

## II.

ANALYSIS OF THE PTOLEMAIC GEOGRAPHY OF SCOTLAND. WITH TWO MAPS. BY CAPT. F. W. L. THOMAS, R.N., F.S.A. SCOT. (PLATES V., VI.)

When making researches into the probable age of the Pictish towers which have so thickly studded the shores and islands of the north and west of Scotland, I was led to examine that part of the geography of Claudius Ptolemy which relates to modern Scotland. Many years ago I attempted something of the kind, but the disagreement between the editions to which I had access, and the want of sufficient leisure, compelled me to lay it aside. Since then the (partially completed) edition of "Claudii Ptolemæii Geographiæ," by Dr Wilberg, has been published, formed from the examination of many Greek MSS., and comparison with several printed editions. In what follows I have accepted Wilberg's Latin text, with a few exceptions, which will be explained further on.

The importance of a document which is admitted to have been compiled before A.D. 120 can hardly be overrated; for although Tacitus and Pliny have both made mention of Caledonia,—the former of whom has written some of the most beautiful passages in history concerning it,—yet there is no other detailed description than that of Ptolemy; from whose time the knowledge of the country became less and less, until, in 1525, we have the figure of Scotland reduced to three sides of a parallelogram, with St Johnston (Perth) in the north-west corner, and Argatt (Orkneys) removed into the western ocean.

A cursory inspection of Ptolemy's "Description of Albion" shows that the larger features in the figure of the island are there indicated, and many names are met with little change of form. But great errors are soon recognised; the fundamental latitude, that of London, is  $2\frac{1}{2}$  degrees too great. The distance between London and York, towns which then as now were centres of civilization, is too great by one-third of its true length. The whole of Northern Britain is canted from the north towards the east, the Hebrides are turned from the south towards the west, and the length of the Solway Firth is exaggerated from 70 to nearly 200 miles.

Yet, on further examination, the gulfs, estuaries, rivers, and headlands

usually succeed each other in their natural order, and the names are often so little changed as to be readily identified. And in England the names and positions of towns can be compared with the Antonine Itinerary, and thus lead up to their identification. In Scotland we have no such corroboration; the sole ancient authority, except a few names preserved by Pliny and Tacitus, is the Anonymous Geographer of Ravenna, and he scarcely supplies more than a list of names of places, certainly in great profusion, but in very loose order, and strangely corrupt. Upon the coast we are as it were upon a road which leads from place to place, and if a name or distance cannot be reconciled with fact it can be passed, while we are still sure of proceeding onward in the right direction. Not so with the towns; the positions, though sometimes noted to five miles, are seldom noted nearer than to ten; and a comparison in England with the Antonine Itinerary shows that if the Itinerary had been lost, we should have had to trust for their identification much more to verbal resemblances than to the geographical positions as given in the Ptolemaic Tables.

In the following pages so much of Wilberg's text is reproduced as relates to Scotland. The headings are translated into English. The first column contains references to the notes. The second, the Latin names of places according to Wilberg's text, except in two instances, which are explained in the notes. The third and fourth columns contain the Ptolemaic latitudes and longitudes; and in the fifth and sixth are the distance and bearing of the position from the one preceding it, computed from the latitudes and longitudes by means of a Traverse Table. In the seventh, the bearing is corrected for known error, viz., 90 to the right. The eighth column contains the modern name of the *positions* given in the Ptolemaic Tables. These have been mainly identified by comparing the Ptolemaic distances with the *actual distances from place to place*, measured with compasses upon a modern map. As the northern and western islands have been my home for many years, and having a personal acquaintance with three-fourths of the coasts of Scotland, I am able to investigate this part of the subject with some degree of confidence. It will be seen in the notes that there is often a very close agreement between the Ptolemaic distances and the actual ones, but this must be regarded as accidental, for his unit of distance is, with few exceptions, virtually

ten miles ; so that without any error in his notation two places may be one or nineteen miles apart.

The notes are mainly geographical, for it was not proposed to enter upon the history of the country.

Two maps have been made to accompany this memoir. The first shows the Ptolemaic positions and Latin names as found in Wilberg's text,—with the exceptions<sup>c</sup> of Eggarhicina for Engarhicina, and Loggi fluvii ostia for Longi fluvii ostia ; and the position of Varar æstuarium is taken from a various reading. The points are merely connected by straight lines, by which the shape of the country is shown.

In the second map I have made much greater alterations. It is plain that the error of direction begins from the Ptolemaic position Vedra fluvii ostia ; I therefore traced on tracing paper the map of Scotland from the first map, and on the position Vedra as a centre, turned the tracing from the east to the north. This brings Scotland into its natural position, when the proportions of the coast-line are seen to agree quite sufficiently with fact, except on the north side of the Solway Firth, *i.e.*, from the Mull of Galloway to Carlisle. I have filled in this piece of coast by reducing the Ptolemaic distances proportionally, and joining Novantarum promontorium to Itunæ fluvii ostia.

When the tracing of Scotland was turned north and south, the position of Monaceda was found to approximate to that of Mona. Now, the Ptolemaic map shows an island off the Mull of Galloway, which must have been intended for the Isle of Man, and another between England and Ireland, which is in the position of the Isle of Man ; so that both *positions* are identified with Man, but the names no doubt belong respectively to Man and Anglesey. From several considerations I conclude that Ptolemy has made use of pre-existing maps to form his tables (or descriptions as he calls them), and I have been led to doubt if the length of the longest day was really measured at the places named ; rather, that the connection of the two is the result of calculation, at least, as far as regards Scotland.

Another result of turning the tracing of Scotland to the north, is to bring the first Ebuda (Outer Hebrides) into its natural position ; and by turning the tracing half round, with the first Ebuda as a centre, the other Ebudæ fall into their natural positions with sufficient exactness.

The northern isles are in the same way brought into their proper places by using Cape Orcas as a centre. In this manner a restored map has been formed, showing the true amount of geographic knowledge in the second century when freed from obvious errors.

It will be seen that many of the names have been shifted; this is shown when the Latin name is written in red ink. As the reasons for so doing are given in the notes they need not<sup>2</sup> be repeated here.

My friendly neighbour, the Rev. Charles Darnell, M.A., besides translating the headings of the chapters, &c., has given me efficient assistance whenever good scholarship was wanted.

In conclusion, I would point attention to the large amount of philological, historical, and geographical material which has been saved to us by the industry and genius of the Alexandrian philosopher.

## BOOK II.

## CHAPTER I.—THE POSITION OF THE BRITISH ISLAND, HIBERNIA.

*First Map of Europe.*

(Here follows the geography of Ireland, which is omitted as not necessary to the present inquiry.)

Above Hibernia some islands are situated which are called Ebudæ, five in number, of which that which is situated most to the west is called—

Notes.	NAME.	Long.	Lat.	D.	Bearing or Course.	Cor- rected Bearing.	Modern Name.
A. 1.	Ebuda. . . . .	15°0	62°0	...	...	...	Outer Hebrides.
	The next to it, towards the east, is also						
2.	Ebuda, . . . . . next	15°40	62°0	19	E	s	Skye.
3.	Rhicina, . . . . . next	17°0	62°0	38	E	s	Egg.
4.	Maleus, . . . . . next	17°30	62°10	17	N 55 E	s 35 E	Mull.
5.	Epidium, . . . . .	18°30	62°0	30	s 70 E	s 20 W	Islay.
	And towards the east from Hibernia are these islands—						
6.	Monaoeda, . . . . .	17°40	61°30	...	...	...	Isle of Man.
7.	Mona insula, . . . . .	15°0	57°40	...	...	...	Isle of Man.
8.	Edri ins. deserta, . . . . .	15°0	59°30	...	...	...	
9.	Limni ins. deserta, . . . . .	15°0	59°0	...	...	...	

## CHAPTER II.

## THE POSITION OF THE BRITISH ISLAND, ALBION.

*First Map of Europe.*

The Description of the north [west] side, above which is the ocean which is called Ducaledonian.

Notes.	NAME.	Long.	Lat.	D.	Bearing or Course.	Cor- rected Bearing.	Modern Name.
B. 1.	Novantarum Chersone- sus, and the promon- tory of the same name,	21°0	61°40	...	...	...	Mull of Galloway.
2.	Rherigonius sinus, . . .	20°30	60°50	52	s 17 w	s 73 e	Loch Ryan.
3.	Vindogara sinus. . .	21°20	60°30	31	s 50 e	n 40 e	Ayr Bay.
4.	Clotae aestuarium, . . .	22°15	59°40	57	s 29 e	n 61 e	Clyde.
5.	Lemaannonius sinus, . . .	24°0	60°0	56	n 69 e	n 21 w	Loch Fyne.
6.	Epidium prom., . . .	23°0	60°40	50	n 37 w	s 53 w	Mull of Kintyre.
7.	Loggi fluvii ostia, . . .	24°0	60°40	29	East	North	Loch Linnhe.
8.	Ityis flu. ost., . . .	27°0	60°40	87	East	North	Loch Alsh.
9.	Volsas sinus, . . .	29°0	60°30	59	s 80 e	n 10 e	Loch Inver or Loch Broom.
10.	Nubaei flu. ost., . . .	30°0	60°30	29	East	North	Cape Wrath.
11.	Tarvedum sive, . . . Orcas cautes, . . .	31°20	60°15	43	s 69 e	n 21 e	Dunnet Head.
Description of the west [south] side, to which are adjacent both the Hibernian Ocean and [that of Vergivius; after							
C. 1.	Novantarum Cher. prom.	21°0	61°40	...	...	...	
2.	Abravanni flu. ost., . . .	19°20	61°0	63	s 51 w	s 39 e	Cree.
3.	Ienae faest, . . .	19°0	60°30	32	s 19 w	s 71 e	Fleet.
4.	Devæ flu. ost., . . .	18°0	60°0	43	s 45 w	s 45 e	Dee.
5.	Novii flu. ost., . . .	18°20	59°30	32	s 18 e	n 72 e	Nith.
6.	Itunæ aest, . . .	18°30	58°45	45	s 6 e	n 84 e	Eden.
7.	Moricambe aest, . . .	17°30	58°20	41	s 52 w	s 38 e	Morcambe Bay.
<i>(Here follows the West Coast of England.)</i>							
D. 1.	A description of the next sides, which look between the winter sunrise and the south, to which the German Ocean is adjacent. After Tarvedum promontory or Orcas, of which mention has been made.						
D. 2.	Virvedrum prom., . . .	31°0	60°0	18	s 34 w	s 56 e	Duncansby Head.
3.	Verubium prom., . . .	30°30	59°40	25	s 37 w	s 53 e	Noss Head.
4.	Ilae fluvii ostia, . . .	30°0	59°40	15	w	s	Helmsdale River.
5.	Ripa alta, . . .	29°0	59°40	30	w	s	Ord of Caithness.
6.	Loxae flu. ost., . . .	28°30	59°40	15	w	s	Cromarty Firth.
7.	Varar aest., . . .	27°30	59°40	30	w	s	Moray Firth.

Notes.	NAME.	Long.	Lat.	D.	Bearing or Course.	Cor- rected Bearing.	Modern Name.
D. 8.	Tuæsis aest., . . .	27°0	59°0	43	S 22 W	S 68 E	Spey.
9.	Celnii flu. ost., . . .	27°0	58°45	15	S	E	Cullen.
10.	Tæzalorum prom., . . .	27°30	58°30	22	S 46 E	N 44 E	Kinnaird Head.
11.	Devæ flu. ost., . . .	26°0	58°30	46	W	S	Dee.
12.	Tava aest., . . .	25°0	58°30	31	W	S	South Esk.
13.	Tinae flu. ost., . . .	24°0	58°30	31	W	S	Tay.
14.	Boderia aest., . . .	22°30	58°45	48	N 72 W	S 18 W	Firth of Forth.
15.	Alauni flu. ost., . . .	21°40	58°30	30	S 60 W	S 30 E	Tweed.
16.	Vedrae flu. ost., . . .	20°10	58°30	47	W	S	Tyne.
<i>(Here follow the positions on the East Coast of England.)</i>							
E. 1.	The Novantæ dwell along the north [west] side, below the Chersonesus of the same name, among whom are these towns:—						
2.	Lucopibia, . . .	19°0	60°20	40	N 60 E	N 30 W	Glen Luce or Wigton.
3.	Rhetigionium, . . .	20°10	60°40	40	N 60 E	N 30 W	Cairn Ryan.
4.	Below [to the east of] which the Selgovæ; among whom are these towns:						
5.	Carbantorigum, . . .	19°0	59°50	61	S 35 W	S 55 E	Perhaps by the Dee?
6.	Uxellum, . . .	18°30	59°20	34	S 28 W	S 62 E	Birrenswark?
7.	Conda, . . .	20°0	59°40	49	N 66 E	N 24 W	
8.	Trimontium, . . .	19°0	59°0	51	S 38 W	S 52 E	Eildon Hills?
9.	From these towards the east [north], the Damnonii to the north [west]; among whom are the towns:—						
10.	Colania, . . .	20°30	59°10	47	N 77 E	N 13 W	
11.	Vanduara, . . .	21°40	60°0	61	N 55 E	N 55 W	Ayr?
12.	Coria, . . .	21°30	59°20	40	S 7 W	S 83 E	
13.	Alauna, . . .	22°45	59°20	39	E	N	Stirling.
14.	Lindum, . . .	23°0	59°30	13	N 39 E	N 51 W	Callender?
15.	Victoria, . . .	23°30	59°0	34	S 28 E	N 62 E	Near Perth.
16.	The Otadini to the south [east]; among whom the towns:—						
17.	Curia, . . .	20°10	59°0	103	West	South	On the Tweed.
18.	Bremenium, . . .	21°0	58°45	26	S 60 E	N 30 E	Rochester.
After the Damnonii, from the east [north], but more towards the north [west], from the promontory of Epidium almost to the east [north], the							
19.	Epidii; after whom the						Kintyre.
20.	Cerones; next towards the east, the						About Loch Creran.
21.	Creones; next the						Garmoran.
22.	Carnonacæ; then the						About Loch Carron.
23.	Carini; and most to the east [north]; and furthest away, dwell the						Lord Reay's Country.
24.	Cornavii, From the Gulf of Lemaannonius as far as the estuary of Varar, the						Caithness.
25.	Caledonii; and above [to the west of] them the						Athol to Mid-Ross.

Notes.	NAME.	Long.	Lat.	D.	Bearing or Course.	Cor- rected Bearing.	Modern Name.
E. 26.	Caledonian Forest; from which towards the east [north] the						East side of Drumalban.
27.	Decantae; after which the						Black-isle, Cromarty.
28.	Lugi, bordering on the Cornavii; and above [to the west of] the Lugi, the						East Ross and Sutherland.
29.	Smertae; but below [to the east of] the Lugi, the						About Loch Shin.
30.	Vacomagi; among whom are the towns:						Speymouth to Blair Athol.
31.	Banatia, . . . . .	24°0	59°30	...	...	...	Near Blair Athol.
32.	Tamea, . . . . .	25°0	59°20	33	S 72 E	N 18 E	Near Ruthven, Badenoch.
33.	Alata Castra, . . . . .	27°15	59°20	70	E	N	Burgh Head.
34.	Tuacsis, . . . . .	26°45	59°10	19	S 59 W	S 31 E	Fochabers?
	Below [to the east of] these, towards the west [south], the						
35.	Venicones; among whom this town						Angus and Mearns.
36.	Orrea, . . . . .	24°0	58°45	90	S 74 W	S 16 E	Forfar?
	Towards the east [north], the						
37.	Taezali; and the town						Mar and Buchan.
38.	Devana, . . . . .	26°15	59°0	72	N 78 E	N 12 W	Aberdeen.
	Again, below [south of] the Selgovae and the Otadini, to both seas stretch the						
39.	Brigantes; with whom these towns:—						
	<i>(Here follow the Towns in England.)</i>						
	The islands [named below] are adjacent to the island Albion, at the promontory Orcas:—						
40.	Ocites insula, . . . . .	32°40	60°45	...	...	...	Fair Isle.
41.	Dumna insula, . . . . .	30°0	61°0	80	N 79 W	...	Orkneys.
	Above [to the north of which] are about thirty						
42.	Orcades; of which the middle is situated, . . . . .	30°0	61°40	40	North	...	Foula.
	And much higher than that is						
43.	Thule; that part of which, which reaches farthest west is situated in degrees, . . . . .	29°0	63°0	85	N 19 W	...	Shetland.
	The farthest east, . . . . .	31°40	63°0	73	E	N	
	The farthest north, . . . . .	30°20	63°15	39	N 67 W	S 23 W	
	The farthest south, . . . . .	30°20	62°40	35	S	E	
	And the middle, . . . . .	30°20	63°0	20	N	W	

## NOTES.

*Ebudæ*.—Pliny names “30 Hæbudes” and Ptolemy has “Ἐβουδαὶ νῆσοι” five in number. Solinus has also “Hebudes insulæ, quinque numero.” By the Northmen, after the ninth century, they were called “Sudr-eyar” (corrupted into Sodor) = South Islands, to distinguish them from the northern groups of Shetland and the Orkneys. The Irish, after their occupation by the Northmen, called them “Iusi Gaill” = Islands of the Foreigners.

Solinus tells (Polgh. c. 22), “From the Caledonian promontory in the direction of Thule, the ‘Hebudes insulæ,’ are two days’ sail. They are five in number, and their inhabitants have no knowledge of fruits (grain), and live only on fish and milk. There is but one king for all the islands; for they are all separated from each other by narrow channels. The king has nothing of his own, everything belongs to the community; he is compelled to act justly by fixed laws, and that avarice may not turn him aside from truth, he learns justice by reason of poverty, that is to say, he has nothing belonging to himself, but is supported at the public expense. He has no wife of his own, but from time to time he takes any woman for his wife for whom he has a fancy. Therefore he has no wish for, nor hope of, children.”

This description appears to be genuine. Although the inhabitants may not have been altogether unacquainted with corn, it is certain that, until the introduction of the potato, the staple food was milk and fish. And with regard to the peculiar celibacy of the king, the reports which reached the Roman authors may be compared with the fact that no Pictish king was succeeded by his son (“Chron. Picts and Scots”); and also, as showing the permanence of institutions, that those provinces of Scotland which have remained more essentially Pictish are noted for a certain laxity of conduct to this day.

The importance of the *Ebudæ* in ancient times is proved by the gigantic megalithic monuments in Lewis, as well as by the scores of Pictish towers and retrenched islets and points which are scattered throughout the islands.

A Venetian edition of Ptolemy’s Geography of 1562 translates “*Insulæ Ebudæ*” by “*Silvestres insu,*” but, I fear, without any authority.

Ptolemy describes the *Ebudæ* as lying above, that is, to the north-

ward of, Hibernia, and places them in an east and west line. In so far as two of them, Epidium and Maleus, can be readily identified, it appears that while the mainland of Scotland has been turned from the north towards the east, the Ebudæ have been turned from the south towards the west. It has been already explained how they may be brought into their natural position.

A. 1. *Ebuda*.—The first Ebuda is now the Outer Hebrides, called in Gaelic *Innis Fada*, and *Innis-fhada*, *i.e.*, Long Island; and which appears in a Latinised form in the “Inchades, Incades” of Giraldus Cambrensis, for Inchfhades; the *fh* being silent in Gaelic. It may be surmised that Ebuda was the ancient name of the Outer Hebrides (which may be retained in the form of Uist, Veist, Huwyste, Yiest, Iust, Guiste, Ivist, Ywest, Wyst, Ewist, West, Ywst, Vist, Wist, Oest, Ewyst, Ewyast, Weist, Vyist, Evist, Ywyst, Vyst, Tyrvist), and that the name from them has been extended to the whole group.

A. 2. *Ebuda*.—Another Ebuda, placed by Ptolemy 19 m. east, *i.e.*, south of the first. The island intended is Skye, the “Scetis” of the Ravenna Geographer, and the “Scia insula” of Adomnan; for *Sgiath*, *i.e.*, wing. By a strange mistake the name of this island has wandered far away to an island off the north end of Scotland, where it is written Ὀκετις, Ὀκιτης, Ocetis, but which in one edition of the Geography is written Σκιτις, *i.e.*, Skitis. The mistake of omicron (ο) for sigma (σ) is very easy, as in some Greek alphabets the only difference between the two is that the latter is not entirely closed.

The distance from Uig in Skye, the embarking place, across the Minsh, is about 17 miles.

A. 3. *Rhicina*.—The Ptol. distance from the second Ebuda to Rhicina is 38 m. east, *i.e.*, south. In one copy Ῥκίνα is written Ἐγγυρικενα, and this leads me to conclude that the island Egg, the “Egea insula” of Adomnan and the “Eilean Eagach,” of modern Gaelic, is meant. It may be true that in ordinary Greek *Εγγα* would be pronounced Enga, but if the name of an island called Egg had to be written in Greek letters, I presume it would just be *Εγγ*. “Rhicina” has usually been identified with Rachrin, and this view is strengthened by the fact than Pliny excludes “Ricina” from the Hebrides. The explanation is that the names of two distinct islands have been confused together.

The appearance of Egg is most remarkable, the top of the hill which forms the island being scarped, forming a basaltic cliff. This is called the "Score (or Scaur) of Egg;" but the name is a pleonasm, the "sgathadh" being, in fact, the "eag."

From Uig, in Skye, to Egg, is about 40 miles.

A. 4. *Maleos*.—The Ptol. distance from Rhicina to Maleos is 17 miles N. 55 E.; *i.e.* S. 35 E. From Egg to the north end of Mull is 17 miles. There is no reason to doubt that *Μαλεος*, *Μαλαῖος*, the "Malea insula" of Adomnan, is represented by the modern Mull; written "Mulle, Mule, Moyle" in charters, and "Myl" in the Sagas. The ancient form was probably "Maol," Gaelic = bald, bare. Sir Walter Scott compares the south side of Mull to a spot which "sets human industry at defiance" (p. 281, Lockhart's Life). It is only fair to add that although the head of Benmore is bald enough, the lower part of the island is of average fertility.

A. 5. *Epidium insula*.—From Maleos to Epidium ins. the Ptol. dist. is 30 miles S. 70 E.; *i.e.* S. 20 W. From the Ross of Mull to the middle of Islay is about 30 miles. The name of this island, Epidium, is evidently borrowed from the neighbouring Epidium promontorium. "Ilea insula" is first mentioned by Adomnan (unless the Birila of the Rav. Geo. represents Islay), and under the Gaelic form of "Ila" it occurs in the additions to the "Historia Britonum" (p. 23, Chron. of Picts and Scots); its etymology is obscure.

The difference of latitude between the middle of Lewis and the middle of Islay is 145 miles, while the Ptol. dist. between the first Ebuda to Epidium ins. is but 99 miles; this discrepancy may be reconciled by supposing that the original authority gave the distances from the shore of one island to the nearest shore of the next.

A. 6. *Monaœda*; the "Manna" of the Rav. Geo.—The Ptol. dist. from Novantarum prom. is 109 miles S. 85 W.; *i.e.* S. 5 E. The place intended is the Isle of Man, of which the nearest point is but 13 miles south from the Mull of Galloway. The large error is referable to the false theory causing the Mull of Galloway to represent the northmost point of Albion. When the whole body of Scotland is turned back into its natural position, *Monaœda* comes very near to *Mona*; from which may be inferred that the Isle of Man represents both *Monaœda* and *Mona*.

A. 7. *Mona insula*.—This island, placed nearly in the middle of the Irish Sea, is of course the Isle of Man. (See note A, 6.) But Ptolemy shows no island where Anglesea is, for which the explanation may be that having authority for two islands of nearly the same name, and having, in error, found positions for them, he has rejected what would have been a third, Mona; but in fact Monaoeda should have been applied to Man, and Mona to Anglesea.

A. 8. *Edri insula*; the "Andros" of Pliny?—Indeterminate; perhaps the Wicklow Bank.

A. 9. *Limni insula*; the "Limnus" of Pliny.—Indeterminate; perhaps the "Silura insula" of Solinus, and the "Sylina insula" of Sulpicius Severus, *i.e.* Scilly.

#### WEST COAST OF SCOTLAND.

B. 1. *Novantarum Cher. prom.*—The description of the British island Albion is commenced at the promontory of the Novantarum Cher.—the *Νεάντων Χερσονήσου ακρον* of Marcian—which is readily identified with the Mull of Galloway. The Ptol. latitude is 61°40'; and as the lighthouse is in 54°38' the absolute error of latitude is 422 miles. But the Ptol. latitude of London is 54.0, so that the Ptol. difference of latitude from London is 220 miles. The real difference of latitude between St Paul's and the Mull of Galloway is 187 miles, and the error of 33 miles is not excessive. But the difference of longitude is enormously in error, amounting to 5° 45'. The longitude of near places, at that early time, could only have been known from measured or assumed distance; but this large error was doubtless not in the original authority, but is caused by piecing together portions of the coast on a false theory.

The west side of Scotland is made to bend from the Mull of Galloway towards the east, instead of towards the north, and the position of the Mull is exaggerated until it becomes the northmost point in Britain.

B. 2. *Revigionius sinus*.—The form of the name is now Loch Ryan. The shape of the coast leaves no doubt as to the place intended; but it is placed 52 miles S. 17 W. (*i.e.* S. 73 E.) of Novant. prom. The entrance to Loch Ryan is 21 miles to the northward of the Mull, but measured along the coast the distance is between 30 and 35 miles.

B. 3. *Vindogara sinus* is the name of the bight or bay into which the

Rivers Doon, Ayr, and Irvine debouch. The Ptol. distance from *Reigion. sinus* to *Vindogara sinus* is 31 miles S. 50 E. (*i.e.* N. 40 E.) The true distance from the entrance of Loch Ryan to Ayr is 30 miles.

*B. 4. Clotæ æstuarium, i.e.* Firth of Clyde.—The Latin, not the Greek, text of Wilberg's edition has the latitude  $58^{\circ} 40'$ , an error for  $59^{\circ} 40'$ . This gives a distance of 57 miles S. 29 E. (*i.e.* N. 61 E.) from *Vindogara sinus*. To spend this distance it must be supposed that the original distance was measured along the coast, in which case 57 miles would reach near to Glasgow.

The form of the name has undergone little change in eighteen centuries. In Tacitus it is "Clota," and the "Cled" is misplaced to Ireland by the Rav. Geo. Bede names "Alcluith," *i.e.* Rock of Clyde, and it is quite possible that under "Oleiclavus, olea clavis, oleclavis," the same is meant by the Rav. Geo. It occurs as "Altclut, Alclut," and "Stratclut" (Welsh); "Alocluade, Ailecluathe" (Gaelic), in the native chroniclers (Chron. of Picts and Scots.)

*B. 5. Lemaannonnius sinus.*—The name intended is Loch Lomond, but the place intended is Loch Fyne, near Ardrisheag. The Ptol. distance from *Clotæ aert.* to *Lemaannonnius sinus* is 56 miles N. 69 E. (*i.e.* N. 21 W.) The true distance from Glasgow, in a straight line, to Ardrisheag is 42 miles; the sea passage is very tortuous, and is longer than 56 miles.

Both Lomond and Leven have been shown by Mr Skene to be dialectic forms of Leman, produced by the different aspiration of the consonants.

*B. 6. Epidium prom.*—The Ἐπίδιον ἄκρον is the Mull of Kintyre, one of the most distinguishable points upon the west coast. The Ptol. distance from *Lemaan. sinus* to *Epid. prom.* is 50 miles N. 37 W. (*i.e.* S. 53 W.) The distance from Ardrisheag to the Mull is about 50 miles.

This is a good station from which to test the value of the Ptol. positions of *Novant. prom.* and *Vindog. sinus*. The Ptol. distance to *Novant. prom.* is 58 miles; the true distance is 52 miles. The Ptol. distance to *Vindog. sinus* is 50 miles; the true distance is 41 miles. This is sufficiently near, for it may be observed that the positions are seldom noted nearer than to one-sixth of a degree, *i.e.*, 10 miles.

*Epidium* is probably a translation of the native name.

*B. 7. Loggi fluvii ostia.*—Λογγυ is translated "Longi," but the Greek

word does not mean "long," it is more likely that the Keltic word "loc" is expressed. In the same way *Εγγα* has been translated "Enga," which appears to me very misleading.

In forming an opinion as to what place is intended, it must be borne in mind that but four stations are indicated between Caithness and Kintyre.

The Ptol. distance from Epid. prom. to Loggi flu. ost. is 29 miles east (*i.e.* north); but as this would only reach to West Loch Tarbert in Kintyre, the reading of A is rather to be adopted, *viz.*, long. 25°, which gives 50 miles from Epid. prom. This reaches to the entrance of Linnedubh, commonly called Loch Linnhe, between the islands of Mull and Süil, and which I believe to be the station.

B. 8. *Ἰτῶς ποταμὸν ἐκβολαί.*—There are no rivers of any importance between Cape Wrath and Kintyre, the watershed, Drumalbain, being near the coast, but many of the sea lochs are quite riverine in aspect. The Ptol. distance from Loggus flu. to Ityis flu. is 87 miles E. (*i.e.* N.); but adopting the corrected longitude (25°) for Loggus flu. the distance is 58 miles, and from Epid. prom. 116 miles. This reaches to the Sound of Skye, in which a group of lochs or estuaries meet. The only name beginning with a vowel is Loch Alsh, which the Highlanders call Loch Ais or Ois (pron. Aish, Oish). We may have here—as with Hebrides, Islay—a permanent change from bad spelling; or the τ in *Ἰτῶς* may have been written for λ. At the same time it must be remarked that the spelling of A, *Ἰτῆρον*, is curiously near that of Loch Etive,—and the names are frequently misplaced. But the Gaelic form of Loch Etive appears to be "loc n'Eitch, Eitche." (Pp. 20, 32, vol. i. "Trans. Gaelic Soc.")

B. 9. *Volsas sinus.*—The Ptol. distance from Ityis flu. to Volsas sinus is 59 miles S. 80 E. (*i.e.* N. 10 E.) The true distance from Loch Alsh to Loch Inver (Assynt) is 56 miles. M. has *Ἵουλας*, and M. is usually right. The position is either Loch Inver or Loch Broom. I suspect "Assynt" (Easan, from the waterfalls) is concealed under the form of "Volsas."

B. 10. *Nabei flu. ost.*—The Ptol. distance from Volsas or Volas sinus to Nabei flu. ost. is 29 miles E. (*i.e.* N.) This is the distance from Loch Inver to Cape Wrath, but the name is evidently the equivalent of

the modern Navir. Here, then, has been confusion; the *position* is that of Tarvedum prom., of which the *name* has been carried to the next station, while the latitude and longitude of the Navir have been entirely omitted. Cape Orcas is of course Dunnet Head, and the two names, Orcas and Tarvedum, have been confounded together. The distance from Loch Inver to Cape Wrath is 28 miles, and to this point the distances from the Mull of Galloway are accurate to a degree not to have been expected.

The name Tarvedum, the Tauroedunum akron of Marcian, appears to be continued in Parf. Farrif. Parwe; in modern Gaelic "An Barbh (pron. Un Bar-ruv);" in Lewis, "An Garbh" (pron. Un Car-ruv),<sup>1</sup> unless the words represent the Norse "Hvarf" = turning-point. But the Northmen had a way of altering names to suit their fancy (as modern sailors do still); witness Liodhus for Leoghas, and Skið for Scith.

From the above station, B. 10, Ptolemy bends the coast 21° to the eastward, an additional proof that the station is Cape Wrath; but this change of bearing is not sufficient, for he should have turned it 90°. The consequence of this error is to derange the succeeding positions on the north-east coast of Scotland.

B. 11. *Tarvedum sive Orcas cautes*; the Orcas akron of Marcian.—As noted above, this station is Dunnet Head. The Ptol. distance from Nabius flu. to Orcas cautes is 43 miles S. 49 E. (*i.e.* N. 21 E.) The distance from Cape Wrath to Dunnet Head is 48 miles; to the Navir (pron. Noar) it is only 25 miles.

#### SOUTH-WEST COAST OF SCOTLAND.

Having described what in error he supposes to be the north coast of Scotland, the Geographer returns to the Mull of Galloway, and describes the north shore of the Solway Firth and the west side of England. In error he represents the south coast of Scotland to be continuous in the same direction with the west coast of England, *i.e.*, as running north instead of west. But besides the error of direction he exaggerates the length excessively, and for which he could have had no authority in numbers. I can only suppose that he had a sketch of the coast before him, and having from a false theory a gap of nearly 200 miles to fill up—

<sup>1</sup> Rev. M. Macphail.

when the real distance was less than 70 miles—he has applied a false and exaggerated scale to his plan in order to fill up the vacant space.

An inference of some importance may be gathered from this error, viz., that many more places were named in his authorities than he has enumerated in the tables, for here he has given a station at about every 10 miles, while elsewhere the average is 30 miles apart.

In order to institute a comparison with the real features of the coast, the Ptolemaic distances must be reduced two-thirds.

C. 1. *Novantarum prom.*—The Mull of Galloway; see note, B. 1.

C. 2. *Abravannus flu.*—The Ptol. distance from Novant. prom. to Abravannus flu. is 63 miles S. 51 W., which reduced is 21 miles S. 39 E. The place intended is the Cree, the upper part of which is still called the Mannach; and the lower part of the river must have borne the same name at one time, as is shown by the position of Monny-gaffe; *i.e.*, Mannach-gaffe (p. 20 “Symson’s Galloway”). The “mouth of the Mannach” would be “Aber Mhannaich” (pron. Aber Vannich). The distance from the Mull of Galloway to Wigtown is 21 miles.

C. 3. *Ienae aestuarium.*—The Ptol. distance from Abravann. flu. to Ienae aest. is 32 miles S. 19 W., which reduced is 10 miles S. 71 E. The estuary of the Fleet is the place intended, which is about 6 miles from Wigtown. The present name of the river is Teutonic; in Norse, “Fliot.”

C. 4. *Devae flu. ost.*—The Ptol. distance from Ienae aest. to Deva flu. is 43 miles S. 45 W., which reduced is 14 miles S. 45 E. The place is the Dee; but the distance between the Fleet and the Dee is but 5 miles.

C. 5. *Novii flu. ost.*—The Ptol. distance from Deva flu. is 32 miles S. 18 E., which reduced is 11 miles N. 72 E. The place is the Nith, and the distance between the Dee and Nith may be taken as 23 miles.

C. 6. *Itunae aest.*—The Ptol. distance from Novius flu. to Itunae aest. is 45 miles S. 6 E., which reduced is 15 miles N. 84 E. The place named is now the Eden, the mouth of which is 10 miles from the Nith.

From the Eden the error in the direction of the meridian ceases; the Antonine Itinerary will check the position of the towns, and from thence the features of the coast. In Scotland the sole corroboration is to be found in the Anonymous Geographer of Ravenna, whose strings of names

are so many puzzles, the greater number of which are likely to remain without solution; he seems to be beyond the reach of Grimm's or any other law.

The persistency in the same form, or almost the same form, in the local names in this quarter is to be remarked; the station next south of the Eden is "Μορκαμβη," which is represented in the modern "Morcambe" Bay in the same letters.

#### EAST COAST OF SCOTLAND.

As Ptolemy makes the east side of England to run north, and that of Scotland to run east, he naturally speaks of the east coast of Britain as having two sides.

In going down the east coast of Scotland it must be remembered that "Orcas cautes" has been projected by a bearing from Cape Wrath (Nabeus flu.) far to the northward of the real position of Dunnet Head. It is necessary to start from this imaginary point to arrive at any argument between nature and the Ptol. positions.

*D. 1. Orcas cautes.*—Dunnet Head: see note, B. 11.

*D. 2. Virvedrum prom.*—From Orcas cautes to Virvedrum prom. the Ptol. distance is 18 miles S. 34 W. (*i.e.* S. 56 E.) Having projected Orcas cautes to the N.N.E. instead of to the east, Ptolemy then turns the coast S.W. for 43 miles; Orcas, Virvedrum, and Verubium proms. being placed in the same right line. Virvedrum prom. now bears the Norse name of Duncansby Head (for Dungalshoe Hofdi), and is 12 miles east of Dunnet Head.

*D. 3. Verubium prom.*—From Virvedrum prom. to Verubium prom., the Ptol. distance is 25 miles S. 37 W. (*i.e.* S. 53 E.) The bearing from Duncansby Head to Noss Head is south, and the distance is 14 miles. From this point Ptolemy turns the coast west (*i.e.* south); but the true direction is south-west. The present name of Noss Head is Norse; Snös Hofdi, meaning a projecting rock. There are other two Noss Heads in Shetland.

*D. 4. Ilae flu. ost.*—From Verubium prom. to Ila flu. the Ptol. distance is 15 miles west (*i.e.* south). Although more generally called the Helmsdale River, its Gaelic name, the Illy (properly Amhainn Thuilaidh, *i.e.*

Floody River, Torrent River) is still known. Sir Robert Gordon<sup>1</sup> (p. 4) names "the Holmisdell or Villy;" at p. 3 he speaks of "Strathvely." The distance from Noss Head to the Helmsdale River is 30 miles, and moreover it is beyond the "Ripa alta."

*D. 5. Ripa alta.*—There is not a more remarkable place on the east coast of Scotland than Ochthe Huphelé, the "Ard Chaitaobh," or Ord of Caithness; it appears from the sea as a range of cliffs of enormous height. But the Ord is to the northward of the Helmsdale River; the river is in fact the southern boundary of the Ord. The Ptol. distance from Ila flu. to Ripa alta is 30 miles west (*i.e.* south). There is great confusion here, which may be explained away in this manner. The first station after Verub. prom. should be Ripa alta, 30 miles; the Ila flu. must be deleted, for it is the same Ptolemaically (for the Ptol. unit. is 5 miles) as Ripa alta; the second station is—the ancient name not recorded, but modern—the Dornoch Firth, 15 miles; the third, Loxa flu., 15 miles.

*D. 6. Loxae flu. ost.*—The Ptol. distance from Ripa alta is 15 miles west (*i.e.* south). The Keltic loc is evident in Λοζα, but the Dornoch and Cromarty Firths (Fiorđar) are equally lochs. It is probably Cromarty Firth: see preceding note.

*D. 7. Varar aest.*—The latitude of this place, 59° 00', given in the text is evidently wrong, and the various reading, 59° 40', must be accepted. With this latitude the Ptol. distance from Loxa flu. is 30 miles west (*i.e.* south). It is but 15 miles from Cromarty Firth to Inverness. In all the large estuaries, Clyde, Murray, Forth, Thames, the positions are unsatisfactory, partly from the nature of the case (for who can define the position of a large area by a single point?) while where the coast is straight the positions are laudibly approximate. The name Varar, here preserved, is interesting: the Gaelic form of Murray is Marthaobh, which in the genitive case is Mharthaibh (pron. Var-ive); thus we have Moreb, Morref, Muref, Murray.

*D. 8. Tuaesis aest.*—The Ptol. distance from Varar aest. to Tuaesis aest. is 43 miles S. 22 W. (*i.e.* S. 68 E.) Tuaesis is certainly Spe, in which the initial letters are corrupted. The distance from Inverness, by sea, to Speymouth is about 40 miles.

*D. 9. Celnii flu. ost.*—The Ptol. distance from Tuaesis flu. to Celnii

<sup>1</sup> Genealogy of the Earls of Sutherland.

flu. is 15 miles south (*i.e.* east). From Speymouth to Cullen is 10 miles east. I suspect, however, that the Douveron is the *station* intended.

*D. 10. Tazolorum prom.*—The Ptol. distance from Celnius flu. to the promontory of the Tazoli is 22 miles S. 46 E. (*i.e.* N. 44 E.) From Cullen to Kinnaird Head is 26 miles east.

*D. 11. Devae flu. ost.*—The Ptol. distance from Tazolorum prom. to Deva flu. is 31 miles west (*i.e.* south). From Kinnaird Head to the Dee in a straight line, is 36 miles, by sea it is about 40 miles.

*D. 12. Tava aest.*—The Ptol. distance from Deva flu. to Tava aest. is 31 miles west (*i.e.* south). There is here a displacement of names; the place intended is the South Esk, which is 37 miles from Aberdeen.

*D. 13. Tinna flu. ost.*—The Ptol. distance from Tava aest. to Tinna flu. is 31 miles west (*i.e.* south). From Montrose to the bar of the Tay is 20 miles, to Dundee 29 miles. The place intended is the Tay, which name has been transferred to the South Esk; while the important river Tyne has its name omitted from the order in which it should have been written, and is introduced here. There is another Tyne in East Lothian, which may have helped to confuse the geographer.

*D. 14. Boderia aest.*—The Ptol. distance from Tinna flu. to Boderia aest. is 48 miles N. 72 W. (*i.e.* S. 18 E.) The actual distance from Tay Bar to May Isle is 18 miles; but from Dundee, by sea, to Inchkeith is about 42 miles. Boderia is written Bogderia in M. (*Βογδερίαις*, where the *αι* is put for *ἔσζυρις*); and Bodotria by Tacitus. It is probably the same word which afterwards appears as Fothren and Fothreve (for Fother thaobh?): in Welch, Werid; and which has been abraded into the modern Forth.

*D. 15. Alauni flu. ost.*—The Ptol. distance from Boderia aest. to Alaunus flu. is 30 miles S. 60 W. (*i.e.* S. 30 E.) This is the Tweed, which is the first river of importance south of the Firth of Forth. The Tweed is 30 miles to the southward of May Isle (the Maiona? of the Rav. Geo.), but it would take 20 miles more to reach to Inchkeith. As before remarked, all the large estuaries are unsatisfactory. The name Alaunus belongs to the Aln, whose geographical position is not given at all: this conclusion is supported by the relative position of Bremenium.

*D. 16. Vedrae flu. ost.*—From Alaunus flu. to Vedra flu. the Ptol. distance is 47 miles west (*i.e.* south). Vedra is the word Tweed with

the *t* aspirated; thus Thvedra. pron. Vedra. The same grammatical accident occurs at the Thames, where "Iamesa" is written for "Thamesa." But this station is, in fact, the Tyne; which name has been removed to the Tay. (See *D.* 13.)

From this station the error in direction ceases; it is difficult to imagine how it could have originated. It is evident that it was at this point the mischief began, for although the direction is changed from north to east, the distances continue moderately correct, while the dislocation and error caused by the false bearing is all thrown into the north side of the Solway Firth.

The geographer proceeds to describe the coast southwards to Cantium promontorium, now the South Foreland: from thence he returns to what he believes to be the north end of the island, naming the different peoples or tribes, and giving the geographical positions of the principal towns. Beginning with the Novantae and the Selgovae, he first proceeds eastward (*i.e.* northward) to the end of the island; he then returns to the Selgovae, and goes southward, naming the peoples and towns in what is now England.

#### SCOTTISH SEPTS AND TOWNS.

So long as the geographer is describing the coast, naming the features in their natural order, there is no difficulty in identifying the stations, but it is far otherwise when he professes to give the geographical positions of the towns. If these positions were even approximately correct, the sites could be easily determined, but in the south of Scotland they are grossly inaccurate. The reason of this will be readily seen by comparing the two maps. Some of the larger towns in England, such as London and York, bear names almost identical, and hold the same relative importance that they did 1600 years ago; but in Scotland, with one exception, perhaps (Aberdeen), the centres of commerce bear names which are not to be recognised in those transmitted to us by the Alexandrian geographer. Some help is afforded by the natural features of the country; no towns are given in the west of Scotland, north of the Clyde, while they appear to have been placed where they were naturally to have been expected, as centres of fertile districts and upon the main roads or tracks which traversed the country. The Rav. Geographer gives long lists, but unfor-

tunately nothing but the slightest verbal resemblance by which their sites can be identified. In the south of Scotland any conclusion or comparison between the Ptolemaic and actual geography is untrustworthy by reason of the great distortion.

*E. 1. Novantae.*—The country of the Novantae is described as being under—really, to the eastward of—the Chersonesus, now the Rhinns of Galloway, and is generally supposed to be the same as the modern county of Wigtown.

*E. 2. Lucopibia.*—The nearest given place to Lucopibia is Iena flu. which I have identified with the Fleet; and from which it is made to be 10 miles south; when corrected, 3 miles east. No dependence should be placed in this result. Lucopibia probably occurs under the form of “Lucotion, Lucocion,” in the Rav. Geo. Glen Luce is the only name in the district which bears any resemblance to it. Camden has proposed to identify it with Whithorn, but it is more likely that Wigtown, which is not a Keltic name, is the place intended.

*E. 3. Rhetigonium.*—This is an error for Rherigonium, and it has to be looked for on the shore of the *sinus* of the same name. It is probably commemorated in Carn Ryan, the neighbourhood of which was the capital of this quarter before Stranraer was built. The name in that collection of riddles left us by the Rav. Geo. is “Brigomono.”

*E. 4. Selgovae.*—The Selgovae are placed to the east of the Novantae, with the Damnonii to the north and west; the Otadeni to the east, and the Brigantes to the south. They appear to be the Segloes of the Rav. Geo., and the “Solway” is probably the modern form of the same word.

*E. 5. Carbantorigum.*—The Carbantium of the Rav. Geo. may be some “cathir” near the Dee.

*E. 6. Uxellum.*—The Uxella of the Rav. Geo. is some place on a height, apparently not far from the Nith.

*E. 7. Corda.*—Also Corda of the Rav. Geo.; site unknown. The latitudes and longitudes here are useless, having been made to suit a false theory.

*E. 8. Trimontium.*—Also Trimontium of the Rav. Geo. The Ptol. position is such that it might represent Birrenswork at Ecclefechan. When there I had no thought that it might be the Trimontium of Ptolemy, and did not notice if such a name could be applied to it, nor do

I find notice of such a configuration elsewhere. The name is a translation, and descriptive—the Three Hills. Uxellum is descriptive of Birrenswark, while Trimontium is so thoroughly descriptive of the Eildon Hills that I have great reluctance to believe that they are not the places intended.

*E. 9. Damnonii.*—The Dannoni of the Rav. Geo. had the Selgovae to the south and the Otadeni to the east, and seem to have included the entire basins of the Forth, Clyde, and perhaps the Tay. To the northward they were bounded by the Venicones and the Caledonii, and to the west partly by the Gadeni. Three of their towns are placed to the southward of the Forth and Clyde, and three to the northward.

In the article "Damnii" (Smith's "Greek and Roman Geography"), the writer has overlooked the error made by Ptolemy in the direction of the meridian; that for "east" must be read "north," and for "north" must be read "west," and so on. The form *Damnii* is not quoted in Wilberg's edition.

A people of the same name, *Dumnonii* (Dalesmen?), occupied Cornwall and Devon, and gave their name to the latter country.

*E. 10. Colonia.*—Also *Colanica*. *Colonica*, Rav. Geo. Position indeterminate.

*E. 11. Vanduara.*—*Vandogara*, a various reading, is almost identical with *Vindogara sinus*, and although Ptolemy places it thirty miles to the eastward, I believe it to be the same, and consequently that it is now represented by the town of Ayr.

*E. 12. Coria.*—Position indeterminate. The *Coria* of the Rav. Geo. is named with the towns near the wall of the lower Isthmus.

*E. 13. Alauna.*—*Alauna* is named by the Rav. Geo., but no doubt it represents Alnwick. The three towns of *Alauna*, *Victoria*, and *'Orrea*, are placed by Ptolemy in the same right line. From *Alauna* to *Victoria* is 31 miles; from *Victoria* to *'Orrea* is 21 miles; total, 52 miles. The three towns of *Stirling*, *Perth*, and *Forfar* are in one right line nearly; from *Stirling* to *Perth* is 25 miles; from *Perth* to *Forfar* is 25 miles; total, 50 miles. If this theory is correct, *Lindum* = *Callander*.

*E. 14. Lindum.*—*Lindum* is 13 miles N. 39 E.; corrected N. 51 W. from *Alauna*. *Callander* is 12 miles from *Stirling*.

*E. 15. Victoria.*—*Victoriae*: Rav. Geo. Near *Perth*: see note *E. 13*.



supposed to have occupied the ancient district of Garmoran; *i.e.*, from Lochaber to the Sound of Skye. The forms of the names of the two last peoples, Κέρονες and Κρέωνες, suggests that one (or both) is a form of Cruithne (pron. Croon-yer), the Gaelic name of the Picts.

*E. 22. Carnonacae.*—Perhaps from the Sound of Skye to Assynt, and commemorated in Loch Carron.

*E. 23. Carenī.*—This is, no doubt, an error for Catenī, and their land was the same as Strathnavir in its largest sense, or Lord Reay's Country. The whole of this part of Scotland is still known as Cataobh. Cait was one of the five divisions of Pictavia.

*E. 24. Cornavii, i.e.*, the people at the horn or point.—The Cornavii occupied modern Caithness, which is cut off by high hills on the south side. But while it is the ness of the Catti of modern geography, it is Gallthaobh, or the Land of Foreigners, with the Highlanders, from its having been settled by the Northmen. In England, the "Carnavii" were seated on the lands between the Mersey and the Dee.

*E. 25. Caledonii.*—Having named the peoples upon the coast, from Kintyre, northwards, to Caithness, Ptolemy describes the Caledonii as dwelling between the Lemaannonius sinus and the Varar aest. This, if interpreted strictly, means between Cowal and the Murray Firth; but it really includes all the mountainous country west of the Tay and Spey, and, as I believe, of Ross-shire also. The name—which appears to mean the Woodlands, from Coille, a wood—is used with great latitude by the Roman authors, and is made to include sometimes all the inhabitants north of the Clyde and Tay, and sometimes all those north of the Clyde and Forth. In fact, it became a general term, and now poetically includes all Scotland. It would take a long article to tell all that has been said of Caledonia, but much of which applied much more to the arable parts of Scotland—such as fighting from carts, &c.—than to the Highlands.

*E. 26. Caledonius saltus.*—The Caledonian Forest is said to be above, really to the west of, the Caledonii. This would imply that it was on the eastern side of Drumalban. But, in point of fact, the woods must have filled the glens and low moors throughout the country, except where they had been artificially cleared. In many places, especially about Loch Laggan, the kind of thing described as the Caledonian Forest may still be seen. That these were vast woods in the Highland glens, seems

proved by the manner in which they have been spoken of for ages, and by what still remains ; but it must not be supposed that the land was covered by a continuous forest, such as is seen in Canada, for the hills would always be bare.

Caledonia was probably represented by *Fidach* (from *Fiodh* = forest), as one of the five divisions of the country of the *Cruithne* or Picts, which name is now obsolete ; but Caledonia may be continued to our own time in the name of the county of Ross ; for although *Ros* generally means a promontory, it also means a forest.

*E. 27. Decantæ*: are placed north of the *Caledonii*. This should probably be *Ducantæ*, which would mean the people of the Black Promontory, and be applicable to what is called the Black Isle, which forms the greater part of the county of Cromarty. Kent, the south-eastern promontory of England, was the domain of other "*Cantæ*."

*E. 28. Lugi*.—These came after the *Decantæ*, and next to the *Cornabii*, *i.e.*, they inhabited Easter Ross and East Sutherland. The Ord of Caithness is a natural division between Caithness and Sutherland. The name of this people seems to include the Keltic "*loch*," and may imply the people of the loch district.

*E. 29. Smertæ*.—This people was above, *i.e.*, to the west of the *Lugi*, and must have inhabited about Loch Shin.

Such is the description of the distribution of the tribes or peoples in the north and west of Scotland in the second century, and to those who are acquainted with the country it will appear to have all the character of truth. That the coasts and glens were well peopled at an early period is proved by Mr Anderson's very interesting map of the north of Scotland, on which he has shown the site of seventy-nine Pictish towers in Caithness, and sixty in the modern county of Sutherland.

*E. 30. Vacomagi*.—These were below, in fact, to the eastward of, the *Caledonii*. The names of four of their towns are given, and from their positions it is plain that their country included Murray, Strathspey, Badenoch, and Athol. The *Vacomagi* were probably included in the "*Fidach*" of Pictavia.

*E. 31. Banatia, or Bannatia*.—This town is placed 45 miles west of Orrea, and 34 miles N. 61 W. of Victoria. This would indicate the neighbourhood of Loch Rannoch or Loch Tay ; but it is my impression

that it was upon the Garry, say Blair Athol; the probability being that it was upon the natural highway from north to south. And the name (as in several other instances), Banatia, if it is the equivalent of Banff (Boineffe, Baineffe), may have been transferred to it in error.

*E. 32. Tamea.*—The Rav. Geo. has a “Tagea,” but I think that that belongs to the Tay. This station is made to be 32 miles N. 18 E. from Banatia, and 55 miles S. 11 W. from Tuæsis. As Tuæsis is at or near the mouth of the Spey, and as the distance by road from Fochabers to Ruthven, in Badenoch, is more than 50 miles, it may be assumed that an *r* has been dropt out of the name, and that the station was at or near the junction of the Truim or the Trömie with the Spey.

*E. 33. Alata Castra.*—Πτερωτον στρατοπεδον is undoubtedly a translation, the original of which may have been Dun Sgiath = Wing Fort, or other Keltic equivalent. The description suits Burgh Head (Borg Hofdi) so well, and the fact of the ancient castle being still there, leaves no doubt in my mind that it is Alata Castra, the Pinnatis of the Rav. Geo. The Ptol. distance of Alata Castra is 19 miles N. 59 E. (*i.e.* N. 31 W.) from Tuæsis, and Burgh Head is 15 miles in a straight line from the Spey.

*E. 34. Tuæsis.*—This station was certainly at or near the mouth of the Spey, and may have been at Fochabers.

*E. 35. Venicones. Vernicones. Venicones.*—There is a choice of names, but none of them resemble the “Vecturiones” of Ammianus. Ptolemy states the Venicones to be below, meaning south (in fact, east) of the Vacomagi, and towards the west (*i.e.* south); in other words, they were south-west of the Vacomagi. As Victoria was in the country of the Damnonii, it may be inferred that the Venicones occupied Angus and Mearns, that is, the present counties of Forfar and Kincardine. Together, they were one—Circinn—of the five divisions of Pictavia, and the name is now represented by Mearns. (P. xxii. Chron. Picts and Scots.)

*E. 36. 'Orrea* is placed 15 miles north (*i.e.* west) of Tinna flu., in other words, 15 miles up the Tay. But I have shown reason (*E. 13*) for supposing that Forfar is the ancient Orrea. The initial F of Gaelic names becomes aspirated (Fh), and is silent if the definite article is placed before it. (See Joyce's admirable work on the Irish Names of Places.)

'Orrea may be the "Porreo classis" of the Rav. Geo. It was in the country of the Horestrii ("in fines Horestorum") that Agricola took up winter quarters (A.D. 84) after the battle "ad montem Grampium," which must have been in the territory of the Venicones.

*E. 37. Tæzali.* Taizaloi. Taxaloi.—The country of this people is placed towards the east (*i.e.* north) of the Venicones. The name does not occur elsewhere. It evidently comprised the districts of Mar and Buchan, the present Aberdeenshire. Tæzali may be identified, by exhaustion, with "Ce" (= Keith?), one of the five divisions of Pictavia.

*E. 38. Devana.*—Devoni; Rav. Geo. Although Devana is placed 45 miles westward from the mouth of the Dee, I doubt not that Aberdeen is intended. Aberdeen written in Gaelic would be Aber-dhemhan, and pronounced Aberdeen and Aberyeen. Strictly, a distance of 45 miles from the coast would reach Braemar.

*E. 39.*—From Devana, Ptolemy returns to the southward of the Tyne, and describes the position and towns of the Brigantes, and so on through England, ending with Exeter, in Cornwall. He then returns to the north end of Britain, and describes the islands which are near to Albion, at the Orcas promontory.

*E. 40. Ocitis.*—I have shown the probability (*A. 2*) that Ocitis is an error for Scitis, and that the name belongs to Skye. The Ptol. data makes Ocitis to be 50 miles N. 53 E. from Orcas prom. Fair Isle is 74 miles N. 46 E. from Dunnet Head. This island, which is well known to me, having surveyed it when a very young man, has, like all the northern islands, lost its Keltic name. Fair Isle is a corruption of Fridaray = Peaceful Island, which may be a translation of the name given to it by the Culdees (Ceile-de). When there I took pains to get the names of as many of the "gias" and other topographical features as I could. An intelligent native went with me, and I endeavoured to write down the words from his pronunciation; but although English was the only language spoken, the vowels and consonants were so queer and strange that I never could be sure of representing by letters the sounds which I heard. Since then the inhabitants have emigrated, and my attempt is likely to be the only record of the name system of this solitary isle. If so much difficulty occurs with one's own language, how much greater must it be with a strange one—Gaelic, for instance—so that we

need not wonder at the distortion and confusion to be found in the ancient geography of Britain.

*E. 41. Dumna ins.*—The Ptol. position of Dumna is 43 miles N. 69 W. of Orcas prom. It is usual to identify Dumna with Stroma (Straums-ey = Currents-isle), an insignificant island almost always surrounded by a raging tidal sea, about 8 miles to the eastward of Dunnet Head. (See *E. 42.*) Dumnam is placed by Pliny with Scandinavia.

*E. 42. Orcades inss* = Dorcades, Rav. Geo.; Orkn-eyar, Norse; Insi Orce, Gaelic = Whale-islands. I estimated that two thousand were in sight at one time between Fair Isle and Sanda. The long flat beaches in many of the Orkneys are very favourable for driving them ashore. The islands are frequently named by the classic authors, but they evidently knew little about them. The middle of Orcades insulæ is placed 94 miles N. 25 W. from Orcas prom.; but the middle of the Orkneys is less than 30 miles from Dunnet Head. I propose to bring about a better agreement with fact in this manner. I assume that the latitude and longitude of Dumna really belongs to the Orkneys, and *vice versa*. Now, 43 miles from Dunnet Head will reach to Sanda, which is but 13 miles from being in the middle of the Orkneys; while 94 miles will just reach to Foula (Fowl-island), a solitary island to the west of Shetland. If Dumna is not some place in Scandinavia, and that the word is derived from the Keltic *dun*, it would be appropriate to Foula, which is a magnificent natural fortification. Both Fair Isle and Foula are visible from the Orkneys in clear weather.

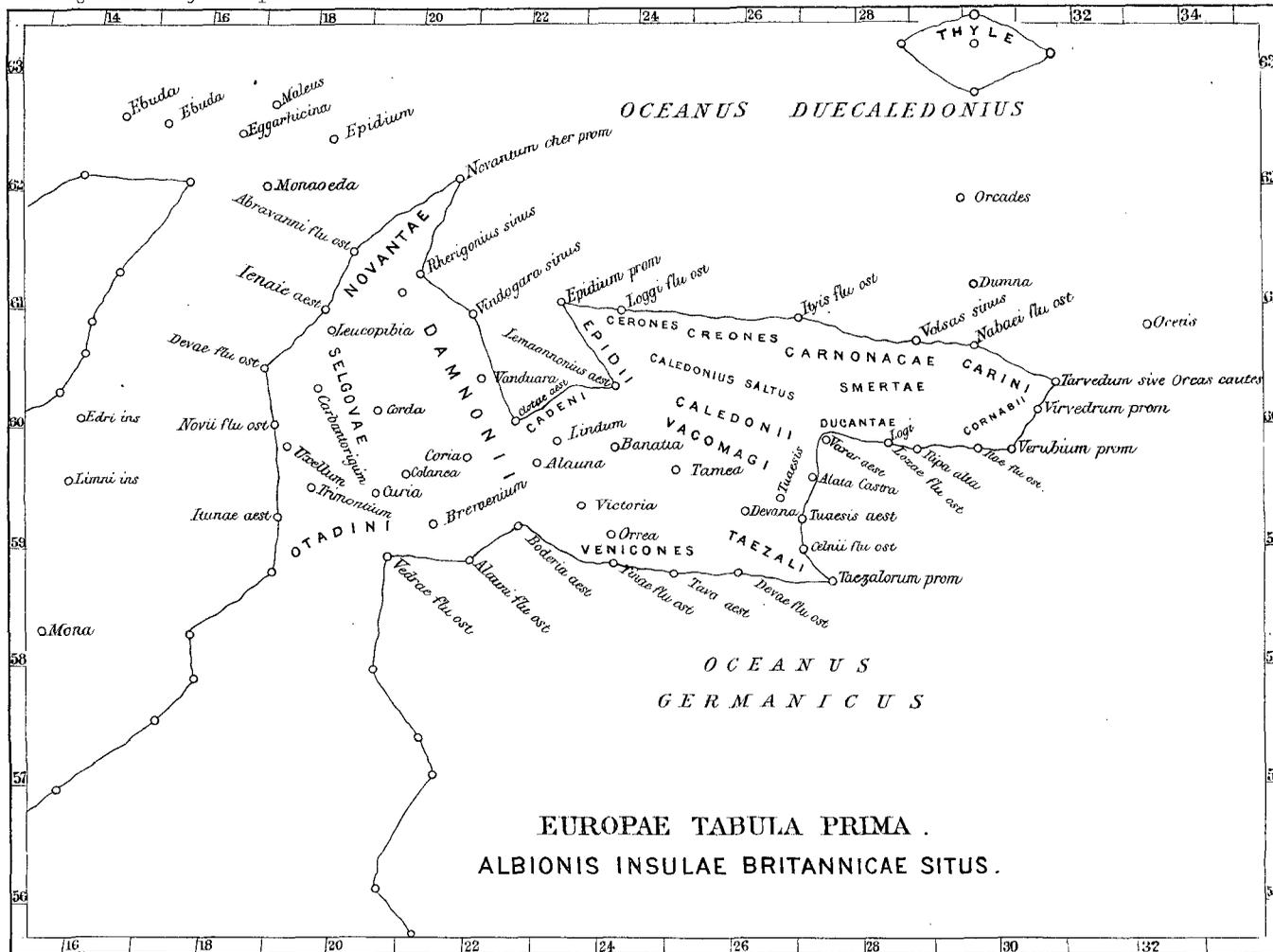
*E. 43. Thule.*—From “tuath,” Gaelic = north. Tacitus tells that Thule was seen by the Roman fleet (A.D. 84).

Thule is described by Ptolemy as 73 miles long and 35 miles broad, and the middle as 80 miles from the middle of the Orkneys. Shetland is about 60 miles long and 30 miles broad. I have shown reason for supposing that the names of Dumna and Orcades have been inverted; to obtain an agreement with fact, it must also be assumed, that after the mistake was made, the reported distance of Thule from the Orcades was laid off from the false position; in other words, that Thule was laid off from Foula instead of from the Orkneys. This would suit the circumstances, for from centre to centre of the two groups is about 80 miles.

There is yet another error to be corrected; the Ptol. data places the length of Shetland east and west, while Shetland is nearly north and south.

There is a difficulty about the "septem Hæmodæ, contra Germaniam vectæ" (Pom. Mela), = Septem Acmodæ, (Pliny), but I presume we have here another Keltic name for Shetland = Hialtland, *i.e.* the Land of Hialt, a noted pirate.

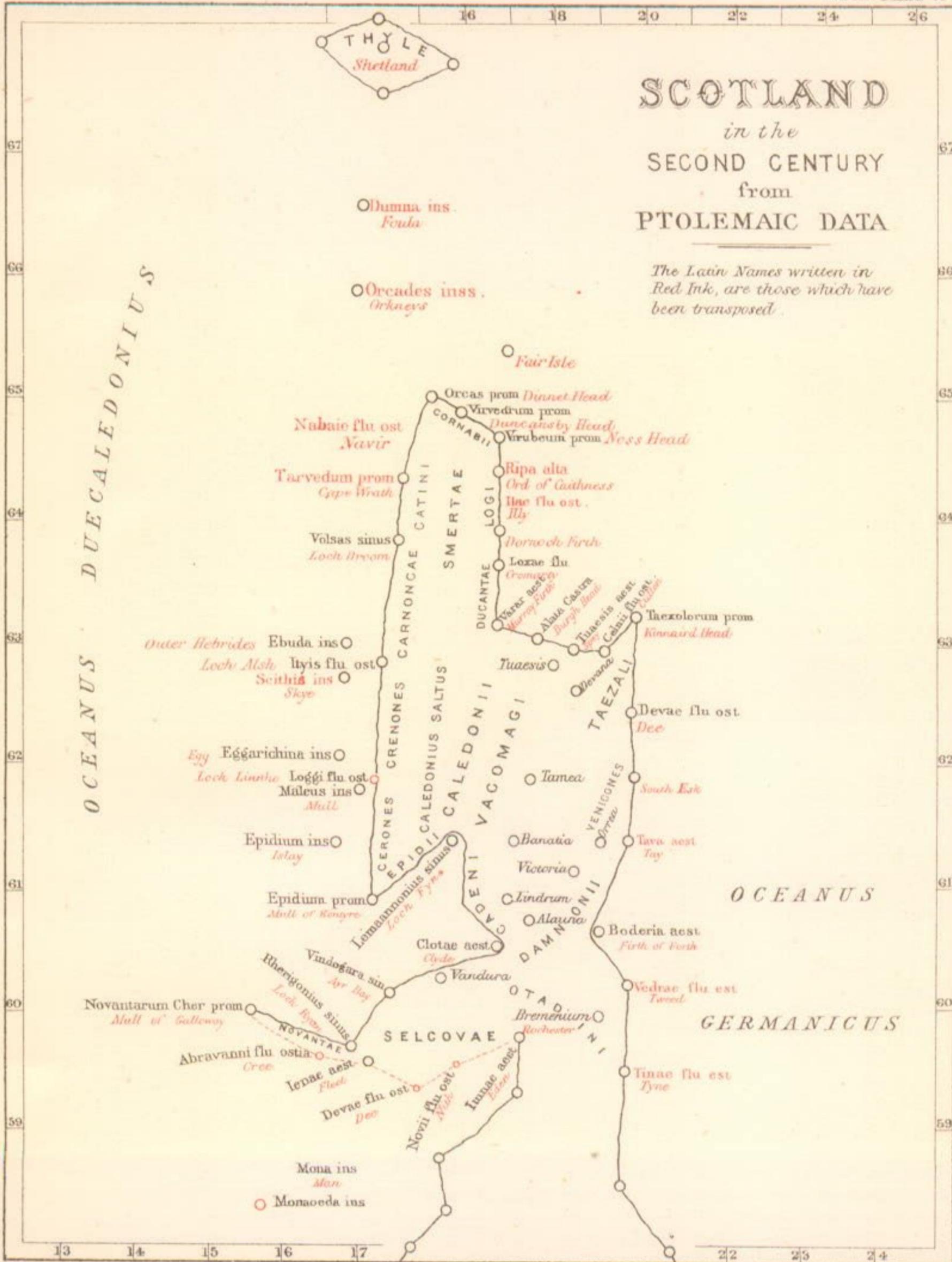
This closes the long examination of the geographical positions in and around North Britain, and the conclusion is arrived at, that whatever the number of errors, there is collected a large amount of reality and fact hardly to have been expected at so early a period as the second century.



EUROPAE TABULA PRIMA .  
ALBIONIS INSULAE BRITANNICAE SITUS .

Drawn by Capt. F. W. J. Thomas R. N.

J. W. & A. K. Johnston, Edinburgh.



SCOTLAND  
 in the  
 SECOND CENTURY  
 from  
 PTOLEMAIC DATA

The Latin Names written in Red Ink, are those which have been transposed.

Drawn by Capt. F. W. L. Thomas R.N.

W. A. A. Johnston, Edinburgh.