an interruption, for the reader has the sense that they do not properly belong to the general argument. Humboldt is so intent upon observing phenomena and then determining the relations that tie them together, and on finding what he terms their "marks of resemblance" (Williams, 1818: 3: 160) to phenomena elsewhere, that the sublime instant soon disappears in his desire to view "the Globe as a great whole" (Williams, 1818: 1: 233). Wanting to compare what he had learned on his travels with what recurs in a uni-

7. Darwin in his *The Voyage of the Beagle* wrote: "The view was striking: it may aptly be compared to a framed engraving, where the frame represents the breakers, the marginal paper the smooth lagoon, and the drawing the island itself" (Engel, 1962: 406). See also Darwin's correspondence in which he describes a view as being "more gorgeous than even Claude [Lorrain] ever imagined" (Burkhardt and Smith, 1985: 3: 233). Humboldt's *Personal Narrative* also contains references to paintings. In volume three, he writes: "This singular view reminded us of the back-ground of the fanciful landscape which Leonardo da Vinci has decorated his famous portrait of Gioconda" (Williams, 1818: 3: 22).

versal geography and wishing to find the relationship of these facts to what exists in different countries, to recall similar occurrences elsewhere, Humboldt moves, one might say laterally, through his landscape, in a narrative that is not so much embedded in time as seeking a more comprehensive, static vision. He looks at the Mexican fields and simultaneously recalls the most beautiful parts of France to create a parallel rather than a chronological perspective. The result is that Humboldt moves out of time and holds his surroundings still. As he admitted, he is not involved in things “successively observed” (Williams, 1818: 1: 40).

One striking example of this orientation can be found in a passage from the *Personal Narrative* when Humboldt climbs Silla, the mountain just outside Caracas. Although he offers a vivid, and even humorous, account of his difficult ascent and descent, the reader soon learns that Humboldt’s intention is not to tell an adventure story that reveals itself sequentially, but rather to discover the resemblances between what he finds there with what has been known in other countries. He constantly interrupts his progress up the mountain not only to record data (temperature, flora, rocks, and atmospheric pressure) but also, through the course of several pages, to move in parallel directions that reveal and note resemblances between the facts he is gathering and what he can trace in similar climates as far away as Asia. He is no longer moving in time and being struck with “the new impressions...at every step” (Williams 181, 3: 160), but is pulling away to construct a map or a chart that, in effect, immobilizes the landscape in order to uncover more universal laws that do not alter their perspective, step by step. Everything seems removed from time; immediate, specific place becomes less important. Another instance of this approach can be found in Humboldt’s observations of water-courses. Rather than following their path down the mountain slopes and through valleys, he stops the motion and concentrates, instead, on water-courses everywhere else that have parallel patterns. The result is similar to what happens when he interrupts his ascent of Silla. The chronology of the water’s course disappears under the pressure of links and connections to other places throughout the world.

Humboldt’s impulse is quite different from what Darwin’s was to be, in spite of their shared sensibility, for when Darwin, in his narrative, chose to describe the way water falls and moves, he emphasized the flow and the sequence of its path. Unlike Humboldt, Darwin unfolded its course through time. A passage from his narrative captures this view:

The sound [the rushing water over the stones] spoke eloquently to the geologist; the thousands and thousands of stones, which, striking against each other, made the one dull uniform sound, were all hurrying in one direction. It

was like thinking on time, where the minute that now glides past is irrecoverable. So it was with these stones...(Engel, 1962: 318).

The phrase “thinking on time” from the above quotation is a telling one: it describes Darwin’s acute sense of the ‘never ceasing mutability of the crust of this our world’ (Browne and Neve, 1989: 356)—a perspective that was encouraged by his avid interest in geology and his reading of Charles Lyell’s *Principles of Geology* while on board the *Beagle*, preoccupations that, of course, later encouraged Darwin to engage evolutionary theories.

Throughout the *Voyage of the Beagle*, Darwin’s sense of metamorphic action is pervasive: he tells his story through time. Darwin looked at a landscape and saw history; he peered into the past of his surroundings, and thought of the forces that once upheaved the mountains and might, in the future, wear them down. Nothing is static in his narrative; change is measured by the passing of minutes. For Darwin there was no resting place in charts and maps as there had been for Humboldt; there is only mutability, sequence, and traces of what has gone by. Darwin cannot escape the pressures of ‘all-powerful time’ (Browne and Neve, 1989: 211). In this context, then, the sublime moment is not one to be set aside, as Humboldt had done in his *Personal Narrative*, in favor of an agendum to establish patterns and harmonies of the cosmos. The sublime episode, in Darwin’s narrative, is not a distraction from his main aim, rather it is part of the continuum of experience. It is, therefore, neither extraneous nor parenthetical. It is part of the unfolding and, therefore, integral to the sequential thrust of his narrative. It does not threaten his perspective; rather, the precarious balance of the sublime moment that depicts a scene on the brink of alteration and disaster, very much supports a narrative dedicated to the idea of mutability.

Although both shared a sensibility that allowed them to appreciate solitude, a mysterious grandeur, delicate tones of color, and skies that resemble mezzotint engravings, the context into which each placed these qualities and perspectives alters the importance of the sublime or aesthetic moment and reveals a basic difference between the narratives of these two writers. Through these differences one better understands the more stationary, timeless nature of Humboldt’s studies that reject sequence in order to establish columns of data. And, certainly, one grasps better the time-oriented character of Darwin’s narrative.

Ironically, several years later, as if recognizing Darwin’s inclination to integrate the sublime moment into the scientific narrative, Humboldt finally admitted the importance of such moments for scientific discovery. In his second volume of *Cosmos*, Humboldt praised Darwin’s “extremely beautiful descriptions of Tahiti” and spoke of the “animating influence of the descriptive element” in “encouraging the scientific study of nature, and enlarging its

domain” (Otté, 1851: 2:80). Thinking not only of Darwin’s remarkable descriptions but also of those of other naturalists, as well as of scenes rendered in landscape painting, Humboldt suggested that there can be a valuable connection between the aesthetic and the scientific, the sensual and the intellectual; both are capable of recording the distinct and harmonious physiognomy of nature. In fact, so convinced was Humboldt of this possibility that he envisioned Panoramic buildings “erected in our large cities,” that should contain “alternating pictures of landscapes of different geographical latitudes and from different zones of elevation.” Through these structures Humboldt believed that “the conception of the natural unity” and the “feeling of harmonious accord pervading the universe” could not “fail to increase in vividness among men, in proportion as the means are multiplied by which the phenomenon of nature may be more characteristically and visibly manifested” (Otté 1851, 2: 98).

However, even after recognizing that the sublime is not necessarily antithetical to the scientific endeavor, Humboldt still maintains his distance from Darwin’s style of thought. As his remarks about the panorama reveal, Humboldt continues to be more interested in the harmonies of nature and its comprehensive laws than he is in the kind of thinking that helped create theories of evolution and structured itself in terms of sequence rather than pattern. For Humboldt time and the mutability of the earth remain less of a factor than they are for Darwin. Whatever the differences, though, the respective narratives’ sublime moments reveal an aesthetic quality, belonging both to Humboldt and Darwin, that frequently gets either forgotten or neglected. Both were drawn to the sublime and the aesthetic. The two scientists shared a tacit agreement: that these episodes are major elements in their work and in their attitude towards nature.

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Scientific Instruments in 'Cartas Americanas'

Ann de Leon

Most of my astronomical instruments, clocks, barometers, thermometers, hydrometers, electrometers, eudiometers, magnetometers, compasses... have arrived with no problem and are in constant use -Alexander von Humboldt, *Cartas Americanas*¹

As noted by Charles Minguet's *Cartas Americanas*, Humboldt's correspondence was prodigious, encompassing more than 35,000 letters. This feat is quite impressive if seen in the light of Humboldt's arduous and vast scientific investigations and travels. In reading these letters we may begin to map out the different enunciatory roles that Humboldt created for his diverse readership: constructing himself both as knowing subject and skilled scientist possessing top of the line scientific instruments obtained from Europe. Ironically after Humboldt's return from the jungles and forests of the New World he suffered from rheumatism in his arm making his letter writing skills even more strenuous. Essentially, his letters reflect his stoic self-fashioning through his narratives that at times become like small essays, or as places to preserve his scientific data, praise his patrons, or request funds or scientific instruments for his enterprise.

In *Cartas Americanas*, like Amerigo Vespucci before him, Alexander von Humboldt represents himself as a man of observation and inquiry, a natural historian and explorer of the Enlightenment period who will be willing to undergo many hardships and suffering in order to gain the pleasures of knowledge. Overwhelmed by the abundant nature surrounding him and in the spirit of the sublime, these observations take over his study of the locals. Although Humboldt briefly mentions the locals, he gradually becomes more interested in the effect that such magnificent landscapes and ways of living

1. All quotations from Humboldt are taken from Charles Minguet's edition of: De Humboldt, Alejandro, 1980. *Cartas Americanas*. Caracas: Biblioteca Ayacucho. Translations of the quotes are mine.

will have on the colonists. America represents for him an abundant natural laboratory. In his letters, Humboldt takes a proud tone, highlighting the hardships he undertakes in the name of science; even if it means that his body must be subjected to the dangers of animals, disease, and potentially corrupting foods.² His “martyred body” becomes, like his scientific instruments a probe into the natural world. In this paper, I wish to explore how Humboldt constructs himself as a knowing subject through representations of his martyred body. His martyred body appears to become an organic extension of his scientific instruments and in turn, his scientific instruments become an extension of the subject. By exploring the categories between self (Humboldt) and tools (instruments) I will argue that Humboldt at times blurs the lines between subject and object to the point where both his body and his tools become integral probes in the pursuit of scientific knowledge.

When reading *Cartas Americanas* we experience both the joy and ecstasy produced by Humboldt’s urgent writing to communicate to his readers, friends, patrons, and fellow scientists the amazing beauty of the dense natural landscapes he confronts. As Nancy Stepan would later write about the Brazilian landscape, America was also viewed by Humboldt as a magnificent “orgy of unimaginable forms.” These seductive yet threatening landscapes become for Humboldt abundant natural laboratories to probe with his scientific instruments, places where he will subject his body to a variety threats, disease, and natural catastrophes through his diligent and painstaking scientific work. As Humboldt notes in a proud tone “my most ardent and desired wish has been fulfilled” demonstrating the pleasures of gaining knowledge.

In his letters it is clear that Humboldt wants to show us the hardships that he undertakes in the name of science and the pursuit of knowledge. Humboldt appears to even take ecstatic pride in representations of his martyred body as he engages new worlds: “surrounded by tigers and ferocious crocodiles, my body martyred by the formidable mosquito and ant bites, not having ingested in three months any food other than water, bananas, fish and yucca.” Note how the mosquito bites become “formidable,” and how a lack of a proper European diet becomes “a great but momentary suffering” and hence does not become a threat to his European identity as posited by other European contemporaries on the threats of the corruptible American diet such as de Pauw. On the contrary, for Humboldt, the American landscape and its food products only pose a temporary threat to his body and identity which he will easily recuperate once he returns to Europe.

What emerges then, as noted by Janet Whatley, is more than just a Natural History of America, but an approach that is both: “improvisational and

2. It would be interesting to explore views on food and identity making or unmaking during Humboldt’s time. For more on incorporation studies, food and identity see Trudy Eden.

empirical, allowing expression of astonishment at the splendor nature” (Whatley, 1990: xxvi). While Michel de Certeau has noted in *The Writing of History*, with respect to the writing of natural histories, these works encompassed a cornucopia of themes:

From the baroque spectacle of the flora and fauna to their edibility; from primitive festivals to their utopian and moral exemplariness; and finally from exotic language to its intelligibility, the same dynamic unfolds. It is that of utility- or, rather, that of production, at least insofar as this voyage which increases the initial investment is, analogically, a productive labor, ‘a labor that produces capital’ (de Certeau, 1988: 224).

Humboldt’s own personal investment though, is of a different nature, it is more than just viewing the Natural landscape as a potential gold mine or resource for the Enlightenment period as suggested by Mary Louise Pratt in *Imperial Eyes*. Humboldt’s project was one of scientific camaraderie, a personal and arduous life threatening engagement with being a citizen of the world and learning about the natural world at spectacularly breathtaking heights. While Humboldt’s senses and appetites are overwhelmed, Humboldt manages in his narratives to both maintain his cool composure and remain a European subject, whose body can at times become permeable to external influences that could in his travels temporarily affect his identity. As Humboldt notes in one letter, he becomes afraid of “*desespañolizarse*” (de-hispanize himself), thus noting his permeability to change in both his identity and nationality.

The importance of scientific instruments to Humboldt’s enterprise cannot be over emphasized. Essentially his scientific instruments become a necessary extension of his self as a knowing subject and tools to pursue his scientific projects and observations of the natural and physical world. Planning his trips in Europe, Humboldt was even subjected to dangers when seeking to acquire more instruments. Humboldt placed his scientific inquiries for the good of all mankind and the progress of civilization in the face of wars and other inhumane events noting that his stoic self-fashioning was essential to his character: “but one must act like a man and not give into pain.”

Although I do not engage with questions of pain sensation³ and the transformation of the senses while Humboldt conducted his scientific experiments, it would be interesting to further pursue this phenomenon of the transformation of Humboldt’s written and experiential personae as he painfully and ecstatically engaged with the world. Perhaps a look at Humboldt’s narrative self-fashioning as a stoic and “manly” individual compared to por-

3. Perhaps it might be relevant to look at the work on pain by Elaine Scarry and Susan Sontag.

traits representing him as a handsome young man would be fruitful. The categories of stoic beauty, narcissism, and pain could be further explored.⁴

The production of knowledge by Humboldt was enabled by his almost “extreme-sports-enthusiast”⁵ attitude towards his work where the use of calibrated instruments were not enough, but required the martyrdom of his body and literally his pain sensors. Humboldt subjected himself physically to altered states of being which are reflected in his writings. He not only studied nature, but he felt nature as well, be it subjecting his body to high altitudes which caused bleeding of his eyes and nose, or being literally shocked by electric eels.

His was a pilgrimage of knowledge, with the permission of his various patrons and hosts where he received “royal permission to penetrate all regions with my instruments.” Proper scientific discoveries and data, and hence civility and progress were linked to societies with European tools, proper tools, calibrated tools in the hands of skilled men like Humboldt. Humboldt demonstrates the fluidity between himself as subject and a deeper connection to his object of inquiry through his tools, a holistic project between self (his body), world (cosmos and nature) and the medium between them scientific instruments and his martyred body. This holistic sense is made all the more present when he narrates the poetics of his scientific observations within the context of the sublime. His scientific instruments acquire a poetic quality as he notes in his “primarily astronomical and chemical observations (concerning the quality of air, temperature of the water etc.)” “the nights were sovereign: the moonlight over that pure and sweet sky enabling me to read over the sextant” “the sea shone every night” and “the birds came to find us” “How to describe the purity, beauty, and splendor of the sky here where often I read with a magnifying glass by the light of Venus the vernier of my small sextant? Here, Venus plays the role of the moon. Having large luminous halos, 2 degrees in diameter, with the most beautiful colors of the rainbow...here I observe it at a height that makes me sigh.”

The natural landscape and stargazing are seductive and awe inspiring. The stars are both useful for astronomical observations but also tinged with the medieval poetics of astrology in the belief that stars can influence the fate of one’s destiny or body.⁶ Humboldt’s work becomes poetic by the light of Venus, engaging moments that with each new discovery and adventure become delights for the senses: “What a spectacle!” “What joy” he exclaims when he travels to the bottom of a volcanic crater, further than any other nat-

4. This wonderful suggestion was proposed by Dr. Mauricio Font at the conference, “Alexander von Humboldt: From the Americas to the Cosmos.”

5. I would like to credit the term “enthusiast of extreme experience” as suggested by an audience member during the presentation of my talk.

6. See Cañizares-Esguerra.

uralist has. Oh, but what a pain as well when he describes the sulfuric vapors expelled from the crater, dangerous vapors that “bore right through our clothes and hands.” Pain and pleasure, danger and discovery, and “above us, the vault of the deep blue sky.”

In his passionate thirst for knowledge, perhaps Humboldt's greatest crime was the multiplicity of subjects and themes of study he undertook in his theater of nature. In his correspondences Humboldt struggles to both write a letter and hopes not to simply enumerate all the objects he comes across, or collects without presenting some scientific authority or data. Letters act as a presence for the body, but also to report the current state of his scientific instruments. For example, Humboldt reports to his friends how “my instruments used for anatomy, chemistry and physical studies have not been altered” and that he has been working during his travels at sea “on the chemical composition of the air, its transparency, humidity, also on the temperature of sea water, its density...my Ramsden and Troughton sextants and the chronometer of Louis Berthoud (that excellent instrument that gives me the longitude of Santa Cruz) have enabled me to determine it with great precision” but as always he complains about questions of urgency and time in his reporting and the anxiety of loss of data. It becomes clear why he includes many of his tables and measurements, thus transforming the letter into a type of scientific publication and introducing in his correspondence a community of readers such as instrument makers as well as the basic realities of field research: “the heat causes one to burn ones fingers when one touches their instruments made of metal exposed to the sun.” As he notes, “one requires a superhuman patience to make astronomical observations with precision and with love in such heat, and despite this crushing heat, my activities have not diminished.”

For Humboldt the pursuit for knowledge is one of patience, and diligence. Humboldt is very adamant about precise science, noting that any minor error can ruin a navigation route where maps are concerned and hence his role as a revisionist. At times though Humboldt approaches humility in science, calling himself simply an apprentice of nature “please note that I am simply an apprentice of astronomy and that I have only just learnt how to use these instruments for two years; that I have undertaken this voyage at my expense and that such expedition, made by one person, who far from being rich, but carried out by his own personal enjoyment and learning, cannot be compared to those carried out by governments, equipped by royalty, in which whole groups of sages have been reunited with the objective of investigating all branches of science.” What is certain though is that he constructs himself as obsessive in his pursuits, working with such zeal that while watching a solar eclipse he noted that when wanting to revise his own calculations “I have burnt my face in such a manner doing this observations, that it has been nec-

essary for me to stay in bed for two days and take medications. My eyes suffer a lot.”

The urgency of the preservation of his observations, data, and what scientific instruments he uses becomes more obvious when he states how he has to write many copies of the same letter for fear of the potential loss of knowledge “letters are often lost” and he urges his readers to communicate his findings, thus highlighting the importance of the dissemination of knowledge and scientific camaraderie. Humboldt takes his science seriously and takes pride in the accuracy of his methods and calibration of his instruments noting that “there is nothing more dangerous for the exact sciences than to drown good observations among a multitude of mediocre individuals.” Humboldt must also recognize the limits of his research when advocating the necessity in innovation of instruments for his research as he notes concerning magnetic declinations: “I have not found one instrument that would enable me to measure them with an approximation of 40 minutes.” Humboldt exposes proposals for future projects and a community of scientific correspondence thus highlighting his support for a younger future generation of scientific elites. I would like to end my paper here noting Humboldt’s greater vision of scientific inquiry through an extension of his body, not just through scientific instruments, but through his advocating the extended body politic of a younger generation of scientists.

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Dietland Muller-Schwarze

This paper has two aims. First, it highlights Alexander von Humboldt's concern with complex natural processes, going far beyond his time's the descriptive science. He was a farsighted forerunner of today's Ecology and Environmental Science. Secondly, the "Personal Narrative" is incomplete, ending with the landing in Colombia. I present some examples from Humboldt's remaining diaries that cover the years 1801 to 1804 of his "Amerikanische Reise." Margot Faak (1986, 1990) has translated the mostly French entries into German. They cover the journey through Columbia to Lima; the sea voyages to Guayaquil and Acapulco; the Mexican explorations; Humboldt's stay in Cuba; and the final sailing to Philadelphia to see President Jefferson in Washington.

Humboldt's Ambitions

Before leaving Spain, Humboldt wrote on June 5, 1799 in his cabin on the corvette *Pizarro*: "I will collect plants and animals, measure heat, elasticity, magnetic and electric content of the atmosphere, ...determine geographic longitudes and latitudes, measure mountains—but all of this is not the purpose of my travel. My real, only purpose is to investigate the mutual interactions ("Zusammen- und Ineinander-Weben") of all forces of Nature, the influence of inanimate nature on the living animal and plant creation." After his travels he wrote:

I was passionately devoted to botany and certain parts of zoology, and I flattered myself that our investigations might add some new species to those already known, both in the animal and vegetable kingdoms; but preferring the connection of facts which have been long observed, to the knowledge of insulated facts, although new, the discovery of an unknown genus seemed to me far less interesting than an observation on the geographical relations of the

vegetable world, on the migrations of the social plants and the limit of the height which their different tribes attain on the flanks of the Cordilleres (PN, p. X).

Humboldt focused on discovery of new species of animals and plants; determining elevations, geographical coordinates, magnetism, electric charges in the air, ocean and river currents; connectedness of abiotic and biotic factors; notably plant distribution and plant geography; effect of landscape, especially vegetation, on people; use and conservation of natural resources; and well-being of people, based on resources and their living and working conditions.

Early Preparations in Freiberg (Fig. 37-1) and elsewhere

FIGURE 37-1. Freiberg in Saxony, a mining town where A.v. Humboldt studied at the Mining Academy and held his first post.



In his 1793 “*Florae Fribergensis specimen*” Humboldt postulates a new form of plant geography; he wants to go beyond descriptive taxonomy and nomenclature. When Humboldt works as Prussian mining inspector, his detailed reports from Bavaria, Bohemia and Poland foreshadow his later vast scope of the “*Amerikanische Reise*.” Effects of altitude and topography on climate and vegetation intrigue him in the Swiss and French Alps in 1795 and will for a lifetime.

Humboldt’s Methods

In our investigations we have considered each phenomenon under different aspects, and classed our remarks according to the relations they bear to each

other. To afford an idea of the method we have followed, I will here add a succinct enumeration of the materials with which we were furnished for describing the volcanos [sic] of Antisana and Pichincha (Fig. 37-2), as well as that of Jorullo: the latter, during the night of the 20th of September, 1795, rose from the earth one thousand five hundred and seventy-eight French feet above the surrounding plains of Mexico. The position of these singular mountains in longitude and latitude was ascertained by astronomical observations. We took the heights of the different parts by the aid of the barometer, and determined the dip of the needle and the intensity of the magnetic forces. Our collections contain the plants which are spread over the flanks of these volcanos, and specimens of different rocks which, superposed one upon another, constitute their external coat. We are enabled to indicate, by measures sufficiently exact, the height above the level of the ocean, at which we found each group of plants, and each volcanic rock. Our journals furnish us with a series of observations on the humidity, the temperature, the electricity, and the degree of transparency of the air on the brinks of the craters of Pichincha and Jorullo; they also contain topographical plans and geological profiles of these mountains, founded in part on the measure of vertical bases, and on angles of altitude (PN, I, XIII).

FIGURE 37-2. Top: Cotopaxi, considered by Humboldt the most beautiful of the Andean peaks. Bottom: Pichincha, as seen today from Quito airport. Humboldt climbed Pichincha several times and studied its volcanic activity.



Humboldt's methods were to describe; measure; compare and contrast; experiment. He tries to see causation of observed facts. For example, he tries to explain fever-producing "Miasma" by peculiar local soil and rocks. Finally, in addition to facts and details he espoused a holistic approach, considering landscapes, describing them in "nature paintings."

Compare and Contrast

One of his most global comparisons is: “In the Old World, nations and the distinctions of their civilization form the principal points in the picture; in the New World, man and his productions almost disappear amidst the stupendous display of wild and gigantic nature” (PN, XXI). Early on in Venezuela, Humboldt compares elevations and plants at the Silla mountain chain near Caracas to the Alps of Switzerland, mentioning specifically *Rhododendron* (PN I, 427).

He compares the Lake of Valencia to the Lake of Geneva (PN, II, 2), and the Llanos of Venezuela to steppes in North Germany, Hungary, Russia, etc. (PN II, 85). Humboldt compares the new to the familiar:

The alpine vegetation is very beautiful. Nothing but shrubs of 1.4 to 2.9 meters height, everything similar to myrtle and juniper, a grand character of the regions I ascended, the *Brathys juniperina*, *decussata*...the *Lysianthus grandiflorus*, the *Segesbekia*, the *Alsonia theiformis*, the *Espeletia* (the *Frailejón*), the *Castilleja*, *Lobelia*, *Wintera granadensis*, *Weinmannia pinnata*, *Eriocaulon*, *Hippia*, *Dichondra*, *Melastomen* with yellow and purple blossoms, the *Rotmannia*, and numerous other syngenesists on a grassy carpet of cryptogams, of *Lichen paschalis*...on black humus soil as that of the Swiss Alps (RM II, 38).

When climbing Cotopaxi (Fig. 37-2) (RM II, 76ff) he describes, compares and contrasts the vegetation: At 3,000 meters elevation: *Barnadesia*, *Duranta*, *Berberis*, *Aralia*, *Vallea*, alder, some *Melastomae* und *Calzeolariae* (p. 77). Lower, at 2,500 meters: *Crotons*, *Iraca alata*, “Signs of Warmth.” “In 30 minutes one descends from the climate of Bogotá to that of Cumaná. Nowhere else one can observe more on the geography of plants!” (RM II, 77).

Humboldt compares mountains and rivers. On July 25, 1801 he is impressed by the view of Tolima: “They offer a great vista, these peaks steeped in the snow of the North, while palms and bananas form the foreground” (RM I, 37). When descending Cotopaxi, Humboldt remarks: “Cotopaxi, the most beautiful cone in the world” (RM II, 75). He generalizes that narrows in valleys always follow a wider section: at Gotthard, Maipures, and here in Guáitara Valley: Water accumulates and forms a lake, the accumulated water masses become strong enough to break the dam. A narrows (*Angostura*) is formed, and the drained lake becomes a plain around the riverbed” (RM II, 163). Furthermore, he compares wind, temperature, and “salubrity” of the 3 rivers *Orinoco*, *Amazon*, and *Magdalena* (PN II, 315).

The party climbs Chimborazo (Fig. 37-3) on June 23, 1802 (RM II, 100). Comparing the Paramo vegetation (Fig. 37-4) of Chimborazo to that of other Andean peaks, he finds it wanting: “But unfortunately, the Chimborazo is also the plant-poorest of all Nevados we visited, unfortunate not only for us

who had already seen the alpine plants of the other volcanoes, but also per se by the low species richness that its green areas offer.” “Nothing but grasses, a few Chacuri (“*Stachelina*”), *Swertia quadricornis*, Saxifrages, Gentian... a meager vegetation, not matching the beauty of this colossus” (RM II, 108).

FIGURE 37-3. Chimborazo. Humboldt reached his highest altitude here, developed his model of altitudinal plant zones, and considered the Paramo vegetation at Chimborazo impoverished.



FIGURE 37-4. Paramo flowers at Cotopaxi.



He even takes a comparative approach to languages and compares Pareni and Maypure tongues (near the Orinoco’s Maypure Falls) and speculates about their relationships, based on shared words and “analogies.” Pareni might be a mixture of two languages, he suggests (PN II, 303).

Experimental Analysis

During the sea voyage, Humboldt experiments on swim bladder and fin physiology of Flying Fish by stimulating nerves that innervate pectoral fins (the rays spread in response) and calculates the force for flying (PN. I, 131). In Venezuela, electric fishes provide an opportunity for self-experiments: Bonpland and Humboldt get shocked many times. The “experimental” horses are driven into the lake with the electric eels: “In less than five minutes two of our horses were drowned. The eel being five feet long, and pressing itself against the belly of the horses, makes a discharge along the whole extent of his electric organ. It attacks at once the heart, the intestines, and the caelic fold of the abdominal nerves” (PN II, 113).

The “cow tree” (*Palo de vaca*), *Chrysophyllum cainito*, of Venezuela has potable milk. Humboldt finds it nourishing, senses a “balsamic odor”, and does chemical tests. But he does not ask what the tree may have the milk for (PN II, 4).

Humboldt wonders how baby turtles find their pools and experiments on orientation and homing. His helpers take little turtles in a bag from the river, place them with their tails to the river: they find back. “I confess, that this experiment, of which Father Gumilla speaks, does not always succeed equally well: yet in general it does appear that at great distances from the shore, and even in an island, these little animals feel with extreme delicacy in what direction the most humid air prevails” (PN II, 193). These *tortuguillos* emerge at night, because they fear the heat of the sun, the Indians tell Humboldt. “Reflecting on the almost uninterrupted layer of eggs that extends along the beach, and on the thousands of little turtles that seek the water as soon as they are hatched, it is difficult to admit that the many turtles which have made their nests in the same spot, can distinguish their own young, and lead them, like the crocodiles, to the lakes in the vicinity of the Orinoco. It is certain, however, that the animal passes the first years of its life in pools where the water is shallow, and does not return to the bed of the great river till it is full-grown. How then do the *tortuguillas* find these pools? Are they led thither by female turtles, which adopt the young as by chance? (PN II, 193).

Humboldt was the first to witness a “poison-master” preparing curare from the bark of the liana *Chondrodendrum tomentosum* and tested the effects of curare: He placed curare on the crural nerve of frogs found no change of irritability. But “Galvanic experiments succeeded upon birds, some minutes after I had killed them with a poisoned arrow” (PN II, 445).

Humboldt examines coastal mangrove forests as possible sources of fever-causing *miasma*. West of the mouth of the Rio Capaya on the north coast of Venezuela he noted: “This spot is one of the most unhealthy of the

whole coast.” To find an explanation for the “extreme insalubrity of the air” he conducted experiments on decomposition of mangrove wood and roots. He found that mollusks and insects abound in the mangrove. In Caracas, he experiments with mangrove branches and roots he puts in water: “The infusion in warm water had a brown color and an astringent taste. It contained a mixture of extractive matter and tannin.” He further describes how mangrove grows seaward, and dies in back, extending land while the mangrove belt does not increase in width. He conducts various decomposition experiments in sun, and in closed glass vessels. He did not observe the formation of sulfur compounds (PN I, 371ff).

Holistic Views

Upon arrival in Colombia, Humboldt investigates geography and environmental relations of plants, an approach he was the first to suggest and pursue. He complains: “Some botanists have explored the coastal areas and seen nothing but plants” (RM I,1). Including humans, Humboldt notes: “The forms of plants determine the physiognomy of nature; and this physiognomy influences the moral disposition of nations” (PN II, 257). And “A savage’s state is primarily modified by the Nature of the climate and soil he inhabits. It is these modifications alone that distinguish the first inhabitants of Greece from shepherd Bedouins, and from Canadian Indians” (FB 54). And “The influence of food, more or less stimulating the character and energy of passions, naval history, and wars undertaken for the dispute of produce of the vegetable kingdom; these link all the Geography of Plants to the political and moral history of man” (FB 55).

On esthetics:

Man’s sensitivity to the beauty of Nature also explains the influence vegetation’s appearance has on the taste and imagination of people. Man would be advised to examine what the character of vegetation consists of, and the variety of sensations vegetation produces in the soul of those who contemplate it. These considerations are all the more important because they touch upon the means by which the arts of imitation and descriptive poetry act on us. The simple appearance of Nature, the sight of fields and woods, cause a rejoicing that differs essentially from the impression a particular study of the structure of an organized being provides. Here it is the detail that interests us and excites our curiosity; there, it is the whole, whole masses, that agitate our imagination. What more differing impressions between the appearance of a vast prairie bordered by a few trees, and the appearance of a thick and somber wood mixed of oak and fir trees? What is the moral cause of these sensations? Are they produced by Nature, by the grandeur of masses, the contour of forms, or the haven of plants? How can this haven, this view of Nature more

or less rich, more or less pleasant, influence the mores and, primarily, the sensitivities of peoples? (FB 55).

Humboldt's Results

To what extent did Humboldt succeed in his synthesis? What were the results? About 60 years before E. Haeckel coined the word *ecology*, Humboldt examined ecological processes. His examples of ecological conservation are most relevant for today. At the Venezuelan coast, intense pearl fishing had depleted the pearl oyster stocks. They were harvested all year, with no protection. One boat collected 35,000 oysters in two to three weeks. 10,000 shells had no pearls. "At present, Spanish America furnishes no other pearls for trade than those of the Gulf of Panama, and the mouth of the Rio de la Hacha" (PN I, 193).

The chicks of the cave-breeding guácharos or oilbirds (*Steatornis caripensis*) of the goatsucker family are killed for their fat. Humboldt visits the Cave of Guacharo in the valley of Caripe in the Sierra del Guácharo (PN I, 255ff). "A mine of fat," he notes. Once per year, in midsummer, the Indians harvest "bird butter" ("Manteca, or aceite, of the guácharo"). They kill several thousand chicks. They render the fat at the entrance to the cave by boiling. The preservation of the guacharo is unplanned: The Indians fear to go deep into the cavern. With Humboldt, they did not go beyond 472 meters. Other, narrow caves also exist. Humboldt follows a 28 to 32 feet wide river into cave. After his visit to the cave, he generalizes on the origins of caves (PN I, 263). As usual, he measures the temperature of the cave as 18.7 degrees centigrade in September. Outside, the hottest temperature of the year was 19.5 degrees centigrade (PN I, 271).

Humboldt described the Indians' harvest of river turtle eggs for oil on an island in the Orinoco near the missions of Uruana below the Great Cataracts of Apure and Maypure. He worried about the lack of prudent management under the Franciscan monks who succeeded the Jesuits in the Orinoco Missions: "The Jesuits did not suffer the whole beach to be searched; they left a part untouched, from the fear from seeing the breed of *arrau* turtles, if not destroyed, at least considerably diminished. The whole beach is now dug up without reserve; and accordingly it seems to be perceived that the gathering is less productive from year to year" (PN II, 189).

In the Páramo (mountain vegetation), normally spectacled bears feed on the pineapple-like achupalla (*Pourretia sp.*). Achupalla that livestock has moderately eaten tips from, produces best cogollo (fresh growth). Because heavy rains and later frost destroyed food plants, particularly maize, in Pastos Province, people had to eat these achupallas. "The people live like bears.

They roam through the Páramos and chop off the tops of Pourretia. The heart of the achupulla resembles palmiche, the young palm leaves.” The achapullas were decimated, and “the bears retaliate:” “they attack cattle” in an ecological chain reaction (RM I, 168).

The shrinking of the Lake of Valencia in Venezuela concerned Humboldt:

The basin presents several other phenomena, and suggests questions, the solution of which is interesting alike to physical science and to the well-being of the inhabitants. What are the causes of the diminution of the waters of the lake? Is this diminution more rapid now than in former ages? Can we presume that an equilibrium between the water flowing in and the waters lost will be shortly re-established, or may we apprehend that the lake will entirely disappear? (PN. II, 5).

He saw forests as important for the lake’s level: Cutting down forests leads to 1) lack of fuel; 2) erosion; 3) lack of water. Finally, reduction of Lake of Valencia results (PN, II, 9). And:

Several parts of the vast forests that surround the mountain, had taken fire... The inhabitants set fire to the forests, to improve the pasturage, and to destroy shrubs that choke the grass. Enormous conflagrations, too, are caused by the carelessness of the Indians, who neglect, when they travel, to extinguish the fires by which they have dressed their food. These accidents contribute to diminish the number of old trees in the road from Cumana to Cumanacoa; and the inhabitants observe justly, that, in several parts of their province, the dryness has increased, not only because every year the frequency of earthquakes causes more crevices in the soil, but also because it is now less thickly wooded than it was at the time of the conquest (PN I, 210).

Humboldt inspects the Royal Water Drainage at Mexico City more than once, and with the greatest interest. He finds that the draining of Mexico City made soil and water more saline, the soil less fertile, and the air drier. Water plants shallow water and liberate hydrogen sulfide that one can smell in Mexico City. He was very critical of the layout, planning, execution, and the human cost of the Royal Draining Works (RM II, 256).

Humboldt even engaged in what we now call Chemical Ecology and consider a rather modern scientific discipline. On chemical diversity of plants he observes:

We see that specimens of sugar and tannin extracted from plants, not of the same family, present numerous differences: while the comparative analysis of sugar, gum, and starch; the discovery of the radical of the prussic acid (the effects of which are so powerful on the organization), and many other phenomena of vegetable chemistry, clearly prove that substances composed of identical elements, few in number and proportional in quantity, exhibit the most heterogeneous properties, on account of that particular mode of combi-

nation which corpuscular chemistry calls the arrangement of the particles (PNI, 214/215).

This discussion started with the medicinal properties of the Cinchona tree. “Geophagy” in different regions of the world fascinated Humboldt: Women at Rio Magdalena, who make pottery, regularly ate clay, even though not pregnant. Blacks in Guinea eat yellowish earth called *caouac*. Slaves taken to America continue this habit, even though the soil in the West Indies is not as good (PN II, 497). Workmen in the sandstone quarries of the Kiffhauser, Germany, “spread a very fine clay upon their bread, instead of butter, which they call “stein”—butter (stone butter)” (PNII, 502). As for geophagy counteracting hunger, Humboldt compares different cultures’ coping with hunger: “We visited the Mission of Uruana on our return from the Rio Negro, and saw with our own eyes those heaps of earth which the Ottomacs eat, and which have become the subject of such lively discussion in Europe.” Humboldt’s footnote: On chemicals common to animals and plants: “the chemical principles that were believed to be peculiar to animals are found in plants; a common chain links together all organic nature.” He lists wax in pollen, the varnish of leaves, “and the whitish dust of our plums and grapes, the inhabitants of the Andes of Quindiu made tapers with the thick layer of wax that covers the trunk of the palm-tree” (PN, II, 50).

This earth is a greasy kind of clay, which, in seasons of scarcity, the natives use to assuage the cravings of hunger; it having been proved by their experience as well as by physiological researches, that want of food can be more easily borne by filling the cavity of the stomach with some substance, even although it may be in itself very nearly or totally innutritious. The Indian hunters of North America, for the same purpose, tie boards tightly across the abdomen; and most savage races are found to have recourse to expedients that answer the same end (PN II, 196).

Humboldt notes that not all clays are alike. Earth eaters are selective. At the Orinoco, near Falls of Maypure, he noted:

During the period of these inundations, which last two or three months, the Ottomacs swallow a prodigious quantity of earth. We found heaps of earthballs in their huts, piled up in pyramids three or four feet high. These balls were five or six inches in diameter. The earth which the Ottomacs eat, is very fine and unctuous clay, of a yellowish grey colour; and, when being slightly baked at the fire, the hardened crust has a tint inclining to red, owing to the oxide of iron which is mingled with it.... The Ottomacs do not eat every kind of clay indifferently; they choose the alluvial beds or strata, which contain the most unctuous earth, and the smoothest to the touch (PN II, 495).

Finally, an entry in March 1803 deals with landscape odor:

In the morning (of the 22) we were 9 miles from the coast and perceived a pleasant earth odor that excited the attention of our dog Cachi (the pigs are the animals on board that notice the vicinity of land from the greatest distance; but what a snout nature has given them! When approaching the narrows of San Bernadino, where aromatic plants fill the air with their scent, the pigs become restless and sniff toward the side of the land, even when still 30 to 40 miles distant). This earthy smell completely resembles the pleasant odor one perceives after a minor thunderstorm rain in spring in Europe... (RM II, 200).

Other ecological questions

Among a myriad of ecological questions, Humboldt asked, for example, what caused “black water” (*aquas negras*) so typical for many rivers? The missionaries told him “waters are coloured by washing the roots of the sarsaparilla” (PN II, 323).

Humboldt ordered vegetation into plant zones and successions: “In the northern part of temperate zone, the cryptogamous plants are the first that cover the stony crust of the globe.” Lichens and mosses, “succeeded by gramina and other phanerogamous plants.” On the island of Teneriffe Humboldt distinguished five zones of plants from sea level to the mountains: vines, laurels, pines, retama (*Spartium nubigenum*, a 9-foot “beautiful shrub,” with odoriferous flowers; goatherds decorate their hats with it), and grasses (PN I, 115). Humboldt saw single trees outside “palmar” or “pinar” (stands of palms or pines) as “colonists”, i.e. pioneers (PN II, 408).

Humboldt noted that plants are peculiar to regions: “...1st, that the New World possesses spices, aromatics and very active vegetable poisons, peculiar to itself, and differing specifically from those of the Old World; 2ndly, that the primitive distribution of species in the torrid zone cannot be explained by the influence of climate solely,..Analogy of climates is often found in the two continents, without identity of productions” (PN II, 320).

Humboldt was less systematically interested in animals as he was in geology, mining and plants. Especially in his *Views of Nature*, Humboldt tries to convey to the general reader the impressions animals and their nocturnal sounds made on the travelers. For instance, “On the Casiquiare the tigers roar from the trees” (PNI, 74). He mentions poisonous snakes, jaguars in passing (PN I, 189); habits of caymans feeding on capybaras (PN II, 156); nocturnal noises in the tropical forest may indicate disturbances; Humboldt speculates on causes of animal calls and interactions of species (PNII, 163); describes piranhas in relation to danger to people (PNII, 167); and dissected a manatee (PN II, 169). Many of the collected animals did not survive the shipping. We have mostly his drawings of animals such as fish or monkeys. He describes two tortoise species in the Orinoco: The “arraus” are social, and “terekays”

more solitary when laying eggs. “Terekay” tastes good and is much pursued in Spanish Guiana (PN II, 187).

Humboldt notes the lack of fish in mountain streams. “All these mountain streams are very devoid of organic creatures, of the fish only *Pescado Negro*” (Faak I, 156). Río Pita at Cotopaxi has no fish. Humboldt asks why. The temperature seems sufficient. But sulfur in water from Cotopaxi eruptions may be the culprit? Only the “*Preñadilla*,” a two- to three-inch fish, exists in slow stretches of small streams. “Did Quito have fish 3000 years ago? Did alone the “*Preñadillas*” survive? (RM II, 55). He knew of only two fish species in the high plain of Bogota: “*Capitán*” and “*Guapucha*.” The Highlands of Popayán and Pasto only have “*Pescado Negro*.”

On Cotopaxi: “The highest point we reached is “*Suniguaicu*” in the southeast of the volcano with 2263 toises [4390m] elevation, where the corrected barometer at 10 am stood at 6 degrees Reaumur [4.8 degrees] by 201.3 lines [402.6 mm]. We spent the rest of the day hunting deer of which there are many and very big ones. I saw no difference to the European deer” (RM II, 84).

Humboldt describes fossil elephant bones at “*Campo de Gigantes*” near Bogotá:

The disorder the animal parts are found in proves that the animal did not graze there (as in Burgtonna), but that it was washed up there, almost as in the cave of Gailenreuth. Is there another spot on Earth where there are elephant bones in 2633 m (1357 toises)? The bones were mixed with those of calves and humans from Indian cemeteries, and horns of cattle. We have sent beautiful pieces of these elephants to Cuvier in Paris (RM I, 42).

What Humboldt could not know

Frequently Humboldt describes valleys where people contract what was then called the “three-day recurring fever.” Still before the age of microbiology, he postulates “*Miasma*” as cause. Today we know he talked about malaria. He speculated about rocks and soils that might be at the root of the “*miasma*,” e.g. in the valley between Popayán and Pasto:

The natives of the valley suffer from Carate (rash), “hot fever,” tercianas, do not reach a high age, and the village Patía is still more enclosed in a bowl than the rest of the valley. Winds are very rare. No vegetation, therefore no decomposition in the valley, hence difficult to understand the miasmas. Air still, therefore, since chemical, *miasma* forming mixtures form more easily in still than moving air, particularly facilitated by solar radiation that reverberates great heat (RM I, 150).

On evolution, he is cautious, as there were few links known between fossils of different ages. Speaking of fossils, he deems them:

The characteristic forms of plants and animals presented on the current surface of the globe do not appear to have been subjected to any changes since those ancient times. The ibis buried in the catacombs of Egypt, a bird whose antiquity goes almost as far back as the pyramids, is identical to that which fishes on the shores of the Nile today; its identity evidently proves that the enormous casts of fossil animals held in the bosom of the earth, not belonging to the variety of current species, in fact belong to a very different order of things than we currently live under, far too ancient for our traditions to include them (FB 54).

Humboldt's Humanism

In the mangrove on Cayo Buenito, on the South coast of Cuba, an event disturbs Humboldt: "On Cayo Buenito was a dense forest of laurel-like *Rhizophora* mangrove, the soil-stabilizing *Avicenna nitida*, small-leaved euphorbias, syngenesists, and a beautiful, succulent, grey-green (fol[iis] incanis) *Tournefortia* which spread a pleasant fragrance. Numerous pelicans had nested on the trees. A sloppy nest of a few twigs, in keeping with the stupidity, carelessness of large aquatic birds. The sailors, angry not to find lobsters, climbed the trees and fought with the pelicans, who defended themselves with their enormous, 22cm ("8 Zoll") long baggy bill. When we left the island, bleeding and mutilated pelicans were writhing all over the trees. The adults croaked around the boat, bewailing their young. So man leaves everywhere the traces of his destructiveness, causing misery wherever he sets his foot (RM I, 44).

Other Quotes from the Log of *Amerikanische Reise* (transl. & edited by M. Faak)

The highlight of this "missing part of the Narrative" is the exploration of the "Avenue of the Volcanoes" in mostly Ecuador, followed by Humboldt's work in Mexico, where, among other things, he measured the height of the Popocatepetl (Fig. 35-5), but did not climb it.

Humboldt marvels at the unique physiognomic character of the Paramo. He finds the shrubs and flowers not comparable to any alpine vegetation in temperate zones (RM I, p. 439).

At the foot of Cotopaxi he measures and draws the Inca palace at Callo. (RM I, 440). It was a way station (Caravanserei, hotellerie) on the 20 feet wide Inca Trail that went 12,440 feet high. "I have drawn three pictures of the palace," (RM I, 79. l. 23). The house is a large square the sides of which are 98 feet long" ... "These windows are in the style of the doors, wider at the bottom than at the top." "The inner ones are closed, 'blind windows,' and seem to have served only as recesses to store things. Between the windows, and above them, protrudes a cylindrical rock. This seems to be the only deco-

ration on this edifice” (RM I, 80) Humboldt stayed at the Hazienda San Agustín de Callo, which was built onto the old Inca palace. Today, Hazienda San Agustín de Callo (Fig. 35-6) is a tourist lodge that emphasizes the Humboldt legacy.

FIGURE 37-5. Popocatepetl. Humboldt did not visit Popocatepetl, but measured its height from Mexico City. The pines are *Pinus hartwegii*.



In Chapter 5 of Faak’s 2nd volume, entitled “In Quito,” Humboldt marvels at Cotopaxi: “Cotopaxi—this is a perfect cone, the most beautiful of all Nevados.” (RM II, 81). Below Cotopaxi, near Machachi, Humboldt describes a slow ridge which separates the waters of the Pacific Ocean from those of the Atlantic Ocean: “This little dam separates the waters of the Pacific Ocean from those that flow into the Atlantic” (RM I, 78).

On April 28, 1802 they climb Cotopaxi, “to study the streams or stretches of volcanic matter from close up. It had snowed heavily during the night from the 27th to the 28th, so that we met with snow below 3705 m (‘1900 toises’) which hampered our botanical research very much.” “Poor Joseph [presumably José de la Cruz] who carried the barometer, suffered endlessly. He walked barefoot for 3 hrs on snow and never lost his good humor” (RM II, 83). Further south, Humboldt stays with a catholic priest in Penibe near Riobamba: “Nothing is in this land as commonplace as married catholic priests. His predecessor had lost his job, because he had let made undergarments for his girlfriend from church vestments; this one introduced without hesitation one of his sons (This not for publication)” (RM II, 98). Humboldt visits the Cerro del Azufre (Sulfur mountain) ¼ mile South of Tixán and recommends more efficient operation of the mine. He notes: “Strange arrival in Tixán. More than 30 barefoot farm workers greeted us. The priest hard of hearing with the French Disease (a consequence of Syphilis)” (RM II, 112). Similarly, a priest’s assistant in Ayabaca on the border of Ecuador with Peru complains about his French disease (Syphilis) upon meeting on 2 August 1802, “within less then 3 minutes” (RM II, 132)

The “swimming mailman:” At Río Huancabamba (where it is called Río Chamaya) the mailman ties letters, his pants and knife in a turban on his head, and then swims 36 miles downriver from Pomahuaca to Tomependa. A piece of Ceiba wood on his chest makes him lighter. “This is the way Indios of the Province of Jaén travel, in their own water vehicle.” “In the Orinoco or Río Apure the caimans do not permit this navigation” (RM II, 143).

(In Mexico, Humboldt emphasizes mines and mountains. On 20 Nov. 1803 he measures Popocatepetl and Iztaccihuatl from the roof of Mexico City’s mining academy (RM I, 337).

FIGURE 37-6. San Agustín de Callo, Humboldt’s headquarters at Cotopaxi. Today a tourist lodge, the hazienda is built onto the old Callo Palace of the Incas. Humboldt measured and described in detail the Inca Palace.



Personal feelings

When sailing to Mexico, after crossing the equator: “When will we see again the southern hemisphere? My southern constellations sink with every step. It seems I become poorer from day to day. The idea to cross the equator during the night arouses in me very melancholy feelings” (RM II, 190). At the end of his 5-year “Reise,” Humboldt fears for his life. Near the southeast coast of the United States a storm batters their ship from May 2 to 13, 1804. Humboldt thinks about death and loss of the results of his expedition: “I have never been more concerned with my impending death than in the early morning of May 9. I felt very excited. To see myself go under on the eve of so many joys, to see perish with me all fruits of my labors, to be responsible for the death of two people who accompanied me, on a trip to Philadelphia which was not even necessary (although it was undertaken to save our manuscripts and collections from the perfidious Spanish politics)...On the other hand, I consoled myself to have lived a more fortunate life than most mortals” (RM II, 300ff).

In summary, Humboldt prefigured Ecology, and was even broader than that since he included humans as both affected by Nature and shapers of landscapes.

FIGURE 37-7. The Humboldt family's Tegel Castle in Berlin. Top: The mansion. Bottom: The family cemetery, A.v. Humboldt's final resting place. The column is in honor of A.v. Humboldt



Ancient and modern forms of slavery

Irene Prüfer Leske

“I believe that the older certain books are, the more valuable they become.”

Paul Auster

In this presentation I intend to examine modern forms of enslavement and consider how enslavement has been transmuted over the last two hundred years from overtly physical forms to covertly psychological one. I will consider the work and writings of Alexander von Humboldt, and compare and contrast his findings on the issue of slavery in the 18th and 19th century to those of today’s researchers. It is my contention that slavery is alive and well in the 21st century and exists in the heartland of the so called free world. Enslavement is a contravention of fundamental human rights, yet the tentacles of slavery continue to maintain their reach, even into the minds of free people. I hope to show that as corporate and institutional powers seek to find ever more sophisticated means to keep their workers docile and co-operative—even in our own high technology, pluralistic societies—a new form of enslavement has emerged. I present this paper as both an academic concerned with the historical and contemporary enslavement experience and as an “expert by experience,” as someone who has survived a form of attempted enslavement within the workplace.

In 2004 we commemorate the bicentenary of the meeting between Alexander von Humboldt and President Thomas Jefferson of the United States of America. We are also celebrating the last visit by Alexander von Humboldt to Havana, Cuba, from March to April 1804, where, with the authorization of the Spanish Crown, he observed (in 1799, 1800 and 1804) the society of one of the “Spanish Sugar Colonies.” This is where, according to Humboldt (1826, 44), by 1825 the slave population of the island had a total of 260,000 and by 1877 a total of 200,000 (Zeuske, 2002: 136). Coincidentally, 2004 has also been proclaimed by the United Nations as the year against slavery.

Since the beginning of 2004, in recognition of the bicentenary, a number of new editions and translations of Humboldt's work have been published in both Germany and Spain. For instance, in collaboration with a colleague I have been responsible for the publication of two new translations in Spain, the first translation is from French to German (Humboldt, 2004a) and the second is the Spanish translation (Humboldt, 2004c) of the *Essai politique sur l'Ile de Cuba*, a work written and published originally in French by Alexander von Humboldt (1826). In particular, the last chapter "About Slavery" represents, in a singular and bold manner, an analysis of this issue and represents one of the major calls for the defence of human rights to be made at this time. Humboldt gave special importance to this chapter in his work about Cuba and in spite of this it was not included in the English translation by the North-American pro-slavery politician, John Thrasher. Humboldt's displeasure is clearly evident, for when Thrasher sent his version to Humboldt in 1855, Humboldt declared firmly that the translation was a "manipulation" of his work (Beck, 1992: 263 / Ortiz 1930 / cf. Prüfer, 1998; 2001) and that he considered this missing chapter as the most important one of the entire Essay about Cuba. Our translations also present, by the inclusion of a statistical index, numerous examples of the transcendental interest Humboldt showed about human exploitation. The attention given to the term "slaves" with 87 mentions of the word is the most utilized word in relationship to groups of persons or indexed entries of named individuals. Indeed Humboldt (2004c: 175) confessed, 200 years ago, that: "Leaving America I continue feeling the same horror for slavery as in Europe."¹

The Historical Environment

In 1769, the Chamber of Representatives of Massachusetts had already vigorously expressed their condemnation of "the unnatural and unwarrantable custom of enslaving mankind" (Walsh, 1819: 312) and by 1807 the abolition of the slave trade of black people occurred in both London and Washington. These beneficial measures were first also adopted by Denmark, the Northern States of the USA and Great Britain and then by the rest of Europe.

In 1814 and 1815 Treaties were signed by Spain and Portugal to enable the continuation of slavery.

In 1865 came the definitive abolition of slavery in USA.

Other nations, such as Spain, maintained and defended (through the use of their colonial system), both the slave trade and slavery in general until much later. Spain for instance maintained its support for slavery until 13th of February 1880.

1. All translations from the original French *Essai politique sur l'Ile de Cuba* or other cites from Spanish to English are made by the author of this paper.

Between 1880 to 1886 a transition period took place in, the so called *patronato*. The slaves, *patrocinados*, were given an identity card with their first name, age, their physical description and were declared free.

1886 saw the final abolition of slavery in the Spanish colonies. This is why Humboldt, in the writing of his *Essai politique sur l'Île de Cuba*, was involved in one of the most critical debates about the perverse nature of the colonial system and the obvious and contradictory failure to apply the abolition laws outside of the Western world. Unfortunately, Humboldt did not live to see the abolition of slavery in the Spanish colonies, as he died in 1856.

It's evident that the slavery phenomenon has political, economic and sociological facets and Humboldt's *Political Essay* reveals this through the use of these three sciences in a notably modern and interdisciplinary way united in a holistic manner. Further, we can add to these disciplines, judicial and ethical ones.

Analysis of slavery forms described by Humboldt

L'esclavage est sans doute
le plus grand de tous les maux qui ont affligé l'humanité.
Alexander von Humboldt

With this statement Alexander von Humboldt begins the last chapter of his *Essai politique sur l'Île de Cuba*.

Humboldt (1826: 102) denounces at the beginning of the above mentioned essay “cynicism and obscurantism” by the “intelligent writers” who invented such terms as “‘black peasants,’ ‘black vassalage’ and ‘patriarchal protection’ and in doing so intended to hide the barbaric nature of the institutions by the ingenious fiction of language.” He discovers at the same time, that this terminology is used as a means by which slavery in general is excused. Further, the “excesses of humanity” promoted by so called “civilized” European nations “by illusory parallels or copious sophisms” that were used to reinforce their argument is well demonstrated by their comparison of contemporary slavery with that of ancient Roman and Greek civilizations. The motivation for using this terminology and the historical antecedents was to promote the case of slavery by tranquillizing only those who are the “secret sharecroppers of the slave trade whose intention is to benefit from the misfortune of the black race. In doing so they needed to find a means to reject their own emotional responses which could overcome and surprise them.”

It is important to note that the chapter “About Slavery” (Humboldt, 1826: 101–114) is closely related to the one about “Population” (Humboldt, 1826: 43–64) in the same *Essay*. Humboldt compares the situation of black slaves with the “situation of the serfs in the Middle Ages and with the oppressive

state under which some classes in North or East Europe suffered.” The chapter denounces the following forms of submission:

- The permanent condition of slavery based on barbaric laws and institutions with the use of excessive force on some individuals in discriminatory ways.
- The use of threats and aberrant corrective measures, for example forcing people to drink boiling soap; or to drink a solution of Glauber salt with a very small spoon and through the excessive use of whips.
- The selling of slaves in the Spanish colonies for a price of between 200 and 380 Piasters, for instance in 1825 the price of slave on the Island of Cuba was 450 Piasters.
- Treating slaves like animals: for instance the slaves were branded with a hot iron to distinguish them from others.
- Unlimited punishments, harsh and excessive work.
- No consideration of the need to provide prescriptive measures to ensure the quality and quantity of the nourishment provided.
- Absolute delimiting of liberty: The slave was not allowed free movement, without permission, they were only allowed to move the maximum distance of one league and a half from the plantation.
- Being exposed to the excessive and aggressive exercise of absolute authority which could be conducted with impunity.
- The maintenance of the illusory possibility that slaves could refer for judgment in defense of the few legal rights they possessed.
- The disproportionate numerical difference between female and male slaves (between 1777 to 1816 1:1.9 /1.7; in the sugar-mills 1:4) and the consequent celibacy imposed upon slaves in most of the plantations (Humboldt, 1826: 58).

However, without clearly distinguishing between different forms of slavery, Humboldt perceives some differences between the familial and psychological situation of slaves working in a rich house in Havana and the ones working independently and paying a day-wage to his Landlord; the slave who lived alone without any family in the midst of a big town and the one working in a sugar mill and who had the support and care of his own wife. He also distinguishes between the nature of house-work carried out in a town house, the work in a coffee plantation and extremely hard work carried out in a sugar-mill and suffering from the high temperatures of the manufacturing process. Zeuske (2002: 133–139), however, gives a detailed analysis of these different forms of Cuban slavery employment.

In Humboldt’s work he claims that enslaved people have the right to be treated with sensibility, emotion, intelligence and wisdom. Therefore he was able to support authorities who at least showed a favourable disposition for the progressive improvement of the situation of slaves. But this “philanthropy,” according to Humboldt, “cannot only consist in giving ‘a bit more

codfish and a bit less punishment. The authentic improvement of the serving class has to be extended to the totality of men, in both its moral and physical dimensions.”

Further, Humboldt dismisses the justification of the existence of slavery from an economic point of view. Defenders of the colonies often cited the argument that: “Without slaves there can’t be colonies.” Humboldt countered this by referring to the opinion of Arango who pointed out that the colonies could have existed without slaves, only with less success and with reduced production. He proves by statistical analysis “that those who repeat unceasingly that only black people can cultivate sugar” (Humboldt 1826: 79), are wrong. He also cites the *Representación del ayuntamiento, Consulado y Sociedad patriótica del 20 de Julio de 1811*, in opposition to His Majesty the King of Spain: “To take slaves from one Continent to another was an evil contrary to moral principals.”

According to the numerous statistics presented throughout the whole essay, Humboldt counted more than 80.000 slaves in the most important towns of the Island of Cuba, “because of the attraction of luxury for landlords and the possibility of obtaining greater profits through the work of the subjugated.” Humboldt considered this situation to be a great threat to a harmonious society, and if the proportion of free men to slaves continued in such an unsustainable manner, then, there could be violence, not only in the Island of Cuba but also in the whole Antilles, where he estimated there were a total of 1.150.000 slaves. He warns that a social explosion in these colonies could only be prevented by direct action by government and the legislative, otherwise a peaceful change could not be expected. Without entering into the historical debate about Humboldt’s significance in a political and ideological sense, I observe that he proposes, in a liberal manner, that colonial legislation should be changed by addressing the following objectives (Humboldt, 1826: 104-105):

- Colonial *legislative support* for the passing of new laws to limit *barbaric excesses*.
- To *limit to a small number*, the black men and women working in the sugar-mills.
- To accord *liberty for each slave who has served fifteen years* and to every black women who has brought four or five children to the world.
- To give *liberty to all slaves on condition* that they have to work a certain number of days on the plantation.
- To give *the slaves a part of the net product* so that they would become more concerned in the development of the agricultural economy.
- To fix within the *budget of public expenses* a sum destined to the ‘manumission’ of slaves and the improvement of their future.

- He believed it was necessary that “*local authorities* have a strong will ...” “to control events and to open up the potential for progress, using the instruments of law and order with a *moral purpose*.”
- He acknowledged *sensibility* and the sentiment of *human dignity* and the importance of the influence of those people who have a firm *moral consideration*.

Analysis of modern forms of slavery

Slavery has been always related to the exploitation of men and women’s labour. Slavery in the Spanish Colonies to which Humboldt refers in his *Political Essay on the Island of Cuba* was officially abolished in 1886 after the establishment of the transitional status of the *patronatos* between 1880 and 1886.

It is not my focus to develop the history of the post-slavery epoch as a continuation of historical research as for example Saco (1937), but it is of great interest to discover and describe modern forms of Slavery in our own times.

I think it would be valuable to consider the development of new forms slavery that have emerged in modern Spain, a country that centuries ago had been one of the most significant nations to engage in the exploitation of black people to enhance the economic development of its colonies.

However, I want to point out that the following examples are not intended to be exhaustive, and of course, are not only related to Spain, existing in plenty of other affected countries. I have not restricted the forms of slavery to a strict definition but have subsumed the examples under the following common forms:

- Abuse of absolute authority with the total submission of the victim
- Work-exploitation
- Humiliation of the human being in different ways: physical and / or psychological maltreatment, defamation, etc.
- Discrimination and exclusion of the victim from family and / or society
- No consideration of fundamental laws
- Defenselessness of victims
- Impunity of perpetrators and authorities
- Severe moral and physical consequences

Sexual exploitation

In spite of the abolition of slavery in 19th century in the Western world, Antonio Salas (2004) has proved with his research that in the 21st century in

Spain the slave-trade from Africa continues. Today that does not mean the colonies, but within the state of Spain itself, a nation with a democratic constitution which this year is celebrating its 25th anniversary.

The author believes it is necessary to denounce this form of exploitation that is not only common in Spain but also in the whole of Europe. Whilst using a pseudonym, the author received e-mails with the most horrifying threats and declarations that there are judges and lawyers who are using “sex services” and thereby taking advantage of the calamitous circumstances of these slaves, mainly women, and this in the 21st century in our so called “civilized society.”

Each criminal network responsible for the sexual exploitation of women and minors commonly has income of about 3 million euros (Salas, 2004: 159). The characteristics of this exploitation and the making of sex slaves are as follows:

- The rape, forcible removal and transportation of woman and/or minors from Africa or Asia and their transportation to Europe.
- Obliging women to become prostitutes and work for their procurer and to give him all or the main part of the money she is earning.
- In the contract between prostitute and procurer the women are required to totally submit, with body and soul, to the buyer giving him the right to kill, not only the woman, but also her family in the place of origin. In many contracts appears the clause “The value of my life is equivalent to the sum I owe my pimp” (Salas, 2004: 19).
- Selling the prostitute to another procurer gaining a considerable sum through this transaction.

The consequences in most cases are severe physical harm (for instance AIDS) and psychological problems such as depression, anxiety and other problems as for example the ability to form relationships with a partner.

This modern form of slavery involving especially young women and girls includes rape, kidnapping and prostitution under the strict vigilance of a procurer demanding the women’s total submission, body and soul.

Exploitation as home-slaves of Sudan tribes

In the same way, but from a personal perspective, Mende Nazer (2004), from the Nubian tribe of Sudan tales of her experiences as a slave. She denounces another form of slavery of the 21st century, affecting thousands of minors, boys and girls, from Sudan tribes. They are transported to rich households of Arabian people first and than eventually sold on to other “free” European countries, ironically including those with a long tradition of democracy, for example England.

The journey into slavery of the minors is as follows:

- The Arabian militias attack the Nubian tribes, kill the adults, rape the minors, abducting them from their families, and selling them as slaves.
- Deprived of their liberty and isolated from the exterior world, brought up without any love and humane treatment, these minors and adolescents are working until they are physically exhausted, receive punishments, are humiliated and suffer sexual harassment.
- They are sold to other houses including representatives of Diplomatic missions of so called 'free countries'.

The consequences of this treatment and trade are severe physical and psychological problems. There are no definitive figures for the number of children who die under these harsh working conditions, or by committing suicide, whilst others by attempting suicide cause long lasting consequences.

Sexual tourism and the exploitation of children

Another significant form of enslavement arises from the need to service the sexual tourism industry and which includes the abuse of minors in countries such as Latin America and Asia. The United Nations Organization for Children (UNICEF) estimates in its last report that about 1,200,000 minors have been trafficked for this purpose.

Other forms of slavery: Holocaust Nazi, conjugal slaves, and domestic violence.

From the beginning of slavery in the Middle Ages (and even in earlier epochs, such as the ancient Greek civilization) until modern times, slavery has maintained as its first objective the dehumanization of the enslaved people. The process involves their conversion into objects or animals and is accompanied by discriminatory practices intended to demonstrate their inferiority in comparison to other human beings. The main purpose of this dehumanization is to accrue economic benefit or to demonstrate the power of the enslaver.

That's how the Jewish people were treated when they were subjected to mass death during the Nazi holocaust in the 1930's and 40's as they were considered to be "an inferior race by a superior race." Even today it remains a means to justify the torture and disappearance, for political reasons, of "persons who were opposed to the military dictatorship" in South American countries. Further, it is the reason why the great majority of Afghan women are considered to be "inferior to men" and have been enslaved by their husbands as "conjugal slaves" and that's why, in the first nine months of 2004 more than 40 women in Spain have been killed by their partners, the majority as a consequence of denouncing their husbands for domestic violence.

Mobbing

You will recall that earlier in this presentation I pointed out that slavery was denounced by Alexander von Humboldt as “the most important evil which afflicts humanity” (Humboldt, 1826: 103). To this day this truth remains. Modern forms of enslavement are directed at people of “another race” or “color,” “tribe” or “sex,” “other political ideas” or simply for having “other ideas” or even worse, when “they attempt to point out that the enterprise or institution is failing to meet its obligations as prescribed.”

So there exists a covert form of enslavement of people, where those apparently equal to others and whose only apparent defect is the pronouncement of their own ideas and convictions in front of others which are counter to those held by the governing party or institution or powerful people.

The famous Spanish psychologist, Piñuel (2003: 205) has denounced psychological harassment in the work-place or mobbing as an “evil in the world.” Recent research in 2004 by this psychologist showed that mobbing (www.leymann.se/English) affects not less than 22 percent of employees of the Public Treasury in Spain. Further, according to the Spanish psychologist Buendía, 44 percent of employees and professors at the University of Murcia in Spain, also experienced mobbing. Also Alberto Reig Tapia (“El País” 27th of June 2004) denounced practices of abuse of authority specially in the University. Institutions of the State in all Europe (Di Martino, 2003), especially in Educational Centers and the Public Health Institutions are affected as outlined below:

- The psychological maltreatment of colleagues of inferior, equal or superior status in the work-place has as a primordial objective the social destruction of the person, to make impossible their effectiveness, chances of promotion and ultimately to exclude them from the work-place and is made up of:
- Continuous unjustified criticism, defamation and injury.
- Humiliating treatment, ridicule and interruption in communication with her / him leading to social exclusion.
- Discriminatory treatment, especially in applying statutes and workplace regulations.

When the victim comes forward to complain the administration of or the enterprise have been known to initiate disciplinary measures which it can be argued represents an official continuation of the harassment. In effect the harassment is tolerated and those responsible protected by the administration and ultimately harassment is practiced by the administration itself. This kind of harassment is known as “institutional mobbing.”

All this provokes in the victim self doubt, insecurity, serious physical and psychological consequences which are often disputed by the administration and considered to be “inventions.” The overall intention is to make the victim

feel culpable and thereby provoking the “voluntary” self-exclusion of the victim from her / his work-place (cf. Prüfer, 2003).

There are similarities to be found between domestic violence and psychological harassment in the work-place. The physically and psychologically aggressive treatment often is considered by victims and pursuers as “normal” behavior. In Spain there is a famous expression by a Spanish woman victim of domestic violence to the judge trying her case: “My husband beats me as often as normal.”

At the very moment when domestic violence or violence in the work-place is being denounced, we are also seeing the beginning of the latest phase of violence: husbands killing their wives and the institutions or enterprises initiating unjustified disciplinary measures as a means of intensifying the depression and social destruction of the victim.

However, the difference between the two forms of violence is that normally the perpetrator of domestic violence is often caught and condemned or commits suicide as a form of self-justice, while perpetrators and protectors of psychological violence in the work-place normally escape punishment because they are both judge and jury and take part in the disciplinary measures. In Spain, there exists a legal vacuum to confront this sort of violence or slavery. However, due to our “advanced civilization” where physical violence is forbidden and yet can be easily realized, slavery and violence, including both physical and psychological forms, as Humboldt already distinguished, has become more and more purely psychological. I will cite two voices that have been raised against toxic “neo-management” (Piñuel, 2004) and institutions:

In the case of harassment in the work-place, the person loses the place which she/he is occupying in the workplace society, her/his liberty and also her/his anthropological identity as a person. Nobody can be humiliated, even less at her/his work-place, because she/he can't escape because of her/his own economic necessity. Limiting the possibilities of work signifies a means of creating violence against human dignity—promotion, realization, security or social justice, generating a sort of P-S-Y-C-H-O-L-O-G-I-C-A-L S-L-A-V-E-R-Y leaving the person without any defences, life-purpose, worth-while duty, and without a sense of the society she/he belongs to (López / Vázquez, 2003:17)

Every day the perpetrators are generating an authentic coup d'état, because, from their egocentric power centers, which are held unlawfully, they see themselves as above the law, imposing instead a form of power based on social control, typical of feudal states, demanding from the victim a form of enslavement. And they are able to do so because they are practically immune. This is unacceptable and paradoxical because it is developing an illegal sys-

tem which is transforming this type of violence into a permanent violation of law. Thus, mobbing represents an enormous step back in the effort of humanity to go ahead to a just, free, pluralistic and pacific society. Fortunately, the ethic of Human Rights and the collective power of the harassed will make it impossible to return to a middle-ages (Blanco Barea, 2003:248)

Analysis of differences and similarities of ancient and new forms of slavery

Humboldt lived in a position of almost total economic and ideological liberty. There existed only a certain dependence on the Spanish Kingdom who permitted his research in their Colonies by providing Letters of Recommendation. So Humboldt could denounce the human condition of the slaves in the *Essay* in question.

If we contrast ancient and modern forms of slavery, we observe the following similarities:

Treatment of human beings as animals in the following ways:

- Work-exploitation until removal from the work-place
- Inhuman work and life-conditions
- Discrimination
- Without any or with very small remuneration
- Physical and psychological maltreatment, aberrant and inhuman punishments
- Buying and selling and reselling of slaves
- Restriction and complete invalidation of liberty
- The victims can't have relationships with their families nor with friends.
- They are unable to dedicate any time to their own life and their own personal development.
- Laws of fundamental rights are not respected.
- Hiding the truth and the impossibility of referring to justice: discriminatory treatment and being defenceless before the laws, where these exist.
- Humiliating psychological treatment
- Overseers treat slaves with cynicism, they laugh at them and lie.
- Culpabalization of victims
- Banalization and ridiculization of the terror to which victims are submitted.

The first and most important realization, is that today, there exist various forms of enslavement and an enormous variety of slavery, compared to the Humboldtian age, two Centuries ago. However, in our epoch, we can look back to the 19th Century when slavery was officially abolished. And during the 20th Century, especially after 1940 and the Nazi Holocaust, when a great

number of States signed UNO and other diverse Treaties and International Conventions defending Human Rights. All of these conventions prohibit inhuman practices and the partial and/or absolute subjugation under the direction of managers, Juntas and even entire Governments. Nevertheless, we can observe a proven tendency to tolerate covert slavery in Europe and the so-called “Free World” especially those forms with the objective of enabling sexual exploitation (especially of minors). On the other hand, in the last twenty years we have seen the development of new forms of psychological slavery within a much more sophisticated system. However, these new forms of slavery, in spite of the presence of the aforementioned international Conventions and Organizations, are tolerated, protected and even generated by the responsible institutions themselves and that’s why there is silence, even by judges in the most consolidated democracies. This situation, equal to the Humboldtian times (when the agenda was to bring in legislation intending to protect slaves from abuse), makes victims absolutely defenseless.

The hypocritical attitudes of democratic Governments which signed the Conventions and Treaties in favor of Human Rights and against slavery find expression in their self-promotion of defending Human Rights, whilst, at the same time, by the back door they protect and tolerate inhuman treatments. They do this by treating victims cynically or don’t recognize them as victims at all, as the representatives of institutions will never recognize their responsibility for crimes committed in their name, as Fernández (2003) indicates in his scientific study about Uruguayan post dictatorial society.

It is important to state, that the transition of physical slavery to psychological slavery has been driven by changing social attitudes to the acceptability of physical punishment of human beings and the easy identification of visible injuries and death. The recognition of psychological maltreatment depends on exact instruments for its verification. In the last fifty years these instruments have improved enormously and are able to certificate depression and post-traumatic stress, for example, abuse at work is known to be one of the related causes (Test Leymann/Test Cisneros: I-V). Nevertheless, judges in Spain, normally without any knowledge or experience of the issues, generally refuse to accept psychological findings that show work related harm when determining compensation claims.

In the economic and employment field range of considerations we can make the statement that in Europe and the Western world in general, workplaces in the service industries have become attractive to Africans, Asians and East-Europeans workers. However, here too we can see that the same serious forms of exploitation exist, as with older forms of slavery, as unscrupulous employers take advantage of the immigrant workers illegal status. On the other hand, due to the specialization of work and the increasing impor-

tance of higher academic education of the so called “civilized” population, there is hard fought competition for academic and employee work-places, which provides motivation and opportunities for mobbing-activities which are completely unrelated to real work-place concerns.

Humboldt confirmed in his political study about Cuba that slaves were forced to succumb to the absolute feudalism of their superiors producing in the individual, physical and psychological illness. At the same time he denounced the resulting impunity of those superiors and landlords. Today’s studies confirm that human beings still rest in absolute dependence to superiors and institutions producing physical and psychological consequences with very difficult or nearly impossible to recover from. In the 1980’s, Leymann (1993/2002: 121) studied suicide related to harassment at the work-place in Sweden and discovered that in 1986, the cases of suicide were greater than those of working accidents (at a ratio of 100 to 65).

Conclusions

It’s evident that slavery in our official post-slavery era is more virulent than before. We can say the phenomenon is more severe because of its more and more covert character. The principles of International Rights recognized by the Statue of the Military Tribunal of Nuremberg which have been confirmed by the General Assembly of the UNO in Resolution 95 (I) of 11th of December 1946 listed as crimes against humanity: “assassination, extermination, reduction to slavery, deportation and every other inhuman act against every civil population” But not only are international rights violated but also fundamental national constitutional rights.

Slavery and the consideration of Human Rights continue today to have a great importance in political life, because of the judicial hypocrisy of many democratic governments. 200 years after the analysis of slavery in Cuba, by Humboldt.

As was acknowledged in 2004, by the General Secretary of Amnesty International who declared, there is a state of “Crisis of Human Rights” that can be attributed to the huge propagation of slavery, especially of women of the third world and Eastern Europe who are recruited as prostitutes in modern Europe with potentially epidemic consequences for HIV/AIDS, domestic violence and harassment in the work-place.

With the statement of judicial hypocrisy of democratic states we can extend this declaration to a “crisis of democracy” and the “crisis of the objective application of rights and laws.”

I am ashamed to say that according to the UNO in the 21st century there are 250 million persons living in conditions which can be called as slavery,

and not only in far away Continents such as Asia and Africa. This is a direct historical continuation of the experience of approximately 13 million Africans who were forced to undertake the voyage of slavery from Africa to the American continent several centuries ago (cf. Prüfer, 2001: 230) and that was so forcefully denounced by Alexander von Humboldt. Without any compromising his position to political, ideological ideas or relationships, Humboldt saw as a unique solution the application of an ethical and moral code to the said obvious crisis in 18th and 19th century. His ideas are as relevant today as they were two hundred years ago.

Whilst during Humboldtian times, politicians discussed the abolition of institutionalized slavery hiding their pro-slavery position behind economic and sociological pretexts, today's democratic governments commit with absolute impunity the most evil violations of fundamental rights predicating "the final point (*punto final*)" and "to forget" when according to judicial, psychological and sociological studies it is absolutely illegal (Fernández, 2003 / López Garrido) and impossible to overcome the collective memory.

In conclusion I believe institutional slavery in Humboldtian times can be demonstrated to have been substituted by forms of covert institutional slavery that can only exist because they are tolerated and protected by institutions. This change occurred during the transitional post-slavery epoch when slaves in Cuba were accorded the status of free men, with the crucial difference of being given a devalued social status, by being forbidden to use the term "Don" (a title of distinction) and the right to use their second family name. So while slaves during the years 1880 to 1886 were recognized to be equal by the judicial system, they were not protected from the humiliation of being regarded as second class people (Scott / Zeuske, 2004: 539), a subtler form of branding.

That is why I am defining "slavery" as all abuses of power and humiliation and claim the:

- Overt recognition that victims of slavery are caused physical and / or psychological damage.
- To get through to the truth, to end the impunity and the abuse of power.
- The means reaching these goals require the necessary consciousness of victims who have to recognize the cause of their misfortune and this is also true of those who are abusing power.

This project is also affecting individuals who have to work in prevention with their children and in self-aid organizations and associations. In the words of Alexander von Humboldt that means a major reconsideration of our morality as it affects our immediate surroundings as a means of achieving a global abolition of slavery in all terms and forms.

Writing my paper in Europe and going to America I felt a similar horror as Humboldt when writing his Chapter “About Slavery,” recognizing the confirmation of my hypothesis that there exist only few fundamental variations in human treatment by powerful men comparing with the Humboldtian era.

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Gradations of Suffering and Privation

Evelyn Powell Jennings

Few foreigners have studied the island of Cuba in greater detail or with greater impact than Alexander von Humboldt. He arrived in Cuba for the first time in December of 1800 and spent the next three months researching the island and its people at a moment of deep structural change. When Humboldt arrived Cuba was being transformed by a revolution in plantation production that brought an influx of enslaved people from Africa to produce export commodities like sugar and coffee. Welcomed by the Havana planter elite, Humboldt spent several months exploring parts of Western Cuba, visiting plantations, and gathering data. His friends in high places, most notably, Francisco de Arango y Parreño, continued to collect data for Humboldt while he traveled in South America and when he returned to Europe. Conferring with high government officials and scientists he compiled and evaluated statistics on the island's changing population both urban and rural, on imports and exports, and on government revenues and colonial policy. The efforts and resources of his many contacts allowed Humboldt to include statistics up to 1820 in his published writings on the island's political economy, demography, geography, and climate.¹

Perhaps most striking and enduring were his observations on the institution of slavery on the island. As he stated in the final chapter of his *Political Essay on the Island of Cuba*, "The Nature of Slavery," his goal was to "bring the facts to light and clarify the concepts by means of comparisons and statistical overviews." As a vocal opponent of slavery who witnessed the "torments and debasements of human nature" perpetrated within the slave system

1. Luis Martínez Fernández, "Introduction," in Alexander von Humboldt, 2001, *The Island of Cuba*. Princeton: Marcus Weiner Publishers, 5. In the text of the *Political Essay* Humboldt mentions having visited "only the vicinity of Havana, the beautiful valley of Güines, and the coast between Batabanó and Trinidad." 78. On Humboldt's relationship with Arango y Parreño see Frank Argote-Freyre, "Humboldt and Arango y Parreño: A Dialogue," in *The Island of Cuba*, 273-280.

he felt a duty to bring information on the difficult lives of slaves to “the attention of those who can ameliorate them.”² The statistics he gathered have formed part of the foundation of virtually every major scholarly effort to describe nineteenth century Cuban slavery. In addition, his comparative framework for interpreting the institution has structured the debates about the nature of enslavement in Cuba to the present day.

Humboldt was not unique in employing either quantitative or comparative methods to the study of slavery in Cuba or elsewhere in the Americas. What made his contribution singular were the comprehensiveness and the perspicacity of his observations on the nature of slavery in Cuba. This paper seeks to trace the impact of Humboldt’s “Essay” on the historiography of nineteenth century Cuban slavery. The foundational texts in the field have relied and continued to rely on his data, observations, and interpretations. His work was at the heart of the field of comparative slavery studies as pioneered by Frank Tannenbaum’s *Slave and Citizen*³ in the 1940s, which advanced the notion that the slave regime in Cuba favored the pursuit of freedom to a degree unknown elsewhere in the Americas. Questions arising from Humboldt’s assertion of the relative openness of Cuban slavery oriented research for decades in the twentieth century and have recently resurfaced in studies of slavery in Cuba and other Spanish-American colonies.

Humboldt opens the *Essay* with the observation that the political importance of Cuba lies in “the geographical position of the city and harbor of Havana.”⁴ From the late sixteenth century to the end of the eighteenth century colonial Cuba’s economy and society were based on Havana’s role as the Caribbean hub of Spanish imperial trade and service, the embarkation point for the treasure fleets’ return voyage to Spain. Enslaved people, mostly Africans and their descendents, worked in all aspects of the imperial service economy from the 1500s onward but they never accounted for a majority of Cuba’s population. It was not until the 1700s that revolutionary warfare in the Caribbean had the effect of reorienting both colonial policy and private entrepreneurship more sharply toward plantation agriculture and slave ownership.

Humboldt noted that before the British occupation of Havana in 1762 during the Seven Years’ War, Cuba contributed little in the way of agricultural products to Spanish imperial trade. The production of sugar on the island had begun a slow expansion before the 1760s, in part as a reaction to the Spanish Crown’s establishment of the royal monopoly in tobacco. Yet further expan-

2. Alexander von Humboldt, 2001, “The Nature of Slavery,” Shelley L. Frisch, trans. In *The Island of Cuba*, 255.

3. Frank Tannenbaum, 1947, *Slave and Citizen. The Negro in the Americas*. New York: Alfred A. Knopf.

4. Humboldt, *Island of Cuba*, 75.

sion was constrained in large measure by the Crown's restrictions on slave imports.⁵

Humboldt's contention that from the day the British evacuated Havana in July of 1763 "we may trace the first efforts of a new-born industry" may overstate the importance of the occupation to the genesis of the sugar boom in Cuba. But he clearly recognized the importance of the shifts in colonial policy that sought to both rebuild Havana's defenses and increase revenues by encouraging the slave trade and sugar expansion after 1763. He noted, "[t]he construction of new fortifications on a gigantic scale, placed large sums of money in immediate circulation, and the slave-trade which was subsequently thrown open, increased the number of hands on the sugar plantations."⁶ According to official records, legal imports through the city of Havana rose to almost 8,000 slaves between December of 1763 and the end of 1765.⁷ Of this group, more than half (4,359) were purchased by the Crown for work in the fortifications. State demand for enslaved laborers for defense works probably brought even more slaves to Havana than the planters' demand for sugar workers in the late 1760s.⁸ Humboldt's astute observation about the importance of state investments and capital to sugar plantation expansion and Cuba's subsequent growth and prosperity has been explored in greater detail and confirmed by twentieth century historians of Cuban development.⁹

5. This point was clearly recognized by planters who petitioned the Crown for access to more slaves and by colonial officials who surveyed the island after the occupation. See Archivo Histórico Nacional [hereafter AHN], Estado, legajo. 3025, exp.[expediente] 4, Report of the visita of Alejandro O'Reilly dated 12 April 1764.

6. Humboldt, *The Island of Cuba*, 168-169. Restrictions on the slave trade to Cuba were loosened in 1764 to procure more enslaved labor for defense projects. Free trade in slaves was allowed by the Spanish Crown in 1789.

7. Archivo General de Indias [hereafter AGI], Santo Domingo [SD], legajo 2129, "Estado que manifiesta los gastos, y costos causados en las Reales Obras de Fortificación. . ." 31-XII-1772; Pablo Tornero Tinajero, 1996. *Crecimiento económico y transformaciones sociales. Esclavos, hacendados y comerciantes en la Cuba colonial (1760-1840)*, Madrid: Ministerio de Trabajo y Seguridad Social, 37; and Gloria García, 1986. "El mercado de fuerza de trabajo en Cuba: El comercio esclavista (1760-1789)," in *La esclavitud en Cuba*, La Habana: Editorial Academia, 135.

8. J.R. McNeill, 1985. *Atlantic Empires of France and Spain, Louisbourg and Havana 1700-1763*, Chapel Hill and London: University of North Carolina Press, 167 for the evidence behind his estimate of 4,000 African slaves imported under the British occupation.

9. The most thorough treatment of Cuban economic development in the nineteenth century is still Manuel Moreno Fraginals, 2001 [1978], *El ingenio complejo económico social cubano del azúcar*, Barcelona: Editorial Crítica, although Moreno gives greater credit to the Cuban bourgeoisie in initiating sugar expansion. See also Sherry Johnson, 1997. "La Guerra Contra los Habitantes de los Arrabales": Changing Patterns of Land Use and Land Tenancy in and Around Havana, 1763-1800," *Hispanic American Historical Review*, 77:2, 181-209; Franklin W. Knight, 1977. "Origins of Wealth and Sugar Revolution in Cuba, 1750-1850," *American Historical Review*, 57:2, 231-253, especially p. 242. For a summary of this scholarship on revenues from defense spending in Cuba see Alan J. Kuethe, 1992. "Havana in the Eighteenth Century," in Franklin W. Knight and Peggy K. Liss, eds., *Atlantic Port Cities, Economy, Culture, and Society in the Atlantic World, 1650-1850* Knoxville: University of Tennessee Press, 14-25.

In his list of factors important to Cuba's economic growth at the end of the eighteenth century Humboldt also included "the destruction of the French colony of St. Domingo, and the consequent increase in the value of sugar; the improvements in machinery and furnaces, due in great part to the refugees from Haiti;" although he seemed to give equal weight to all these factors.¹⁰ Data on the increase in the number of sugar mills in the jurisdiction of Havana shows an increase from 43 mills in 1741 to 534 mills in 1817. The average increase in the number of mills in Havana rose from 3 or 4 per year in the mid-eighteenth century to a peak of 20 per year between 1796 and 1800. The timing suggests that the collapse of Saint Domingue's sugar industry provided the greatest impetus to sugar expansion in Cuba.¹¹

Humboldt arrived in Cuba, therefore, at the crest of the first significant boom in plantation slavery on the island. It is not surprising then that he was keen to document patterns of slave imports to the island and the dramatic demographic changes that resulted from those imports. Humboldt's contacts among the Spanish colonial bureaucrats and the Havana planter elite afforded him access to some of the official data on plantation production, slave imports, and commodity exports. With the Spanish Crown's declaration of free trade in slaves to Cuba in 1789 officials of the royal navy in the port of Havana began collecting shipping statistics. Humboldt's figures coincide closely with the manuscript records of these statistics suggesting that he had direct access to the original documents that are now housed in the Archivo General de Indias in Seville.¹²

The import series figures from 1790 to 1820 published by Humboldt based on the Havana customs house returns have provided the foundation for scholars' estimates of slave imports to Cuba into the twentieth century. One of the first histories of Cuban slavery published in English by Hubert Aimes included research in the colonial Spanish archives, but Aimes relied heavily on Humboldt's statistics to discuss slave imports.¹³ Fernando Ortiz's *Los negros esclavos* remains a foundational text in the Cuban historiography of slavery. His discussion of slave imports between 1789 and 1820 is derived directly from Aimes, and thereby from Humboldt as well.¹⁴ Works in English in the second half of the twentieth century have all begun with Humboldt's figures to discuss slave importations into Cuba between 1790 and 1820.¹⁵ The careful research of such scholars as Herbert Klein and David Eltis, among

10. Humboldt, *The Island of Cuba*, 169.

11. Tornero y Tinajero, *Crecimiento económico*, 158.

12. Herbert Klein, 1978, *The Middle Passage*, Princeton: Princeton University Press, 212.

13. Hubert H. S. Aimes, 1907, *A History of Slavery in Cuba, 1511-1868*, New York and London: G. P. Putnam's Sons, 36, 56, 62, 94, 113, 243.

14. Fernando Ortiz, 1975 [1916], *Los negros esclavos*, La Habana: Editorial de Ciencias Sociales, 97-102.

others, has modified Humboldt's work, but his estimates remain the starting point for such research.¹⁶ One notable exception to this pattern is Manuel Moreno Fraginals' *El ingenio* which discusses the slave trade to Cuba between 1792 and 1820 referring almost exclusively to documents of Havana's royal trading company housed in the Archivo Nacional de Cuba.¹⁷

Humboldt's research into official population statistics has also been influential in later scholarship on the effects of the growing importations of African slaves on Cuban demography. The first official censuses of the Cuban population were undertaken in the 1770s as part of imperial reform efforts in the wake of the British occupation. The counts of 1774, 1775, and 1791 were the earliest official statistics available to Humboldt. He contended that the two made in the 1770s "were made with great negligence and a large part of the population was omitted."¹⁸ Historian G. Douglas Inglis is one of the few scholars to undertake a detailed analysis of both the archival originals of the eighteenth century population counts and the main secondary sources which later used the censuses' figures.¹⁹ While Inglis acknowledges the possibility of official counting errors, his analysis reveals a potentially more serious problem—the compounding of errors that often results from secondary authors' reliance on the figures of other secondary sources like Humboldt. The original manuscript census cited 171,628 persons as the population of Cuba in 1775. Humboldt cited two different figures for the population of Cuba in 1775 within six pages, 170,862 and 170,370.²⁰ The first is probably a transposition error but the second is more mysterious. The lower figure is then picked up and published in works by nineteenth century abolitionist writer, David Turnbull and twentieth century historian, Hugh Thomas.²¹

Another concern is calculation errors in tables that can skew figures, a problem which bedevils researchers who must both compile and check data if they aspire to any degree of accuracy in reproducing the data. For instance,

15. For instance, Arthur F. Corwin, 1967, *Spain and the Abolition of Slavery in Cuba, 1817-1866*, Austin and London: University of Texas Press, 15-16, 35; Klein, *Middle Passage*, 212-214; David Murray, 2002 [1980], *Odious Commerce*, 17-19. For a critique of Humboldt's estimates as too low for the period prior to 1763 see J. R. McNeill, *Atlantic Empires*, 166-170.

16. Humboldt, *The Island of Cuba*, 138-140; Herbert Klein, *The Middle Passage*, 214; and David Eltis, 1987. "The Nineteenth Century Transatlantic Slave Trade: An Annual Time Series of Imports into the Americas Broken Down by Region," *Hispanic American Historical Review*, 67:1, 120-130.

17. Moreno Fraginals, *El ingenio*, 213-219.

18. Humboldt, *The Island of Cuba*, 127.

19. Gordon Douglas Inglis, 1979. "Historical Demography of Colonial Cuba, 1492-1780," Ph.D. Dissertation, Texas Christian University, 102-110.

20. Humboldt, *The Island of Cuba*, 122 and 127.

21. Inglis, "Historical Demography," 104-105. Inglis cites David Turnbull, 1840. *Travels in the West*, London: Longman, Orme, Brown, Green, and Longman, 230; and Hugh Thomas, 1971. *Cuba, The Pursuit of Freedom*, New York: Harper & Row, 12, footnote 1, and 65, footnote 23.

Humboldt's data on the breakdown by gender, race, and status of the population of Havana and its suburbs in 1810 has three errors of addition in one table amounting to a difference about 100 persons in each error. A footnote to this data by Humboldt's English translator, J. S. Thrasher offers a similar table supposedly from the census of 1846 which does not match the figures in the published census of that year and that contains five serious errors of addition, one amounting to over 100,000 persons.²² Clearly Humboldt's admonishment not "to employ numerical elements, without having first examined them, and ascertained the extent of their errors" applies to his own work and the work of those who followed him.²³

Regardless of errors of arithmetic or data compilation Humboldt's research on the changing structure of Cuban population in comparative context has been enormously influential for later scholarship not only on Cuba but on slavery in the Americas generally. For instance, Humboldt took several important lessons from the cataclysm of the slave rebellion in Saint Domingue just nine years before his visit to Cuba in 1800 which framed his discussion of the composition of Cuba's population by race and status. He began his chapter on the population of Cuba comparing the relative sizes of the white, free colored, and slave populations of Cuba, Jamaica and the English Antilles, and the United States. He found the Cuban population to be roughly equal to that of all the English Caribbean islands, almost double that of Jamaica. Yet as he noted, "[t]he relative proportion of the inhabitants, according to race and state of civil liberty, presents the most extraordinary contrasts in those countries where slavery has taken great root."²⁴ According to Humboldt, whites in the Antilles had not taken the possibility of slave insurrection seriously enough and continued to view any concession to greater humanity or justice toward their slaves as "cowardice." He warned of another "bloody catastrophe" as a "necessary consequence of circumstances" if some ameliorative action were not quickly taken by the political elites in the Caribbean.²⁵

Humboldt looked to the large free population of Cuba, both whites and people of color (64 percent of the total population according to his figures) as a potentially hopeful sign that "[t]he island of Cuba may free herself better than the other islands from the common shipwreck." There were higher proportions of both whites and free people of color than slaves in the population

22. Humboldt, *The Island of Cuba*, 82 (Humboldt's table) and 234, footnote 6 (Thrasher's table). *Cuadro estadístico de la siempre fiel isla de Cuba correspondiente al año 1846*, 1847, La Habana: Imprenta del Gobierno y Capitanía General, 53 for the published census figures.

23. Humboldt, *The Island of Cuba*, 131. The quote is in the context of discussing problems with the official Cuban censuses of 1811 and 1817.

24. Humboldt, *The Island of Cuba*, 123.

25. *Ibid.*, 123-124.

Cuba (46:18:36), in stark contrast to Jamaica (6:9:85) and to the US (81:3:15).²⁶ For Humboldt the reasons for the significantly larger free population of color were unique to Cuba and his enumeration of those reasons is worth quoting at length:

In no part of the world, where slavery exists, is manumission so frequent as in the island of Cuba; for Spanish legislation, directly the reverse of French and English, favors in an extraordinary degree the attainment of freedom, placing no obstacle in its way, nor making it in any manner onerous. The right which every slave has of seeking a new master, or purchasing his liberty, if he can pay the amount of his cost; the religious sentiment that induces many persons in good circumstances to concede by will freedom to a certain number of negroes; the custom of retaining a number of both sexes for domestic service, and the affections that necessarily arise from this familiar intercourse with the whites; and the facilities allowed to slave-workmen to labor for their own account, by paying a certain stipulated sum to their masters, are the principal causes why so many blacks acquire their freedom in the towns...The position of the free negroes in Cuba is much better than it is elsewhere, even among those nations which have for ages flattered themselves as being most advanced in civilization.²⁷

Most of these practices that favored freedom derived from Spanish practice and law codified in the thirteenth century *Siete Partidas*. Humboldt does not discuss Spanish law in detail here except to contrast it with a particularly harsh code in eighteenth century Martinique which condemned freed people to reenslavement if they offered asylum to an escaped slave.²⁸

In the English language edition of Humboldt's *Ensayo político*, however, his translator, Thrasher expands on Humboldt's mention of the practice of *coartación*, or self-purchase by installments. *Coartación* was well established in Cuba custom from the sixteenth century onward but it only began appearing in modern Spanish law in the eighteenth century.²⁹ Slaves who were hired out were allowed to retain a portion of their earnings and apply it in installments toward the eventual purchase of their freedom. Once the initial payment had been made the slave's price could not be changed. Those who had problems with their owners could appeal to the annually appointed syndic for redress. Thrasher also mentions that many *coartados* (those slaves whose enslavement had been "cut" by partial payment of their price) would

26. Ibid., 123.

27. Ibid., 136.

28. Ibid., 137 and 239 footnote #2.

29. Some examples from the sixteenth century appear in María Teresa de Rojas, 1956, "Algunos datos sobre los negros esclavos y horros en la Habana del siglo XVI," in *Miscelánea de estudios dedicados a Fernando Ortiz por sus discípulos, colegas y amigos*. . . , La Habana: Sociedad Económica de Amigos del País, 1275-1287. On its first mention in metropolitan law, Klein, *Slavery in the Americas*, 196.

redeem themselves up to \$50 or \$100 shy of their purchase price no matter how much wealth they subsequently acquired. Thrasher, who was an ardent pro-slavery advocate hoping to effect the annexation of Cuba to the US, attributed this last practice to some possible “unobserved peculiarities of the negro mind” which from affection, interests, idiosyncrasy, or “intuitive desire” endeavored to retain some “immediate and tangible superior to whose opinion he can look with respect, and from whom he can claim protection in calamity.” Some *coartados* may have sought to retain the benefits of some measure of maintenance or medical care from their owners while enjoying the relative freedom of movement, employment, and accumulation of wealth.³⁰ On the other hand, Thrasher does not mention as a possible deterrent the fact that as completely freed persons of color, said *coartados*, would have been liable for tribute payments to the Crown and militia service.

Still the main elements of Humboldt’s description of manumission in Cuba, and Thrasher’s note on *coartación*, resurface in virtually every subsequent discussion of the topic—its distinctly urban manifestation, its prevalence among domestic servants and skilled workers, the Iberian legal and religious tradition favoring freedom, an economy that supported hiring out and allowed slaves to retain a portion of their earnings and to apply it in installments toward their freedom, and the resultant large free population of color. One example is the classic scholarly work on *coartación*, Hubert Aimes’ 1909 article, “*Coartación*: A Spanish Institution for the Advancement of Slaves into Freedmen.” Although Aimes did not rely heavily on Humboldt’s and Thrasher’s evidence in this article he did take up their suggestion that such practices or, at least the extent of such practices, were unique to Cuba. Here Aimes pointed out the long history of the practice of self-purchase in installments in Cuba before it was codified in the nineteenth century.³¹ Aimes argued, in error, that *coartación* had no precedent in Roman or Spanish law, and was, therefore, unique to Cuba, “carried thence to other West India islands.”³² There were, in fact, both Roman and Spanish legal precedents for *coartación*.³³ Aimes was correct, however, that self-purchase arose in contexts with “an unelastic supply of laborers,” and a growing demand for labor, especially skilled workers. A customary or legal context which allowed slaves to accumulate and retain property was also important for the development of self-purchase by installments, yet more recent research has

30. Ibid., 238-239, footnote #1.

31. Hubert H. S. Aimes, 1909, “Coartación: A Spanish Institution for the Advancement of Slaves into Freedmen,” *Yale Review*, 17, 412-431.

32. Ibid., 412.

33. Jerry R. Craddock, John J. Nitti, and Juan D. Temprano, eds. 1987, *The Text and Concordance of Las Siete Partidas de Alfonso X* [microfiche based on edition of the Real Academia de la Historia, 1807], Madison: The Hispanic Seminary of Medieval Studies, Ltd., Partida III, Título II, Ley VIII.

shown that neither these conditions nor the development of self-purchase customs like “coartación” were unique to Cuba.³⁴ Aimes was also careful to point out that “coartación” was not always practiced with equal enthusiasm over time. He distinguished the period from 1821 to 1840, after Spain signed treaties with Britain to abolish the trans-Atlantic slave trade, as one in which slave property was closely guarded by slave owners, constraining manumission.³⁵

Among Cuban historians, the work of Fernando Ortiz has probably been the most cited on the subjects of urban slavery and manumission. In his chapter on urban slavery, in *Los negros esclavos*, Ortiz reproduced the following quote from Humboldt on the “gradations of suffering” faced by slaves in rural or urban settings and different occupations.³⁶

What a world of difference there is between a slave who serves in the house of a rich man in Havana or Kingston, Jamaica, or who works for himself and simply pays his master a daily sum, and a slave laboring on a sugar plantation. A measure of the hierarchy of human deprivation can be seen in the threats leveled against disobedient blacks. The “calesero” is threatened with [the] “cafetal”, the slave working in the cafetal fears transfer to sugar planting. In this latter situation, the Negro who is married and lives in a separate hut and, with all the characteristic tenderness of Africans, finds comfort in the lap of his needy family at the end of his workday, has an immeasurably better lot than the isolated slave who gets lost in the crowd. This disparity of situation is altogether unfamiliar to anyone who has not personally seen the Antilles.³⁷

In spite of Humboldt’s relatively brief tour in Cuba he clearly understood the importance of such factors as rural or urban setting, type of work, degree of autonomy, and possibilities for family life in shaping the experiences of slaves in the Americas. All of these factors have been fruitfully explored in twentieth century scholarship on slavery in the Americas.³⁸

Ortiz’s discussion of the relatively open nature of urban slavery which follows Humboldt’s observations, has had a considerable impact on slavery scholarship in the twentieth century. Ortiz concluded that the condition of the

34. On *coartación* in eighteenth and nineteenth century Cuba see Herbert Klein, 1967, *Slavery in the Americas*, Chicago: University of Chicago Press, especially 196-200 and Laird Bergad, Fe Iglesias Garcia, and María del Carmen Barcia, 1995, *The Cuban Slave Market, 1790-1880*, New York: Cambridge University Press, 133-141. These authors also argue that the practice of *coartación* was unique to Cuba, but other studies have found evidence that it existed in other American slave societies. See for instance, Edgar J. Mc Manus, 2001 [1966]. *A History of Negro Slavery in New York*, Syracuse: Syracuse University Press, 8-13; or Douglas Cole Libby and Clothilde Andrade Paiva, 2000, “Manumission Practices in Late Eighteenth Century Brazilian Slave Parish: São José d’El Rey in 1795,” *Slavery & Abolition*, 21:1 (April) 96-127.

35. Aimes, “Coartación,” 427-430.

36. Ortiz, *Los negros esclavos*, 283-284.

37. Humboldt, *The Island of Cuba*, 256.

38. Ortiz, *Los negros esclavos*, 195.

[Cuban] urban slave approximated more closely that of the owner, than [that] of the rural slave. . . .³⁹ This relatively sanguine view of the lives and possibilities for freedom among Cuban slaves, especially urban slaves, was brought to bear on the discussion of comparative race relations in the Americas in Tannenbaum's *Slave and Citizen*. He saw manumission as "the crucial element in slavery; it implies the judgment of the moral status of the slave, and foreshadows his role in case of freedom."⁴⁰ While Humboldt recognized a hierarchy of suffering based on occupation and other conditions of life, Tannenbaum focused on access to manumission as the key element in determining the gradations of oppression under enslavement. "There were, briefly speaking, three slave systems in the Western Hemisphere. The British, American, Dutch, and Danish were at one extreme, and the Spanish and Portuguese at the other. In between these two fell the French."⁴¹ Much of his argument rests on Iberian traditions that favored manumission – the medieval Castilian legal code, the *Siete Partidas* which reflected a long history of slavery and slave trading on the Iberian peninsula and a religious tradition that officially recognized the humanity and spiritual personality of the slave. Tannenbaum contrasted this open Iberian system of law and custom with that of the Anglo-American colonies that had no modern tradition of slavery in their metropolis, no slave law, and whose religious institutions showed little concern for their African slaves.⁴² Although Tannenbaum's book was not a detailed monograph, he did use a number of examples from the various colonies he discussed. For the Iberian colonies, examples from Cuba and Brazil (and to a lesser extent, Mexico) were used most often to illustrate the ease and frequency of manumission in those colonies. In particular Tannenbaum cited the custom of *coartación* as a widespread practice that ameliorated the experience of slavery for the slave, especially in Cuba. His discussion relies heavily on both Humboldt and Ortiz.⁴³ Echoing Ortiz's optimism, Tannenbaum went so far as to conclude that, "slavery under both law and custom had, for all practical purposes, become a contractual arrangement between the master and his bondsman."⁴⁴

This optimistic argument for the singularity of Cuba in the openness of its colonial society to manumission was further elaborated by Herbert Klein in his book, *Slavery in the Americas*. Here Klein expanded the discussion of the legal and religious precedents and customs that, he argued, created a more

39. For a recent review of the slavery studies literature see David Brion Davis, April 2000, "Looking at Slavery from Broader Perspectives," *American Historical Review*, 105:2, 452-466.

40. Tannenbaum, *Slave and Citizen*, 69.

41. *Ibid.*, 65, footnote # 153.

42. *Ibid.*, 49-91.

43. *Ibid.*, 54-56, see footnotes # 124-130.

44. *Ibid.*, 55.

open and fluid system with regard to the pursuit of freedom and social mobility for Africans and their descendants in the Americas. He also sought to discuss, in more depth than Tannenbaum had, the dimension of social and economic factors in the explanation of the widespread access to manumission in Cuba. In Klein's discussion it was the combination of the legal and religious codes and practices and a diversified economy on the island that gave slaves in Cuba more possibilities to pursue freedom.⁴⁵ Because Cuba came late to large-scale sugar production for export on plantations, the island first developed an economy that offered many opportunities for slaves to accumulate wealth, especially in the thriving port of Havana.

Humboldt had recognized that, in spite of the explosive growth in sugar production, sugar had not yet taken complete hold of the Cuban economy in 1820 since almost two-thirds of the population was free and only one-sixth of the enslaved population worked on sugar plantations.⁴⁶ Klein amplified this point by showing the diversity of both rural and urban occupations worked by slaves—in livestock ranching, tobacco plots, small mixed farms, in urban manufacturing, military service, urban construction, entertainment, domestic service, etc. According to Klein, the opportunities to gain skills and live more independently enriched the lives of slaves, increasing their chances of achieving freedom and sustaining themselves when free.⁴⁷ Like Humboldt, Klein's comparative framework was based on the sharp contrast between Cuba and the Anglo-American colonies, in this instance, Virginia. There the plantation so dominated economic life that the opportunities for slaves to acquire skills and earn money were severely restricted. Following Humboldt, both Tannenbaum and Klein, saw the proof of the unique historical context of Cuba's colonial society in the ease and frequency of manumission there and in the resulting large free population of color compared to other colonies with slaves. The open attitude toward free people of color meant that "there was no sharp break between slave and free, or between colored and white freedmen." Especially in the cities, all groups performed the same kind of work and often shared the same social existence in urban areas."⁴⁸ Klein went so far as to argue that by the nineteenth century, the relatively open attitudes and practices developed over the preceding centuries regarding slavery, "had

45. Herbert Klein, 1967, *Slavery in the Americas. A Comparative Study of Virginia and Cuba*. Chicago: University of Chicago Press, 127-164. Although the first three parts of this book deal with the institutional, legal, and religious precedents, structures, and customs with regard to slavery, Part IV deals with the diversified economy in Cuba and the thriving urban economy of Havana as conducive to the pursuit of freedom by slaves. This tends to be minimized by Klein's critics who focus on his argument about legal and religious traditions. Tannenbaum briefly mentions the urban economy as an important part of the climate that favored freedom, citing Ortiz. Tannenbaum, *Slave and Citizen*, 58.

46. Humboldt, *The Island of Cuba*, 124-125.

47. This point is summarized on page 163, Klein, *Slavery in the Americas*.

come to be accepted as legitimate and morally operative by the majority of Cuban whites.”⁴⁹

This extrapolation of openness, from the period of the urban service economy to that of the plantation economy, was challenged by a number of scholars especially during the 1970s. Franklin Knight argued that generalizations about the nature of slavery over large spans of time based on legal codes or cultural traditions “can be of only limited value in understanding or comparing the nature of slave plantation societies in tropical America.”⁵⁰ Instead, he favored comparisons based on equivalent stages of economic and social growth. In his analysis, plantation societies showed remarkable similarities wherever they appeared regardless of the cultural heritage of the site.⁵¹

A substantial bibliography has developed documenting a “hardening” of the slave regime in Cuba as sugar production expanded, but there is some disagreement about the dating of it. Knight and others looked to the 1790s as the moment when the demands for enslaved labor in the expanding sugar sector began to outweigh the urban service economy of the earlier colonial period, bringing with it harsher work regimes and less tolerance of manumission and freed people.⁵² Aimes and Klein, following more closely Humboldt’s observations about the diversity of slave experience in Cuba in the early 1800s, date a real shift in official attitudes toward free people of color to the aftermath of the Escalera rebellion in the 1840s.⁵³

Scholarly emphasis on the harshness and rigidity of slave systems has shifted somewhat over the last several decades to a greater focus on the diversity of slaves’ experiences and on the agency of slaves in shaping their lives through their own economic activities, recourse to legal channels for redress

48. *Ibid.*, 194-211. The beginning of this section of the book relies heavily on Humboldt, Ortiz, and the Aimes article to discuss *coartación* adding further information on the nineteenth century and the socio-economic positions of free people of color. More recent work has corroborated this more open, service economy and large free population of color at least through the eighteenth century, M. Moreno Fraginals, 1986, “Peculiaridades de la esclavitud en Cuba,” *Islas*, 85, 3-12.

49. Klein, *Slavery in the Americas*, 85.

50. Franklin Knight, 1970, *Slave Society in Cuba during the Nineteenth Century*, Madison: University of Wisconsin Press, 193. Knight specifically treats the historiography on comparative race relations to date, including Tannenbaum and Klein in his introduction, xiii-xix. See also p. 132, footnote # 22.

51. *Ibid.*, 194.

52. On changing sexual mores and marriage patterns see Verena Martínez-Alier, 1989 [1974], *Marriage, Class and Colour in Nineteenth Century Cuba*, Ann Arbor; University of Michigan Press. On increased repression, especially of the free colored population see Gwendolyn Midlo Hall, 1971, *Social Control in Slave Plantation Societies. A Comparison of St. Domingue and Cuba*, Baltimore: John Hopkins Press; Robert Paquette, 1988, *Sugar Is Made with Blood*, Middletown: Wesleyan University Press; and Pedro Deschamps Chapeaux, 1971, *El negro en la economía habanera del Siglo XIX*, La Habana: Unión de Escritores y Artistas de Cuba.

53. Aimes, “Coartación,” 427-430 and Klein, *Slavery in the Americas*, 199. Still Klein maintained that sugar did not dominate Cuban society until after emancipation in 1886, p. 150.

of grievances, cultural expressions and the like.⁵⁴ One example in North American historiography is Rebecca Scott's study of the emancipation process in nineteenth century Cuba which placed the enslaved themselves at the center of the process as they exploited changes in metropolitan law, pursued manumission, and negotiated the terms of their working lives with their enslavers.⁵⁵

There has also been a call for more research on slavery outside the plantation sector to better capture the full range of the slave experience in the Americas.⁵⁶ Studies of slavery in frontier areas have been a particularly rich source of evidence for the diversity of slaves' experiences in the Americas.⁵⁷ A recent example in Cuban slavery studies is María Elena Díaz's book on the royal slaves of El Cobre in eastern Cuba. Díaz describes a group of slaves living more like peasants than plantation slaves. The *cobrerros* vigorously defended their autonomy and culture against both private entrepreneurs and colonial bureaucrats, ultimately taking their petitions directly to the King in Madrid and winning their freedom.⁵⁸

The growing body of work documenting the many gradations of experience under the slave systems of the Americas and the ingenuity and tenacity of slaves all over the region in pursuing freedom and dignity through whatever openings those systems allowed has brought scholars back to a new appreciation of the work of Frank Tannenbaum.⁵⁹ The appreciations look to his suggestions about the importance of different colonial systems in shaping the slave experience, to his broader point (often obscured by those who have rejected his thesis about these differences) about the centrality of slavery and of Africans to the creation of the New World. Thomas Holt's essay based on

54. See for the Anglo-American colonies such works as, Barry Higman, 1984, *Slave Populations of the British Caribbean, 1807-1834*, Baltimore and London, Johns Hopkins University Press; Daniel H. Usner, Jr., 1992, *Indians, Settlers, and Slaves in a Frontier Exchange Economy*. (Chapel Hill and London: University of North Carolina Press; Ira Berlin, *Many Thousands Gone*, 1998, (Cambridge, MA and London: Harvard University Press. Some of this bibliography is also summarized in John Thornton, *Africa and Africans in the Making of the Atlantic World, 170-177*, which discusses the historical circumstances of the "peasant breach" in some Atlantic slave systems.

55. Rebecca J. Scott, 1985, *Slave Emancipation in Cuba, The Transition to Free Labor, 1860-1899*, Princeton: Princeton University Press, 1985.

56. See for instance, Verene Shepherd, ed. 2002, *Slavery Without Sugar*, Gainesville: University of Florida Press.

57. The literature on the Spanish empire is particularly strong in this regard. See for example, Frederick P. Bowser, 1974, *The African Slave in Colonial Peru, 1524-1650*, Stanford: Stanford University Press; Patrick J. Carroll, 1991, *Blacks in Colonial Veracruz. Race, Ethnicity and Regional Development* Austin: University of Texas Press; Colin Palmer, 1976, *Slaves of the White God, Blacks in Mexico, 1570-1650*, Cambridge and London: Harvard University Press; William Frederick Sharp, 1976, *Slavery on the Spanish Frontier. The Colombian Chocó, 1680-1810*, Norman: University of Oklahoma Press.

58. María Elena Díaz, 2000, *The Virgin, the King, and the Royal Slaves of El Cobre*, Stanford: Stanford University Press.

a talk given at a Michigan State University symposium on the Comparative History of Black People in Diaspora in the mid-1990s uses Tannenbaum as a springboard to an even broader understanding of the value of comparative study of the African diaspora.⁶⁰ An upcoming workshop on Comparative slavery in the Atlantic World organized by Harvard's Atlantic History seminar also will take the Tannebaum thesis as its focal point.

All of which brings us back to Humboldt. This conference is a testament to a renewed interest in his work although this interest seems to be running on a parallel rather than connecting track to the renewal of attention to Tannenbaum. I hope this brief review has clarified the close connections between those enterprises. Humboldt's acute observations of Cuban slavery continue to resonate in Cuban history and slavery studies more generally.⁶¹ The statistics he compiled form the base of virtually all discussions of the momentous changes taking place in Cuba from the 1760s to the 1820s. His descriptions of the varied lives of slaves in Cuba captured well the diversity of slave experience on the island. As such his observations have informed much of the study and theorizing about slavery in the Americas. He helped lay the groundwork for an understanding of slavery as an institution and experience both diverse, according to specific historical places and moments, and shared by all the peoples of the Americas.

Humboldt's profound understanding of one of the fundamental features of American life was also infused with a deep moral revulsion against slavery as "the greatest of all evils to have plagued mankind."⁶² Yet, his revulsion did not lead him to efface the many gradations of the conditions and experience

59. One example is Jane Landers, 1999, *Black Society in Spanish Florida*, Urbana and Chicago: University of Illinois Press, 1-3. Landers notes that while Tannenbaum's thesis about the openness of Iberian systems to manumission and tolerance of free people of color many not hold for areas of monocultural sugar production for export, it could have validity in urban settings or even in areas with plantations where slaves had access to urban institutions like St. Augustine and its hinterland. Not all are as convinced of the value of Tannenbaum's early explorations of the gradations of enslavement and possibilities for freedom, see Díaz, *The Virgin, the King, and the Royal Slaves of El Cobre*, 352 footnote #10. Díaz mentions Tannenbaum's thesis as the "old cultural reductionistic thesis on Iberian slavery" while describing her own study as one which shows the *cobrerros'* lives and community as "a more fluid continuum between slavery and freedom." (13). While her study is certainly a much more nuanced conceptually and well documented than Tannenbaum's broad strokes in *Slave and Citizen* her evidence on the possibilities for pursuing freedom through the Spanish legal system seem to uphold rather than negate Tannenbaum's work.

60. Thomas Holt, 1999, "Slavery and Freedom in the Atlantic World: Reflections on the Diasporan Framework," in Darlene Clark Hines and Jacqueline McLeod, eds., *Crossing Boundaries: Comparative History of Black People in Diaspora*, Bloomington: Indiana University Press.

61. Humboldt's descriptions of urban slavery are still often the foundation of historical summaries of eighteenth and nineteenth century Cuba, especially Havana. See for instance, Philip A. Howard, 1998, *Changing History. Afro-Cuban Cabildos and Societies of Color in the Nineteenth Century*, Baton Rouge: Louisiana State University Press, 1-20.

62. Humboldt, *The Island of Cuba*, 256.

of slavery as a way to imagine its end. As he reminded us, “[t]o remedy the evil... it is necessary to probe the sore; for there exists in social, as well as organic bodies, reparative forces, which when well directed, may triumph over the most inveterate evils.”⁶³ Unfortunately, such deep-rooted optimism about the abilities of social bodies to purge and heal themselves has not been entirely fulfilled.

63. *Ibid.*, 125.

David Kenosian

Scholars have observed that Alexander von Humboldt depicted nature as artistically as possible to appeal to a broad audience.¹ But I will show here that language is central to his epistemology of nature that guided his research in key works such as *Ansichten der Natur*, *Ideen zu einer Geographie der Pflanzen*, and his magnum opus, *Kosmos*. In a letter to Varnhagen von Ense, he asserts that a book on nature should produce an impression like nature itself (39).² To this end, he sought to create in his images of nature (“Naturgemälde”) an enhanced form of nature’s own language. Like his brother Wilhelm, he considers how language enables the human subject to render nature intelligible. Alexander in fact collected and published some of his brother’s essays on language in *Über die Verschiedenheit des menschlichen Sprachbaues*. I will argue that they see nature in terms similar to those expressed by Kant in section 42 of the *Kritik der Urteilskraft*:

The charms in natural beauty, which are to be found blended...so frequently with form, belong either to the modifications of light...or of sound....For those are the only sensations which permit not merely of a feeling of the sense, but also of reflection upon the form of these modifications of sense, and so embody as it were a language in which nature speaks to us and which has the semblance of a higher meaning.³

The individual perceives nature, Kant seems to say, as if it were not so much a passive object but as if it were a speaking subject.

1. See for example Cedric Hentschel, “Alexander von Humboldt’s Synthesis of Literature and Science,” *Alexander von Humboldt 1769/1969*, ed. Adolf Meyer-Abich, (Bonn, Bad Godesberg: Inter Nationes, 1969), 111.

2. Humboldt to Varnhagen von Ense, Berlin 24 October 1834, *Briefe Alexander von Humboldts an Varnhagen von Ense*, 23.

3. Immanuel Kant, *Kritik der Urteilskraft*, vol. 5 of Kants *Gesammelte Schriften*, ed. Königliche Preußischen Akademie der Wissenschaften (Berlin: Georg Reimer, 1910-55), 302.

In the quote, nature is in effect the foreign; it is different from us, yet it is capable of communicating with us. What makes it possible to have a dialogue with nature? How do we determine the higher meaning to which Kant refers? And how does language relate to Alexander Humboldt's views on art? The term that connects the different levels and stages of Humboldt's work is a Romantic notion of translation. For Humboldt, translation is a series of potentiations that begin with ordinary experience and encompass conceptualization. It can also be related to the idea of crossing the boundary between the familiar and foreign so as to enjoy intellectual enrichment. The German verb *sich übersetzen* means to cross a body of water and this is precisely what Humboldt did on his journey to the Americas. The roots of another verb for translating, *übertragen*, mean to carry across, an accurate term for the shipment of data and natural samples that Humboldt sent back to Europe. The prefix *über-* in both German terms for translation can also mean above and he sought to elevate the data he collected into a systematic unity. He believed that scientific views demanded a new kind of artistic writing that would depict nature as a dynamic and harmonious whole. It is in his *Ansichten der Natur*, his artistic treatment of the voyage, that he first fused science and art in poetic images of South American landscapes or "Naturgemälde," the term he later uses in *Kosmos* for his depiction of nature as a whole.⁴ Thus, translation circumscribes a process of self-positing whereby the subject raises or posits itself (*sich setzen*) and its object to a higher plane of knowledge.⁵

At its most basic level, Humboldt's notion of translation designates the conversion of our raw sense data into an image of nature. He cites Hegel's observation in the *Philosophie der Geschichte* that external phenomena are translated ("übersetzt") in our inner representations.⁶ Humboldt adds that through this act, the external world is blended, almost unconsciously with our thoughts and feelings. Hegel also links perception to feelings; he likens the process of translating nature to the poet's transformation of material supplied by his emotions.⁷ In this account, then, language establishes continuity among representation ("Vorstellung"), thought and verbal expression ("Darstellung").

To be sure, Alexander von Humboldt does not provide a language-based theory of consciousness. Still, we can find one in his brother's *Über die Verschiedenheit des menschlichen Sprachbaues*. Individuals begin to become

4. See Alexander von Humboldt, *Ansichten der Natur* (Stuttgart and Tübingen: Cotta, 1849).

5. Antoine Berman, *The Experience of the Foreign*, trans. S. Heyvaert (Albany: State University of New York Press, 1992), 108.

6. Alexander von Humboldt, *Kosmos*, (Philadelphia: F. W. Thomas & Söhne, 1869), 34-35. I will hereafter cite the text as *Kosmos*.

7. Georg Hegel, *Vorlesungen über die Philosophie der Geschichte*, vol. 5 of *Sämtliche Werke*, 20 vols. (Stuttgart: Frommann, 1927-40), 25.

aware of the world and of themselves as members of a community when they hear the voice of others. When someone speaks to me, her thoughts and emotions are conveyed by sound into my mind, just as nature enters our inner world in Alexander von Humboldt's discussion of Hegel.

The articulate sound is torn from the breast to awaken in an other individual an echo returning to the ear. Man thereby at once discovers that around him there are beings having the same inner needs, and thus capable of meeting the manifold longing that resides in his feelings.⁸

In other words, when we interact with a conversation partner, we become aware of a third entity, the community. Wilhelm argues that when we respond to an interlocutor, we are in a sense limited because a linguistic community impresses of mind upon its members a certain perspective ("Weltansicht"), i.e. systems of lexical distinctions between objects and states. But it is not only the community that is given through language: the dialogue makes us conscious of another entity, nature. Humboldt maintains that historically, nature is a third person that arises as a second opposition from the primary one between the I and the you.⁹

Limitation does not, however, stifle the creative potential of language. I use a shared vocabulary to express my unique experiences, innermost thoughts and feelings. Hence, a dialogue between two individuals is an exchange in which common terms are continually reinterpreted. Humboldt likens this negotiation to a musical performance.

People do not understand each other ...by mutually occasioning each other ("sich gegenseitig bestimmen") to produce exactly the same concept, they do it by touching in each other the same link in the chain of their sensory ideas and internal conceptualizations, by striking the same note on their mental instruments whereupon matching but not identical concepts are engendered in each.¹⁰

Communicability is ensured by a multi-faceted conception of harmony rooted in the voice ("Stimme"). The expression of our ideas and feelings contain the basis of outer consonance, the harmonizing impulse between speakers.¹¹ Humboldt explains that connected to the terms used by each speaker is a demand for more presentation and development upon the listener "to supply the missing element in accord with what is given."¹²

The voice not only creates a harmony between speakers: it also creates an inner consonance of language with the mental faculties within each speaker.

8. Wilhelm von Humboldt, vol. 7 *Gesammelte Schriften*, ed. Albert Leitzmann, 17 vols., (Berlin: Behr, 1903-36), 36-7.

9. *Ibid.*, 104.

10. *Ibid.*, 169-70.

11. *Ibid.*, 180.

12. *Ibid.* 55.

Indeed, the voice is related to an affective state of mind (in this case “Stimmung”) and cognitive determination (“bestimmen”). Those are the two intellectual processes which, according to Alexander von Humboldt, fuse with our translation of empirical reality when we have an experience of nature. Wilhelm notes that the highest level of reflective consciousness in language is inseparable from what he calls the purest attunement (“Zusammenstimmung”) of all our mental capacities.¹³ Conceptualization is a reflexive linguistic operation through which we give terms higher signification. Since thought begins when we assign a word to a mental event, either in conversation or in silent thought, thinking is inseparable from speech. Thus, our faculties operate as linguistic processes on ever higher levels. Sound deputizes the unity of an object because it becomes the bearer of all of the impressions that the object makes on our inner and outer sense.¹⁴ When we designate a thought with sound, that sound returns to our ear as a representation that we gather with similar ones to form a “manifold unity” and in this manner, we form concepts from representations.¹⁵ The con-sonance within inflected languages corresponds to the harmony among the faculties in the mind of the speakers. We become conscious of our own activity at the highest level of thought when we use inflected languages because inflections arise from the *right recognition* of the intuited.¹⁶ This recognition results when our power of reason reveals the structural affinity between nature and language.¹⁷

What links Wilhelm’s notion of dialogue with Alexander’s understanding of science is the idea of expressive force. For Wilhelm, the utterance is an external manifestation of the mind’s continuous intellectual or linguistic force (“Denkkraft” or “Sprachkraft”) while his brother sees natural phenomena as finite forms produced by the ongoing interaction between animate and inanimate forces. Alexander uses the term expressions of force (“Kraftäußerungen”) to denote properties of matter as well as the cultural achievements of nations.¹⁸ Similarly, Wilhelm von Humboldt describes the relationship between articulation and cognition in physiological terms: Just as thought seizes the mind, sound has a unique penetrating power that makes our nerves tingle.¹⁹ Their common interest in force goes back to 1794 when they collaborated on a series of experiments on animal electricity. Alexander wanted to determine to what extent life processes are responses to forces that cause irri-

13. *Ibid.*, 157.

14. Wilhelm von Humboldt, *Gesammelte Schriften* 7: 53.

15. Wilhelm von Humboldt, 7: 66, cf. Michael Losonsky, “Introduction” to *On Language* by Wilhelm von Humboldt, trans. Peter Heath (Cambridge, New York: Cambridge University Press, 1999) xvii.

16. Wilhelm von Humboldt, 7: 158; my emphasis.

17. *Ibid.*, 61.

18. See for example *Kosmos*, 26.

19. Wilhelm von Humboldt, 7: 53.

tation (“Reize”). He concluded that different kinds of irritation generated sensation, and in addition, specific feelings (“Stimmungen”).²⁰ Thus, irritation produce a sense of external reality and affective responses, the very same effects brought about by language. Though Alexander did little zoological research in South America, it is significant that his one major anatomical study dealt with the respiratory and vocal organs of animals.²¹ Thus, he was trying to understand how nature literally develops a voice.

More broadly, Alexander von Humboldt called for a language that would mirror his conception of nature. He defined nature as a harmonious whole, a unity in the manifold whose diversity could be explained by universal constitutive forces (e.g. chemical and physical) operating under different local circumstances and in varying combinations.²² Humboldt’s ideal language was one that would present nature as a totality while unifying the sciences. He argues that the fragmentation of disciplines leads to linguistic confusion: too many scientists use indeterminate terminology and incorrectly apply terms from other disciplines, thereby creating false analogies.²³ To use his brother’s terminology, he envisioned a language that would bring harmony to the sciences. Art, more specifically newer genres such as nature writing and poetry, solved two problems raised by the fragmentation of the sciences. It not only presented a livelier and clearer picture of nature than most scientific writing but also, and perhaps more importantly, offered a holistic conception of nature. He shares Schelling’s view that too many scientists see nature as a “dead aggregate” of an indeterminate quantity of objects. Instead, researchers should share with great artists the ability to understand how the part is meaningfully and organically related to a dynamic whole.²⁴ For Humboldt, the writing which best presents this kind of insight could be found in accounts of a few gifted travel writers such as Chateaubriand and Bernardin de St. Pierre who fashioned a poetic language which related the individual species and phenomena to the tropical world in its entirety.²⁵

Humboldt’s choice of genres is surely not accidental as the journey is, I contend, the controlling trope for the incorporation of new scientific knowledge into an expanding though cohesive body of thought. We should recall here that the journey is metaphorically signified by the term *übersetzen* and that the prefix *über-* signifies a dual upward and outward movement. In *Kos-*

20. Adolf Meyer-Abich, *Die Vollendung der Morphologie Goethes durch Alexander von Humboldts* (Göttingen: Vandenhoeck & Rupprecht, 1970), 122.

21. Ilse Jahn, *Dem Leben auf dem Spur. Die biologische Forschungen Alexander von Humboldts* (Leipzig, Jena, Berlin: Urania, 1969), 124.

22. *Kosmos* 7.

23. *Ibid.*, 383.

24. See Friedrich Wilhelm von Schelling, “Philosophie der Kunst in vol. 1 of *Werke*, ed. Wilhelm G. Jacobs, Jörg Jantzen und Walter Schieche (Stuttgart: Frommann-Holzborg, 1976-)1: 389.

25. *Kosmos*, 224.

mos, Humboldt links these two trajectories in the historical context of Europe's age of exploration. He argues that the new knowledge gained about the earth corresponded to the growing understanding of the laws of natural forces, the distribution of heat on the globe, and the variety of organisms.²⁶ The insights gained by voyagers are intuitions which researchers were able in time to merge into a concrete whole. Thus, he defines his own journey to South America as a continuation of that historical development though on a higher plane of knowledge. The expedition was a voyage into a foreign language in which he encountered new expressions of nature that furthered the activity of his mind much as the dialogue, according to his brother, stimulates our faculties and feelings.²⁷ More specifically, the natural wonders he observed produced in him powerful emotions or "Stimmungen," as his brother would have it. He later determined ("bestimmen") scientifically the phenomena that so moved him. In a letter to Karoline von Wolzogen from 1806, Alexander observed that he had an unknown feeling of exuberance in South America. Nevertheless, he came to realize that the awesome spectacles he witnessed were part of a global whole, and he credited Goethe's views of nature for giving him "new organs" that enabled to come to that understanding.²⁸ Humboldt is saying here that German thought prepared him for his work, conceivably because it attuned him to the natural world. In his discussion of notions of world harmony, Leo Spitzer points out that the German Romantic notion of "Stimmung" expresses the unity of feeling humans experience with their environment (i.e. other individuals or a landscape). Spitzer relates "Stimmung" to "gestimmtsein," a kind of attunement that "presupposes a whole of the soul in its richness and variability."²⁹

Humboldt himself thought that landscapes owe their unique character to their plant cover ("Pflanzendecke").³⁰ The term "cover" denotes a surface as well as an ensemble. The individual species is a unique manifestation of inner forces: Humboldt shared Goethe's view that each type has a specific amount of energy. The species develops in response to environmental factors and we can see in that notion of reciprocal relation a homology to Wilhelm von Humboldt's thoughts on inflected languages. In a sentence, the inflected word is a particular form whose meaning depends on its relation to the rest of the sentence. South American ecosystems were not so much unconnected sentences for Alexander von Humboldt as they were poems. In his *Ideen zu*

26. *Ibid.*, 311.

27. *Ibid.*, 9.

28. Alexander von Humboldt, "Brief an Karoline von Wolzogen" 14. May 1806, in *Alexander von Humboldt*, ed. Karl Bruhns 2 vols. (Leipzig: Brockhaus, 1872), 1: 417.

29. Leo Spitzer, *Classical and Christian Ideas of World Harmony*, ed. Anna Granville Hatcher (Baltimore: The Johns Hopkins University Press), 5-6.

30. *Kosmos* 183, cf. Malcolm Nicholson, "Alexander von Humboldt, Humboldtian Science and the Origin of the Study of Vegetation," *History of Science* 25 (1987), 177.

einer Geographie der Pflanzen, his first major work published after his expedition, he stated that the sensations produced by vegetation are closely linked to the effects which imitative arts and descriptive poetry have upon us. In contrast to the study of an individual species, he continues, the appreciation of the plant cover (“Pflanzendecke”) gives us a sense of a whole that stirs our imagination.³¹ Thus, in the context of his field work, he states that nature had a powerful effect on his emotions, imagination, and intellect. These are the very constituents of the aesthetic experience of nature in Wilhelm’s essay, “Über die Einbildungskraft” from 1798. The essay deals with the transformation of real objects into an image (“Bild”) in the imagination of poets and their audience. The imagination owes its special status in the arts because it makes present what is absent, presents what is immaterial as a sensible image, and enables us to transcend the experiential limits of time and space.³² Congruent with this, he compares the artist with a traveler who transports us to a new world.³³ Readers have the sense that they are in the midst of actual nature but at the same time, elevated above it (“über sie erhoben”).³⁴

In effect, Wilhelm has described his brother’s transformative reconstruction of South American nature poems, i.e. ecosystems, in his favorite text, *Ansichten der Natur*. Like the artist in “Über die Einbildungskraft,” Alexander strived to create images (“Bilder” and “Gemälde”) of the landscapes of the Americas as he explained in the preface to the first edition. His images are organized by category (steppes and desert, waterfalls, volcanoes and mountains) and are unified compositions, which depict the dynamic interplay of natural forces as they work in concert. One brief example from his account of the waterfalls of the Orinoco will illustrate how he tried to capture the constant interplay of natural forces with dynamic verbs.

Black cliffs emerge from the plains like ruins and fortresses. Every island, every stone is decorated with luxuriant forest trees. Thick mist hovers eternally over the surface of the water. The crowns of high palms reach up through the steaming cloud of foam. When the damp haze refracts the rays of the sun...colorful arches disappear and return.³⁵

I wish to stress that images such as these present the various stages of his research in condensed form. In *Kosmos*, he remarks that humans have always constructed an internalized image of the world by following inner echoes (“Anklänge”), but only a long process of “Bildung” enabled us to analyze and

31. Alexander von Humboldt, *Ideen zu einer Geographie der Pflanzen* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1963), 24.

32. Wilhelm von Humboldt, “Über die Einbildungskraft,” in *Poesie und Einbildungskraft*, ed. Klaus Müller-Vollmer (Stuttgart: Metzler, 1967), 131.

33. *Ibid.*, 133.

34. *Ibid.*, 123.

35. Alexander von Humboldt, *Ansichten der Natur*, 275-6.

synthesize what historically was a feeling of the world's unity. Likewise, the florid descriptions are intended to convey his immediate sensory and emotional response to nature's expressions. He subsequently examined phenomena in the field and we see in the quote examples of the disciplines that he studied in South America: botany, meteorology, astronomy and geology. Upon his return in Europe, Humboldt recreated the American wilds and situated his representations in ever broader contexts, i.e., as products of geographical and climatic factors unique to South America and as variations of similar though contrasting topographical formations elsewhere in the world. He included parts of his own *Ideen zu einer Geographie der Pflanzen* in which he tried to trace the world's plant life to seventeen basic types. He felt justified in making grand comparisons because on the basis of his research, he concluded the Andes Mountains contained a microcosm of the earth's ecosystems. To support his case, he presented statistics on altitude and temperatures of ecosystems in the appendix to demonstrate under which geographical conditions organic forms develop into the variations that we see in the "Naturgemälde."

But we should not see the poetic images as mere adornments to an otherwise dry treatise. Humboldt wrote the poetic images in *Ansichten* after he had conducted empirical research and published the work in three editions at times that span his scientific career (1808, 1826, and 1849): thus, he could have conceivably removed the images in favor of a more descriptive or quantitative treatment. I would argue that there are epistemological reasons for his decision to keep his "Naturgemälde." Language gives thought grace and clarity and at the same time, it furnishes representations of nature with the "enlivening breath." The breath is the medium through which his intellectual force is projected as vocal expression. His artistic language is intended to give a scientific accurate picture of South America but unlike the statistics, it also conveys a sense of nature's creative power. For these reasons, art represented for him a self-reflective medium that would enable him to consider the logical connections of his conception of nature. In this light, it becomes more understandable that Humboldt published the third edition of *Ansichten* in 1849, more than forty years after his expedition. The text was an example of the kind of writing that Humboldt believed was necessary for the continued growth and diffusion of scientific ideas. Whether intentionally or unintentionally, Humboldt makes the case that his metascience is a potentiated travel writing.

Herschel, Humboldt and Imperial Science

Christopher Carter

In science, the nineteenth century is known as the beginning of a systematic approach to geophysics, an age when terrestrial magnetism, meteorology and other worldwide phenomena were studied for the first time on a large scale. International efforts to study the earth's climate, tides and magnetic field became common in the first half of this century, in large part because of the impetus given to the field by the work of Alexander von Humboldt. Due to Humboldt's influence, a system of geomagnetic observatories soon covered most of the European continent.¹ But one prominent nation remained outside of this system of observations. Despite Britain's inherent interest in geomagnetic studies (due to its maritime concerns) the laissez-faire attitudes of the British political system weakened efforts to subsidize state funded scientific projects. Not until the 1830s did Britain join with other European nations in the geophysical arena. This cooperation was beneficial to the science, as it brought not only Britain's considerable scientific resources to bear on the problem, but it also opened up Britain's imperial holdings as new stations to expand the observational system.

Humboldt's 1836 letter to the Duke of Sussex (President of the Royal Society), suggesting the establishment of geomagnetic observatories in British colonies, provides an initial point of reference for our investigations.² However, while welcomed by the scientific community, Humboldt's appeal

1. By 1835, continental geomagnetic stations were operating at Altona, Augsburg, Berlin, Breda, Breslau, Copenhagen, Freiburg, Goettingen, Hanover, Leipzig, Marburg, Milan, Munich, St. Petersburg, Stockholm and Upsala. William Whewell, *History of the Inductive Sciences*. (London: John Parker & Son, 1857), III:50.

2. Alexander von Humboldt, "On the Advancement of the Knowledge of Terrestrial Magnetism, by the Establishment of Magnetic Stations and Corresponding Observations." *London and Edinburgh Philosophical Magazine* 9 (1836) 42-53. Specifically, Humboldt suggested that stations be established in New Holland (Australia), Ceylon, Mauritius, the Cape ("rendered illustrious by the labours of Sir John Herschel"), St. Helena, and North America.

alone failed to inspire action on the part of the British government. Only a domestic lobby composed of prominent British scientists could finally extract pecuniary support from the British state in 1839. The success of this lobby led to the launching of the “Magnetic Crusade,” a combination of an Antarctic expedition with colonial observatories to study geophysical sciences. Chief among the figures in the British lobby were Edward Sabine, Humphrey Lloyd and John Herschel. The activities of the latter especially were essential to the cause of Humboldtian science in the British empire.

Herschel and Universal Science

Like many scientists of his age, Herschel became interested in large scale, global observations in the physical sciences. Unlike Humboldt or Sabine, though, Herschel’s interest fit into an overall system of inductive universalism which he had defined years before. In his *Preliminary Discourse on the Study of Natural Philosophy* (1830) Herschel had expressed his belief in a system of universal induction which required large numbers of global observations over long periods of time in order to work out universal physical theories that applied to all of the particular observations by eliminating any temporary variations.³ Tides, meteorology and geomagnetism provided ideal tests for his system, as they required large numbers of observations from all over the world in order to come up with a global theory that fit the phenomena. The Magnetic Crusade offered the opportunity to put such a plan of observation into action.

It is my thesis that Herschel’s contributions to the Magnetic Crusade were integral and essential. His philosophical beliefs concerning inductive science led him to add his own distinct and crucial additions to the plan of the Crusade, especially in the form of fixed colonial observatories. In so doing, he fulfilled the original intent of Humboldt’s observing plan and made it possible for scientific goals to be accomplished through the resources and structure of the British imperial system. Like the British empire, Herschel’s science was cosmopolitan and universalist. While his political and social connections were invaluable for the lobbying effort, he was not just its ‘celebrity spokesman,’ for Herschel had himself been harboring similar plans for many years which finally saw fruition in the Crusade.

Herschel’s Role

Credit for Herschel’s contributions to the Crusade has not always been forthcoming. Many historians have neglected Herschel’s importance to the scientific shape of the project in favor of recognizing the importance of his

3. *John Herschel, Preliminary Discourse on the Study of Natural Philosophy.* (New York: Johnson Reprint Corporation, 1966).

political connections. Herschel is sometimes portrayed as the public face who represented the lobby while others were doing the real organizational work. Jack Morrell and Arnold Thackray see Herschel as the “irreproachable spokesman” for the interests behind the Crusade, but call Sabine and Lloyd the “leading” figures in the lobby.⁴ John Cawood identifies Sabine as the true “fanatic” motive force behind the lobby. While recognizing Herschel’s “scientific interest in the geomagnetic project” he holds that Herschel’s “true value to the magnetic lobby [was] in his prestige and position.”⁵ Cawood is correct that Herschel’s position in society did give him (and the lobby) special access to government officials, but to ignore Herschel’s scientific contributions to the Crusade is to misrepresent his true role.

Herschel became the primary reason that the Crusade expanded beyond an Antarctic expedition to include fixed stations for observations around the world. After the publication of the *Preliminary Discourse*, Herschel had pursued his inductive ideas. His interest in global geomagnetic observations can be traced to this particular view of universal induction, which held that while general propositions were by their nature only probable truths when applied beyond the range of the instances from which they were derived, the more frequently they were tested in other instances the more their probability approached certainty.⁶ For terrestrial magnetism, Herschel proposed the need for stations to acquire continuous observations because variations in the earth’s magnetic field could only be detected over many years. He also held that the data must be collected simultaneously at various stations, in order to treat the variations globally. He believed that with enough data from particular points, a full theory of geomagnetism could be worked out for the whole world. To Lloyd, Herschel wrote that:

The secular variation of the constant elements in a general theory of Terr[estrial] Magnetism is one of indispensable importance and *can* only be obtained by observations of extreme precision carried on for many years. Were they known for every point on the globe we might of course by their aid bring all ancient and modern obs[ervations] to one epoch.⁷

The proposal to establish the stations changed the very nature of the Crusade, making it more than just another temporary magnetic survey. It also tied the Crusade more closely to the British imperial system than an expedition alone could have done. Eventually the Crusade was internationalized and provided the basis for continuous physical observations around the world. All

4. Jack Morrell and Arnold Thackray. *Gentlemen of Science*. (Oxford: Clarendon Press, 1981), 369, 359.

5. John Cawood, “The Magnetic Crusade: Science and Politics in early Victorian England.” *Isis* 70 (1979), 507.

6. Herschel to Stewart, 1834. “John Herschel Letter.” *South African Libraries* 7 (1940), 138-54.

7. Herschel to Lloyd, November 5, 1838 (Royal Society).

of these elements of the final plan of the Crusade can be traced back to Herschel's involvement.

Humboldt's influence on Herschel and on the ideas behind the lobby during this period is evident. Herschel later declared that no other man of science was "more versatile in genius, more indefatigable in application to all kinds of learning, more energetic in action, or more ardent in inquiry."⁸ Humboldt's 1836 letter clearly gave impetus to the ideas that lay behind the Magnetic Crusade. Yet to call the British foray into colonial observing a "direct consequence" of that letter (as Malin and Barraclough have done) ignores three years of lobbying and development of the idea on the British side.⁹ Without the inductive philosophy of Herschel and his commitment to global observing, the Crusade might have ended up being just another one-time scientific expedition to the South Seas.

Herschel was certainly drawing upon a Humboldtian observational tradition in his plans for fixed stations.¹⁰ But as Cawood has pointed out, Humboldt's contribution was inspirational rather than practical.¹¹ The difference lay in Herschel's ability to combine his own sociopolitical influence with his philosophical beliefs. Herschel's role in the Crusade was the key to bringing about this system of stations in the British empire in 1839 where Humboldt had failed in 1836. Herschel's plan required continuous observations over a long period of time, and thus the existence of permanent structures for observatories.

The events around the Magnetic Crusade were not the first time Herschel had tried to put his system of observing into operation. He had been active in plans to set up an extensive series of colonial geophysical observations for some years before the Crusade. The years he spent in South Africa (1833-1838) were a formative period for these actions. Here he particularly took an interest in meteorology. One of his first actions when arriving at the Cape was to make a series of meteorological observations.¹² In 1835, he had written to William Henry Smythe, recommending a new plan for hourly worldwide meteorological observations on four predetermined days each year all over the world. He was planning to participate from the Cape, and he hoped it was undertaken in India, New South Wales, Mauritius, and in many other

8. Herschel, "Humboldt's Kosmos." *Edinburgh Review* 87 (January 1848), 91.

9. S.R.C. Malin and D.R. Barraclough, "Humboldt and the Earth's Magnetic Field," *Quarterly Journal of the Royal Astronomical Society*, 32:3 (1991), 279.

10. Steven Ruskin argues that Herschel followed the pattern of "Humboldtian traveling" during his early days, and that his trip to the Cape of Good Hope can be seen in this light as well. Steven Ruskin, *John Herschel's Cape Voyage*. (Burlington: Ashgate, 2004), 12-36.

11. John Cawood, "Comments," in *Human Applications of Scientific Advance*. (Edinburgh: Edinburgh University Press, 1978), 146.

12. Herschel to Paine, August 26, 1836. University of Texas, Austin.

localities.¹³ In 1837, he gained the cooperation of Adolph Quetelet for a series of simultaneous meteorological observations between Europe and the Cape.¹⁴

While at the Cape, Herschel also collected meteorological observations from around the world, receiving reports from India, Geneva, Guyana, Mauritius, Turin, Albany, Port Arthur, Boston, Tasmania, Bermuda and Brussels. In 1836 he became an honorary member of the British Meteorological Society. He also intended for the system of observations to continue even after his departure, publishing “Instructions for Making and Registering Meteorological Observations at various Stations in South Africa” in 1838.¹⁵

Herschel also saw the tides as a field worthy of study, especially as his friend William Whewell was making a study of them. Herschel assisted Whewell by gathering tidal observations both at the Cape and from his brother-in-law in Canton.¹⁶ Only in the field of geomagnetism did Herschel fail to make any observations at the Cape. Writing to his aunt Caroline in 1836, he explained that while he had heard of Carl Gauss’ new method for making geomagnetic observations, he lacked the necessary equipment to carry them out in Africa.¹⁷

Herschel saw the value in setting up physical observatories around the world for geophysical observations. In 1835 (a year before Humboldt’s letter to the Royal Society) Herschel wrote extensively to Captain Francis Beaufort, the Royal Hydrographer, about the nature of such physical observatories. Complaining about the proliferation of colonial astronomical observatories, Herschel maintained that small, local observatories could contribute little to astronomy. Rather, he believed that such establishments should be converted to physical observatories to make observations concerning magnetic intensity and direction, meteorology and the tides. Such observatories could also serve as centers to propagate accurate standards of weights and measures in the colonies.¹⁸ These goals were some of those which he had laid out for observing stations in the *Preliminary Discourse* in 1830.

13. Herschel to Smythe, May 10, 1835. Royal Society.

14. Herschel to Quetelet, June 15, 1837. American Philosophical Society.

15. John Herschel, “Instructions for Making and Registering Meteorological Observations in South Africa.” Meteorological Committee of the South African Literary and Philosophical Institution, 1838.

16. Herschel to Stewart, November 25, 1835. David S. Evans, editor. *Herschel at the Cape*. Austin: University of Texas Press, 1969; Herschel to Whewell, July 22, 1837 (Royal Society).

17. Herschel to Caroline, March 8, 1836. Here Herschel apparently forgot an earlier promise to Quetelet. Writing in 1831, Herschel had expressed interest in Quetelet’s new magnetic observations, and vowed to “make a case of magnets a principal feature in my list of apparatus,” should he travel again. Herschel to Quetelet, December 19, 1831. American Philosophical Society.

18. Herschel to Beaufort, October 11, 1835. Royal Society.

Although he was unable to make geomagnetic observations while in Africa, Herschel did busy himself helping to set up colonial observatories around the world to make geomagnetic, tidal and meteorological observations. Here he joined with Humboldt who had also urged the establishment of observatories around the world for geomagnetic readings. Herschel differed from Humboldt in that he believed that the observatories should focus on all geophysical fields, not just geomagnetism.¹⁹ In 1836 Herschel played a role in the establishment of a new observatory in Bombay. In 1837 he advised George Gipps to set up a physical observatory in Australia for tidal, magnetic and meteorological observations, rather than an astronomic one.²⁰ Similarly in mid-1838 he advised Captain Beaufort on establishing a physical observatory on Mauritius.²¹

Herschel's part in setting up observatories to provide the raw data for his universal inductions brought him to change his mind about the individual nature of scientific activity and the need for state involvement. In 1831, he had argued that public funding for science was more than adequate.²² Now realizing the value of the empire in the task of setting up colonial stations, Herschel worked to bring state support into science. Such assistance not only provided the necessary sites for observing stations, but also crucial coordination for simultaneous observing. Herschel saw the state as the patron of science, but did not believe that it was necessarily required to back all scientific ventures.

With the beginning of the lobby and a chance at state support for his plans, Herschel reached one of the critical points in his scientific career. Up to that point, he had helped to set up observatories around the world in a private capacity by advising and writing letters of support. But his overall plan of a more extensive global system of stations for the purpose of observing seemed to be out of reach. In 1835 when he had laid out his plans for physical observatories to Captain Beaufort, he had ended his letter by commenting that "perhaps all of this is dreaming."²³ Writing to James Forbes in 1836, he had expressed his desire to see a new class of physical observatories established, but regretted that he had "not now the time to enter into" such a project.²⁴ His work in South Africa kept him too busy to become more involved in physical observations, but on his return to England in the spring of 1838, he was finally able to devote his time to it.

19. Herschel to Forbes, November 15, 1836. St. Andrew's University Library.

20. Herschel to Gipps, December 27, 1837. Royal Society.

21. Herschel to Beaufort, June 29, 1838; Herschel to Beaufort, July 22, 1838. Royal Society.

22. Herschel to Hussey, August 2/3, 1831. Royal Society.

23. Herschel to Beaufort, October 11, 1835. Royal Society.

24. Herschel to Forbes, November 15, 1836. St. Andrew's University Library.

Thus Herschel already harbored a desire to create a system of global observatories in the British colonies by the summer of 1838, before the lobby for the Crusade even began. While in Africa, he came to accept the utility of establishing observing stations in British colonies. Eventually he embraced the involvement of the state in science as necessary when he looked to the British colonial world to supply sites for observatories. Accepting that his individual efforts were insufficient to set up enough stations to furnish the observations which could provide inductive legitimacy, he decided to go directly to the British Government. In the absence of the now dissolved Board of Longitude, he appealed through another institution which had an interest in geomagnetism, the Admiralty.

In an important letter of June 1838, shortly after his return from Africa, Herschel laid out his proposal to his friend Captain Beaufort. Citing the recent success of Humboldt's continental geomagnetic stations, he proposed the establishment of a similar system of observations "over the whole surface of the globe, and especially of establishing permanent magnetic stations at the Cape, in India, Australia and other points within the range of British superintendence." Herschel stressed the need for stations in addition to the new voyages of discovery which had become common in recent years. He particularly concentrated on the field of geomagnetism, arguing the importance of a knowledge of terrestrial magnetism and urging observations in India and the Southern hemisphere, where less was known. These observations corresponded to regions of British colonial expansion.²⁵

This letter is important because it shows that Herschel had already reached the conclusion that a global system of observation points was necessary to provide data, even before British scientists began to lobby for the same objective. He even appealed to Humboldt to help him in his private efforts to bring the British government on board. He hoped that Humboldt would back his plan for a series of colonial observatories at the Cape, India, Australia and Mauritius (or "in short as many stations as possible in the English colonial possessions") in correspondence with those in Europe.²⁶ While Herschel felt he had every reason to hope that his suggestion might be adopted, his private appeal came to nothing. But his failure to convince the Admiralty to go along with his plan in the summer of 1838 provides a clue as to why Herschel joined the lobby for the Magnetic Crusade that Fall.

Summary

In the lobby for the Crusade, Herschel's philosophical system and his influence helped to push the stations into an equal position with the expedi-

25. Herschel to Beaufort, June 29, 1838. Royal Society.

26. Herschel to Humboldt, July 31, 1838. Royal Society.

tion in the overall project. Twice he went out of his way to keep them there even when the lobby was having troubles. He also served as a liaison between the scientific lobby and the East India Company, which was interested in establishing its own colonial observing posts in the subcontinent.²⁷ The addition of East India Company stations completed the worldwide scope of the project.²⁸

The establishment of the stations not only began the global data collection for which Herschel had been pushing since the previous year, it also helped to tie Britain into the existing international community of magnetic observatories. Long after the Antarctic expedition was over, data continued to be generated by the stations in the British colonies. In the months after the launch of the Crusade, Herschel worked to expand these stations beyond the few originally approved by the government. In July 1839, Sabine reported on one of Herschel's latest attempts for an observatory in Egypt. "You are aware that we have written to the pasha of Egypt," he exclaimed to Lloyd. "This is Herschel's doing."²⁹

The expansion of the Crusade to include fixed observatories also tied the scientific venture more closely to the imperial apparatus of the British state. This element benefited the project both by helping to secure government support and extending the number of stations and the places where they could be located. Government backing insured continued funding for the scientific project, while the state gained prestige and scientific information on tides, navigation and climate that could benefit imperial expansion. Indeed, the Crusade fit nicely into the existing imperial policy on science. Already the Admiralty was sponsoring geographical surveys of India; in the fall of 1838, governors of British colonies were asked to begin keeping records on storms and winds.³⁰

That the idea for such an extensive system of stations originated with Herschel seems clear. Neither Lloyd nor Sabine had been willing to suggest such a plan when the lobby began.³¹ The addition of the observatories to the Crusade was an act supported and defended by Herschel. Sabine later came to

27. Herschel to Robertson, August 6, 1838. Royal Society.

28. Lloyd to Sabine, November 30, 1839. Public Record Office. Observatories were established at Simla, Madras and Bombay. Whewell, III:50.

29. Sabine to Lloyd, July 5, 1839. Royal Society. See Herschel to Northampton, August 1, 1839. (Royal Society): "Resolved—that the President be requested to apply to the Secretary of State for Foreign Affairs for a letter introducing & recommending the magnetic circular of this society to the notice of his highness the pasha of Egypt, to be delivered with that circular to his highness."

30. Circular to Governors of British Colonies, November 29, 1838. Matthew Maury. *Explanations and Sailing Directions to accompany the Wind and Current Charts*. Washington: Harris, 1858, 27.

31. Lloyd to Herschel, August 4, 1838; Sabine to Herschel, August 4, 1838. Royal Society.

see them as the more important half despite his affection for a naval expedition. Later he wrote to Lloyd:

I believe with you that the results of the system of fixed observatories will eventually be even more important than those of the naval expedition, and that, particularly, establishment of the observatories will constitute in the view of our successors as of much more consequence than the expedition & its results.³²

Sabine now embraced the observatories despite their lower profile.³³ Herschel was still operating in the same vein as he had been when he had helped to set up meteorological observatories while in Africa, still looking for ways to universalize induction to find physical theory. By setting up observatories which could conduct global observations across significant periods of time, Herschel thought that he could find a solution to deriving general, universal laws from particular data. Herschel's participation in the Magnetic Crusade can be seen as a continuation of the work he had been doing for years before. Inspired by his belief that universal knowledge was possible and that the weaknesses of induction could be eliminated with enough physical data spread out over time and place, he pursued the goal of founding stations around the world for the purposes of simultaneous physical observations.

In a letter to François Arago of October 1839, Herschel spelled out his reasons and motives for his participation in the Crusade. He saw this occasion as a truly unique moment in the history of science to extend physical observations on a global scale, an

opportunity such as may probably never again occur of fixing for future ages – so to speak at a blow...the magnetic data...upon a scale which may be said without exaggeration to embrace the whole globe and which shall spread over a period sufficiently long to give complete room for the elimination of all that is accidental and temporary.³⁴

Hoping to gain French assistance in setting up an observatory in Algiers, Herschel described his recent successes. In addition to the stations set up by the expedition, new stations had been founded in India. Applications had been made for others at Aden and Singapore, and Herschel hoped that the USA would soon become involved. Britain was now connected to an international system of observing and Herschel's dream of inductive certainty and its need for simultaneous, continuous observations around the world was becoming a reality.

32. Sabine to Lloyd, December 20, 1839. Royal Society.

33. "I am fully persuaded of myself, that except by three or four individuals the importance of the magnetic observatories is not yet known or felt in this country; and that *that* is the reason why the branch of the magnetic researches has been so inadequately noticed." Sabine to Herschel, December 16, 1839. Royal Society.

34. Herschel to Arago, October 30, 1839. University of Texas, Austin.

Herschel was still thinking on a global scale. While the Crusade may have been sold to the British Government as a boon to navigation and commerce, in many ways it represented science's use of the apparatus of state for its own ends. For Herschel, the Magnetic Crusade provided an opportunity to fulfill the scientific quest which he had begun years earlier in his *Preliminary Discourse* with its proposal to use stations to collect worldwide data which could be transmitted back to develop new theories. This plan had continued in his 1835 letter to Captain Beaufort concerning physical observatories and in his 1838 appeal to the Admiralty to set up observatories in British colonies.³⁵ His plans finally came to fruition through the fixed stations established by the Magnetic Crusade, which set up the first of dozens of points around the world connected back into Humboldt's continental observatories in a single system. As Whewell later summarized, "such a scheme, combining worldwide extent with the singleness of action of an individual mind, [was] hitherto without parallel."³⁶ Thus Herschel fulfilled Humboldt's colonial plan while working towards his own goals for a new universal inductive science.

35. Herschel was obviously impressed by his 1835 letter to Beaufort. As late as 1842 he referred Wheatstone to it as a reference for the necessary qualities of physical observatories. Herschel to Wheatstone, June 17, 1842. Royal Society.

36. Whewell, III:51.

Renata Schellenberg

Alexander von Humboldt begins his *Ansichten der Natur* with a rather curious disclaimer. In the preface to the first edition of the work he reveals to his readers that the descriptions of his journey to South America may not contain the authoritative truth about everything that he has seen. He admits that many of the observations made by him of his travels were based on faulty scientific criteria, because they were informed by personal perception, rather than by fact alone and that, hence, they may lack some of the exactitude one associates with a purely methodical observation of nature. However, by conceding his subjective approach to nature, Humboldt does not wish to discredit the scientific merit of the work at hand, nor does he want to take away from the principled and investigative way in which he conducted his journey. Instead, he uses it to bolster a personal and deeply-rooted scientific notion of *having* the experience of nature as the important criterium of making sense of the world around him.

In order to maintain emphasis on the significance of subjective perception, Humboldt clearly separated the essays from their *Erläuterungen*, the copious scientific explanations that accompanied each text and in which he documented his research with an empirical eye and mathematical precision.¹ The addition of these notes to the main body of essays make the scientific value of his journey an incontestable fact, because the data is the solid proof that Humboldt did conduct actual work on his journey, and that he was not preoccupied with artistic observation alone. However, while the notes do provide an invaluable positivistic resource to future explorers and scientists alike, Humboldt also makes a point of directing his readers not to consider the notes the central aspect of the text itself. His great accomplishment in

1. Only unabridged editions of *Ansichten Der Natur* include the scientific addition. See Hanno Beck's edition: *Ansichten der Natur: erster und zweiter Band* (Darmstadt: Wissenschaftliche Buchgesellschaft, 1987).

accumulating and systematizing the diverse data from his trip is to be understood as serving a particular purpose, namely to support his “ästhetische Behandlung”² (aesthetic treatment) of nature, which, as he outlines, is the preferred way in which he wants his work to be understood.

Thus, rather than instigating a need in his readers to adopt a scientific mind set and a sophisticated usage of current terminology in order to comprehend his writings, Humboldt invites them to approach them as a readable organic whole, encouraging them to *trust* (rather than question) the information rendered and to see it as relevant, despite its apparent disparateness and novelty. By prefacing his work in such a way, Humboldt garners a particular type of accessibility for his text, one that is clearly not predetermined only by intellectual preparedness or by elitist academic principles. Instead of enforcing such regulated standards of perception, he engages with his readers in a more companionable way, by connecting with them at a level of their general curiosity and, more importantly, suspense. In addition to opening up the text to an audience larger than the scientific community alone, the presence of these qualities in the narrative benefit Humboldt, as the author, in other ways as well, for they allow him to convey his experiences in a thoroughly authentic manner, i.e. in the way he himself perceived them.

Rather than recontextualizing his travel experiences into proper scientific form, whereby he would convert his observations into a clinical formulaic expression, Humboldt is able to maintain a narrative vigour in his descriptions that defies institutional categorization. He does this foremost by adopting a comparative mode of depiction. Rather than portraying new phenomena with an explorer’s sense of their uniqueness, he makes a point of describing them in terms that will not alienate the reader, but which will enable him/her to envision them in comprehensible terms. Thus, in describing the steppes of South America, he compares them to moorlands of Northern Europe in order to render an image that his reader can easily identify with.³ The relational terms in which he writes makes the text immensely readable, allowing Humboldt to extrapolate his ideas even further, which in this case, means connecting the South American llanos with Asian and African planes, which, as we should point out, he, by this point, has not seen.⁴ By resorting to this type of technique, and enticing his readers to consider such (unimaginable) things, Humboldt clearly issues his own poetic licence, deviating from the course of scientific truth, and embarking into his own sense of *truthfulness*.

2. Alexander von Humboldt, *Ansichten der Natur* ed. Adolf - Meyer - Abich (Stuttgart: Reclam, 2003). This particular edition of *Ansichten der Natur* is used throughout the present study.

3. *Ansichten der Natur*, 12.

4. Humboldt, *Ansichten der Natur*, 21.

It is important to emphasize that Humboldt recognizes his inexact grasp of the truth. He repeatedly admits that his apprehension of reality within the texts has obvious shortcomings, and thus, even though the experience is authentic, the knowledge may not be. This is an entirely different tone than that used by Humboldt in his role as scientist in the separate section containing the *Erläuterungen* and *Zusätze*, for there he evaluated phenomena with scientific rigidity, mediating his understanding of them with the usage of apparatus and standard jargon. In the essays he is less rigorous in applying such a standardized methodology, because he resorts to other, less precise sources. Thus, while narrating his travels, he often relies on local folklore to clarify the phenomena he encounters, departing entirely from any scholarly mode of comprehension. He regularly includes the opinions and expertise of his *Dolmetscher* (translator) into the text, allowing a local voice to formulate his impressions, expose his own ignorance and translate the phenomena with meaning into his writings. The presence of this “other” authority also changes the feel of the text significantly, because the inclusion of this indigenous voice makes the landscape depicted seem authentically lived, rather than merely visited by an outsider.

An instance of how Humboldt chooses to integrate the indigenous narrative voice is, for example, his depiction of the *Mapires*, a type of body casket that was found by his expedition in an ancient graveyard off the Orinoco. Rather than researching the background of this site himself, he relays the legend of the *Guareca* Indians to explain the origin of the skeletons found, opting to confine his understanding of the discovery to their folklore alone. Although scientifically inexact, his technique proves to be extremely effective for his readers. Thus, the *Guareca* story is so charming and so vivid, that upon hearing it in Germany a friend of Humboldt became so inspired that he wrote a poem about the *Aturen* people, whose bones the site supposedly contained.⁵

In addition to validating the culture and knowledge of the local people in an obvious way, the inclusion of oral narrative truths into his reports should also be read as Humboldt’s implicit criticism of the traditional means of epistemological communication as they were made available to him. Even before departing for South America he encountered a lot of practical misinformation, as he travelled (and struggled) with inaccurate maps, flawed measurements, and false guides throughout his trip through the European continent. In the New World more geographical blunders quickly became apparent. In travelling down the Orinoco Humboldt tactfully notes that one seeks the Dorado Laguna in vain (“vergebens”⁶), for the available Arrowsmith map he

5. The title of the poem is “Der Aturen-Papagai”; Humboldt *Ansichten der Natur*, 52.

had was wrong, and the 20 miles-long sea indicated on it, does not, in fact exist. Humboldt's indication of this mistake is fruitful, however, for it reinforces the inexact and unorthodox methodology he himself chose to adopt in his writings. Thus, after citing Arrowsmith's error, Humboldt is able to continue with his descriptions of the Orinoco with such adjectives as "fabelhaft," story/dream-like, and is able to cite the legends of the "Eingeborene,"⁷ the natives, as the appropriate tone, and authoritative source of information for the course of his travels.

After rejecting the stringent guidelines of the scientific jargon (which, despite appearances of precision, has proven to be faulty) Humboldt is free to adopt a descriptively analytical mode of writing. His descriptions of the Orinoco become especially lyrical, as he employs a series of vague, and highly unscientific, adjectives. The flowers are, in his view, *blühende* (flowering), and they cover the water *wiesenartig* (like on a meadow). The water, on the other hand, is *strömend* (streaming) and *schäumend* (bubbly). Exotic flora is frequently described as *herrlich* (divine), *malerisch* (picture-like) and *sonderbar* (odd). The conclusions he derives from his observations are similarly vague and liable to more than one simple interpretation. Thus, rather than using concrete verbs like *beweisen* (to prove) or *zeigen* (to show) to conclude a thought, Humboldt adopts a more suggestive vocabulary, alluding to the fact that the images in his depictions might have a tentative impact, *convincing* us ("überzeugen"⁸) or *leading us to believe* ("zu erkennen glauben"⁹) a certain thing.

In order to embrace this sense of veracity that cannot be regulated by rules of scientific convention, Humboldt's modifies the tone of his prose as well. Throughout the text he repeatedly reminds his reader that language is an unreliable means of communicating everything that he has seen, and that, in consequence, they should treat it as the tenuous medium it is. Thus, rather than questioning the phenomena he depicts, he encourages the reader to question the text that he writes and with which he seeks to express phenomena, and to appropriate or disregard it as they see fit. He also quite clearly indicates that his *Naturschilderungen* (depictions of nature) were not made with the sole intention of educating his readers, but they are also meant to have an *effect*. He also notes that in order for nature to have the largest *Wirkung* possible, it is first and foremost necessary that one be receptive and in harmony, "Einklang"¹⁰ with their senses, and not their intellect.

6. Humboldt, *Ansichten der Natur*, 38.

7. Humboldt, *Ansichten der Natur*, 37-38.

8. Humboldt, *Ansichten der Natur*, 47.

9. Humboldt, *Ansichten der Natur*, 51.

10. Humboldt, *Ansichten der Natur*, 33.

In addition to highlighting the linguistic deficit he encounters in providing truthful descriptions, he also points out many existing mistakes already in use and in the language. For example, he speaks of the etymology of the river Orinoco, claiming that its name must be a *Sprachverwirrung*,¹¹ a linguistic mistake, for the original explorers overlooked the generic word for “river” which the natives used, and imposed the name “Orinoco” instead, which was not at all in keeping with local tradition. The attention paid by him to the artificiality (and meaninglessness!) of the existing nomenclature encourages the reader to disregard the language of the text further, forcing him/her to consider it as a purely arbitrary means of communication, which is much in the same vein as Humboldt himself sees the matter.

Humboldt himself takes up the issue of linguistic inadequacy in his essay “Das nächtliche Tieleben im Urwalde,” an essay that purports to be about nocturnal animal life in the jungle. What is significant about this particular manuscript is that it is largely a theoretical essay in which Humboldt first and foremost engages in a protracted discussion about language and scientific discourse. He openly contends that language is a contrived medium that alienates, or as he expresses it *turns away*, “abwenden,” natural phenomena from its original meaning. In the same breath, he speaks of an imposed, but limiting, “literarische Willkür,”¹² literary arbitrariness, which, in describing natural phenomena, quite blatantly disregards the multifariousness of the natural world, for the benefit of maintaining a standard and uniform scientific expression.

In his essay he argues for a more flexible and a more fanciful linguistic competence. Imagination is not contrary to intellect, and in order to do justice to nature, so Humboldt implies, one *must* investigate and experiment with different modes of depiction. In doing so, the writer of nature should not be seen as violating the protocol and procedure of the scientific establishment, but rather s/he should be seen as attempting to achieve a degree of *Naturwahrheit*, a truthfulness about nature, which as Humboldt indicates is the purpose of *all* writing on nature: “Das unablässige Streben nach dieser Wahrheit ist im Auffassen wie in der Wahl des bezeichnenden Ausdrucks der Zweck aller Naturbeschreibungen.”¹³

To achieve an authenticity capable of corresponding to this desired “truthful depiction” it is necessary to move away from abstract notions and prescriptive theories of nature. Rather than embracing a predetermined view of nature, absorbed from scientific studies and similar objective analyses, when describing natural phenomena one should draw upon the subjective percep-

11. Humboldt, *Ansichten der Natur*, 35.

12. Humboldt, *Ansichten der Natur*, 55.

13. Humboldt, *Ansichten der Natur*, 56.

tion first, an act that Humboldt defines as “[das] Selbstbeobachtet” and “[das] Selbsterlebte.”¹⁴ In his view, the individual’s percept of nature is a powerful sensation that is more accurate than theory, for in recording one’s immediate perception one brings the “Gegenwart der Erscheinung,”¹⁵ the presence of the phenomenon, to the page with a trustworthiness and truthfulness that does justice to the true incommensurability of the natural world.

In closing, it is important to point out several other things about *Ansichten der Natur* and language. Like *Kosmos*, it was a work that was written by Humboldt in German; those two texts being the only two seminal monographs that he chose to write in his native tongue. Having emphasized that, it is also necessary to note that many of the celebrated works he chose to publish in French were based on information derived from his *Tagebücher*, journals that he wrote in German; which means that he was never really far from his mother tongue in conducting and recording any of his research. Furthermore, whether it was due to its linguistic particularities or to some other alternate reason, *Ansichten der Natur* seemed to occupy special prominence in Humboldt’s personal recollection of his written work. Even after completing his *Lebenswerk Kosmos* in 1845 he fondly remembered this youthful collection of essays. In a letter to his friend Varnhagen, written in 1849, he referred to *Ansichten der Natur* as his “Lieblingswerk,”¹⁶ proving that despite the passage of time and his other great successes that this particular view of nature was never far from his mind nor from his method.

14. Humboldt, *Ansichten der Natur*, 56.

15. Humboldt, *Ansichten der Natur*, 60.

16. Alexander von Humboldt, *Briefe von Alexander von Humboldt an Varnhagen von Ense aus den Jahren 1827 bis 1858* (Leipzig: Brodhhaus, 1860).

Afectos Científicos Italianos

Marisa Vannini de Gerulewicz

Cuando Alejandro de Humboldt salió de su nativa Alemania, poseído del noble afán investigador, deseoso de alcanzar el más perfecto conocimiento de la naturaleza a través de una acuciosa observación del entorno natural en otras latitudes, llevaba consigo un extraordinario bagaje cultural: el inmenso caudal de nociones de los hombres ilustrados de su tiempo, que abarcaba lo antiguo y lo contemporáneo, las ciencias y las artes.

Junto con sus instrumentos de exploración y aparatos de medición, portaba otras herramientas, las intelectuales, que le permitirían encontrar, procesar y dar forma a la importante y vasta información que recibiría en sus viajes. Eran las herramientas del saber, todo un cúmulo de ideas, doctrinas, teorías científicas y filosóficas, investigaciones y libros consultados e internalizados en largas horas de estudio y reflexión. Era su tesoro personal, un acervo de sapiencia universal, nutrido por el diáfano pensamiento de los grandes clásicos de la filosofía y la literatura grecolatinas, Aristóteles, Platón, Homero, Heródoto, Plinio, Virgilio, Dante. Al mismo tiempo, llevaba en sí la huella y la visión de los legendarios pioneros del quehacer científico: geógrafos, matemáticos, físicos y astrónomos de la antigüedad, genios tutelares de la ciencia, que le brindaron inspiración y fueron norte de sus importantes pesquisas naturalistas.

También los avances de los sabios y teóricos de su tiempo con novedosas doctrinas e hipótesis insólitas, formaban parte del compendio de conocimientos de Humboldt, y determinaron en cierta forma el curso de sus investigaciones. Bullía en él el ansia de aventuras y de superación tan propia del espíritu romántico, que lo impulsaba a marchar hacia lo infinito y lo desconocido en busca de azares y hallazgos. Lo seducían también con igual fuerza los impresionantes relatos de hiperbólicos cronistas y fantasiosos expedicionarios, audaces viajeros que antes que él trazaron sendas en la selva, sortearon ríos

turbulentos, treparon escarpadas cumbres, develaron rutas ignotas, secretas regiones hasta entonces inexploradas, tan sólo para dejar fiel memoria de todo lo observado, portentosas y exaltadas crónicas, que incitaban a constatar aquellos asombrosos prodigios y maravillas.

Tal vastedad de criterios, tal inquietud intelectual, eran de esperarse en un hombre ilustrado del siglo XVIII, tiempo luminoso, pródigo en ansias de saber, no sólo en forma teórica o escolástica, sino a través de experiencias, viajes e incursiones por territorios prohibidos, secularmente tildados de peligrosos, morada de innumerables acechos, ardidés, de males físicos y espirituales.

Entre las múltiples influencias, creencias, conocimientos e ideologías que gravitaban sobre Humboldt, es preciso señalar un aspecto singular: su evidente y entrañable vinculación con la cultura italiana. En su vida y en diversos escritos se advierte un profundo afecto por Italia, su cautivante historia, sus grandes autores.

Enamorado del arte renacentista y del modo de ser renacentista, el genial viajero recorrió el norte de la península itálica entre 1795 y 1797, y continuó manteniendo asidua correspondencia con científicos e intelectuales italianos. La huella de esa Italia creadora y fabulosa, esa Italia clásica plena de historia y saber, estaba viva en él como lo estuvo en muchos poetas y pensadores de su tiempo: Schiller, Goethe, Byron, que hallaron prístina inspiración en la savia de la memorable campiña toscana.

Encontramos claras manifestaciones del afecto de Humboldt por la cultura italiana en su densa obra *Viaje a las Regiones Equinocciales del Nuevo Continente, hecho en 1799, 1800, 1801 y 1804*¹ en la cual, a pesar de su clara orientación científicista, resalta una prosa poética, un lenguaje depurado y fino que nada envidia a los literatos de la época. Recuerda a Dante Alighieri cuando alza los ojos hacia la Cruz del Sur resplandeciente en la bóveda estrellada:

Io mi volsi a man destra e posi mente
 All'altro polo e vidi quattro stelle
 Non viste mai fuor ch'alla prima gente
 Goder pareo lo ciel di lor fiammelle,
 O settentrional vedovo sito
 Poi che privato se' di mirar quelle!

Luego, ante la estremecedora fuerza telúrica del paisaje americano, acosado por el calor y los desesperantes zancudos, cita los inhóspitos parajes de

1. Para el presente trabajo hemos utilizado la siguiente edición: Humboldt, Alejandro de, *Viaje a las Regiones Equinocciales del Nuevo Continente*, hecho en 1799, 1800, 1801, 1802 y 1804. Traducción de Lisandro Alvarado y Eduardo Rohl. Caracas Ed. ME. 1941-2. (5 vols.)

la città dolente, descritos por el eximio poeta toscano en el Canto III del *Inferno*:²

noi sem venuti al luogo ov'io ho detto
che tu vedrai le genti dolorose ...

En sus observaciones sobre la naturaleza tropical alude a las investigaciones del geógrafo veneciano Adriano Balbi³, con quien compara sus propias conclusiones en cuanto a la topografía y orografía de las regiones recorridas. Así mismo se refiere al astrónomo napolitano Francesco Fontana⁴, cuya obra fue decisiva para los navegantes del siglo XVI. Entre las de otros cronistas, cita ampliamente la discutida *Historia del Mondo Nuovo* del milanés Girolamo Benzoni, haciéndose eco de la dolorosa sorpresa y rechazo de Benzoni ante la trata de indios⁵.

Humboldt no duda en resaltar generosamente los viajes del audaz geógrafo florentino Amerigo Vespucci, a quien tildará sin embargo de “astuto,” (opinión compartida por muchos) al tomar para sí el mérito de dar nombre a una tierra recién develada, en desmedro de su gran descubridor, el ilustre almirante genovés, por quien el viajero germano revela sentir verdadera admiración.

A través de su recorrido por el lujuriente río Orinoco, maravillado ante la variada fauna de la zona, el infatigable explorador llevará como guía y maestro, “exacto y juicioso,” al “buen padre” Filippo Salvatore Gili, agudo cronista y explorador italiano originario de Legogne, de quien conocía el excelente tratado sobre la naturaleza tropical: *Saggio di Storia Americana*⁶.

Y no sólo la Italia clásica influye en el pensamiento y la obra de Humboldt. También los importantes intelectuales italianos de su misma época, con sus originales indagaciones, teorías, avances y experimentos, lo llenaban de entusiasmo y espoleaban su imaginación. De sus descubrimientos se vale dignamente, sin escamotear méritos, sin restar brillos. Los cita a menudo en sus escritos, recurre con sabia humildad a sus teorías y opiniones.

Eran afectos científicos, amigos intelectuales que también formaron parte del interminable arsenal de conocimientos con los cuales Humboldt abordó

2. *Viaje a las Regiones Equinociales del Nuevo Continente*, respectivamente Libro I, p. 206 y Libro IV, p. 58.

3. Fue Adriano Balbi (1782-1848) un destacado estadista que, sin pretender rivalizar con los grandes maestros en las nuevas vías abiertas a los estudios geográficos, se dedicó a sistematizar y divulgar con diligencia y precisión los conocimientos geográficos de la época.

4. El astrónomo napolitano Francesco Fontana (1580-1656), estuvo entre los primeros en utilizar el telescopio para la observación celeste, diseñando una carta lunar (1644) y descubriendo la rotación del planeta Marte.

5. Humboldt tuvo que haber leído en italiano la obra del discutido y contestatario milanés Girolamo Benzoni, (n.1519), cuya primera edición circuló por toda Europa a partir de 1563, pues en ese idioma la cita amplia y textualmente.

6. El Padre Filippo Salvatore Gili (1721-1789) sacerdote y misionero jesuita, transcurrió gran parte de su vida entre los indígenas del Orinoco.

esa difícil tarea que significó la observación de la avasallante naturaleza del Nuevo Mundo.

Uno de sus más notorios afectos itálicos, constante presencia en viajes y experiencias, fue el que nutrió por el destacado sabio Luigi Galvani⁷, con base a cuyos aportes emprendió algunas investigaciones en las cuales lo nombra reiteradamente, mientras en la descripción de sus propios experimentos y en la redacción de sus ensayos emplea frecuentemente términos como galvanismo, fluido galvánico, galvanizado, y otras numerosas acotaciones y expresiones que reflejan el gran valor que le atribuía.

El prestigioso fisiólogo italiano, que mereció el honor más grande al que puede aspirar un hombre de ciencia, dar su nombre a un fenómeno físico natural, era egresado de la antigua Universidad de Bolonia, su ciudad natal, en la cual en 1762 presentó brillantemente su tesis médica sobre sistema óseo, lo que le valió ser nombrado profesor de Anatomía. Su labor científica se propagó rápidamente en toda Europa a partir de 1791, año de la publicación, por parte de la Academia de Ciencias de Bolonia, de su obra *De viribus electricitatis in motu musculari commentarius*, en la que después de muchos y rigurosos experimentos enuncia una teoría general, según la cual todos los animales están dotados de una particular electricidad, inherente a su estructura, que se polariza en nervios y músculos. En esta teoría cada fibra representa en cierta forma una botella de Leyden⁸, en la cual los nervios son los conductores, y el fluido que es atraído del interior de los músculos a los nervios, pasa después de aquellos a la superficie de los primeros, de forma tal que a cada descarga de este dispositivo eléctrico orgánico, corresponde una contracción.

El descubrimiento del insigne bononiense, punto de partida de la electrofisiología, de la cual derivan la electroterapia y la electrobiología modernas, produjo gran revuelo, su nombre se popularizó, y se le celebra como descu-

7. Luigi Galvani, (1737-1798), descubridor del fenómeno de la electricidad animal denominado por Humboldt galvanismo, que promovió diversas aplicaciones en las ciencias médicas y físicas y ha llegado hasta nuestros días, extendiéndose a las técnicas del galvanizado aplicadas a metales, automóviles y techos de cinc galvanizados.

8. Botella de Leyden, uno de los condensadores más simples, descubierto alrededor de 1745, de forma independiente, por el físico holandés Pieter van Musschenbroek de la Universidad de Leyden y el físico alemán Ewald Georg von Kleist. Era una botella de cristal llena de agua y cerrada, con un alambre o una aguja que traspasaba el tapón y estaba en contacto con el agua. La botella se cargaba sujetándola con una mano y poniendo la parte saliente del alambre en contacto con un dispositivo eléctrico. Cuando se interrumpía el contacto entre el alambre y la fuente eléctrica y se tocaba el alambre con la mano, se producía una descarga. La botella de Leyden actual está recubierta por una capa de estaño tanto por la parte interior como por la exterior. El contacto eléctrico se realiza con una barra de latón que atraviesa el tapón de la botella y que está en contacto con la capa interior de metal mediante una cadena. Se produce una descarga completa cuando se conectan las dos capas por medio de un conductor. La botella de Leyden se utiliza todavía para demostraciones y experimentos en los laboratorios. (adaptado de Enciclopedia Encarta Microsoft, 2000).

bridor del fenómeno de la llamada “electricidad animal.” Su teoría desplazó completamente la medieval doctrina del “espíritu animal,” que desde los antiguos había llegado hasta pensadores tan lúcidos como Galileo y Descartes. El singular fenómeno que descubrió y que lo haría inmortal ocurrió, según algunos, accidentalmente: aseguran que Galvani dictaba su clase de cirugía y disección y al tocar con el bisturí el nervio del anca de una rana contenida en un recipiente de metal, la extremidad del animal se contrajo. Otros hasta aventuran que el científico preparaba un caldo de ranas, según una tradicional receta boloñesa, cuando tocó con el cuchillo el músculo de la rana y se produjo la contracción, a pesar de estar muerto el animal.

Producto de largas investigaciones y experimentos o acaso, secundado por el azar, Galvani capturó el instante, supo ver ese destello súbito que le señalaba el camino de un valioso hallazgo. Posteriormente, profundizando el alcance de estos mismos experimentos galvánicos, otro notable italiano, Alessandro Volta (1745–1827), comprobaría que dos metales al pasar a través de un medio alcalino producen una descarga eléctrica, y construiría la primera pila eléctrica.⁹ Pero Volta, en sus investigaciones, se apropió de muchos de los hallazgos de Galvani, y al poco tiempo se formaron en Europa dos irreconciliables facciones científicas: los defensores de la originalidad de las invenciones de Galvani y los seguidores de Volta. Humboldt se adhirió a los primeros y jamás dejó de admirar y defender el trabajo de Galvani, sin el cual, obviamente, el de Volta no hubiese podido llegar a concretarse.

Constante promotor de su descubrimiento, creador, junto con el físico francés Alibert, de la palabra “galvanismo” para denominarlo, fue su más grande y fiel admirador y defensor y sostuvo tempranamente la veracidad e importancia de los experimentos de Galvani en su obra *Versuche über die gereizte Muskel und Nervenfaser, nebst Vermuthungen uber den chemischen Process des Lebens in der Thier und Pflanzenwelt. (Ensayo sobre los músculos y los nervios excitados y algunas consideraciones sobre el proceso químico de la vida en animales y plantas)*. El texto, publicado a partir de 1792 en Berlín, presenta las propias experiencias científicas de Humboldt basadas en las teorías galvanianas, realizadas en el Anfiteatro de Jena, utilizando ranas tal como lo hacía Galvani, y tomando como sujeto de experimen-

9. La *pila de Volta*, fabricada hacia 1800 por el físico italiano Alessandro Volta, fue el primer generador de corriente eléctrica continua. Consiste en un cilindro o pila formado por varios discos de metales diferentes, colocados alternativamente y separados por otros discos de cartón empapados en una disolución de agua salada. Un hilo metálico que une el último disco metálico con el primero conduce una corriente eléctrica. Volta construyó la primera pila, según su propia descripción, preparando cierto número de discos de cobre y de cinc junto con discos de cartón empapados en una disolución de agua salada. Después apiló estos discos comenzando por cualquiera de los metálicos, por ejemplo uno de cobre, y sobre éste uno de cinc, sobre el cual colocó uno de los discos mojados y después uno de cobre, y así sucesivamente hasta formar una columna o “pila”. Al conectar unas tiras metálicas a ambos extremos consiguió obtener chispas. (adaptado de Enciclopedia Encarta Microsoft, 2000).

tación su propio cuerpo.¹⁰ Para mayor auspicio del científico italiano Humboldt propició luego una edición en francés, *Expériences sur le Galvanisme, et en general sur l'irritation des fibres musculaires et nerveuses*. Trad. de l'allemand par Gruvel avec des additions par E.N. Jadelot. Paris, Fuchs, 1799, y más tarde otra en español: *Experiencias acerca del Galvanismo y en general sobre la irritación de las fibras musculares y nerviosas*, traducido del alemán al francés y publicado con algunas adiciones por J.F.N. Jadelot y en castellano por D.A.D.I.M. Dos tomos, ocho láminas, Madrid, Imprenta de la Administración del Real Arbitrio de Beneficencia, 1803. Estos estudios humboldtianos confirmaron que las contracciones musculares pueden ser obtenidas sin el uso de metales, según la doctrina galvaniana, y constituyeron un importante medio de afirmación y divulgación de las teorías de Galvani.

Al año de la publicación del ensayo galvaniano, Humboldt suscribe junto con Alibert (tan entusiasta de Galvani que había fundado en Francia una “*Société Galvanique*” y el periódico *Journal du Galvanisme*) un elogio de Galvani, en el cual ambos aseguran que la aplicación del galvanismo en el arte de curar daría lugar a mayores investigaciones y abriría caminos a la curación de afecciones reumáticas, nerviosas, convulsiones y tétanos. Los dos sabios recomiendan una más profunda atención a las teorías galvanianas, y Humboldt insiste en su estudio y aplicación:

La doctrina del galvanismo no esparcirá más luz sobre la medicina práctica, hasta que se le estudie debidamente con el fin de calcular la excitabilidad de un nervio o músculo.

Además, en sus experimentos y observaciones Humboldt trabajó constantemente con los varios y complicados dispositivos creados por el prolífico profesor de Bolonia, empeñándose en optimizarlos, lo que continuó haciendo aún después de la muerte del científico bononiense, ocurrida en 1798. En la *Lista de instrumentos de física y astronomía* que trae consigo en su viaje al trópico (los cuales venía reuniendo desde 1797 y que afortunadamente, no siendo fáciles de reemplazar, le sirvieron hasta 1804), incluye los “*aparatos Gálvanicos*,” que seguirá mencionando a lo largo de su recorrido. Como dato anecdótico, recordaremos que eran muchos los instrumentos que acompañaban a Humboldt, cuya compendiosa lista y somera descripción que abarcan varias páginas del primer tomo del “*Viaje...*” cierra el naturalista con la pintoresca frase:

y además, un gran número de útiles que necesitan los viajeros para reparar los instrumentos que resultan deteriorados por las frecuentes caídas de las bestias de carga.

10. Véase la amplia y detallada obra: Humboldt, Alexander von. *Eine Wissenschaftliche Biographie*. Osnabrück, Ed. Otto Zeller 1969 (2 vol.)

En primer lugar estaba el galvanómetro, en esa época novedoso instrumento para la medida de pequeñas intensidades de corrientes eléctricas cuya lectura se hace en unidades arbitrarias con medios ópticos, utilizado en el uso práctico para averiguar si en un circuito pasa o no la corriente y establecer el sentido de ella. Entre los varios tipos de galvanómetros (recordemos los galvanómetros para corriente continua, que se diferencian en galvanómetros a magneto móvil y a magneto fijo, y se utilizan para calcular la acción orientadora del cuerpo magnético terrestre; los galvanómetros de corrientes variables, entre los cuales es el más común el galvanómetro balístico, para la medición de corrientes de brevísima duración), es probable que Humboldt haya utilizado especialmente el galvanómetro de cuerda, que consta de un delgadísimo hilo de platino o cuarzo, tornado en conductor por medio de un mínimo revestimiento de plata. Debió haber llevado consigo también otro dispositivo galvánico usado en Italia y perfeccionado en Francia, donde su construcción tuvo gran resonancia, para detectar los signos vitales, intentar reanimar ahogados y asfixiados por medio de la electricidad galvánica (lo que se logró en algunas oportunidades especialmente en casos de animales cuales perros, gallinas, caballos y por breve tiempo también en humanos), y más tarde para aplicar electroshock. La galvanoterapia o curación por medio de aplicaciones de electricidad, tuvo cierto auge a principios del siglo XX y logró comprobados éxitos, a veces espectaculares, especialmente en el campo de la parálisis, la rehabilitación, la ayuda a enfermos mentales. Lamentablemente fue luego utilizada hasta el abuso, con los consiguientes errores y perjuicios, ya que varios charlatanes pretendieron sanar con artefactos galvánicos a sordos, mudos, ciegos y alcohólicos.

Hacia finales de siglo XIX los criterios del galvanismo fueron cuestionados por la medicina legal. ¿Se podía a través del galvanismo fijar un criterio absoluto sobre la condición mortal? ¿Tenía el galvanismo el poder de devolver la vida a personas en quienes parecía apagada? ¿Era lícito hacerlo? Humboldt intervino en este sonado debate, sosteniendo que el galvanismo puede servir a distinguir la muerte aparente de la verdadera, aunque no con certeza absoluta. Vale recordar que en las guerras napoleónicas los médicos cirujanos usaban un aparato galvánico que aplicado en el músculo bíceps del brazo podía ayudar a resolver esta incógnita entre vida y muerte.

Humboldt, desde su juventud, había intentado hacer experimentos sobre la “electricidad galvánica” como asevera en su *Expériences sur la fibre irritable*:¹¹

Diariamente interesado, desde hace gran número de años, en los fenómenos de la electricidad galvánica, entregado a ese entusiasmo que excita a investi-

11. Véase Humboldt: *Expériences sur la fibre irritable*, t.I, p. 74, lam. III, IV, V de la edición alemana.

gar, pero que impide ver bien lo que se ha descubierto, había construido, sin imaginármelo, verdaderas pilas colocando discos metálicos unos sobre otros y haciéndolos alternar con trozos de carne muscular o con otras sustancias húmedas.

Estos conocimientos lo impulsan, llegado a las tórridas tierras ecuatoriales, a buscar la forma de observar más de cerca las anguilas eléctricas o *gymnotus*, tan populares en los ríos de las regiones cálidas, a los que calificaría de “*aparatos eléctricos animados*.” Y tiene lugar en los llanos de Venezuela, el encuentro, la admiración de Humboldt con otro notable italiano émulo de Galvani: Carlos del Pozo, hijo del noble siciliano Giuseppe del Pozo y Onesto,¹² con quien pudo discutir largamente temas científicos sobre electricidad.¹³

Encontramos en Calabozo, en el corazón de los llanos una máquina eléctrica de grandes discos, electróforos, baterías, electrómetros, un material casi tan completo como el que poseen nuestros físicos en Europa. No habían sido comprados en los Estados Unidos todos estos objetos: eran la obra de un hombre que nunca había visto instrumento alguno, que a nadie podía consultar, que no conocía los fenómenos de la electricidad más que por la lectura del Tratado de Sigau de la Fond y de las Memorias de Franklin. El Sr. Carlos del Pozo, que así se llamaba aquel estimable e ingenioso sujeto, había comenzado a hacer máquinas eléctricas de cilindro empleando grandes frascos de vidrio a los cuales había cortado el cuello. Desde algunos años tan sólo pudo procurarse, por vía de Filadelfia, platillos para construir una máquina de discos y obtener efectos más considerables de la electricidad. Fácil es suponer cuántas dificultades tuvo que vencer el Sr. del Pozo desde que cayeron en sus manos las primeras obras sobre al electricidad, cuando resolvió animosamente procurarse, por su propia industria, todo lo que veía descrito en los libros ...

Acerca del gran interés de Humboldt por conocer y estudiar los *gymnotus* o anguilas eléctricas que no logró conseguir de inmediato por la lentitud de sus guías y acompañantes, (“nos las habían a menudo prometido, y siempre dejaban fallida nuestra esperanza”, lamenta), y de la camaradería entre el ítalo y el germano, el escritor venezolano Arístides Rojas narra en sus “Humboldtianas” una divertida anécdota:¹⁴ Consigue del Pozo un gimnote al cual logra atarle en la cola un alambre y ponerlo en comunicación con la puerta de la sala, provista de aldaba, en la cual recibiría a Humboldt. Llega éste, toma en mano la aldaba, toca a la puerta... ¡y recibe al instante una descarga eléctrica que le derriba por tierra! Se levanta Humboldt repuesto del choque, y efusiva y científicamente exclama:

12. Véase Vannini de Gerulewicz, Marisa. Italia y los italianos en la historia y en la cultura de Venezuela, p. 175.

13. *Viaje a las Regiones Equinociales...* Tomo III, p.191-192 y Tomo V, p. 209.

14. Véase Arístides Rojas, *Humboldtianas*, Tomo I, p. 58.

¡Bien, muy bien, he conocido los efectos primero que la causa!

Sobre la sobrecogedora “fuerza galvánica” disertará Humboldt en su ensayo *Sobre los gymnotus y otros peces eléctricos* (1819), pero la describe anteriormente en su “*Viaje ...*” a lo largo de numerosas páginas, cuando entusiasmado y estremecido, presencia un “desigual combate” entre anguilas y caballos, durante una pesca a caballo, organizada por indígenas en un caño orinoquense. Y al ver a los *gymnotus* derrotados, fatigados y dispersos, concluye que necesitan reponer la “fuerza galvánica perdida:”¹⁵

Deciánnos los indios que iban a pescar con caballos...Con dificultad nos dábamos cuenta de esta pesca extraordinaria, pero pronto vimos a nuestros guías volver de la sabana, donde habían hecho una batida de caballos y de mulas cerriles. Trajeron unos treinta que fueron obligados a entrar en el charco. El ruido extraordinario producido por el pataleo de las caballos hace salir del limo a los peces y los excita al combate. Estas anguilas amarillentas y lívidas, parecidas a grandes serpientes acuáticas nadan en la superficie del agua y se refugian bajo el vientre de los caballos y mulas, ofreciendo la lucha entre animales de tan diferente organización el espectáculo más pintoresco. Los indios, provistos de arpones y de cañas largas y delgadas, rodean estrechamente el charco, subiéndose algunos de ellos a los árboles cuyos brazos se extienden horizontalmente por encima del agua. Con sus gritos salvajes y sus prolongadas perchas impiden que se escapen los caballos llegando a la orilla de la charca. Aturdidas las anguilas con el ruido, defiéndense por medio de reiteradas descargas de sus baterías eléctricas y por largo tiempo aparentan ganarse el triunfo. Sucumben varios caballos a la violencia de los invisibles golpes recibidos acá y allá en los órganos más esenciales para la vida, y embobados por la fuerza y la frecuencia de las conmociones, desaparecen bajo el agua. Jadeantes otros, las crines erizadas, extraviados los ojos, y manifestando su angustia, se enderezan y tratan de huir de la tempestad que les sorprende. Los rechazan los indios hasta el medio del agua; pero un corto número, con todo, logra engañar la activa vigilancia de los pescadores y se les ve ganar la ribera, tropezar a cada paso y tenderse en la arena, transidos de fatiga y adormecidos sus miembros por las conmociones eléctricas de los *Gymnotus*. En menos de cinco minutos dos caballos se habían ahogado. Estrechándose la anguila, que tiene cinco pies de largo, contra el vientre de los caballos, lanza por toda la superficie de su órgano eléctrico una descarga que ataca a un mismo tiempo el corazón, las vísceras, y el plexo celíaco de los nervios abdominales. Es natural que los efectos experimentados por los caballos sean más potentes que los que el mismo pez produce en el hombre, cuando no toca a éste más que por una de las extremidades. Los caballos no son probablemente matados, sino aturdidos. Se ahogan por estar en la imposibilidad de levantarse a consecuencia de la prolongada lucha con los otros

15. *Viaje a las Regiones Equinocciales...* Tomo III, p.195 y siguientes.

caballos y los Gymnotus. No dudábamos que la pesca acabaría con la muerte sucesiva de los animales en ella empleados, pero poco a poco disminuyó la impetuosidad de aquel desigual combate con la dispersión de los Gymnotus fatigados. Necesitan ellos un largo reposo y una alimentación abundante para reparar la fuerza galvánica perdida...

También en su correspondencia americana, Humboldt menciona en su “español prusiano” a Galvani y al nuevo fluido galvánico. En una carta a Manuel de Guevara Vasconcelos, Capitán General y Gobernador de la Provincia, escribe desde Nueva Barcelona el 20 de agosto de 1800:¹⁶

En los llanos de Apure hemos hecho experiencias muy curiosas sobre la fuerza de los tembladores, donde seis o siete mataron a dos caballos en pocos minutos. El resultado de estas experiencias ha estado muy nuevo y contrario a eso que se había pensado hasta ahora en Europa, por la falta de instrumentos finos introducidos en estas Indias. Este pez no está cargado de electricidad pero sí de este fluido nuevo, galvánico, del cual he entretenido a Uds. varias veces y que he descrito en mi obra sobre los nervios y el principio de la vitalidad.

Entre otros peces “eléctricos,” de los cuales, dice, se conocen siete, identifica Humboldt al *Torpedo Galvani*, así llamado por la prioridad ese científico en identificarlo y describirlo, y dedica otras páginas del “Viaje...” a las particularidades de esta singular especie de la fauna fluvial, la cual utiliza “el fluido galvánico” que genera su cuerpo como medio de defensa:¹⁷

Los polos heterogéneos de los órganos eléctricos dobles deben encontrarse en cada órgano. Recientemente ha comprobado el Sr. Todd según experimentos hechos en torpedos del Cabo de Buena Esperanza, que el animal continúa produciendo fuertes conmociones cuando se extirpa uno de los órganos. Por el contrario, se suspende toda acción eléctrica y este punto ya aclarado por Galvani es de la mayor importancia, ora causando una fuerte tensión en el cerebro, ora cortando los nervios que se distribuyen en los dobleces de los órganos eléctricos. En este último caso, si se cortan los nervios sin lesionar el cerebro, el Torpedo continúa viviendo y ejecutando todos los movimientos musculares...

...Aunque la fuerza del torpedo no sea comparable con la de los gymnotus, es suficiente para causar sensaciones muy dolorosas... he observado el propio fenómeno al galvanizar las ranas...

Sobre el “*torpedo Galvani*” se publicaron en Italia y Europa numerosos tratados fundamentados en los experimentos de Galvani y en las observacio-

16. *Viaje a las Regiones Equinocciales...* Tomo V. p. 209.

17. *Viaje a las Regiones Equinocciales.* Véase especialmente Tomo III, p.193.211.

nes de Humboldt relacionadas, como lo especifica, con las experiencias del italiano.¹⁸

Es justo destacar que al tiempo que estudiaba los países explorados en sus viajes, el gran berlinés actuaba como propagador y difusor de múltiples avances científicos y de actividades relacionadas con éstos, divulgando el saber contemporáneo, como en el caso de Galvani, cuyas teorías defendió en Europa e introdujo en Sudamérica. Prolongaba así su valiosa obra y dejaba a su paso la impronta de su sabiduría, la huella de nuevos progresos en el área de las ciencias experimentales.

Es ésta, sin duda, una de las razones por las cuales la memoria del ilustre viajero alemán resulta tan querida en América, donde abrió horizontes e iluminó con el brillo del conocimiento los más lejanos confines. En efecto, las diversas ediciones del Viaje a las Regiones Equinocciales traducidas a varias ediciones, se convirtieron en *vademecum* y obligado texto de consulta de jóvenes exploradores, afanosos naturalistas e investigadores quienes tras la huella de Humboldt, buscando emular sus viajes y realizar expediciones científicas, se adentraron por los mismos remotos caminos que él recorriera. Uno de los esforzados seguidores de Humboldt será también italiano: Luigi Stradelli, (1852-1926) geógrafo, explorador, escritor, y más tarde abnegado apóstol y defensor de los indígenas de la región amazónica que lo denominaban *el hijo del gran serpiente*, quien plasmaría sus experiencias en la obra Expedición a las fuentes del río Orinoco. En ella no sólo cita a menudo las observaciones de Humboldt en las cuales se apoya para investigar y clasificar la geografía, flora y fauna de esa aún selvática región, sino que se atreve a contrastar, a la luz de un siglo de progreso técnico y científico, algunas observaciones del naturalista alemán.¹⁹

Volviendo a su misma época, otro de los grandes afectos italianos de Humboldt fue Agostino Codazzi (1793-1858), conocido en Sudamérica, donde desarrolló su trabajo topográfico, como Agustín Codazzi.

Codazzi y Humboldt son sin duda muy parecidos, tienen gran afinidad, a pesar de los años que los separan.²⁰ Comparten el mismo afán por viajar y explorar, el ansia de conocer, de investigar, como afirma Codazzi en sus *Memorias*:²¹

...surcar mares lejanos, ver remotas regiones y las múltiples y grandes obras de la naturaleza, de un extremo al otro de la tierra.

18. Véase los ensayos contenidos en *Luigi Galvani fra Biologia e Medicina*. (Actas del Congreso de Estudios Galvanianos). Bologna. Accademia delle Scienze. Università degli Studi 1999. *Viaje a las Regiones Equinocciales...* Tomo III p. 192.

19. Stradelli, Ermanno: *Expedición a las fuentes del Orinoco*, p. 339, 379, 374, 384.

20. Los sabios a los cuales nos referimos, sin ser contemporáneos, compartieron algunas décadas de vida: Galvani 1737-1798, Volta 1745-1827, Humboldt 1769-1859, Codazzi 1793-1859

21. Véase Codazzi, Agustín Las Memorias, p. 14.

Este célebre geógrafo y cartógrafo nacido en Lugo, Ferrara, llegó a Sudamérica avanzado ya el siglo XIX y combatió a las órdenes del célebre corsario Aury, reclamando con éste la Independencia de La Florida. Cautivado por los ideales de la emancipación sudamericana, al ganarse la amistad y consideración de Simón Bolívar y otros generales patriotas se incorporó al ejército del Libertador, en cuyas filas, gracias a la preparación militar adquirida en academias italianas, tuvo destacada actuación como hábil artillero, y detentó el grado de coronel. Finalizada la lucha por la Independencia, dejaría de lado su actividad bélica para dedicarse a lo que realmente le apasionaba, la investigación geográfica y cartográfica, y llevaría a cabo su singular obra: la geografía y el atlas de las provincias venezolanas. Para la realización de este magno proyecto, encontraría inspiración en los estudios y exploraciones de Humboldt, a quien profesaba gran admiración y bajo cuya influencia multidisciplinaria y aura renacentista, no se limitó a la mera acotación de datos geográficos, al trazado de mapas o planos, sino que imprimió a su obra alcances mayores, relacionados con la sociología del entorno y la historia de cada región. Quizás entusiasmado por su afinidad con el espíritu alemán de Humboldt, se empeñaría igualmente el talentoso italiano en un interesante proyecto social: traer habitantes de Alemania para colonizar una región de Venezuela, en el Estado Aragua. Sus estudios geográficos y topográficos de la misma le permitieron determinar que esa zona montañosa, de fértil suelo y clima fresco, era ideal para que los colonos pudieran adaptarse perfectamente, lo que en efecto ocurrió, en una pintoresca y población hoy día próspero centro turístico, conocida como Colonia Tovar, por ser los terrenos donación del Conde de Tovar, noble criollo de elevado espíritu y gran fidelidad al Libertador.

En 1840 viaja el geógrafo ítalo a París, para supervisar la edición de su *Atlas Físico y Político de la República de Venezuela*, que saldría a la luz un año después y recibiría entusiasta acogida por parte de la comunidad científica parisina. Más tarde, aceptaría la invitación del gobierno colombiano para realizar en aquel país una tarea similar, en la que estuvo trabajando infatigablemente durante nueve años, brindando además una valiosa asesoría al gobierno colombiano en el estudio del proyecto sobre el canal interoceánico de Panamá, para proponer al Libertador la idea del Canal, enlazándose al estudio de Humboldt *Posibilidad de la comunicación de los dos Océanos por América*.

Humboldt ve continuada su obra en los esfuerzos del joven Codazzi. Lo siente su discípulo y seguidor. Tuvo ocasión de leer y apreciar su copioso aporte geográfico, presentado para su evaluación ante la Comisión de Expertos que designara la Academia Francesa, aunque no pudo estampar su firma

en el elogioso informe que ésta pronunció pues había llegado a París con posterioridad.

Emocionado y profundamente halagado ante los trabajos del geógrafo de Lugo, Humboldt los valora como “*nobles investigaciones.*” En una hermosa carta de congratulación, con fecha 20 de junio de 1841, le expresa con jubilo entusiasmado su reconocimiento. Le escribe con sinceridad, con cálido afecto, felicitándole cordialmente por tan valiosa contribución al conocimiento de la geografía de países sudamericanos como Colombia y Venezuela. En el importante documento, publicado en los diarios locales de la época, y reproducido por historiadores entre ellos Arístides Rojas,²² Humboldt menciona con nostalgia sus propias experiencias, satisfecho de haber contribuido a la labor del acucioso italiano. Con fraternales muestras de interés, manifiesta su apoyo a un trabajo científico tan relevante, en el cual se siente perpetuado:

Señor Coronel: no puedo ver partir a Ud. para ese país que me ha dejado tan gratos recuerdos sin renovarle la expresión de mi grande y afectuosa consideración. Los trabajos geográficos de Ud. abrazan una inmensa extensión de tierra: y ofrecen a la vez los pormenores topográficos más exactos y medidas de alturas tan importantes para la distribución de los climas, que hará época en la historia de la ciencia. Dulce es para mí haber vivido bastante para ver terminada una empresa vasta, que, ilustrando el nombre del coronel Codazzi, contribuye a la gloria del gobierno que ha tenido la sabiduría de protegerle...Loque yo intenté hacer en un viaje rápido, estableciendo un conjunto de posiciones astronómicas e hipsométricas para Venezuela y la Nueva Granada, ha hallado, señor, por las nobles investigaciones de usted, una confirmación y desarrollo que exceden a mis expectativas...

Hoy más que nunca en el mundo entero se reafirma la obra y la presencia del genial expedicionario y naturalista alemán, prócer de la ciencia, que ha trascendido las fronteras de su propio país y las del trópico sudamericano el cual hizo suyo, recorriéndolo y estudiándolo incansablemente, para lograr la universalidad, la intemporalidad, la permanente vigencia.

Y dentro de esa obra indeleble, que abrió rutas inexploradas para la ciencia en todo el mundo, está aún fresca la perdurable memoria de esos afectos científicos italianos, que guardaba el gran naturalista con celo y fervor y que formaron parte esencial del ámbito teórico cultural en el que se basaron sus trascendentales investigaciones y experiencias.

22. Véase Arístides Rojas *Humboldtianas*, tomo III.

