



THE MAP-HISTORY OF THE COAST FROM THE  
DEE TO THE DUDDON.  
A SEARCH FOR THE BELISAMA OF HORSLEY.

By T. G. Rylands, F.S.A., F.L.S., F.G.S.

(Read January 23rd, 1879.)

IN a paper which I read before this Society rather more than a year ago, you will find the following words respecting Mr. Horsley :—" He says the Belisama, from its situation, must "be the Mersey"; and "but Horsley's 'must be' (as he gives no "reason for the statement) is of little more value than Camden's "etymology."\*

To say this with regard to some men might be all very well, but I have often felt since, that, in the case of Horsley, it was not so. He was so thoroughly cautious and conscientious that, had there been the slightest doubt in his own mind, he would not have thus summarily dismissed the subject. Horsley's "must be" meant *of necessity*. There was, with him, no doubt or question about it; and yet we know that a considerable error exists in Ptolemy's map and description—a double error, indeed, in the copy which Horsley used.

These thoughts led me to the following enquiry, which I hope has interest sufficient to justify this paper.

As Horsley did not live in the days of Admiralty charts and Ordnance surveys, he was bound by the less perfect geographical knowledge of his time. His authority as to Ptolemy we know was the Bertius-Mercator *Theatrum Geographiæ Veteris*; and, "for this night only," we must adopt it accordingly.

As to modern geography, we cannot hope to ascertain all the materials he used, but this question may be approached from

\* *Historic Society Transactions*, vol. xxx, p. 82.

another point. By tracing the map-history of our coast, we may attempt to determine the state of the knowledge of his time, and the limits within which he was bound. Here, then, we leave Horsley for a time, while we try to answer the question—What is the map-history of our coast?\*

But here again, at the outset, a preliminary question presents itself. What, *for geographical purposes*, is a map?

Those of you who have gone through such works as the collections of maps made by Santarem, Lelewel, and Jomard, know that the word is not easily defined; nor need I attempt to give you a strict definition. Confining my remarks to our own Islands, it will suit the present enquiry, if I distinguish four groups:—1, Pilgrim maps; 2, Vignettes and skirtings; 3, Mappæ Mundi; and 4, Maps purely geographical, including surveys on land, and also portulanes and sea charts.

1. What I have called *Pilgrim maps*, belong to the early middle ages, unless we include Ogilby's Roads, which he calls a "geographical description explained by one hundred maps." Of the earlier ones several will be found in Gough's *British Topography*.† In general they may be described as follows:—

The coast lines—if not supplied by the edges of the paper, or put in with a ruler—are a rough hand draft, with little regard to form, and none to proportion. A road, more or less distinctly indicated, runs down the middle of the island, from north to south. On it each succeeding stage of the journey is marked by the name of a town. Other places, not in the main line of road, are scattered about on the right and left, with some small attempt at relative position or distance. The main road passes through London to Dover, which is placed about the middle of the south coast. I need hardly say that we shall dispense with the use of this group altogether until we wish to find our way to Jerusalem after the old fashion, or to interpret an ill-written name on a contemporary map.‡

\* Circumstances have restricted me, in what follows, to the use of books from my own shelves. More extended research would have been an advantage.

† See plates 2, 4, and 7 in vol. i.

‡ In the British Museum there is a copy of *Mat. Paris*, which thus guides the pilgrim stage by stage all the way to Jerusalem.

2. *Vignettes and skirtings* are, firstly, the so-called maps found on title pages, at the heads of chapters, &c. ; and secondly, the border regions of genuine early maps, which are intended really to describe only their more central portion.

As a vignette, take British Isles in Munster's *Cosmographia Universalis*.<sup>\*</sup> Now this does not at all represent the geographical knowledge of either Munster or his times. It is more a picture than a map. Ten years before, Munster had published a map of England after the type of the very best early map we possess.<sup>†</sup>

Or take the three figures to illustrate the *Notitia* in the *The-saurus* of Grævius,<sup>‡</sup> and compare them with the map of the British Isles in the first volume of that great work. Of the *Vicarii* in the vignette, *Maxima Cæsariensis* is placed up in Caledonia, *Britannia Prima* is in Northumberland, and *Brit. Secunda* has moved from Wales to Middlesex. The second figure is to illustrate the stations on the Saxon shore, but here they are all carried bodily into Scotland, and distributed inland there ! Of the third figure, suffice it to take the first station only. We know that the sixth legion was at York, and not on the Caledonian Canal. May we not say that vignettes are to be avoided ?

To shew you what I mean by *skirtings*, take Speed's map of the Isle of Man,<sup>§</sup> and look at the delineation of our own coast in the margin. Here the Mersey is just half-way between Morecambe and the Dee, while Puffin Island is about the same distance on the other side. In this case I admit that the distortion may be accounted for, but in most others it cannot.

The Wirrall in the margin of Humphrey Lhuyd's map of Cambria, printed in Ortelius and in Mercator, is sadly deformed. In short, although in our day every portion of a map may be taken to be equally correct, it was not so in the olden time, and in this direction much caution is required in using our older maps. Further, as I attach some importance to this matter, let me refer you in addition to the map at the end of the *Nuremberg Chronicle* (1493), and to the map of the world, by Laurence Frisius (1522).

<sup>\*</sup> Edition 1550, p. 42. There is a good copy of it in Hume's *Ancient Meols*, plate 1, map 3 ; and in *Historic Society's Transactions*, vol. xi, p. 220, map 3.

<sup>†</sup> Munster's *Ptolemy*, 1540, map 30.

<sup>‡</sup> Vol. vii, pp. 1927, 1937, and 1994.

<sup>§</sup> *Theatre of Great Britain* (1610), Book i, chap. 46.

This last is announced as the delineation of the entire world, according to the report of hydrographers, drawn to the minutest particulars! (minutissime depicta.) All Europe is "skirting."

3. *Mappæ Mundi*. It is impossible for me to deal in any but the most superficial way with this very large and most interesting group. In their own way they are charming, but that way is not geographical. Let me hope that you have in some public library, or otherwise within your reach, the *Essay on Mediæval Geography*, published to illustrate the large fac-simile of the Hereford map.\* If so, my labour is light; it may almost be confined to the quotation of a single sentence from the volume to which I have referred you, and with which, in this respect, I entirely agree:—"A mediæval *mappæ mundi*, to be duly appreciated, must, to a great extent, be regarded as an *illustrated romance*."† But, it may be asked, does this apply to the map itself, as well as to the classical, legendary, and other matters contained in it? Fortunately, for our present purpose, the reply is easy. The Hereford map is by far the largest of its class.‡ It extends over as many feet as most of the others do inches, so there was no lack of room. Its date is known within a very few years to be A.D. 1300; and there is very fortunately preserved to us another English map of our Islands which is referred to almost precisely the same date. To answer the question, Does this, the largest and perhaps the best of the *mappæ mundi*, at all represent the geographical knowledge of the time? we have simply to compare the two—or, let me say, contrast them.

*This* is a full-sized fac-simile of the British Isles on the Hereford map [maps produced and described], and *this* is the precious contemporary map preserved in the Bodleian Library; of which more anon. The present reduced fac-simile is a photozincograph issued from the Ordnance Office.§ These *mappæ mundi* also are of no geographical use. We come now to the last group.

4. Maps purely geographical. These must be separated into

\* By Revs. W. L. Bevan and H. W. Phillott. London: Stanford, 1873, 8vo. See also Col. Yule's *Marco Polo*, 1875. Introduction, p. 124, &c.

† Introduction, p. xxii.

‡ The larger circular Fra Mauro map at Venice is geographical. In it England is little better than "skirting."

§ Published by the Ordnance Office in 1875. Price, with a description, 3s. 6d.

two sub-groups :—*a.* Emphatically *maps*, the result of surveys on land. *b.* *Charts* or coast surveys, known in mediæval times as *portulanes*. This distinction is important, because, until comparatively recent times, the map makers paid hardly more attention to the true contour of the coast than the cartographers did to the positions of the towns. It must be remembered also that we are dealing with the coast.

First, then, as to *maps*. The first three maps I shall mention are separated by centuries. This is not because the intervals are blank, but because time would fail me to deal with them in detail, and they include no map which affects the object of the present paper.

In the Cottonian Library\* there is an Anglo-Saxon manuscript, which I am sorry to say I have not yet seen. It contains an oblong map of the world. You will find copies of it in Strutt's *Chronicle*,† in the *Penny Magazine*, No. 340, and in Knight's *Old England*.‡ Dr. Hume, in his *Ancient Meols*,§ gives us a copy of its British Isles. The date of the manuscript is the tenth century. After much thought and some doubts I am inclined to believe that, so far as I have ascertained, this must take rank as our earliest English map. Unfortunately, however, the scale is so small, and our own coast so indefinite, that no use can be made of it. Our Islands here are not unlike Sanudo's.

The second map is the one in the Bodleian, which you have already seen. The coast line here is faulty; but we obtain this fact from it. The Mersey was then a free and open river, flowing westward past Warrington, and a little south of Prescott to Liverpool, which is placed upon the northern shore at its mouth, facing somewhat west of north.

The Ribble also is here, flowing from near to Skipton by Clitheroe to Preston, and thence to the sea. North of this, notwithstanding the general accuracy of the map itself, we soon feel how little regard was paid to the coast.

Our next map is by George Lilly, our first printed map, about

\* Tiberius, B. v.

† Vol. ii, plate 13.  
‡ Plate i, map 1.

‡ Vol. i, fig. 299.

1550, which I have not seen, or at least have not recognised.\* Then come the maps which Humphrey Lhuyd, in his letter, promised to send to Ortelius, and which he no doubt did send, for the England and the Wales appear in the *Theatrum*, the England with the date 1573. I suspect that Lhuyd's maps had an influence on those of Mercator;† but this is of little moment so far as this country is concerned, for

In 1577, Saxton's map of Cheshire was issued, our "first county map."

Saxton's maps were completed in 1579. They supply a new type, and commence a new era. He spent nine years on his survey, and the results though imperfect are important; their influence can be traced for nearly two centuries. The maps that followed during this period need not be discussed. They were gradually influenced by the coast surveys of the time; and by the middle of the 18th century the two became consistent and true.

*b.* Portulanes and coast surveys. The study of portulanes would be both interesting and instructive, but I have not enough for the purpose. Suffice it to say that the earlier ones were made in other countries, and hence our first supply of them comes from abroad.

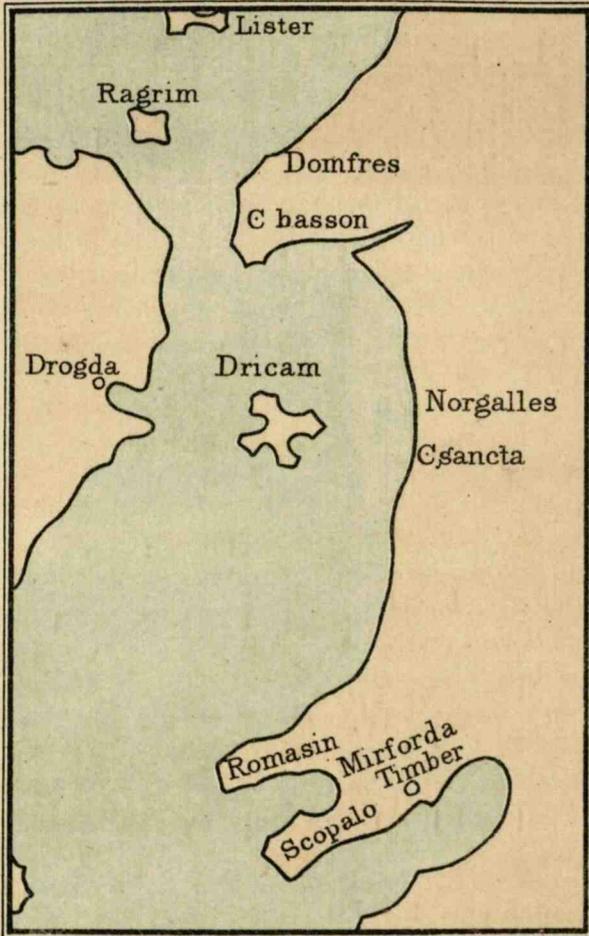
Their value also to us decreases as time goes on—the oldest are, I believe, the best; *they* were independent productions, the results of actual work. In later ones the copyists have attempted to improve upon their pattern, or have carelessly left it. Thus while the early portulanes contain only the principal ports where a landing might be effected, the later ones gradually include the smaller rivers—I might almost say rivulets. They are affected too by the coast lines of contemporary maps. All this is quite what might be expected: the artist desired to include the "latest information."

Bearing in mind that our maps begin practically about A.D. 1300, the first portulane or coast chart I can refer to is in the Atlas of Petrus Vessconte 1318. Here our coast is nameless

\* Wynkyn de Worde's "Map of England," 1520, was apparently a portulane. Bagford calls it "a chart of the coasting part of England." See Leland's *Collectanea*, Vol. I, p. lxxx.

† Mercator's Great Map of the World was published in 1569. Here his ideas of our coast are very crude; *Laurpreston* seems to include both Liverpool and Preston.

"MEDII ÆVI. TYPUS 1370-1470."



and unknown. North of the Severn there are but two names, *Casia Bristo* and *Cap' Sto* (Holyhead).

The next, "Des Freres Pizigani," 1367, is but little improved; but we have in it *tibit*, (Tenby) *Milforte*, *Ramusa*, the Island, and *Gales* for Wales. I shall pass these by.

The first portulane which I shall use, the best of this type, is found in the *Tabula Catalana* A.D. 1375. (Plate V.)

In one form or another this does duty as the modern map of Britain, in the *Nuremberg Chronicle*, map 1493; in Pirkheimer, 1525; Servetus, in 1535; and I think in one or two earlier sets of maps. It is also the modern map in Bordone's *Isolario*, 1547. It is the basis of the "corrected" map of Sylvani in 1511, and no doubt appears elsewhere. But please to note that *up to c. 1380* I have *no* evidence of a survey of our own local coast. This Catalana survey did not extend beyond the Severn. The whole coast line from Cape Wrath to St. David's consists of two shallow curves, like an elongated figure 3. The middle point is *Cape Basson*, near "*Domfres*," which from its position should be the Mull of Galloway. The only station on the lower curve,—it does not disturb the line, is *Capo Sancta*, by "*Norgalles*," for Holyhead. At St. David's Head we have *Romasin* (Ramsey Ins.), and *Timber* (Tenby). From the Severn, along the south and east coasts, the names are numerous.

The earliest Lancashire and Cheshire portulane I have to shew you is one printed in the French Calendar for 1458. As I shall have to deal with it in a few minutes, it may be sufficient to say now that we find in it Liverpool and Chester. It does duty until nearly 1600! I have two others on vellum, and a careful fac-simile tracing of a third.

The first (c. 1520) is damaged for our purpose by the fact that the coast at Liverpool is obscured by one of the compass centres, and further, although the names we should wish are there, I have small faith in their positions.

The second (c. 1550) is an ornate affair, resplendent with colour, silver, and gold, all of which I would gladly have spared, had they been exchanged for a coast line more to my mind. This portulane plainly belongs to a much later type, and is not

free from *map* influence; however the names are there, and not badly placed.

The fac-simile tracing is also rather late, but shews evidence of careful work. It is of a different type to the others, and, though it contains no names, the havens we require are distinctly there. The depression of the Dee and the contraction of Cumberland are evident. The S. and E. coasts are improved, and especially Scotland. In general character, and indeed in not a few particulars, it is very like the map published by Henric Petri (Basileæ, 1561) to illustrate Honter's *Cosmography*.

It may be desirable to put the names in the three portulanes before you, so as to compare them with those of the old Bodleian map. The orthography is as correct as I could make it.

Map c. 1300	Port. c. 1455.*	Port. c. 1520.	Port. c. 1550.
Doden fl.	...	...	...
Fornes.	...	...	Fornes.
Cartmell.	...	...	...
Kent fl.	quiroubit.	...	...
Lancaster.	...	...	Cart.
Lon. fl.	...	...	...
Preston.	Prstont?	...	breſt.
Wigan.	...	Cartel.	begam.
Lyrpoll.	verpoull.	Lonos.	Lyrpol.
Chestre.	Cheſtre.	Luerpol.	Cheſtre.

You have here a "workshop" tracing of the four placed side by side.

As to the general contour of the Island, the remarks I shall have to make upon the first portulane may be said to apply very generally to the others. So much for mediæval portulanes, which bring us very nearly to the date of Saxton's maps. In 1693 Collins' *Coasting Pilot* was published; other charts succeeded, the results of improving instrumental means; and thus we arrive at our own wonderful Ordnance publications. Let us now take stock and

\* The first name in the Berjeau copy is *quiroubit*, which, from its position, I read Kirkby (Kendal). It is true that Kendal is not on the coast, it is some way up the Ken, but the settlement of a colony of Flemish woollen weavers there in the reign of Edward III (1327-1340) might have led to the introduction of the name. In the French examples, however, the name is *quicombrit* and *quiconbrt* (Kirkcudbright), and it is placed in Scotland. The British Museum copy may be read *quicoubrit*, and the lower position may be due to want of space below *Vuterne (nutaine, Paris copy)*—I suppose Whithorn.

The next name in Berjeau is practically illegible. In the other copies we have *plstont*, *pillout*, and what suggests *prstont*, for Preston.

Berjeau has *verpoull*, the other three *lerpoull* or *lerponll*. (See note on p. 92.)

see what we have gained, and how we are to apply the knowledge. In the first place we have separated the evidence upon which we can rely. In the next place we have obtained two views of our coast—from within and from without; we have distinguished maps from charts. Relying on the former for the course of our river, we find it there from the first, clear and open, its course the same as it is to-day. In the charts too, however much other names may vary, Liverpool is always there: evidence, to some extent at least, of the importance of the haven. Lastly, we have learned that in dealing with the coast, charts are more reliable than maps; as in the interior we should prefer maps to charts.\*

Let us now apply this to the map history of our coast, commencing with the portulane of 1458.

But before I introduce this portulane, you must allow me a short digression. Have you noticed that up to this point there has been no mention of Ptolemy? His Geography seems to be unknown. In the early years of our era his work was probably supreme; but the “*dark ages*” have intervened. As we emerge from them, however, he soon comes again to the front. Copies of his Geography were made in the fourteenth century; in 1409 it was translated into Latin, and shortly afterwards copies were multiplied. About 1450 Nicolaus Donis was at work. In 1475 it was printed, and more than twenty editions were published in Europe—all except one with the atlas—before the date of our first engraved English map. No edition has been published in England! Rapid geographical progress was made during this period, but Ptolemy was the basis upon which the new work was done. Such was the authority of his book, that it was only on the best evidence, and bit by bit, that it gave place. The Roman fleet coasted round our Island, and the Roman legions marched through the land; hence Ptolemy’s materials included both a portulane and a map.

\* In Arthur Hopton’s *Topographical Glasse*, (London, 1611,) there is an amusing illustration of this. There are two maps of England. The first, chap. xxxv, p. 82—“To reduce many plats, or all your observations into one, and thereby to make a faire map thereof,” &c. In this first map, working from land surveys to the coast, the outline from Bangor to Egremont is simply absurd. In the second, chap. xxxvi, p. 85—“To divide any empire, kingdom, or continent into provinces, regiments, or shires,” we have the inverse process, the coast line being the basis of the work. Here we have, for the time, a really respectable map, including all the chief details of our coast.

Bearing all this in mind, I may now introduce to you the portulane from the French Calendar of 1458. When it was made I cannot tell; in all probability about 1400. A copy is in the British Museum, and a similar one, apparently by the same artist, is in the library at Althorp.\* The enlarged fac-simile, which I am about to shew you, was produced by pantograph from the figure of Berjeau.†

In this portulane—the first I have seen which deals with our coast—the influence of Ptolemy appears. I will read you the notes made upon it five years ago, and therefore with no reference to the present enquiry. Let me ask your careful attention to this portulane, for it is at this point that my argument really begins. My notes are as follows:— (Plate VI.)

“The Ptolemaic basis of this map is evident. The distortion in longitude, although reduced, is still considerable. From Tuccia fl. os. to Ituna est. there is little change, although Anglesea is indicated. Cantium prom. is much below London, and yet Thanet seems to be included. The Wash is as much too high here as it is too low in Ptolemy. Vedra is characteristic.

“The east coast of Scotland, although it runs N. and S. is very much contracted. The west coast above Galloway is very obscure. It forms part of the rude ornamentation of the map. Galloway itself is much corrected, but Cumberland still suffers from the extension of Lancashire, &c. Cornwall and St. David's are improved. There are other names on the map, but they are altogether illegible or unrecognisable.

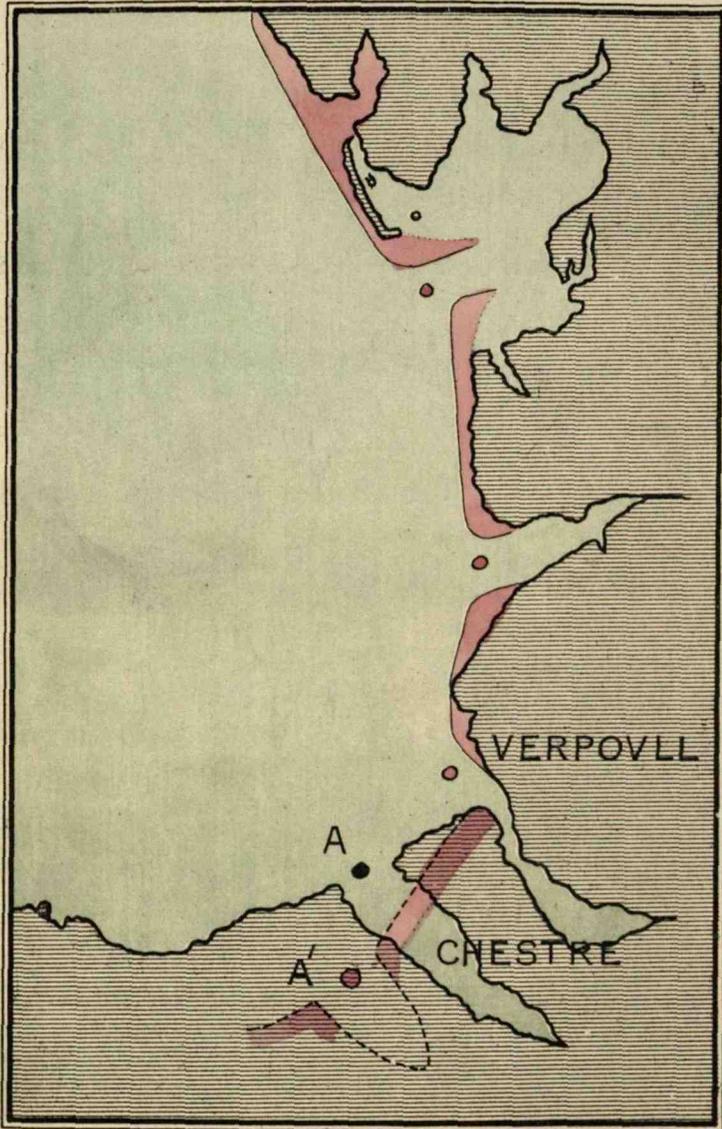
“The names, the breaks in the coast line, the introduction of rocks, banks, sands, &c., distinctly indicate a portulane or coast survey.”

I might have referred also to Norfolk and Suffolk; and the missing Ianganorum Prom.

\* *Bibliotheca Spenceriana*, Suppl., p. 303. Berjeau, *Le Bibliophile*, No. XIX, July, 1863.

† By the kindness of the Trustees of the British Museum I am enabled to publish a fac-simile of the Xylographic map, of which I had before seen only Mr. Berjeau's copy in the *Bibliophile*, which turns out to be very faulty in the names. It is sufficient to say that the fac-simile now published is the work of Mr. F. C. Price, and that his readings are abundantly confirmed by two independent portulanes after the same original, in the National Library at Paris, which I now have in the Atlas of Santarem. It is important to note that the French copy of this portulane is attributed to the close of the fourteenth century; this is in most satisfactory agreement with what I had written. (Note added Sept. 22, 1879.)

OLD PORTULANE AND MODERN MAP.



The names Beomar, Chestre, and Lerpoull, and the sands on our coast, are distinct.

Now take this, our earliest portulane, and apply it to the Ordnance coast line.\* Plate VII shews how little is required to change the one into the other. Proceeding from N. to S. all goes well until we reach the Wirrall; then the curve becomes much too sharp, and the space between the Mersey and the Dee too small. In order to reproduce the portulane we must remove A to A', or, in plain words, we must introduce Ptolemy's error of the *Seteia*, and remove the Dee "fifteen minutes of a degree" south. What is the effect? Not alone is the interval increased, but the *angular bearing of the Mersey from the Dee is very largely changed.*

The question next arises, Is this difference of avail to classify our maps? If it is, the older and larger angle ought to obtain only until the date of Collins' Chart. Let us see; but first, what are the angles? Taking the numbers in the Bertius Theatrum which we are to use for to-night, the bearing of the *Belisama* from the *Seteia* should be about  $51^{\circ}$  north of east; while from similarly placed stations on the Ordnance map, the angle is only  $29^{\circ} 20'$ . The difference is more than  $20^{\circ}$ , and the direction of the line connecting the stations coincides almost exactly with the N.W. shore of the Wirrall. Hence the character of a map may be determined at sight. (Plate VIII.)

General maps on a small scale, however, must be avoided. In them the Wirrall is of very uncertain length, breadth, and angle. A line drawn from the Point of Ayr to Bootle ought to be coincident *nearly* with the Wirrall shore. This, and the general contour of the coast, will usually decide the character of a map.

George Lilly's map I have not seen. The maps of Ortelius shew the larger angle. In Mercator's Atlas the angle is about  $42^{\circ}$ . It is here that I suspect he was influenced by Humphrey Lhuyd. It is not easy, and it is hardly safe, to adopt stations in connexion with Lhuyd's Wirrall, but those I did try made the angle  $45^{\circ}$ .

Saxton's angle is about  $66^{\circ}$ . This is too large; but it must be

\* Too late to correct the error, it was found that the British Museum Xylograph and the French MSS. have *lerpoull*, not *verpoull* as in Berjeau.

remembered that Saxton, bound by his land measures such as they were, reduced the distances, and reduced them in wrong proportions. Or, I may suggest another possible explanation. There is an error in Bertius in the longitude of Belisama. This error is as old as the 14th century, and in such a case, where there are two texts there are two recensions. We do not know the authorities for Saxton's coast; but correct the error I have named, and the angle becomes about  $61^{\circ}$ .

Speed's angle is  $51^{\circ}$ . Jod. Hondius, of the Mercator School, engraved for Speed; but who is responsible for the Cheshire, I cannot tell.

I need not trouble you with succeeding maps; almost all of them were derived from these. It is only needful to add that the map by Morden, as late as 1722,\* which was used by Horsley, makes the angle  $57^{\circ}$ .

Collins' chart was published in 1693, it is true, and in it the angular error was corrected. But the change was only gradually adopted. Though it had not affected Morden's map, reissued in 1722, Hermon Moll had adopted it as early as 1700,† and continued it in his large Atlas, 1710. Others, however, were more conservative. The influence of Saxton, Speed, &c., was great in the land; further, copying is much more easy than original work, and costly map plates serve for several editions. After the middle of the 18th century, however, the smaller angle and the truer lines were established; and so they remain. Moll's map of 1700 is the earliest I have yet seen of this class. This is seven years after the chart of Collins.

There is one point that I have overlooked. Ptolemy's errors were, that he depressed the Dee and contracted Cumberland. Now nearly six years ago, to see what amount of distortion would pass without remark in an 18th century map, I superimposed by pantograph, the coast in Johnston's Royal Atlas upon that of the map in Gale's Antonine Iters (1709). The old map thus compared shews both the Ptolemaic errors, and the

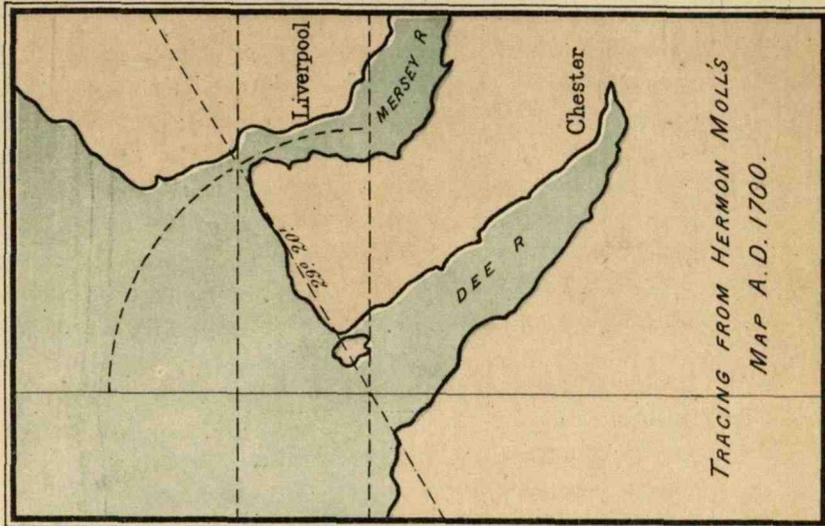
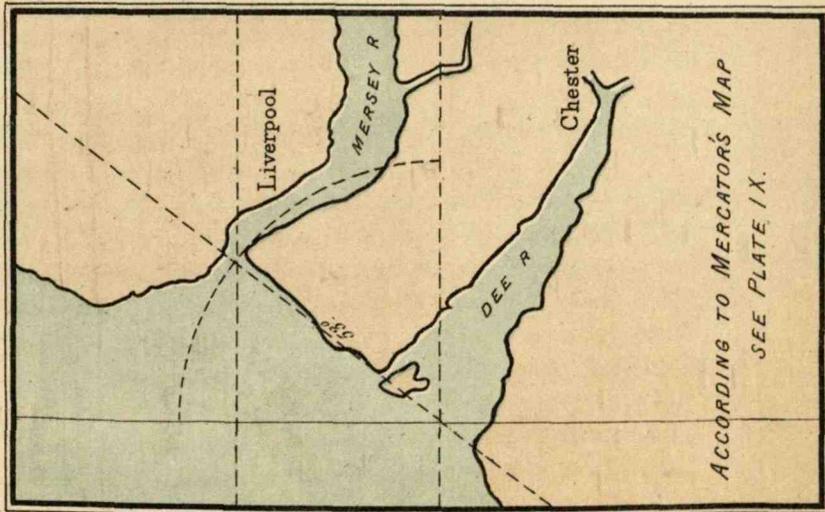
\* Bishop Gibson's second edition of *Camden*; but the map was engraved for the first edition, 1695.

† See Dr. Leigh's *Natural History of Lancashire, Cheshire, &c.* (Plate VIII, ante.)

ANGULAR BEARING OF WIRRAL SHORE.

PTOLEMAIC ANGLE.

TRUE ANGLE.



WE LOWE (LATE L. SYERS).  
LITH. LIVERPOOL.

same, I expect, would be found in others. I did not suspect the relationship at that time.

And now, after this long, and I hope not wearisome or unprofitable, *search*, we are in a position to come back to Horsley, his "*must be*," and the materials he used.

1. He used Mercator's so-called Ptolemy map, first published in 1578.\* The same plate was printed from at intervals until at least 1698,† which is the date of the latest edition I have. During this interval some small changes were made in the maps by Hondius, but as yet I have detected none in the Britain, so far as we are concerned.

2. He had Bishop Gibson's *Camden*, 1722, which shews the angle 57°.

3. He prints several maps of Britain in his own work. These are perhaps the most direct evidence we could expect. Two of his maps are on about the same scale as Mercator's. These I shall use.

Lastly, some previous owner of my own copy has inserted an additional map of, I think, about the same date, and on almost the same scale. This is, of course, independent of Horsley. I shall use it as a check upon the others. Let me add that this uniformity of scale is a fact not entirely without significance.

Taking these four maps then, my proceedings were as follows:— (Plate IX.)

1. A careful tracing was taken of the needful portion of each of them, and station points, in as nearly the same positions as was possible, inserted. Lines to represent the meridian and parallel of Dee mouth were added.

2. These tracings were carefully transferred to a sheet of diagram paper, arranged side by side, so that the Dee stations should be on the same horizontal line, and then other lines *parallel to this* were drawn from the Ptolemaic stations through the other maps. The results were as follows:—

\* Tabulæ Geographicæ Cl. Ptolemæi ad mentem autoris restitutæ et emendatæ. Col. Agrip. Typis Godfridi Kempensis.

† Cl. Ptol. Tabulæ Geograph., &c. Trajecti ad Rhenum, F. Halmam et Guil. Vande Water. Et Franequeræ Leonardum Strick.

The line from *Belisama* passes *precisely* through the Mersey stations of the other three.

The line from *Setant. port.* is nearly as true in Horsley's maps, but fails, through a palpable error, in the other. Lastly,

The line from *Morccambe* is not quite so exact, for reasons not far to seek; yet it passes into the bay in all of them, and is as decisive as the name.

My last test was to rule diagonal lines through the Dee and Mersey stations in all of them, and measure the angles. The angle on the Mercator map was  $53^\circ$ , while the others varied only between  $52^\circ$  and  $55^\circ$ .

In behalf of Horsley, I claim for this diagram an authority beyond appeal; or rather, I claim that we have now safely reached the following conclusions:—

That until Camden and Dr. Whitaker\* interfered, the one with his vacuous etymology and the other with his careless prejudice, there was no doubt whatever about the *Belisama*.

That the influence of Ptolemy did not leave the maps of our coast until the middle of the 18th century.

That Horsley, in determining the *Belisama*, was really testing Ptolemy by Ptolemy; and that, therefore, his "must be" *was* "of necessity" and a matter of course.

That whether we appeal to geology and physical geography, to the map history of the coast from the earliest times, or to the text of Ptolemy himself,† the testimony is uniform and consistent.

And lastly, that, relying upon the strength of this three-fold cord, we may repeat Horsley's words with confident emphasis:—"The *Belisama* from its situation *must be* the Mersey."

And now, gentlemen, I have "had my say" about our coast; at least I think so, for I fancy I made the same remark when we last met. However, leaving the future to take care of itself, believe me when I say that, if what I have read to-night gives to you or to others a tithe of the satisfaction the investigation itself has afforded to my own mind, I shall be amply rewarded.

\* See Hist. Soc. *Transactions*, vol. xxx, pp. 82—84.

† Hist. Soc. *Transactions*, vol. xxx, p. 90.

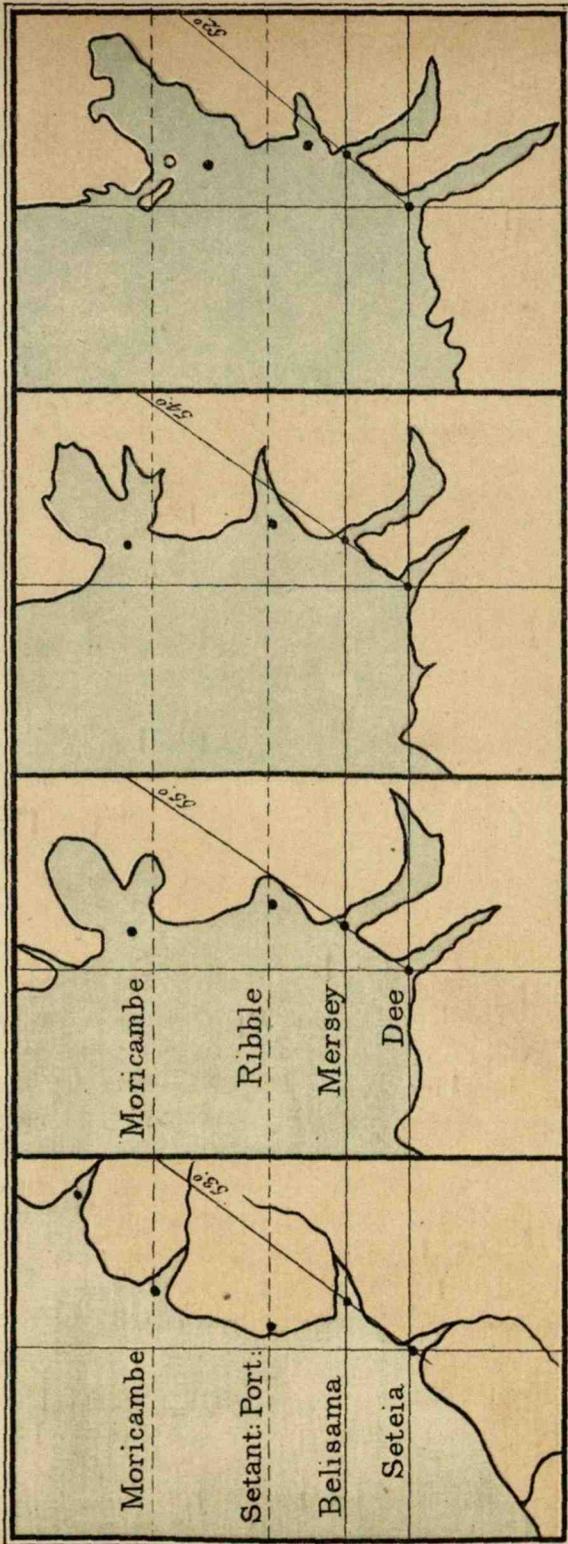
# HORSLEY'S BELISAMA.

MERCATOR.  
"PTOLEMY."

HORSLEY.  
[NOTITIA.]

HORSLEY.  
[ANT: ITERS.]

INSERTED.  
[UNKNOWN]



THE STATION POINTS IN MERCATOR'S MAP ARE HIS OWN. COMPARE PLATE 2 IN VOL. XXX.

W.P. Lowe: Late L. Stevens.  
Dum. Liverpool.