# A Letter Dated 1577 from Mercator to John Dee 

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In a previous paper ${ }^{1}$ tbe present writer described tbe efforts of Jobn Dee to reform tbe map of Nortb-east Asia, as recorded in his Volume of Great and Rich Discoveries. ${ }^{2}$ Tbe final chapter of this manuscript bas the following title: "That all these Northern Iles and Septentrional Parts are lawfully appropriated to tbe Crown of this Brytisb Impire: and tbe terrible adventurc and great loss of the Brytish people and other of King Arthur his subjects perishing ahout the first discovery tbereof. And the placing of Colonies in tbe same Iles and Regions by the same Kiog Arthur. And an entire and general Description of all tbe part of tbe world within 12 degrees of the North Pole and somewhat more."

But in spite of this promising summary of wbat was to come, we find only a short account of how Dee set to work to collect information, followed by a transcript of the brief and disjointed notes sent him by Mercator. These notes are made even more difficult to follow by tbe fact that Dee's manuscript has been badly damaged by firc, so that tbere are many lacunae. Yet the notes-partly in old Dutch and partly in Latin-are of great intercst, and so an attempt has heen made to render thcir meaning by a ratber free translation, But, as will appear, they raise anew several problems whicb still defy solution, and which will be discussed at the end of the transcript and translation. Dee dates this part of his manuscript Junc 8, 1577, but unfortunately he made no entry in bis private diary for tbat day. He was however evidently very short of money at the time, for within the next fortnight he records borrowing a total of $£ 87$ from three individuals, in one case giving a gold chain as security. He would no doubt expect to recoup himself by gifts from patrons to whom tbe manuscript was to be shown.

## TRANSCRIPT FROM COTTON MS. VITELLIUS C. VII <br> (Folio 264 v. et seqg.)

And this matter of Discovery in hand, aod chiefly of these most Nortberly Countries and Iles, hath caused me (sinco the last yere) to send into divers places beyond the sea, and to meo there in our age rigbtfully [esteemed, to wit to the]" / honest Philosopher and Mathematielan, Gerardus Merca/tor and to that learned Geographer Abrahamus Ortelius | whose company also (syns my first lettres sent over) I / have had of late in my poore howse at Mortlake: / And of the other (In my youth) suffieient Record / is publisshed of our great

## A․ 1577

apr. 20
Clatissimo Viro D. Joannis Dee., Domino / et fautori suo piarimi colendo. / In aedibus Mortlacensibus juxta Tamesim / prope Londinu.
familiarity. And the chief / pith of this Chapter will testify tho honest and / philosophleall Regarde that he had, of my earnest / request to him. In as much as, spedily he / returned tho very principal Authority whereupoo / he fasshioned unto us that strange plat of / the Septentrionall Ilands /. That thereby our meo / (Adventurers aod Discoverers) might uoderstand, what / account is to be made, or what Credit is to bo / given to the same Descriptioo. This then whth / other matter, I receyved from him lately:-

Fol. 265 v.
April 20. 1577.
To the most famous Dr John Dee, his Master aod much esteemed Patron.
At Mortlake 00 the Thames, near Londoo. With three enclosures.

[^0]

## Jacobus Cnoyon.

* Note that lt ls by $/$ experience found that / nere the North Pole / in the very dead of win-/ ter tyme is a contlnual glimring / twilight at the least. The / farder belp of light of / the Mones recourse / above their horizon / being not mentioned.
** atr, recepten. The most westerne / bound of the / great Cham hls / land.
- Grocland to $/$ me seemeth to be our Groenlande.
... story /
,., matter ls: 8
$\ldots$. is there, $/$
... is but small /
... and yet in /
... news very true /
... of truth were /
... to receyve /
... call or Poctcall /
... yet to the vul/gar
Readers or Hearers /
Wyth pleasure \& / ....
... Gestac / Arturl. A rare / testimony of great Import-Jance to the Brytissh / title to the Sep-/trentional Regions / Atlantis in particular
* Which Seas we call the Indrawing Seas.

Marvelous high /
mountains.

* Some parte of Groen-
fland doth stand betwene / thels Bowndes
[fol. 266 r .] (lines wanting) mittere. Metuens ne tam cito quam tibi . . ./ erlt, eadem transmittere non daretur. Scripsi / omnia quae de situ Septeotrionls habes, et his Cr. . . ./gavl \&c.

Jacobus Cnoyen van Tsertoghenbosche orbem peragravit, ut Mandevillanus sed meliore / judicio visa anootavlt: Scripsit Belgica lingua./ Quae ante in co ad Regiones Septentrionales senten/-tla inveni sic (ut sequitur) ad verba exactum/. Nisi quod quaedam brevltatis, et accelerandi / Latine reddidi, sl non semper verba / sententia tamen reposui.

In Nortnorwegen, dat men dat duyster Norwegen / heet, lst tree maenden achter een donker, [geen] / sonneschijn, maer altift Dageraet.* Dit Norwe/gen leet legen over tconincrijck dat men heet / Provincl van Obscur, latine Provincla Tenebrosa / Daer achter af staet nit in Mareus van ... / gien gechriften. En dit Obscur ls .../ conincrijck van Cams lant: End tusschen / duyster Nortwegen ende Obscur, en is maer 12** milen Zees.

In Nortnorwegen en mach men niet commeo* onder / Zughender Zeen wille, die acbter Groclant leet / Wantet noch vorder Nordwaert leet/. Dit Nortnorwegen comt tot aen tgheberchte dat / ront om gat, om Septentrionem eñ het paelt / aeo desen gheberehteo mit, 17. Fransche mijien / lants, anders ist allzee. Ende dit is dat geberchte da / [fol. 266 v.) (line wanting) lant / ontrent. 15. Franschen mijlen; et distat Inde ad Orien/talem parte. Ende hier teghen wonnen binnen / septentrion dat Clein Volck, daer oock in / Arturus Gesten of stact. Ende oock paetter / aen een schoon offen landt. Ende dit land leet/ tusschen de Provincie van Obscur, eode van de / Provincie van Bergl, Maer tusschen elck van disen / Provincien, ende desen landen, leet een Zu -/ghende Ze . Ende dese Provincie pacle aen desen / ghebercbte mit .72. Fransche mijles lants. / Haec et plura de situ septentrionls inveniuntur io / Princlplo Gestorum Arturi, ete. / Otim Insulac Septentriones sublectac, vocabantur / Cillae, [forte Tyleac] nunc Septentrionales: in quibus Septentrio- / nalis Norwegla, et multi parvi Fluvii : som/tweo, som een, som dric Kenningen ovift, of / meer of min. ende sijn gehecteo dle / Zughende Zee, om* dattet water altoos so sterck / na septention loopt, dat gheenen wint en can een / Scip daer boghen doen op seilen. Ende hier ist / al juce, van October tot Meert. Ende in dese / Latitud liggen booghe gheberchten tot in de / Wolken: ende meest al ombegroelde rootsen. / Ende meest altoos ist onder deser latlud mistich / ende doncker weder \&c. Eì men weet / wel dat tusschen .70 ende .78. graet van lati / tud,
[fol. 266 r.] (lines missing) . . . to send. Fearing it would not reach you qulckly enough if transmisslon were delayed. I have written down everything you have about the Northern Regions, and to these '. . etc.

Jacobus Cnoyen of Hierzogenbusch travelled the world like Mandeville but described what he saw with better judgment. He wrote in the Belgic language. The ideas about the Northern Regions which some time ago I extracted from bim follow word for word save where for the sake of brevity or speed I have translated Into Latin wben if not always his words I have retained hls meaning.

In Nortin Norway, wbich is called Dusky Norway, there are three months of darkness during which there is no sunlight but a perpetual twilight. This Nortb Norway lies over against the country called the Province of Darkness (or Obscure Province); in Latln Provincia Tenebrosa. Concernlag it, however, there is nothing written in Marco [Polo]. And this Province of Darkness is the most western bound] of the Grand Cham's land, And between this Province and Dusky Norway there is only 12 miles of sea.

From North Norway you cannot reacb the Indrawing Sea, which lies beyond Grocland. For it lies still further northward. This North Norway stretches as far as the mountain range which encompasses the north pole, and borders on this mountain range for about 17 miles by land ; the rest is ali sea. And thls is the same mountain range whlch [fol, 266 v.] (? comes closo) within about 15 Frencb miles and then stands furtber off towards the East. And near here, towards the north, those Little People live of whom there is also mention in the Gestae Arthuri. Aod there borders 00 it besldes a beautiful open land. And this land lies between the Province of Darkness and the Province of Bergi. But between each of these Provinces and these lands lles an Indrawing Sea. And thls Province (? the open land) has a mountain border of over 72 French miles by land. These facts and more about the geography of the North are to be found In the beginning of the Oestae Arthuri etc.
The islands adjacent to the North Pole were formerly called Ciliae (perhaps Thule), and now the Septentrionales: among them is North Norway. And there are many small rivers, some two, some one, some three kennings ${ }^{\circ}$ wide, more or less: and they are called "indrawing seas" because the current always flows northwards so strongly that no wind can make a ship sail back against it. And here it is all lee from October to March. And in these latitudes the mountains reacb up to the clouds, and are almost all rock bare of vegetation. And It is almost always misty and dull weatber, And it is well known that beyond

[^1]mentio-/ned, and yet habitable / andinhabited. Perhaps, / at that time was none, / there inbabitant: / and the North Cape of / Norway doth lye in $71 \frac{1}{2} /$ whereabowts, now, is good habltation /

- King Arthur his $/$ conquest of all the $I$ North Ilands. / forte heeren 4000 of King Ar/thurs subjects con-/ sumed with the Indraw-/ ing seas.
* A․ DIII. $1364 / .8$. men, being of the / generation of them / which went in King Arthur his tyme: / to these places discovering./
*** fortè, 25. / gradu. 1 mean in $/$ the 25 generation, at the / least, after King Arthur / his tyme allowing longer Ages, thao now the gene/rall rate is: at betwene / 25 \& 30 yeres to a generation.

Note the Colonies sent / by King Artbur into / all the north Islands / and by oame into Grocland, which I yet suppose to be / the same which is otherwise ancleotly called Groenlaod / aod of that you had the word before owt of the boke. De Priscis Anglor/um Legibus. /

- Geants in Groclandt / abowt a thousand / yeres sins. /
. . . newes: /
... . be su- /
... Report /
... Drowning: /
aod proper / to be declared /
* Arthur sendeth / people
to lnhabit ye $/$ iles, wherof all= /most half perished / ..ted. /


## aliter 64

To wit / the 34 yere / of
geen habitatio eo is van menscben. Maer / dese ,78. graet van latitud gaen als een Circ-/ kel ront om Polus Arcticus: Als nil hooge ghe / berchten.
[fol. 267 r.] (line wanting) . . . Nordeo . . . . . / deel van coninck Arturus heer ... / die Nordeylanden bewocht en hem alte* maer / daoich maecte. Ende men leest dat hem den / Zugheode Zeen hij de 4000. volks ontrocken / die noit weder en quaemen. Maer $A^{0} / 1364$, quamen g : van** desen personé io Norwegen tot / deo coninick. Ioter quos duo sacerdotes: quarum / uous habebat Astrolabia. qul quioto** gradu descen-/derat ex Bruxcllensi: uno inquam .8. Ge ... ha- $/ \mathrm{ra}$, qui ca primis Navibus penetraverunt in / Regiones Septentiooales: /

70 or 78 degrees of latitude there is no human habltation. Moreover this 78th parallel goes in a circle round the Arctic Pole, in the torm of a high mountain range.
[fol. 267 r.] (Lacuna) . . . part of the army of King Arthur which conquered the Northem Islands and made them subject to him. And we read that nearly 4000 persons entered the indrawing seas who never returned. But io A.D. 1364 eight of these people came to the King's Court in Norway. Amoog them were two priests, one of whom had an astrolabe, who was descended in the 5th generatioo from a Bruxellensis: One, I say: The elght (were sprung. from?) those who had penetrated the Northern Reglons in the first ships.

- Dat groet heer van Arthurus hadde ( $\left.A^{\circ} / 530\right)^{7}$ alle den winter ghelegen in de Norteylanden I vao Scothand. End een deel daraf $/$ over io Islaot. 3. Maij. Docn waren daer . . . . . / /uten Norden comen. 4. scepen vande vorscide landt. / Ende warschouden Arturum van die Zugende / Zeen. So dat Arturus deer niet ghecorien es ..... / maer beeft alle dic eylandco tusscben Scotland \& / Islant, eo oock Groclaot gepopuleert: (Videt/ergo di Zuzeode Zee solum lociper ultra / Grocland. In hit Grocland vant hij volcke lanck. 23.* voet, daer men lande mede meet.
Ubl reversae fuissent. 4. Naves illae, erant Nau/tae qui affirmarent se scire ubi esseot Magnetini. /
[fol. 267 v.] (lline waoting) . 1800. vires, et circiter .400. mulieres. Versus sep-/tentrione oavigant. 3. Maij anno proximo quà prilores Naves discessissent, Atque harü . . 12. Navirü .5. / per tempestatum impegerunt io Scopulos, reliquae pene-ftrarunt altos scopwios . 18 . Junii. 44.* die postquam / solvissent. (Strietu forte aliquae penetrarunt.) /

Sacerdos qui Astrolabia habebat, narrabit Regi / Norwegiae venisse in Iosules Septentrionis, $A^{\circ}$ Dni, / 1360. Minorita Anglia, ex

That great army of Arthur's had lain all the winter (of 530 A.D.) in the northern islands of Scotland. And on May 3 a part of lt crossed over listo Iceland. Then four ships of the aforesaid land had come out of the North. And warned Arthur of the indrawing seas, So that Arthur did not proceed further, but peopled all the lslands between Scotland and Icelaod, and also peopled Grociand. (So it seems the Indrawing Sea only begins beyond Groclandi. In this Grocland he fouod people 23 feet tall, that is to say of the feet with which land is measured.

Wheo those four ships returned, there were sailors who asserted that they knew whire the magnetic lands (?) were.
[fol. 267 v.] (Lacuna) [Arthur afterwards put 00 board a fieet of 12 ships about) 1800 meo and about 400 women. They sailed northwards on May 3 in the year following that in whlch the former ships had departed. And of these 12 ships, five were driven on the rocks in a storm, but the rest of them made their way between the bigh rocks on June 18 , which was 44 days after they had set out. (More precisely, perhaps, some of them made their way.)

The priest who had the astrolabe related to the king of Norway that in A.D. 1360 there had come to these Northern Islands ao Englisb

7 The date bas beeo inserted over a blank space in the text.
the triumphant / ralgne of / Edward thre / Erancisean / with some / men the same / word written. $/$
*
... the Northern / Countryes, / Inventio / Fortunatae or / Fortunao, written for Edward the / Third. 1

Clrcular lying / great Northen / moumfaines rownd / about the Northen / islandish Regions /

* Note the Ocean $/$ rownd about this / Mountaln: aaving in $/$ North Norway only, Arm of land issuing / In one of the Northern / great Iles, and is to be / listned after; to whether / Maynland it doth apper-/ teyn,
* Note that in di-fvers places these Northen/ -ward lies are allmost / wthin a kening of the I mayn lands opposito to / them: but in no place els / to touch but (as hero is / specifyed of only one place / In the East. With an Isth-/mus wofthy to be known. / For this is a prineipall / point, to understand from whether Mayn/land, this narrow tayie of land ys -/sueth: from Atlantls, or / from Asla. Or if it / is a peninsula, there-/to annexed; and no part / of any other mayn land. /
* This Inhabited / place (of 10 degrees long / and .6. degrees broad) may have an other more artl / ficlall expositlon then so / by dayes journeis to understand the / degrees of longltude. / in that place about .80. degrees of latitude. / And ao to reckon .3. dayes / journey and $1 / 3$ upon one /

Oxfordt, qui erat / bonus Astronomus \&c. hic ab ailij discedens, (qui /in Insulas has venerant) profectus est uiterius / per tota septentrionē, \&c, et descripsltomnla / mirabilia erraInsularl; deditque Libro Regi / Argliae quem Inserlpsit latine Inventlo* Fortunatac: qui liber incipit ab Uitimo Climate: / videlicet a grada / . 54. pervenions usqu ad Polum. /

Dese Monick seide dat dese gheberchten ghingen ront / om septentrion gheljcke een müer. Anders dan dat / daer door liepen (tot .19. steden) dese Zugende zeen / daraf de wijtiste bouen .12. Fransche mijlen niet / breet en was: de nauste $1 / 4$ mijles. Ende doer / de nauste en soude gheen sclp connen comen fom / den strengen loop des Waters. Dit gheberchte / list rondt om in de Zee,* sonder in dat Nortnor/wegen. Want dat Nordtweghese ge- / berchte comter zen ende is breedt ontrent .17. Fransche miflen. Ende recht benede de Nort / Sterre, tegen Norwegen over, daer eompt een / offen schoon lant sen, dat onbewoont is: Daer veel schoon / [fol. 268 r.] (line wanting) nit oosten compte een steert van een... / schicten: en bs meest al boseh: ende verl . . . / altoos so verder, so meer; so dattet bouen . / . / Fransehe mijie niet breet en is, daert aen ... / gheberdite vergadert. Anders In roerter ronds / om gheen lande aen: Maer tot menighe stede / ls die Zse so engbo, dat ment wo . . . / van verr" siot. /

Endo dit ghoberchto duart in de breede .8. milles / Ende in al dien circke! / seide de minnebroer / en was gheen habltatio den aen die oost ... / daer dat smalie landt voic ereben aen quamen / waren 23 Leiden, bouen vier voeten niet .... / waer of de .16. vrouen waren. Dese Monick / seide dat hil in twe ander plaetsen vant te laxdt / waert in, een groote stick bordts van sclpen $\ldots$ / ander balken, di in groote scepen ghedient had ... / ende veel truneken van boomen die in vorleden /tijden af waren gehouden, so dat hij w ... I sach daer hier voormaels habitatio ghewesen ! was: maer sij was ne vergaen. Ende dit ... /

[^2]Minorite from Oxford, who was a good astronomer ete. Leaving the rest of the party who had come to the Islands, he journeyed further through the whole of the North etc., and put into writing ail the wonders of those islands, and gave the Kling of England this book, which he called in Latin Inventlo Fortunatae, which book began at the last climate, that ls to say latitude $54^{\circ}$, continuing to the Pole.

This monk said that the mountaln range goes round the North like a wail, save that In nineteen places the Indrawing channeis flow through it, whereof the widest is not above 12 French miles across, the narrowest $3 / 6$ milo. And through the narrowest no shlp would be able to go, because of the strong rush of tbe water. The mountain range is surrounded by sea except in North Norway, whon tbe Norwegian mountain range reaches it for a width of about 17 mies. And right under the North Star, opposite Norway, there lies a falr levei land whieh is uninha bitated, where many beautifui [fol, 268 r.] ... (Laeuna) ... in the east there stretches out an arm of land which is nearly all wooded. And narrows continuaily, (the farther north?) the more, so that it is not more than one mile wide where it meets the mountain range. Otherwise no land touches the eircumference (of mountalns) anywhere. But in many places the sea is so narrow that one can see the far side.

And the mountain range covers a breadth of elght miles (?). And $\ln$ the whoie eircle (said the Minorite) there is no habltation, except on the east side where in that narrow land (isthmus) already mentioned there were 23 people not above 4 fect tall . . . whereof 16 were women. This Monk sald that in two other places further Inland he found a great plece of ship's planking and other balks which had been used In big ships besides many trunks of trees which at some earlier date had been bewn down. So that he could say with certainty that there had formerly been habitation there but the peopie bad now gone. And that the eountry where they (the pygmeys I believe he means) lived was more than 6 degrees broad (that is to say 20 days' journey) and one could cover the distance on foot, and it was 10 degrees long, that is 33 days' journey. Also there lay there (sald be) an Indrawing Sea of 5 ehannels gathered together which came through the mountain range out of the 19 ehannels mentioned. And this Indrawing Sea is 12 French miles wide, and measures across about 4 days' journey. ${ }^{\text { }}$

[^3]degree of ioogitude there/ being hut .10 . of our myles. But a Degree of / latitude $\ln$ all places is of 1.60 of our British myles. But it may be understood of a great Circle, / as journoys hy land / are mado and discoursed / comonly.

* Notablo Warning / of the making of the iodrawiog Seas: / which to pas and / which to shoōe, as beiog dangerous. /
den .19. yorscreven mereo. Ende dese Zo. 1 gende Zee is wift bij 12. Fraosche mijieo: / Ende ouer deso Zugeode Zee, ontrent. . 4 . daehvaert. $/$
[fol. 268 v.] End $a f$ den west . . . . . commerce / Is weder eeo Zugende Zee, in der weiken drie / ander mereo (van den .19. yorscreveo) ghingen. / Eode dat meer, daer sij (Naves eredo dictae) / Inghecommeo waren, hep oock daer in. Endo alic* die meren die Crom loopen, wanneer sij wt de / gheberehte quamen, dio setteo de scepeo flucks aen. / Maer wat mereo recht op do binneste meren loopen / daer de .19. meereo in vergaderen, daer moeteo die / scepeo, van oootswegeo, meerwaert driveo, oode / hlijveo verioreo. Oock seide dese minnebroer, dat / dese binoeste meren . 4. wareo: en dat die aeo huer westeinde lagh, waer breet wel .34. Fraoche / mijlico. Ende dat op do ander sejde van die Zee / waer dat beste eode ghesootste landt yao / al Septeotrioo. Oock seijde hij, dat die / Zce die hem aeo doosteinde lagh, nommer-meer on I mochto beariesen: om dater so vele mereo in / vergaerdeo: eode sij daer toe eoghe Wal, dat I deo stroom seer sterck was. Maer die hem / aeo dat Westeinde lagh plach meest alle jaer to / befriesen: end hleef somtijt .3. maendeo / bevrosen. Endo in dit landt en hadde hij gheen / teekeo van hahitatie yernomen: Maer in een / commerce di recht Nord teghen hem over iagh, / daer hadde hij die boorde vao scepen, ende trone/keo ghesico. Alle dese 4 commerce sijo hooghe / offen iaoden, sooder eenich ghebercht / dat .4. vadem [stc] hoogh ware. Daer sijn veel / boschen van Brisilit. Waot deser Priester (cal Astrolabia) /
[foi. 269 r.] (line wanting) ..... / ..... dese 4 commerceo ieet eeo Drayena ..... / daer dese 4 Zugende Zeen in vailen, dio Sep- 1 teotrion deeleo: Eode dese Zee ieet en we ... I recht of slj onder gheghaen waer, eode of mem / dwater ghoot duer eancn trechter. Sij is aeo all / sijdeo vaodeo Polus .4. graet breet. dat is d... / te samen wijt: sonder dat recht onder deo pole / leet eeo biose rotse int middel yao deser zee . . . / in hareo omganck beest omtreot .33. Franches / mujleo, eode is al aymant steeo. Eode is so / hooghe (so de Priester seide) dat hem sijo ... / gheseit hadde die yao de Minnebroer dat Asfrola/bia yoer eo Testament ontfangeo hadden ... / de deo Minnebroer selvo baddo hooren seggheo ... I dat men rontomme van deo eart van der See / siet 00 is slinkende swert. Ende daereo / wast niot aeo Want daer en is oiet so yeel / als eeo bantvol oerdeo aeo. Dit waren / de scrifteo onde wordeo yan den Minebroeder die ... I sindert ( ) vijf werf to deo / Coolock van Ingelhant traek om sakeo wille: / Die moo vint in eeoeo boock dat meo heet / Inven- / tio Fortwoae*: dan dese Minnehroeder seivo / Autor van is. Die yorselde Priester seide noch / tot den Coninck vao Norwegeo dattet in die com-merce / daer hij woonde, niet ses werf
[foi. 268 v.] And at tho west of the aforesaid country is another Indrawing Sea into which 3 more ehannels 80 out of the aforesaid 19. Aod that channel wbich they (the ships I believe are meant) bad eotered also flowed therein. And all these channeis which tum tortuously when they come out of the mountains drive ships immedlately ashore. But whatever channels flowed straight into tbe innermost seas, into which the 19 channels gather, in these ships must of necessity be carried eurreot wise (l.e. invards) and become lost. Also, said this Mioorite, these Inoermost seas oumber four: and the one which lies on the west side was quite 34 Freoch miles broad. And 00 the other side of this sea was the best aod healthiest land in all the North. Also hc said that the sea which lay 00 the east side could never be frozen because so many channels united there. And it was oarrow besides, so that the curreot was very stroog. But that the 000 which ran 00 the west sido used to frecze aimost every year: and remaioed frozeo sometimes for three mooths. And in that land he had seen no sigos of hahitation. But io a country which lay to the North opposite it, he had recognized planks of shlps aod tree trunks. All these four countries are high opeo iands (1.0. plateaus) except some mouotalus four fathom [sic] high. There are many trees of Brazil wood. When this Priest (with the astrolabe) ...
[foi. 269 r.] (Laeuna) In the midst of the four countries is a Whirl-pool . . . ioto which there empty these four Indrawing Seas which divide the North. And the water nushes round and descends ioto the earth just as if 000 were pouring it through a filter funnel. It is 4 degrees wide 00 every side of the Poie, that is to say eight degrees altogether. Except that right under the Poie tbere lies a hare rock in the midst of the Sea. Its circumfereoce is almost 33 French miles, and 1 t is all of magnetio stooe. And is as high as (the ciouds?) so the Priest said, who had received the astrolabe from this Minorite in exchaoge for a Testameot. And the Minorite himseif had heard that 000 ean see all round it from the Sea: aid it is black and gitstening. And nothiog grows thereco, for there is oot so mueh as a haodful of soll on 1 lt . That was the writing and words of the Minorite, who has sioce journeyed to and fro five times for the King of Eogland 00 husioess. They are to be found in a book calied Inveotio Fortunae, of whicb the Mioorite himself was author. The foresaid Priest said also to the King of Norway that in the country where he dwelt not six times a year did it rain: and eveo that was drizzle, lasting oot more than 6 or 7 hours.
** No great / showers of raine / in these Regio-/ nes.
* Fresh cooje alr all. waies there.
des jaers en / regenden:** inde dat seive was stofregen, dueren / de niet bouen .6. of .7. uren. Ende dattet daer / [fol. 269 v.] (line wanting) . . . . . hijt so seer saen Walen dattet cen wart Mullen b ... / deghe medo soude ghaen. Maer altoos is daer cen / Coete* locht. Ende die ander .7. die bij hem / do waren, tuijghden hiet sij selve haer oudt / oock hadden hooren seggen, dat sij! oock / noyt gheslen en hadden.
Haec sunt ad verbuamnia quaeexhocAutore ante multos / annos exscripsi \&c. Beno vale, vir / doctissime, mihique amantissime colende./ 1577 Gerardus Mercator
(End of Transeript).
... (fol. 269 v. 1 (Lacuna) the wind never blows hard enough to drive a corn-mill. Furthermore the air there is always cool. And the other 7 that were with him testified that they had also heard such things fas he related! said by thelr elders, hut had never seen them.

This is word for word everything that I copied out of this author [Cnoyenl years ago. Farewell, most learned man, with my most affectionate esteem.

1577 Gerard Mercator. (End of Translation).

Dee's first inquiry on the subject of the North had heen directed to Ortelius hy a letter written in January 1577, which is printed as No. 67 in Hessels' Ortelii Epistulae (1887). In this letter the writer recalls that his friend had indicated the general expectation of Arctic discoveries from the British people, a matter which he himself had pressed long ago (i.e. 1553-1556). He was now urging, indeed insisting, that further attempts should he made. And he goes on to mention his researches into what the ancients had said and done in respect of this voyage, as well as his recent preparation of a new nautical manual for the sailors. ${ }^{9}$ But his particular inquiry at the moment was for the authority that Ortelius had used for inserting the names of Cape Paramantia, Los Jardinos and some others on the north coast of North America, names which appeared on no other map. He hegged for an immediate answer "for our people are already maturing their plans for the northern seaboard. Last year they merely paid their respects to the Greenland Strait, but they concluded with good reason that the whole shore could be circumnavigated and they could reach the Eastern Ocean that way". There is no record of the way in which Ortelius answered Dee's letter, but he came over to England in the spring, when he saw William Camden and Richard Hakluyt in London, and came down to Dee at Mortlake on March 12th. Five or six weeks later Frobisher sailed on his second voyage, but in fact he was secretly commissioned to look for gold ore and not to search for the north-west passage.
Meanwhile Dee had been questioning Mercator as to the provenance of the circular inset of the Polar regions which appeared ón his great wall-map of 1569 , together with some accompanying legends (Fig. 2). The reply he received was dated April 20th 1577, and is that transcrihed above. Disappointingly enough it 'provides no fresh clue to the identities of either Jacob Cnoyen or the author of Inventio Fortunatae. Yet it raises the question: must not the latter have visited Greenland and even Markland (Labrador), in view of the knowledge he displays? And again, what was the version of the Gestae Arthurl which all parties refer to familiarly, and yet which contains such strange new detail of that King's enterprises? Richard |KKakluyt the younger, now newly entering upon what was to prove his life's work, put some such questions to Mercator early in 1580 , after, seeing Dee's manuscript. But the great cartographer's reply was also disappointing. Dated from Duishurg, July 28, 1580 , it contains this passage: "The historie of the voyage of Jacohus Cnoyen Buschoducensis, throughout all Asia, Africa and the North, was lent me in time past hy a friend of mine at Antwerp (prohahly Ortelius). After I had used it I restored it again: after many yeares. I required it again of my friend (no douht to answer Dee) but he had forgotten of whom he had borrowed it". ${ }^{10}$

All we know about Cnoyen therefore is that he was a Hollander and a supposed world-wide traveller "like Mandeville". It is impossible to decide whether or not his story of the visitors to the king's court in Bergen in 1364 was one that he ohtained at first hand. It is not unlikely, since the Norwegian city was a foreign staple of the Hanseatic League. And if he was indeed not there, whence had he the details of what

[^4]

Fig. 2. The Arctlc inset on Mercator's map of 1569 (Universitats-Bibliothek, Basie)


Fig. 3. The Arctic section of Ruysch's World Map in the Rome Ptolemy 1508. (From a copy in the possession of the Royal Geographical Soclety.)
the eight strangers told King Magnus, and the fact about the Minorite's journeys to and fro after he had written his book? That the book Inventio Fortunatae really existed does not depend on the evidence of Jacobus Cnoyen. Johann Ruysch ${ }^{11}$ quoted from it and used it, John Dee made a marginal correction of its title, ${ }^{12}$ and it is casually mentioned by Bartholome de las Casas in his Historia de las Indias (1570) when, speaking of floating and burning islands in the. Western Ocean, he says:'3s "There is mention of the same in the book called Inventio Fortunatae". A comparison of Mercator's Arctic map with that of Ruysch ${ }^{14}$ in the Rome Ptolemy (1508), and with the same region on Behaim's globe ${ }^{15}$ of 1492, together with a study of all the map-legends, side by side with Mercator's letter, makes it possible to reconstruct at least the basic topographical information which the friar's book contained.

Briefly, according to the writer of Inventio Fortunatae, the world continent was bordered at some distance

[^5]polewards by an indrawing or insucking sea, which hy means of nineteen channels broke through a lofty circumpolar mountain range in lat. $78^{\circ}-79^{\circ}$. These channels occurred in groups of three, four, five, and seven respectively, and the four groups gathered or flowed into four indrawing seas which all poured into a single central sea ahout the pole. Here there was a lofty shining hlack rock of maguetic stone, thirty-three miles (or leagues) in circumference-that is to say ahout ten miles across-and here the ocean waters swirled round in a whirlpool and were sucked down into the bowels of the earth. The four indrawing seas separated four land areas, of which two (as Mercator and Ruysch agree) were inhabited, and two not. Mercator puts pygmies or Scraelings in one of them, Ruysch puts a people called Arumphiae (Aromphete) who appear also in one of his imaginary Atlantic islands: Fel Arumfele allias Cibes. Behaim, although he shows nineteen (or perhaps only eighteen) channels leading from the main ocean, and gives some vague indication of the high mountains, does not completely separate two of the four land masses, while the Pole is masked hy the metal axis of his glohe. The general resemhlance of his outlines to those of the other two. maps is, however, apparent (Fig. 4).
The legends on Ruysch's World Map run as follows:

1. Legere est in Lihro de Inventione Fortunatle sub Polo Arctico Rupem esse excelsam ex lapide magnete 33 milliarum Germanorum ambltum
2. Hanc complectitur mare sugenum fluidum instar vasis aquam deorsum per foramina emettentis.
3. Circum insulae sunt 4 equibus incoluntur duae, amblunt autem has insulas contini montes vasti latique dietis 24 quibus negat hominum habltatio.
4. Hie incipit mare sugenum. Hie compassus navium non tenet nec naves qui ferrum tenent revertere yalent.

We read in the hook De Inventione Fortunatae that beneath the Aretie Pole there is a high rock of magnetie stone 33 German miles in circumference.
The indrawling sea surrounds this (rock), flowing as if in a vessel that lets water down a hole (i.e. a funnel).
There are four surrounding islaods of which two are inhabited. But they are hordered by huge mountaios twenty-four days joumey across, which forhid human babitation.
Here the indrawing sea begins. Here the ship's compass does not hold, nor can ships containing iron turn back.

In note 1 the high rock is said to measure 33 German miles, units which are four times the French miles of the Mercator letter, while the latter on his map writes " 33 leagues". This is typical of the current confusion as to measures of length. Mercator, besides, merely calls the rock 'lofty and hlack', without reference to its magnetic quality, for he had his own theory about the location of the magnetic pole. Ruysch's reference to the upsetting of the magnetic compass may have arisen from his own actual experience of its great variation in the Lahrador region, and he appears also to have put his own interpretation on the report that ships could not turn back once in the indrawing seas. Mercator's general legend (with Hakluyt's translation ${ }^{10}$ ) is as follows:

Quod ad descriptum attinet eam nos accipimus ex Itineravio Jacob Cnoyeo Buscoducensis, qui quaedam ex rebus gestls Arthuri Britanni citat, majorem autem partem et potiora a sacerdote quodam apud regem Norwegiae anno D. 1364 didicat. Discenderat is quinto gradu ex illis quos Arturus ad has habitandes insulas miserat. Et referehat anoo 1360 Minoritam quendam Aoglum Oxooiensem mathematicum in eas insulas venisse ipsis que relictis ad ultiora arte magica profectum descripsisse omnia et astrolablo dimensum, esse in hane subjectam formam fere, uti ex Jacobo collegimus. ${ }^{16}$ Buripos illos dice bat taoto impetuum ad interiorem voraginem rapi, it naves semel ingresse nullo vento retroagi possunt. Neque vero unquam taotum ibl ventum esse ut moiae

Tourching the description of the North parts, I have taken the same out of the voyage of James Cnoyen of Hartzevan Buske, which allegeth certain conquests of Arthur king of Britaine, and the most part, and chiefest things amoog the rest he learned of a certain priest in the king of Norway's court, in the year 1364. This priest was descended (in the fifth generation $)^{12}$ from them which King Arthur had sent to inhahite these Islands, \& he reported in the yeere 1360, a certaine Eoglish Frier, a Franciscan, aod a Mathematician of Oxford, came into those Islands, who leaving them, \& passing further hy his magical Arte, described all those places that he sawe, \& tooke the height of them with his astrolabe, according to the forme that I have set down in my map, and

[^6]frumentariae circumagendae sufficiat. SImillima his habet Geraldus Cambrensis etc.
as I have taken it out of the aforesaid Jacoh Cnoyen. He said that those foure Indraughts were drawne into an inwarde gulfe or whirlepoole, with so great a force, that the ships which once entered therin could by no means be driven backe againe, and that there is never in these partes so much wind hlowing as might be sufficient to drive a coramill. Geraldus Camhrensls hath certaine words altogether alike with these.

Hakluyt follows his translation with a further "Testimonie" taken from a summary which Dee had drawn up from Mercator's letter for the information of the Queen: ${ }^{28}$
"Anno 1360 (that is to wit, in the 34 yeere of the relgue of the triumphant king Edward the Third) a friar of Oxford, being a good Astronomer, went in companle with others to the most Northern Islands of the world, and there leaving his company together, he travelled alone and purposely descrihed all the Northeme Islands, with the indrawing sees; and the record thereof at his retum he delivered to the king of England. The name of which book is Inventio Fortunatae (aliter fortunae) quil liber incipit a gradu 54 usque ad polum. Which frier for sundry purposes after that did five times pass from England thither and home again".

Mercator has four further inscriptions, placed on the map itself, which are of assistance in distinguishing the four great polar islands described in the Letter. They read as follows:

1. Hic euripus 5 habet ostlis et propter angustum accelerem flaxum nunquam congelatur.
2. Pygmei hic habitant 4 ad summum pedes longl, quem admodum $1 i l l$ quos in Gronlandia Screlinger vocant.
3. Hic euripus 3 logreditur ostils et quod annis ad 3 circiter menses congelatus manet. Longitudinura habet 37 leucarum.
4. Haec insula optima est et saluberrimus totius septentrionls.
5. Occanus 19 ostils inter bas insulas irrumperat. 4 euripos facit quibus indesinenter sub septentrionem fertur: atque ibl in visocra terrae absorbetur.

This channel has five mouths (entries) and because of its narrow swift current it never freezes.
Here live pygmies, at most 4 feet tall, who are like those in Greenland called Scraelings,
This channel is entered hy 3 mouths and remalns frozen for three months every year. It is 37 leagues long.

This island is the best and bealthiest of the whole oorth.

The Ocean rushes in betweeo these islands by 19 mouths and makes 4 channels hy which it is incessantly carried northwards \& there disappears into the bowe's of the earth.

It must of course be remembered that all early descriptions of the Far North (c.g. that of Paul the Deacon A:D. 710-790) speak of a terrible insucking whirlpool, often identifed with the Maelstrom at the tail of the Lofoten Is. Of this tide-rip Adam of Bremen writes. ${ }^{20}$ "And behold the stream of the unstable sea there ran back into one of its sources, drawing at fearful speed the unhappy seamen ... into the profound chaos ... in which it is said that all the back currents of the sea, which seem to abate, are sucked up and vomited forth again, which latter is usually called the flood tide." Mercator was familiar with these writers, and after quoting from Giraldus Cambrensis added: "The Philosophers describe four indraughts of the Ocean sea, in the four opposite quarters of the world, from whence many do conjecture that as well the flowing of the sea (i.e. the tides) as the blasts of the winds have their first originall." Such ideas undoubtedly influenced the way in which the writer of Inventio Fortunatae methodised what he had seen, as they influenced the writer of the otherwise unknown Gestae Arthuri which Cnoyen quoted. This must have been a late compilation since the "Geography of the North" which it embodied seems to have contained features from Marco Polo's travels.' The Province of Bergi, for example, which Ruysch maps as "Planora de Berga" can only be the "pianura de Bargu" similarly described in Book I, chap. 49 of the Travels. ${ }^{21}$ The detailed story of Arthur's colonizing experiences does not appear elsewhere; and Hakluyt had to fall back upon quoting Geoffrey of Monmouth, who merely mentions the conquest of Iceland. To this he added an "ancient manuscript" inserted by William Lambard in his Archaionomia, 1568, (from which Dee also had cited it) in which the following passage appeared: "Arthurus .... subjugavit igitur sibi strenue Scantiam totam, quae modo Norweia vocatur, et omnes insulas ultra Scantiam, scilicet Islandiam et Gronland ... jam qui sunt de appendicies Norweiae ... et multis alias insulas ultra Scantiam, usque

[^7]

Fis 4. The Arctic regions on Behaim's globe, 1492. The frozen sea is north of Asla.
dum sub septentrione (i.e. as far as under the pole) quae sunt de appendiciis Scanciae ... Fuerunt gentes frae et indomitae .. Fuerunt autem ihi Christiani occulti ,..",
The suggestion that Christians would be found in remote islands in the far north and west crops up in many guises. They were living in the Island of the Seven Cities for example, which some identified with Antillia i.e. with An-Thyle or Thule. ${ }^{22}$ And there are strong suggestions that the romance of the Zeni hrothers, containing adventures dated $1380-1387$, had some foundation in old family papers. Here the relation of the Latin books found in the king's library in Estotiland, hooks which no one there now could read, could easily arise from a story of an Italian trader's visit to Greenland-or even to Markland. For Estotiland was said to be a thousand miles west of Frisland (Iceland) and to have trade with Greenland. Jacoh Cnoyen reported that the eight visitors (including two priests) to King Magnus' court at Bergen, who arrived in 1364, were descended from Arthur's colonists. (Who was the Bruxellensis?) But it would appear almost certain that they were in fact a hand of the Norse settlers in Greenland, or even, since they excited so much interest, a group from Markland (Lahrador). There is a record in the Islandske Annaler for 1347 that: "There came a ship from Greenland: it was smaller than the small Icelandic trading vessels. It came into outer Straumfyard. It had no anchor.. There were 17 men on board and they had sailed to Markland but were later driven here by a storm at sea." According to the Gottskalk Annals these interesting travellers were hrought the next year to the king's court at Bergen hy a prominent Icelander, so that there is nothing improhable in a similar incident occurring in 1364. This was, in fact, the year in which an expedition sent to Greenland for a specific purpose in the royal knorr or trading ship, is considered to have returned. King Magnus had given orders in October 1354 that Paul Knutson should take command of this knorr and should have full authority to select his company. The voyage was to he made "for the sake of our predecessor who in Greenland established Christianity ... and we will not now let it perish

[^8]in our day". ${ }^{25}$ That a friar should have been among the ship's passengers is therefore not unlikely, and that he was possibly a friar from Oxford is not to be ruled out. For just at this period there was active trade hetween England and Scandinavia, and a considerable English merchant colony lived In Bergen. As evidence of this we have the complaint made a generation or so later that no fewer than twenty-one English houses had been destroyed when members of the Hanseatic League sacked the town. ${ }^{24}$ The sufferers in this case were said to he men of Lymn, hut during Edward III's reign other eastern ports are mentioned as trading with Bergen, and even with Ireland. ${ }^{25}$ In the well known Libel of English Policy (ca. 1436) the writer speaks of a recent revival of the Iceland trade, which 'of old' had heen carried on from Scarhorough, while as Hakluyt reports certain privileges for this trade had heen granted to the men of Blakeney. ${ }^{26}$ Blakeney, in north Norfolk, was an active fishing port wherc salt fish and stock-fish were landed. Hakluyt, who as we know consulted the records lodged in the Tower of London, dates the grants as made in the 2nd, 4th and 31st years of the King's reign, i.e. $1328 / 9,1330 / 1$ and $1357 / 8 .{ }^{27}$ There is the further intriguing point that the British Museum possesses an English astrolahe dated "Blakene, 1342". But the only religious house there was Carmelite, not Franciscan. Yt is on a similar point, too, that Dee's identification of the Mathematical Friar of Oxford with Nicholas of Lynn has to he rejected. Though a famous Oxford mathematician, Nicholas was a Carmelite. Nevertheless there was also a Franciscan house at Lyan, and the period was that in which the Franciscans of Oxford were famous for their mathematical teaching, and notahly for their teaching and practice of the use of the astrolabe, popularized hesides by Chaucer.
Unfortunately the records of the Oxford friars ${ }^{28}$ contaln no mention of a far-ranging traveller, though such a man as Thomas Kingsbury would fit the circumstances so far as dates are concerned. And that he was among the mathematicians is suggested hy the refercnce to him hy calendar-making John Somer as his preceptor. That Thomas did service to the king, too, is suggested by the fact that Richard II sought preferment for him from the Pope. Alternatively, from the footnote added hy Dee (or perhaps by Hakluyt) to Mercator's letter ${ }^{29}$ one Hugh the Irishman was also considered as a possibility. In this case we have the record of a hook, but no hint of Oxford or of an astrolabe. Our sole authority is John Bale, who in his Centuria Decimquarto, XCVI writes: 30 "Hugh, called 'of Ireland', whose other name is unknown, was Irish by hirth and joined the Franciscian order. He accepted the way of life they practised, and as a wandering monk is sald to have travelled widely ahout the world. And whatever he saw on his journey he committed to paper with the greatest care. Now nothing remains of his unrewarded labours save his inclusion in the class of illustrious authors. For that Norfolk Benedictine monk who made a catalogue of ancient authors did not omit this man. Hugh (he says) of Ireland, a Minorite, wrote a certain journey in one volume. That is what he says. We read of no other work hy this Hugh, but he is said to have flourished in 1360 A.D. in the reign of King Edward III."
It is perhaps worth noticing that this traveller was recorded by a Norfolk man, but unless fresh evidence appears, the actual adventurer cannot be identificd. Nevertheless tbat he existed, and that he wrote Inventio Fortunatae, purporting to describe the world from lat. $54^{\circ}$ northwards (i.e. what lay beyond the limits of the classical Seventh Climate) cannot he doubted. And the numher of authentic touches to be found in the scanty notes we have of what he saw supports the suggestion that he visited Greenland and Markland. He mentions, for example, tool-worked timhers which indicated former human habitation, and on this point we have the independent testimony of the recent destruction of the Western Settlement given hy the Greenlander Ivar Bardssen³ who was sent thcre in 1341 and found no human heing leff.

[^9]Every glimpse of land, besides, on the long voyage out, would be of mountain girt shores. First the Faroes would be sighted, then Ieeland, and finally the ship would pass round the lofty wall of south-east, south and south-west Greenland to the Eastern Settlement with everywhere deeply penetrating fiords. And he noticed that the striking contrast between waters that froze for many months and others (in the same latitude) that remained open, was eontrast between east and west. A long ice-tongue ereeps down the eastern shore of Greenland-i.e. the western margin of the Denmark Strait-and the same is true of Davis Strait, where the fiords of western Greenland on its eastern side remain open while those of Baffin Land are iee-bound. It is his mention of wooded land, and of the abundance of "brazil" wood, that points to a visit to Markland, the timbered fringe of Labrador, while it seems reasonable to suppose that the eountry he described as "the fairest and healthiest of all the North" was a wooded country, and hence part of America. The manner in which he schematized his picture of the "indrawing seas", with the nineteen channels of entry, should not blind us to the authenticity of the elements of which it is composed, ineluding the strong currents and the whirl-pool. In the Description of Greenland we read, for example: "Further north of the.Western Settlement is a huge mountain called Hemebrachi, beyond which no one who values his life dares navigate, because of the number of whirlpools with which that sea abounds." "That sea", of eourse, was Davis Strait, and when Frobisher was at its mouth, his lieutenant George Best reports: "This place seemeth to have a marvellous great indrafte, and draweth in to it most of the drift ice and other things which doe filote in the sea." And Davis himself enters in his Journal some ten years later: "which inlet or gulfe this afternoone and in the night we passed over: where to our great admiration we saw the sea falling down into the gulfe with a mighty overfal and roaring, and with divers cireular motions like whirle-pooles". The friar's story, too, of meeting with a band of undersized people, under two dozen in number, of whom the majority were women, has on it the stamp of truth. Such a small group of Eskimos (Scraelings) would be normal, with several of the mon away hunting or fishing. And how likely it seems that if he came upon one of the remote Christian settlements of the Norsemen, he should exchange prcsents with its priest, his astrolabe for a Testament.

But we arc still left with the puzzle of who rcported the story which the priest told to King Magnus, and who linked the eight men coming from the most distant Norse settements (as they must have becn) with King Arthur's eolonists. Was it Jacob Cnoyen himself? Whatever the answer, the story suited John Dee excellently. He announeed to his patrons (who included the rising favorite Christopher Hatton) that the Queen eould elaim empire throughout the Arctic, and in November 1577 he was summoned to Windsor. On the 28th day of the month, he wrote in his Diary": "I deelared to the Queene her title to Greenland etc. Estotiland, Friscland". A summary of the evidenee which he offered her is to be found on the baek of a map ${ }^{33}$ compiled for him, whieh is dated 1580 , from which we learn that the British Empire ran from Terra Florida aeross the Pole to Nova Zemlya (whieh he identified with one of the Friar's four land areas). The English title to all these lands was "by discovery, inhabitation or conquest". There is no doubt that this map and summary formed one of the "two rolls of the Queene's Majesties title" whieh he presented to her at Richmond in October of that year. Unfortunately Lord Burghley did not show himself as very impressed, although the Queen was very gracious, and so we hear no more of the matter. But Dee secured for himself grants of land in the eontinent which he preferred to eall Atlantis, both from Sir Humfrey Gilbert and from Sir George Peckham when their plans for colonization were afoot, ${ }^{34}$ and by the time the first disasters to these enterprises had taken place, he was overseas ehasing the will o' the wisps of alchemy and erystal-gazing in Prague.

[^10]

Fig. 1. "Egyptus Novelo" by Jacopo Angiolo in has Translation of Ptolemy's "Geography", 1441-1456


[^0]:    1 Imago Mundl, XII, pp. 103-106.

    - Cottoo MS. Vitellius C. VII.
    - J. O. Halliwell, The Private Diary of John Dee (1842).
    - Reconstructed phrases are placed in braekets. Reconstructed words in Italics.
    - Fig. 2. Part of Mercator's map of 1569.

[^1]:    - A keaning was 17-20 miles.

[^2]:    (Footnote in Ms. in another hand)

    - Hugo de Hibernla, Minorita, prolixa valde peregrinatione fecisse per mundu scribltur / quot in tam videt ithnere, sedultate no modera chartis commisit. Clarult / $\mathbf{A}^{\circ} 1360$, sub Edwardo ojus appeliatIOls tertlo Anglord Rege. Baicus, in / libro de Scriptoribus Hiberniae. commerce dar si (Pygmaei credo dicti) in waren / bat dan ,6. gradus breet was (dats 20 daebvaer) / ende dat ment gaen mocbt te voete: ende .10. gracte / lanek: dat is $33^{*}$ daebvaert. So laghe (selde hij) / aen dat costem de cen Zugende Zee daerse .5, $\ln$ / vergaderden, (die door de gheberchto commen) / van

[^3]:    s A day's journey is evidently reckoned as 18 French miles, l.e. In terms of average land travel.

[^4]:    2 E. G. R. Taylor, "John Dee and the Nautical Triangle", Journ. of the Inst. of Navlg., VIII, No. 4.
    20 R. Hakluyt, The Principal Navigations etc. (1589), p. 484.

[^5]:    A Ruysch, it will be recalled, was a German traveller of whose geographical knowledge his editor thought very highly. He had sailed westwards from southern England until In Iat. $53^{\circ} \mathrm{N}$. he had reached the Eastern shore of what was still generally belleved to be a Tripartite World Continent. He had then passed "per angulum noctis", tbat is to say round the underside of the globe. He may therefore have sailed from Bristol with Cabot in 1498.
    11 See above, p. 59.
    12 Book I, Chap. 13.
    24 Fig. 3.
    ${ }^{35}$ Fig. 4.

[^6]:    14 R. Hakluyt, l.c. (1589), p. 249.
    ${ }^{17}$. Hakluyt omitted these words, as Dee had ooted such a small number of generations as impossible. Supra, p. 58. But the text seems to suggest that ooe man only eame in the fifth geoeration from the "man of Brussels", though all were descended from Arthur's colooists.
    24 Mercator, like Dee, used the term "magical art" in no perforative sense. Natural Magie was based 00 the applieation of science aod mathematics made hy scholars.

[^7]:    ${ }^{13}$ See below, p. 68.
    st Quoted by F. Nansen, In Northern Mists, 1, p. 195.
    n In Ramusio's version of Marco Polo's Travels.

[^8]:    i2 Jordanus, De Gothorum Origine, Chap. I. Habet et in ultima plagae occidentalis atiam issulam nomine Thylen.

[^9]:    *) P. Narlund, Viking Settlers In Greenland (1936).

    * R. Hakluyt, Principal Navigations (Maclehose ed.), U, p. 67.
    ss See Calendar of the Patent Rolls for this relgn, passim.
    n土 Hakluyt, l.c., I, p. 304.
    ${ }^{14}$ These grants are not listed in the Calendar of Patent Rolls, and the Calendar of Pipe Rolls for this period is not yet published.
    ${ }^{24}$ A. G. Little, The Greyfriars at Oxford (1892).
    ${ }^{24}$ Supra, p. 59.
    so John Bale, Scriptorum ... Catalogus (1557). The originat note is in Latin. The reference "De Scriptoribus Hiberniat" in Dee's MS. is erroneous: Irish writers ane not separately listed.
    ${ }^{11}$ "The Description of Greenland", in Voyages of the Zent, ed. R. H. Major (Hak. Soc., 1874).

[^10]:    3 J. O. Halliwell, The Private Diary of John Dee (1842).
    ${ }_{3}$ Fig. 1. Cotton MS. Augustus I.i.1.
    ${ }^{4}$ According to entries in his Diary.

