

II.

ON THE THULE OF THE ANCIENTS. By W. H. FOTHERINGHAM, Esq.
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Thule, or Ultima Thule, has formed a geographical problem to both ancient and modern times. The account of the original discovery is lost, and what we have is given principally by authors who disbelieved the truth of the discovery. This account is contradictory in some of its particulars, in fairness to be partly ascribed to the manner in which it has passed down to us; but if its truth be allowed, this problem may be to some extent satisfactorily, though it never can be certainly resolved.

Pytheas of Marseilles, a celebrated astronomer, mathematician, and navigator, of the time of Alexander the Great, in the fourth century before Christ, is said to have made a voyage from Marseilles through the Straits of Gibraltar, along the coasts of Spain and Gaul, through the British Channel, and along the east side of Britain—(introrsus, inwards, Pliny, 4, 16, 30, quoted in Kenrick's *Phœnicia*, p. 221)—to its northern extremity; thence sailing six days to the north he arrived at a land to which he gave the name of Thule, situated 46,300 stadia from the Equator. In this country the northern tropic and Arctic circle were all one. He reached it at the summer solstice, when there was no night, or a day of twenty-four hours, and where there is also stated to be a day of six months, and a night of equal length at the time of the winter solstice. The inhabitants of this country bordering on the frozen zone, were destitute of cultivated fruits, and almost deprived of domestic animals, and their food consisted of millet, herbs, fruits, and roots, and when there was corn and honey they made drink of them. The corn was threshed and stored in large granaries, threshing floors being useless on account of the rain and want of sun. So Diodorus Siculus, B. v. cap. ii., tells of the ancient Britons: "They dwelt in mean cottages, covered for the most part with reeds or sticks. In reaping their corn they cut off the ears from the stalk, and so house them up in repositories under ground; thence they take and pluck out the grains of as many of the oldest of them as may serve them for the day, and after they have bruised the corn make it into bread."

In Thule and other neighbouring places, neither earth, water, nor air existed separately, but a sort of concretion of all these, resembling marine sponge, in which the earth, the sea, and all things were suspended. Pytheas made a second voyage to the Baltic, which again is by some supposed to be a part of this one, and he gave an account of his voyages and travels in works now lost. The preceding notes are taken from Strabo and Polybius, quoted in Strabo (as the portion of Polybius's work treating of Pytheas is lost), and from Pliny. I see it otherwise remarked that Pytheas, in sailing from the north of Britain or Orcas to Thule, learned the progress of the consecutive lengthening and shortening of the day. The inhabitants pointed out to him the place of the setting of the sun, and assured him that there were seasons when the night was continual. (Pytheas apud Cosm. Indicopl. 11, p. 149.) In a work since lost, entitled "The Description of the Ocean," Pytheas says, "The barbarians showed us where the sun set. For it happened in those places that the night was extremely short, lasting only two or three hours; and the sun sunk under the horizon, after a short interval reappeared at his rising." (Pytheas apud Gemin. 5, p. 22).

The account of Thule ascribed to Pytheas is totally disbelieved by Polybius and Strabo, and credited, I think, by Pliny and Tacitus, and other ancient writers. In modern times it is doubted by Dr Vincent, entirely discredited by Bayle, but supported by Bougainville, D'Anville, Huet, Murray of Goetingen, Gosselin, and Malte-Brun, and I may add a little work "Pytheas de Marseille," written by a Polish geographer, M. Lelewel. There are in the account of Pytheas's discovery of Thule things difficult to believe, and contradictions difficult, if not impossible to reconcile; still it appears to me to carry scepticism too far to reject the voyage as a fiction. The mention of the Sacred Cape in Portugal, of Calbium in the north-west of France, and of the Island of Basilia or Baltia, whence the name of the Baltic Sea and the Belt Straits, has been brought forward to support the authenticity of the voyages of Pytheas, while the Thule has risen out of it to form the greatest geographical problem of antiquity.

The first point that arrests the attention of the inquirer is the account given of its locality. The Thule of Pytheas is said to be 46,300 stadia from the equator, to be bordering on the frozen zone, and to be six days' sail to the north of Britain. Now directly to the north of Britain and

its isles there is no land; but on the north-east is Norway, extending to the North Cape in 71° , with a climate influenced by the warm Gulf-stream, and on the north-west is Iceland, lying between 63° and 67° ; and farther west the coast of Greenland, eternally frost-bound, stretching past 80° .

Reverting to the 46,300 stadia by which Thule is distant from the equator, it has been supposed that there were stadia of different dimensions in use among the ancients. M. Gosselin supposes of the largest $666\frac{2}{3}$ were equal to a degree of the equator; of a second, 700; of a third, $833\frac{1}{3}$; and of a fourth, $1111\frac{1}{4}$. Applying this to Pytheas's account, we should have the latitude of Thule— $69^{\circ} 27'$ about Greenland, or towards the North Cape in Norway; $66^{\circ} 8'$ about Iceland; $55^{\circ} 34'$ in Yutland; and $41^{\circ} 40'$ so far south as to be inapplicable. However, Colonel Leake, in vol. ix. of the "London Geographical Journal," in a paper on the Stadium, came to the conclusion, that in reality there was only one stadium of 600 Greek feet and little more than the 600th part of a degree, which would have the effect of throwing Thule farther north.

As to the length of the day, Thule is stated to have its longest day six months, or twenty-four hours, or two or three hours of night, giving a day of twenty-one or twenty-two hours. Now the day of six months is to be found only at the pole, of twenty-four hours in latitude 67° , of twenty one or twenty-two hours, 65° and 66° . Setting aside the polar day of six months, I may observe that, at the summer solstice in Orkney, in Lat. 59° , where I am writing, the night is quite light. The day here of eighteen and a half hours is extended, in the north of Zetland, to nineteen hours, and night can scarcely be said to be there at this season, and no inference then can be drawn from a difference in the length of the day from the nineteen to the twenty-four hours. I have just now, 26th June, near midnight, taken Stevenson's 'Progress of Discovery' to the window of a room, in which is no light of gas or candle, and have been able to read it. Some years ago I used to be engaged angling for trouts, and on returning over the hills late at night, or in the earliest morning, I have observed a ruddy line of light remaining in the west all the night, and disappearing only with the livelier splendours of the rising sun. The summer night is the most charming thing in Orkney.

Thule is also described as being destitute of the cultivated fruits, and almost deprived of the domestic animals; and the food of the inhabitants consisted of millet, herbs, fruits, and roots. When they had corn and honey they made drink of these, and the corn was thrashed and stored in large granaries, threshing-floors being useless on account of the rain and want of sun.

Millet, corn, and honey are not products of a country touching on the arctic circle, with little or no night at the summer solstice. The concretion of the elements is an exaggerated account of the fogs and other incidents of a northern climate.

The name of *Thule*, to which the epithet *Ultima*—a word of apparently the same signification—is attached, occurs in Virgil's *Georgics*, i. 30:—"Tibi serviat *Ultima* Thule." It has had several resemblances and derivations assigned to it; among these the Arabic (query Phœnician) *Tule*, signifying remoteness; the Greek *τελος*, and Gothic *Tiel*, or *Tiule*, a goal or limit.

In Norway we have the district named Thele or Thelemark; and in Yutland in Denmark, Thyle, or Thyland, or Thiuland. Foula, in the west of Shetland, has been supposed to have been originally named Thule or *Θουλη*, by a change of the labial letter; and in old Latin title-deeds the island is called Thule; but Foula really appears to be simply Fougloë, the Fowl's Island—the name also of the north-eastern of the Farøe Islands.

Dicuil, an Irish monk, who, in his work, "*De Mensura Orbis terræ*,"¹ to which the date A.D. 825 has been assigned, notices the Thule of Pliny and Solinus, cap. vii. § 11, Nos. 2-5, and I quote No. 6.

This passage of Dicuil I suppose to be the first notice of Iceland, and I give the passage from the original:—

Thule ultima in qua, æstivo solstitio sole de Cancri sidere faciente transitum, nox nulla; brumali solstitio, perinde nullus dies (Solinus).²

Trigesimus nunc annus est a quo nuniaverunt mihi clerici, qui, a kalendis Februarii usque kalendas Augusti, in illa insula manserunt quod, non solum in æstivo solstitio, sed in diebus circa illud, in vespertina hora, occidens sol abscondit se quasi trans parvulum tumulum; ita

¹ Edition Letronne, Paris, 1814, p. 38.

² Solinus, No. 5, as quoted.

ut, nihil tenebrarum in minimo spatio ipso fiat; sed quicquid homo operari voluerit, vel pediculos de camisia abstrahere, tanquam in præsentia solis potest; et, si in altitudine montium ejus fuissent, forsitan nunquam sol absconderetur ab illis. In medio illius minimi temporis, medium noctis fit in medio orbis terræ; et sic puto, e contrario in hiemali solstitio, et in paucis diebus circa illud, auraram in minimo spatio in Thule apparere, quando in medio meridies fit orbis terræ. Idcirco mentientes, falluntur, qui circum eam concretum fore mare scripserunt, et qui a vernali æquinoctio usque ad autumnale continuum diem sine nocte, atque ab autumnali, versa vice, usque ad vernale æquinoctium, assiduam quidem noctem, dum illi navigantes in naturali tempore magni frigoris eam intrabant, ac manentes in ipsa, dies noctesque semper, præter solstitii tempus, alternatim habebant, sed navigatione unius diei ex illa ad boream, congelatum mare invenerunt.¹

The Thule of Dicuil is undoubtedly Iceland, as in the immediately succeeding Section III., the Faroe Isles are those mentioned. Dicuil tells of Iceland, not of his personal knowledge, but as related to him by religious men, *clerici*; and we know that the Norwegians, who first visited Iceland about A.D. 860, found traces in the cantons of Papeyæ and Papyli, on the east side, of men called by the Norwegians papæ or papas, the Irish priests, whom philologists find also in Orkney and Shetland, and in the north of Scotland. This is the first mention of Iceland, and the date is much the same as that of the charter (whether true or feigned), of the creation of Hamburg into an archbishoprick, by Louis the Debonaire, having jurisdiction over the churches of the north of Europe, and Iceland and Greenland, of date 833.²

There are several things in this account of Dicuil's which correspond with Pytheas's relation. The long light is one; but it appears to me that no inference can be drawn further than that the Thule of Pytheas was in a northern latitude, and, at the summer solstice, when he found Thule, there actually is no darkness from Orkney to the North Pole. I cannot understand a country to exist where a voyager would require to have pointed out to him the place of the sun's setting, which must either pro-

¹ A.D. 795, No. 6.

² Adam of Bremen, Hist. p. 181-2; Lambecii Orig. Hamburg. Quoted Letronne on Dicuil, cap. vii. § 3, p. 141.

ceed from the obscurity caused by fogs and clouds, or the sun's constant appearance above the horizon.

The difficulty as to identifying Thule with Iceland is, that the voyage from the north of Britain to Iceland at its date was as remarkable and as great as that of Columbus when he discovered the New World. Pytheas had sailed along the east coast of Britain, and Iceland lies about 600 miles to the north-west of Britain in a different direction and hemisphere. This was a first voyage of discovery; and leaving the coast of Britain he entered the unknown Northern Ocean, having in its remote extremity a pavement of ice, some knowledge of which, with the fogs incidental in northern latitudes, may have given birth to the exaggerated account of a nature composed of a jumble of the elements. I may notice that Pytheas, in his voyage from Calbium and the north-west of Gaul, through the present English Channel, to the south-east part of Kent and England, sailed from west to east; and, after coasting the east side of Britain to its northern extremity, were he to have sailed to Iceland, his course must have been changed from east to west, as well as to the north, as Iceland is much farther west than either France, Britain, or Ireland; and a voyage from the north-west of France to Iceland would be shorter by the west of Britain through St George's Channel to the extreme north-west, and the question still remains—His return voyage, how was it made?¹

It seems difficult to admit that the voyage could have been made by Pytheas in six days, as even at the present day this would be reckoned a favourable or ordinary one. Iceland, however, produces no grain, and fish forms a great part of the food. There are no bees or honey there, and it was found uninhabited in the ninth century after Christ by the Papas, the Irish priests, and Norwegian settlers. I have spoken of a voyage to Iceland at that time being remarkable. It appears to me as bold as any one in antiquity.

¹ Voyage to Iceland. Two enterprising merchants of Kirkwall went in a commercial speculation from Kirkwall to Reikiavik in Iceland in 1858. In their passage they ignorantly got into a current which set to the south-east, and they had, in consequence, a voyage of fourteen days. They tell me six days would be an ordinary voyage. In their return they were seven days. They met with calms and fogs.

Two coasting voyages around Africa are spoken of. Hanno, the Carthaginian, sailed from the Straits of Gibraltar a considerable distance to the south, along the Atlantic coast of Africa, at some distance from which the Canary or Fortunate Islands were discovered, and peopled by the Carthaginians. Himilco sailed from Carthage, coasting the Atlantic shores of Hispania and Gaul, and proceeded to the Tin Islands of Scilly, and the southern parts of Albion and Ierne. Nearchus sailed down the Indus along the barren coast of Persia to the Persian Gulf. These were all coasting voyages, but the voyage from Britain to Iceland was leaving the land and sailing six hundred miles of an unknown sea to an island in the Western Hemisphere, which includes the American Continent.

Thule has been also said to be in Norway, where Thele is, which extends from 58° at the Naize, the entrance to the Baltic, to 71° at the North Cape; and Pytheas might have gone there by the Orkneys and Shetland isles, which would diminish the distance of open sea.

Malte-Brun, the celebrated geographer, places Thule in Yutland, in Denmark, the country of his birth. "The description of the nature of the country," he says, "presents the most striking truth. The sandy downs of Yutland, its hillocks moving at the will of the impetuous winds, its marshes covered by a crust of sand, in which the imprudent traveller is swallowed up; in fine, the fogs of a particular kind, which infest this country; these are the phenomena which made Pytheas say that in the neighbourhood of Thule, the sea, the air, and the earth, seem to be jumbled in one sole element. The night reduced often to two or three hours by long twilights. The cultivation of millet in the north, and wheat in the south, the abundance of honey, the use of mead, the custom of drying corn in vast barns; all this picture of Thule drawn by Pytheas agrees remarkably with the west coast of Yutland."¹ The great objection, however, to identifying Yutland with Thule is its position. It lies to the south of the north part of Britain, and we are told Pytheas sailed six days to the north of Britain when he discovered Thule. To get the better of this objection, Mr Stevenson, in his "Historical Sketch of the Progress of Discovery," pp. 53-58, suggests

¹ Malte-Brun, *Precis Geograph.*, t. i. p. 102, 2d ed.

that Pytheas left the coast of Britain at that part of Norfolk where it bends in and forms the gulf called the Wash. Following the same idea, Pytheas may have coasted Britain farther north to Kinnaird's Head, near Peterhead, where the coast bends still more. Thence, sailing nearly due east, he would have fallen on Yutland, and to the north-east on the coast of Norway. It must not be forgotten, however, that he is stated to have sailed to the north of Britain.

About 500 years after Pytheas, a Roman fleet sailed to the northward of Britain. Agricola, the governor of Britain, in his sixth campaign in Scotland, in the year A.D. 84, after the famous battle of the Grampians against the British tribes in the neighbourhood of the Firth of Forth, on his victory sent the Roman fleet, it is supposed, from the Firth of Forth north by the east coast with instructions to make the circuit of Britain. In this voyage the Romans discovered and subdued Orkney and beheld Thule, till that time hidden by the snows and winter, and surrounded by a sluggish sea heavy to rowers. "Marc pigrum et grave remigantibus." (Tacit. Vit. Agricolaë, 10.) This land, supposed by the Romans to be the Thule of Pytheas, is undoubtedly Shetland. The distance between the nearest points of Orkney and Shetland, North Ronaldshay, in the north-east of Orkney, and Fitful Head, in the south of Shetland, is about fifty miles, and the Fair Isle lies half way between the two clusters of islands. The Romans coming from the south-east could have seen the Fair Isle, and the mainland of Shetland and Foula more distant. When the atmosphere is clear there is to be seen from North Ronaldshay the mainland of Shetland at Sumburgh or Fitful Heads, and the island of Foula farther to the north-west. Shetland would therefore appear to have been the Thule of Pytheas, according to Tacitus and Pliny, and at a later period, also, according to Ptolemy.

Procopius, who lived in the sixth century after Christ, gave the name of Thule to the Scandinavian peninsula, and the word Thule seems to have become synonymous with the remotest land.

In modern times the two great French geographers, D'Anville and Gosselin, have agreed in finding the Thule of Pytheas in the Shetland Islands. A difficulty here arises in the six days' sail to the north of Britain and the position of Shetland. To obviate this difficulty, both

geographers mention that Pytheas, in sailing from Gades or Cadiz to the Sacred Cape, or Cape St Vincent, following the bends of the coast, occupied five days. The distance, in a straight line, is stated by D'Anville at 42 leagues; but following the bends of the coast 47 leagues, or 141 geographical miles of 60 to the degree. This would make the day's sail $28\frac{1}{2}$ geographical miles. Gosselin estimates the same distance, following the sinuosities of the coast, at 56 leagues, or 168 geographical miles, which would make the day's sail $33\frac{3}{4}$ miles. The same rate of sailing to the north of Britain for six days would extend to 170 or $201\frac{3}{4}$ geographical miles.

I shall now note the positions of some places in Scotland in connection with this question:—

Kinnaird's Head, $57^{\circ} 41'$ N. lat., $1^{\circ} 58'$ W. long., Greenwich;

Duncansby Head, $58^{\circ} 38'$ N. lat., $2^{\circ} 33'$ W. long.;

Dunnet Head, $58^{\circ} 40'$ N. lat., $3^{\circ} 21'$ W. long.;

Orkney lies between $58^{\circ} 43'$ and $59^{\circ} 24'$ N. lat. and $2^{\circ} 22''$ and $3^{\circ} 26'$ W. long.;

Shetland lies between $59^{\circ} 5'$ and $60^{\circ} 50'$ N. lat. and $0^{\circ} 44'$ and $1^{\circ} 44'$ W. long.

Kinnaird's Head is the south-east point of the Moray Firth, where the coast trends due west. The distance from Kinnaird's Head to Fort George, in the county of Nairn, due west, is 70 geographical miles; and from Fort George to Duncansby Head, the most north-easterly point of Caithness and Scotland, is about the same distance in a straight-line course north-by-east; and the distance from Kinnaird's Head in a straight-line course north-west to Duncansby Head, is also about 70 miles. Taking the firths of Beaully, Cromarty, and Dornoch, and the other deflections of the coast, a voyager coasting would have a much longer route. The distance from Duncansby Head along the coast of Orkney to the south of Shetland is about 110 geographical miles in a direct line north-east course. Shetland extends south to north about a degree, or 60 geographical miles. The distance from Kinnaird's Head, direct to the south of Shetland, course due north, will be 120 geographical miles, and to its northern extremity 180 miles. Keeping in view the difference between the direct distance and the addition that would be made by a

voyager in an unknown sea, with "pigrum mare et grave remigantibus," the strong tides, calms, and fogs, I do not think a space of six days can be improperly assigned to a voyage from the north of Britain to a part most likely the extreme north of Shetland, and altogether, "I am led to believe that Shetland is the Thule of Pytheas."

Orkney was certainly visited, but Shetland separated from it by a channel of fifty miles, with the Fair Isle half-way between them, is the Thule, the ultima, the farthest. The Fair Isle always, and the mainland of Shetland at Fitful Head and Foula in a clear day, are to be seen from the north of Orkney.

If Norway were to be assumed to be the Thule of the Marseillian navigators, it might have been approached from Kinnaird's Head by a direct course north-east, about 250 geographical miles. A little farther distant from Duncansby Head and from Shetland, the opposite coast of Norway lying in longitude 5° east, the distance is reduced to 200 geographical miles. The west coast of Yutland is in 8° east longitude. As to Iceland, the course would appear to be from Cape Orcas, or Dunnet Head, through the Pentland Firth by the west of Orkney, leaving the land entirely. This I cannot believe in a voyage of discovery, quitting the field of present discovery and entering on an unknown ocean without any previous information. It does appear to me, likewise, that six days would scarcely allow sufficient time for the voyage to Norway by Orkney and Shetland.

Pytheas is said, either in this voyage or in a second, to have gone to the Baltic, where he came to a bay called Mentonomon, on whose shores lived a people called Guttones, and at a day's journey from which was an island called Abalus, Basilia, or Baltia, whence the Baltic or White Sea, also the straits of the two Belts; and on the shores of this island amber was found. This bay is now identified with the Frische and Curish Haaf on the Prussian coast. If there is only one voyage, I would hazard as a probable opinion, that, instead of returning back from the north to the south-east point of Britain, and thence crossing to the Continent, and going north by the west side of Europe to the Baltic, Pytheas would cross the German Ocean from Shetland to Norway, and on his return visit Norway and Yutland as well as the Baltic.

On reviewing the whole subject a choice of difficulties presents itself.

The original Thule of Pytheas has been believed by various authors to be Iceland; the mainland of Shetland, or the Island of Foula; Thele, or Thelemark, in Norway; and Thy, or Thyland, or Thiulland in Yutland, in Denmark.

Thule was discovered at the summer solstice, 21st June, after six days' sailing to the north of Britain, and said to be 46,300 stadia from the equator. Were the length of the stadium known, we might be enabled to arrive at the surest conclusion; but this very case shows most clearly, that so far from the size of the stadium being distinctly ascertained, geographers have estimated different numbers of stadia in a degree, seemingly to suit preconceived opinions, so that a conclusion cannot be deduced from the measurement of Pytheas. As little can be inferred from the hours of light in the day. At the time of the summer solstice there is actually no darkness during the twenty-four hours from Orkney to the North Pole; and when astronomers assign to Orkney a longest day of eighteen and a half hours, and to the north of Shetland an increase to nineteen hours, this length of day is ascertained from mathematical calculation, and might have been so done by Pytheas as readily as by a geographer of the present time. The day of six months, and equal length of night at the Pole, can only be ascertained by calculation. At this same time, Nearchus, who sailed with the Grecian fleet of Alexander the Great from the river Indus to the Persian Gulf, relates, that when in a part of his voyage he stood out to sea a considerable way to the south, the sun was vertical and cast no shadow—really a fiction, since he never was within less distance than 25° of the equator; but as remarked by the geographer Cooley,¹ like the relations of Pytheas, it serves to show how speculation may sometimes outstrip experience in the discovery of truth, since we find that the most striking celestial phenomena of the arctic and equatorial regions were justly described by Grecian navigators long before they had ever seen them. That Pytheas ever related the extravagance that barbarians pointed out to him the place where the sun set, I doubt very much; and feel surprised that a disbeliever in Pytheas, the great critic Bayle, should remark this might very well be, and am inclined

¹ History of Maritime and Inland Discovery. By W. Desborough Cooley. Vol. i. p. 61.

to assign it to the two writers who have transmitted it down, Cosmos Indicopleustes and Geminus, rather than to Pytheas or his lost works.

Thule was discovered after sailing six days to the north of Britain. If Pytheas was occupied five days in following the coast from Gades to the Sacred Cape, six days would not be too many for a navigation among the islands forming the two clusters of Orkney and Shetland, with their strong tides, and other difficulties attending a navigation through northern islands seen for the first time by mariners from the tideless Mediterranean, and the clearer atmosphere of the south.

The chaotic representation of the country I can only account for as exaggerated speculation, based on the tides and currents, shoals, sandbanks, skerries and holms, the thick mists, rains, and snow (the *nix et hiems* applied by Tacitus afterwards to the same regions), refraction among islands, and other incidents connected with a northern cluster of islands.

The food in Thule is very much what Diodorus Siculus gives for Britain, and agrees with that stated by Malte Brun for his Thule in Yutland. In Iceland fish is the great food, and it forms also in Shetland a great part. It is extremely doubtful if either Orkney or Shetland were inhabited at this early period; but still their position to the north of Britain, and the distance of Iceland on the one hand, with the expanse of unknown sea and change of direction in sailing to it; and on the other also, a distance of open sea, to Norway, and to Thiuland in Yutland, the nature and peculiarities of which have been shown to approach to the Thulian chaos; their position seems, therefore, a leading point to which everything else is subordinate in this voyage of first discovery; and the most reasonable inference to be drawn is, that these islands at the north of Britain were the limits of the discoveries made by Pytheas, and that he gave to Shetland the name of Thule, the farthest land. Five hundred years afterwards, as has been already stated, the Roman fleet, under the orders of Agricola, making a circuit of Britain, discovered, or re-discovered Orkney; and Thule also was seen by them, in the midst of snow and winter. The land which they believed to be Thule, was therefore undoubtedly Shetland. Afterwards Norway and the Scandinavian peninsula had this name assigned to it, which became synony-

mous with what appears to be its most certain meaning—the farthest land.

In conclusion, I may mention a very remarkable speculation belonging to the age of Pytheas. The philosopher Aristotle was a great geographer; and reasoning on the earth being a globe, he observed that the coast of Spain could not be far distant from India, and suggested the voyage across the Atlantic, made by Columbus eighteen centuries after. This appears to me one of the boldest and happiest speculations of all times, and of itself sufficient to stamp as a man of genius this great man, distinguished by a pre-eminence in so many branches of philosophy and science.