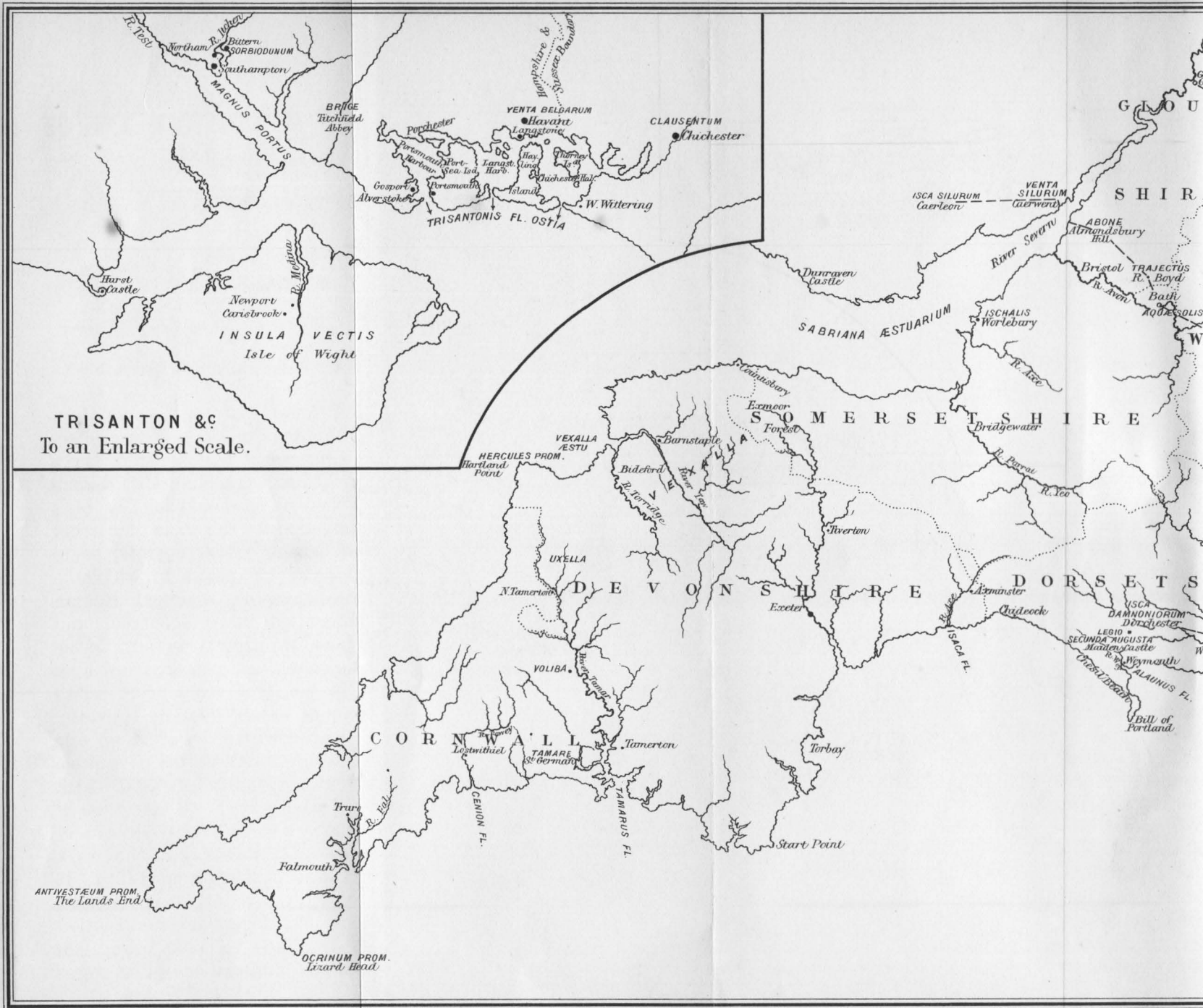
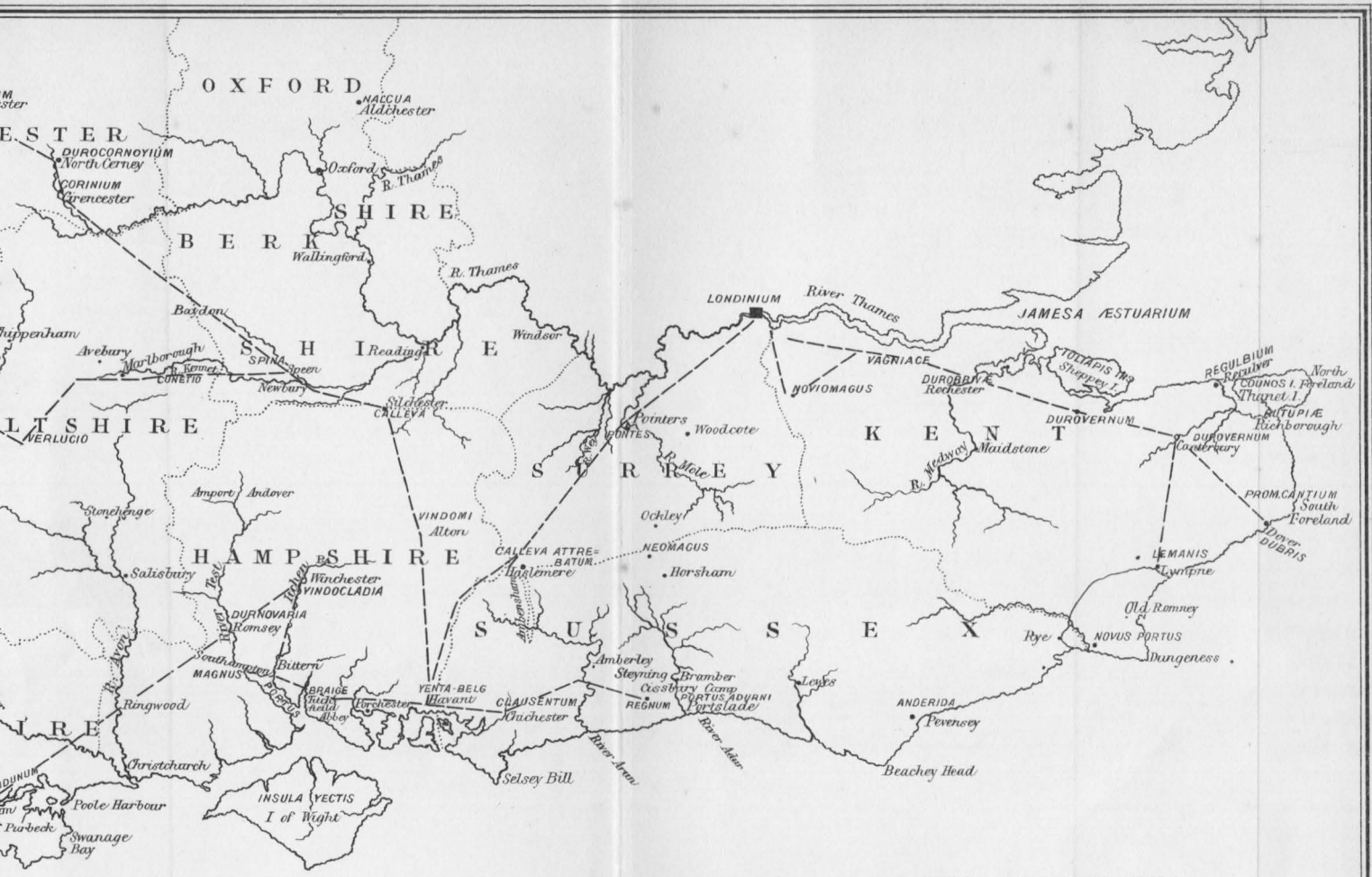


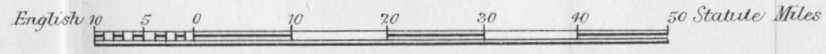
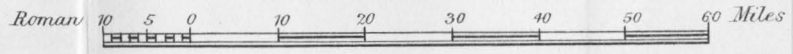
Roman 10 5 0 10 20 30 40 50 60 Miles

English 10 5 0 10 20 30 40 50 Statute Miles





THE MEASUREMENTS OF PTOLEMY  
and of  
**THE ANTONINE ITINERARY**  
APPLIED TO THE  
SOUTHERN COUNTIES OF ENGLAND.



THE MEASUREMENTS OF PTOLEMY AND OF  
THE ANTONINE ITINERARY,  
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BY GORDON M. HILLS, Esq.

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IN the year 1874 I directed the attention of the members of the British Archaeological Association, and of archaeologists generally, to the necessity that existed for a systematic attempt to correct and complete the Roman geography of England. I then pointed out that Camden's labours had been greatly impeded by the want of correct maps on which to test the Roman measurements, or to identify the relative positions of the places to which he or the antiquaries, his predecessors, assigned Roman names. Some improvement in maps occurred, and patient inquirers were not wanting; but until the Ordnance Survey was undertaken, a hundred years ago, no maps existed accurate in point of scale, or adequate in detail, for the requirements of antiquarian research. When the Ordnance Maps, drawn to the scale of one inch to the English mile, were published, this advantage was countervailed by the extraordinary deception which had been practised on Dr. Stukeley. The *Description of Roman Britain* and the *Itinerary* compiled by Bertram of Copenhagen, and foisted upon Dr. Stukeley as the work of Richard of Cirencester, was published in 1759. It continued, with but little exception, amongst antiquaries, down to 1866, to be received as a genuine composition of the fourteenth century, presumed to have been then compiled from existing classical authorities. The pages

of the *British Archæological Journal*, vol. xxv, p. 123, have already shown how Mr. Woodward, the Queen's Librarian at Windsor, exposed the cheat. The supposed ancient authorities of honest Richard of Cirencester, it was then found, had been mustered in array from Camden and his successors, and dressed in an imposing form by the perverted ingenuity of Bertram. The corrections of Camden and the confirmations of Camden, drawn by numerous writers from Bertram's text, are appeals from the learned and venerable Camden himself to Camden's learning soiled and spoiled by a weak imposture. Newer and more independent theories, drawn from Bertram's premises, are now perceived to be utterly valueless. The imposition is now recognised, and, free from its cloud, we are at liberty to start in a fresh light.

For a successful inquiry into the ancient geography of the country, good maps are essential. The face of the country being always the same, an accurate representation of it is the best guide to the understanding of imperfect and partial description. We have an inch scale Ordnance Survey complete throughout the country, and since its first publication, it has been continually enhanced and improved, down to the present day, by perfecting its detail. A large part of the northern counties and a small part of the southern has been published to the noble scale of 6 ins. to a mile. The examination of one sheet of this map, which takes in the neighbourhood of Ockley, in Surrey, will show how a simple delineation of the actual lands of the district sets out in the clearest manner the Roman Stane Street passing there, in the ancient route from Chichester to London, and will exhibit the high value of this map. I believe that the entire country has been surveyed and drawn to this scale, and that only the authority of Parliament, too long delayed, is needed to carry on the publication.

My purpose is to offer a contribution to the re-examination of the Roman topography of the southern counties. The plan I adopt is, first to adjust Ptolemy's description of the south coast and south districts of Albion to the map of Southern England; to further fill up the map

from the *Peutingerian Tables*, the *Notitia Dignitatum*, and the *Ravennas*, and to apply upon it the more precise information afforded by the *Antonine Itinerary*.

The latitudes and longitudes of Ptolemy are widely different from modern reckonings, but the places and their distances being still the same, as they ever were, we ought to consider what led to his ideas of distances and measurements. By ascertaining what was his estimate of the extent of a degree we can compare his scale with ours. The distance given by Ptolemy, from the extreme west point to the extreme east point of the south side of the Island of Albion—that is to say, from the Promontorium Bolerium or Antivestæum to the Promontorium Cantium—is  $10^{\circ} 30' 0''$ .<sup>1</sup> The true distance by the inch scale Ordnance map is  $7^{\circ} 7' 45''$ . The whole known world, according to Ptolemy, had  $180^{\circ} 0'$  of longitude, extending from  $0^{\circ} 00'$  at the Fortunatæ Insulæ or Canary Islands to a place  $3^{\circ} 00'$  east of “Cattigara statio,” where sprang up the fountains or head waters of the rivers of the country.

Maps laid down from Ptolemy's particulars of latitude and longitude, and compared with modern maps, show that Cattigara was on the west coast of the present Borneo, near its southern extremity. Ptolemy connected Borneo, the Philippines, and Formosa into one line of coast, which he supposed joined to the south coast of China, and thereby shut in a large ocean gulf, with our Singapore and Borneo at its extremities. The true distance of Ptolemy's  $180^{\circ}$  of longitude is, as nearly as possible  $130^{\circ}$ . His number of degrees was, in fact, 27.7 per cent. too many, as the following calculation shows:—

$$\frac{180 - 130 \times 100}{180} = 27.7$$

a proportion of error which is about 16 minutes 37 seconds in every degree. A correction in this proportion applied to the south coast of Albion reduces Ptolemy's  $10^{\circ} 30' 0''$

<sup>1</sup> In some copies of Ptolemy the longitude of the Promontorium Antivestæum is given as  $11^{\circ}$ ; and that of Cantium  $22^{\circ}$ . The whole distance, then, is  $11^{\circ}$ .

to  $7^{\circ} 40' 0''$ , which differs from the truth by only thirty-two minutes. His reckoning of the difference of longitude between the Promontory Cantium, in Albion, and his own dwelling place at Alexandria is  $38^{\circ} 30'$ . The true distance is  $28^{\circ} 27' 15''$ , the error being an excess of 26 per cent. The proportion of error does not differ widely in the two instances, but a careful examination will show that the altered proportion is due to one principal local error of measurement. Ptolemy does not describe the south coast of Britain as extending so far west as the Promontory Antivestæum, although his figures show he knew that promontory to be the extreme western point. He describes that promontory as on the west side of Albion, and passes on to the completion of the west side at the Promontory Ocrinum, which begins the description of the south side of Albion. In beginning the south coast at Ocrinum we escape an uncertainty and a difficulty of calculation, arising from the two different longitudes, assigned to the Promontorium Antivestæum in different editions of Ptolemy. From the Promontory Ocrinum to the Promontory Cantium is, by Ptolemy,  $10^{\circ} 00'$ , by the inch-scale Ordnance map  $6^{\circ} 36' 25''$ . The proportion of error has here risen to 33.8 per cent. This greatly increased proportion of error suggests that he has been misled by some local measurement which gave him, when converted into degrees, too great an arc for the extent in longitude of the south coast of Britain. Assuming his "Damnonium quod etiam dicitur Ocrinum Promontorium" to be the Lizard Head in Cornwall, the longitude  $12^{\circ} 00'$  east of the Canaries or Insulæ Fortunatæ of Ptolemy requires only to be corrected 27 per cent. to be about  $9^{\circ}$ , which is almost accurately correct. By giving a length of  $10^{\circ} 00'$  from the Promontory Ocrinum to the Promontory Cantium he pushed the east end of Albion a great deal too far to the east. A large part of this error lies in the distance of  $3^{\circ} 40'$  assigned by Ptolemy to the longitude from the Promontory Ocrinum to the mouth of the river Tamar. The true distance between the meridians of these two places is  $1^{\circ} 5'$ , or 65 minutes. The regular proportion

of error in his degree would have led him to call it  $1^{\circ} 23'$ , or  $83'$ ; so that between these two meridians he had a local error of  $2^{\circ} 19'$  of his own degrees. Deduct this local error from his whole longitude of the coast,  $10^{\circ}$ , and the corrected quantity in Ptolemy's degrees would stand at  $7^{\circ} 41' 0''$ , to compare with the actual longitudinal extent of  $6^{\circ} 36' 25''$ . Excepting the longitudinal measure of Cornwall, his error on all the rest of the coast is scarcely  $1^{\circ} 5' 0''$ , being 37 minutes nearer the truth than his measure of the degree might be expected to have brought him. It is highly probable that in the difficulty of reconciling local measurements from point to point along the coast, with observations by time, made at such principal stations as the Promontories Ocrinum and Cantium and the Island Vectis, Ptolemy or his informants somewhat corrected themselves as to the extravagant length they had given to the land from the Promontory Ocrinum to the Tamar, by reducing the length given to them of the country from the Tamar eastward to the Promontory Cantium. According to Ptolemy, the distance from the Tamar to the Promontory Cantium is  $6^{\circ} 20'$ . These figures, reduced in the proportion of 180 to 130, or 27.7 per cent., would be  $4^{\circ} 34' 27''$ . The true distance is  $5^{\circ} 31' 25''$ , so that of his error of  $2^{\circ} 19'$  of excess west of the Tamar he recovered  $0^{\circ} 56' 58''$  (nearly a degree) by some rectification of his measurements in the eastern distance. Nothing but a simple admission of wrong information of measurements can account for the extraordinary error of distance between the Promontory Ocrinum and the river Tamar; but some minor errors are not difficult to explain. When Ptolemy had a given distance in stadia, before he could produce the figures of latitude and longitude for the station at each end of the measured line, he had to determine what angles that line made with the meridians, and with the parallels of latitude; so that even if he had the distance correctly he would be wrong if misled or misinformed as to the bearing of the line. There can be very little doubt that the want of true bearings must have been one of the chief difficulties in his way.



The places and their positions given by Ptolemy in the districts of the country now to be discussed, are as follows:—

*Part of the West Coast of Albion.*

	Longitude West from the Insulæ Fortunatæ.			North Lat.	
	°	'	...	°	'
Sabriana Æstuarium . . . . .	17	20	...	54	30
Vexalla Æstuarium . . . . .	16	00	...	53	30
Herculis Promontorium . . . . .	14	00	...	53	00
Antivestæum Promont., quod etiam dicitur Bole- rium . . . . .	{11	30*	...	52	30
	{11	00			
Damnonium, quod etiam dicitur Ocrinum Pro- montorium . . . . .	12	00	...	51	30

*The South Coast of Albion.*

Post Ocrinum Promontorium, Cenionis fl. ostia	14	00	...	51	45
Tamari fl. ostia . . . . .	15	40	...	52	10
Isacæ fl. ostia . . . . .	17	00	...	52	20
Alaunii fl. ostia . . . . .	17	40	...	52	40
Magnus Portus . . . . .	19	00	...	53	00
Trisantonis fl. ostia . . . . .	20	20	...	53	00
Novus Portus . . . . .	21	00	...	53	30
Cantium Promontorium . . . . .	22	00	...	54	00
Sub Magno vero Portu, Insula est Vectis, cujus, medium gradus habet . . . . .	19	20	...	52	20

*Part of the East Coast of Albion.*

	Longitude West from the Insulæ Fortunatæ.			North Lat.	
	°	'	...	°	'
Jamesa Æstuarium . . . . .	20	30	...	54	30
Postquam Cantium est Promontorium . . . . .	22	00	...	54	00
Juxta Trinoantes vero insulæ hæ sunt, Toliapis Insula . . . . .	23	00	...	{54*	20
				{54	15
Counos Insula . . . . .	24	00	...	54	30

*The Districts of the Country and their Towns.*

Post quos (Silures) Dobuni et Urbs Corinium . . . . .	18	00	...	54	10
Post Atrebatii et Urbs [Calleva, Gallena, Cal- cua, Nalcua]* . . . . .	19	00	...	54	15
Post quos maxime orientales, Cantii in quibus Urbes, Londinium . . . . .	20	00	...	54	00
Daruernum . . . . .	21	00	...	53	40
Rutupiæ . . . . .	21	45	...	54	00
Rursus Attrebatii et Cantii subjacent Regni et Urbs Næomagus . . . . .	{19	43*	...	{53*	46
	{19	45			{53

\* Readings differ.

		o	'	o	'
Dobunis vero subjacent Belgæ et Urbs, Ischalis	16	40	...	53	30
Aquæ Calidæ . . . . .	17	20	...	53	40
Venta . . . . .	18	40	...	53	30
Deinde versus occasum et austrum Durotriges sunt,	{18	00*	...	{52*	40
in quibus Urbs Dunium . . . . .	{18	50	...	{52	05
Post quos maxime occidentales, Damnonii, in					
quibus Urbes, Voliba . . . . .	14	45	...	52	20
Uxella . . . . .	15	00	...	52	45
Tamare . . . . .	15	00	...	{52*	25
Isca . . . . .	17	30	...	52	45
Legio Secunda Augusta . . . . .	{17*	00	...	{52*	30
	{17	30	...	{52	35

Taking the south coast for the base line of the survey, it will be found convenient to fix the positions of the places north and inland from, and in relation to, this base. The difficulty arising from local errors, which prevents us from acting, along this base, exactly on the reduction of Ptolemy's degrees to true degrees, has been so far pointed out that the use of the following table will be appreciated. It seems to present the nearest approximation to a true calculation for the base that can be worked out from a proportion of error in Ptolemy's figures; and in its application it shows also where all attempt at proportionate correction fails.

*Table showing the Longitudes East from the Promontorium Ocrinum, of the Places named by Ptolemy on the South Coast, with Corrections:*

	Distances East by Ptolemy's Longitude.			Distances East, corrected by deducting the local error of 2° 19' between Ocrinum P. and Tamarus fl.			Distances East further corrected in Proportion to the true distance between Ocrinum P. and Cantium P.				
	o	'	"	o	'	"	o	'	"		
Ocrinum Promont.	0	00	00								
Cenionis fl. Ostia	2	00	00								
Tamari fl. Ostia .	3	40	00	...	1	21	0	...	1	9	34
Isacæ fl. Ostia .	5	00	00	...	2	41	00	...	2	18	18
Alaunii fl. Ostia .	5	40	00	...	3	21	00	...	2	52	40
Magnus Portus .	7	00	00	...	4	41	00	...	4	1	23
Trisantonis fl. Ostia	8	20	00	...	6	1	00	...	5	10	6
Novus Portus .	9	10	00	...	6	51	00	...	5	53	3
Cantium Promont.	10	00	00	...	7	41	00	...	6	36	25
Vectis Insulæ, medium	7	20	00	...	5	1	00	...	4	20	44

\* Readings differ.

The last column is thus calculated :

$$\begin{array}{l} \text{Ptolemy corrected} \quad . \quad 7^{\circ} \quad 41' = 461' \\ \text{True distance} \quad . \quad 6 \quad 36 = 396' \end{array} \left. \vphantom{\begin{array}{l} \text{Ptolemy corrected} \\ \text{True distance} \end{array}} \right\} \therefore \frac{396 \times \text{the degree Ptolemy}}{461} = \left\{ \begin{array}{l} \text{a degree} \\ \text{corrected} \\ \text{to actual} \\ \text{extent.} \end{array} \right.$$

The application of the last column of this table to the maps will take us to the positions to be assigned to the rivers Isaca and Alaunus, which seem to have had their longitudes calculated by distances taken from the Tamarus; and the reason why their places were fixed in relation to the Tamarus was that all these places were in the territory of the Damnonii. The next group is in the territory of the Belgæ, the Insula Vectis being the key to the group, with Magnus Portus to the east and the river Trisanton to the west. Novus Portus was, as its small distance from the Promontory Cantium shows, in the territory of the Cantii, and its distance was probably settled by measurement from that promontory, which was the principal station for calculation of the western group. We must now take into consideration the identification of each place separately.

The figures of Ptolemy point out the position of the Promontory Antivestæum as the most westerly point of England, and near to its southern extremity. To these conditions the Land's End answers. Equally, Ptolemy's figures and the order of his descriptions point out the Promontory Ocrinum as the most southerly headland of the south coast, and as the west extremity of that coast as a base line. To these conditions the Lizard Point in Cornwall answers. The almost universal opinion of antiquaries allows this to be the true identification of these two points, notwithstanding the impossibility that exists of accommodating to the distance between the stations, the figures by which Ptolemy gives that distance. This impossibility must be taken to show, not that the identification is wrong, but that he had incorrect measurements furnished to him.

The river Cenion, the first place eastward from the Promontory Ocrinum in the list, must be passed over for the present, until we have dealt with the succeeding

name, the river Tamarus. It has been already suggested that here also we have a specific error of local measurement, which would place this river far east of the river with which it must be identified, viz., the Tamar. An attempt to apply the measurement given by Ptolemy on a true map, even with the reduction of 27 per cent., to allow for the proportion of his degree to the true degree, would place the Tamar as far east as the village of Chideock, in Dorsetshire, 14 minutes east of the river Axe. I remember reading in a French geographical work of about 1825 that the position of the Land's End in England was not then determined within twenty miles. We need not therefore be greatly surprised when we find that Ptolemy's scheme misplaces the Tamar by fifty-two miles, in relation to the Lizard Head. The mouth of the Tamar is only forty-eight miles east from the Lizard Head. Camden traces the present name of the Tamar far back into the Saxon era; the two villages of Tamerton, one in Cornwall, near the source, and another in Devonshire, near the mouth, assist to fix the name on the district, and the universal opinion of antiquaries allows that this is the proper identification. Upon the west side of the Tamar, and a little inland, Ptolemy's figures place Urbs Tamare, probably St. German's; and due north from that, Urbs Uxella, near to Hartland Point, on the north coast of Devon. The latitudes of Ptolemy show that the distance across the country, from the mouth of the Tamar to Hartland Point, the Promontorium Herculis of Ptolemy, was reckoned 110 minutes; that the city Tamare was considered 15 minutes<sup>2</sup> north from the mouth of the Tamarus, and the city Uxella the same south of Hartland Point. Again, a little to the west and 25 minutes to the south of Uxella, Ptolemy places Urbs Voliba. Uxella would seem to have been also the name of a district or small principality, of which this was the chief town, for Ptolemy reports the name of a bay or estuary on the north or Severn coast of this country, Vexalla Æstuarium, as much as 45 minutes (too much, no doubt) north of the

<sup>2</sup> Some editions make it only 5 minutes north.

town of Uxella, nearly opposite to the mouth of the Tamarus, but somewhat east of it in longitude. The only possible identification for this estuary seems to be that in which the waters of the Torridge and the Taw unite, below the towns of Bideford and Barnstaple. A little further west Ptolemy fixes the entrance to the estuary of the Severn, which probably was at a line drawn across that estuary from the promontory now called the Foreland, on the north coast of Devon, near Countisbury, close to Somersetshire, to near Dunraven Castle, in Glamorganshire.

Having admitted the position of the Tamarus, the river Cenion must be found between it and the Ocrinum Promontory. Camden, on very slight grounds, identifies it with Falmouth Harbour, which is itself not a tenth part of a degree east from Ocrinum Promontory. If Ptolemy had intended this place, it seems scarcely credible that anything could have led him to represent it as two degrees distant, although it must be difficult to find any argument at all on figures so palpably in error. However, if there is any proportion in their error, his figures represent it as lying between Ocrinum Promontory and the Tamarus, and a little the nearer to the latter. The river which best accords with this position is the river Fowey.

The attempt at identification for all these places, as here suggested, rests on the idea that although the figures of Ptolemy's calculations for latitude and longitude must be rejected as incorrect, yet they show approximately the bearing and direction of one neighbouring locality towards another. The very reason why he proceeded to calculate the latitude and longitude of the places was that he had studied the direction of their respective distances. This idea was altogether disregarded by Camden, who, depending on the jingle of a syllable or two, identifies Voliba with Falmouth (Vol, Vale, Fale, Fal), and Uxella with Lostwithiel. Others had previously taken Voliba for Bodmin, Uxella for Krekhornwell (?), and Tamar for Tiverton.

According to the scheme I suggest, all the three towns of the Damnonii, already named, Tamar, Voliba, and

Uxella, lay near to the line of the river Tamar. The fourth and last town of the Damnonii named by Ptolemy lay much further to the east. This was the town called Isca. I have not the advantage of a personal acquaintance with any of the places previously named. In the case of Isca, and of many of the places hereafter under discussion, I have a personal acquaintance with the sites, and some of them have long been the subject of my careful observation and consideration. At Isca also we begin the places whose identity will have to be tested by the measurements given in Roman miles in the *Antonine Itinerary*.

The town of Isca lay westward of the river of Isaca. This river is the next place in succession to the river Tamar in Ptolemy's coast description. The distance between the Tamarus and the Isaca, in corrected degrees, is barely  $1^{\circ} 9'$ , which, measured from the Tamar, overshoots the mouth of the river Exe in Devonshire, and goes about two miles beyond the river Axe. Isaca has been thought to be the translation made by Ptolemy, or his informers, of the ancient generic name of Uisc, or Usc, or Isc,—a name which amongst ourselves has, as is usually supposed, come to be translated in Devonshire into Exe in one case, and, I suppose, in the immediate neighbourhood, in two other cases, into Ax or Axe.<sup>3</sup> These three rivers Isc are the Exe, which flows to the south coast, and on which stands the city of Exeter; the Axe, near the border of Dorsetshire, flowing also to the south; and the Axe within the border of Somersetshire, flowing into the Bristol Channel. By far the most important of these streams is the Exe; but it is very questionable if this is the river Isaca of Ptolemy. The southern Axe, though a much inferior stream, holds a place close to the position deduced from his longitude, and must be accepted as the true Isaca. His town of Isca is indicated by him to lie 30 minutes eastward of the Isaca. Without detracting from the antiquity

<sup>3</sup> Professor Rhys remarks: "The Usk is *Wysyg* in Welsh, and the Irish word for water is *uisce*; but whether this has anything whatever to do with these names is far from clear."

of the city of Exeter, I contend that it cannot be identified with this Isca Damnoniorum of Ptolemy, although by Camden and nearly all others, except Horsley, that identification has been allowed. The 30 minutes of Ptolemy's longitude east of the Isaca, brings it nearly to Dorchester. In the same longitude, and south of Isca, Ptolemy places the station of the Roman military force which maintained their power in these districts, viz., the station of *Legio Secunda Augusta*. To find the two places, a Roman town and the legionary station, we must look to the town of Dorchester, with its Roman amphitheatre and extensive and numerous evidences of Roman antiquity; whilst two miles and a half to the south of it lies that magnificent fortification the Maiden Castle, so well shown in Mr. Munt's plan, published in the twenty-eighth volume of the "Archæological Journal"—one of the most extensive, elaborate, and impressive of the ancient fortifications of England. In some editions of Ptolemy the latitude of the military station is 5, and in others 10 minutes south of the city; and there is a difference of 30 minutes in the readings of the longitude. But the amount of authority for their contiguity, and the actual existence of two such places, leave little room to doubt this identification. Exeter has so long enjoyed the reputation of succeeding to the Isca of Ptolemy that I suspect it of having, in some points, usurped the later history of Dorchester. I may remind my readers of a passage in the life of King Alfred, where, when he is besieging the Northmen in Wareham, they are represented to have forced their way out and seized Exeter, where Alfred again besieged them, and then defeated in Swanage Bay a fleet which came to their relief. Now Dorchester is much more likely to be the place seized, by its proximity to Wareham, than Exeter; and a fleet coming to the relief of Dorchester would naturally be in Swanage Bay, whilst one succouring Exeter would, it is most likely, be in Torbay.

The next place east of the river Isaca, in Ptolemy's coast progress, is Alaunus Fluvius, which seems to be a corruption of the generic name Avon. The corrected

distance, in degrees, brings it exactly to the river Wey, where, with the ancient towns of Weymouth and Melcombe Regis on either bank, it discharges into the deep bay shut in by the Bill of Portland. The only Avon, now so called, on the south coast, debouches at Christchurch, in Hampshire; but neither the relation in distance which it bears in Ptolemy to the Tamar, nor to the Isle of Wight, will allow us to place it there. The calculation for it probably has relation to that which fixes the position for Isca to the neighbourhood of Dorchester; the longitude is nearly the same, and the latitude agrees, and brings the river into one group with Isca and the military station of the *Legio Secunda*, closely agreeing with the relationship of Dorchester, the great fort south of it, and the estuary of the Wey, six miles further south. Just as Weymouth Harbour now is the port for the town of Dorchester, it was in old times, when it was fully commanded by the Second Legion, and formed an important means for facilitating their operations, and for their safety and communications.

Before quitting the Damnonian country I must revert, for a few sentences, to the Exe, to what I have said of the town of Uxella and the district connected with it on the north Damnonian coast, marked by the Vexalla estuary. Do not these names suggest a connection with the river Exe itself? The country or district of Vexalla or Uxella might have extended, and probably did, to the present Somersetshire boundary of Devon. In that case it touched upon Exmoor Forest and the head waters of the Exe. Does not this confirm the view I have already put forward, that the Exe was not the Isaca of Ptolemy, and show that the name Exe was a still older corruption of *Uisc*? so that under its present form it had already conferred the names of Uxella and Vexalla; and if known to Ptolemy at all, it would have appeared in a form corresponding to its share in those names.

The country next to the Damnonii, in Ptolemy, is that of the Durotriges. He does not allude to it in his progress along the coast; but in his description of the territories and their inhabitants he says the Durotriges



are south-west of the Belgæ, and next to the Damnonii, and their chief town is Dunium. The latitude and longitude of this are given in different figures in different editions; but they indicate its place near the coast-line, and eastward of Isca or Dorchester, bringing us to the neighbourhood, and, I doubt not, to the town, of Wareham, in Dorsetshire. The town is still surrounded by a perfect vallum of Roman construction, probably superseding the British dun or fort, is situated in a position of great military strength, between the rivers Frome and Trent, guards the entrance to the Isle of Purbeck, and commands the extensive waters inside Poole Harbour. To these peculiar inland sea-waters, and to the singular lake shut in by the Chesil beach, is probably due the name of the inhabitants of the district, the Durotriges or water tribes. Their neighbours, the Belgæ and the Damnonii, held large tracts of country, shutting these into a narrow space. To my mind, the most probable idea is that they were a part of the Damnonian nation; and this will appear more clearly when, from the Antonine measurements, I shall show more definitely that I have rightly identified Wareham as Dunium and Dorchester as Isca Damnoniorum.

The Belgæ, whose country comes next under consideration, stretched across the mainland from the estuary of the Severn, and included *Insula Vectis* (the Isle of Wight) in their territory, their boundary against the Damnonii and the Durotriges being about the line of the river Parret and the Yeo, in Somersetshire, and the Stour, in Dorsetshire. In the south coast of the Belgæ the figure reckonings of Ptolemy become singularly difficult of application; but the want of definiteness in this respect is compensated for by the significance of some other particulars to be drawn from him. After the river Alaunus, suggested to be the Wey, in Dorset, the next point named in Ptolemy's progress eastward is *Magnus Portus*. That *Magnus Portus* is the Southampton Water is distinctly shown by the words I have quoted, where Ptolemy says that immediately below *Magnus Portus* is the Isle of Wight, whilst he shows that the meridian

of the centre of the Isle of Wight is a little to the east of the meridian of Magnus Portus. Presuming that the meridian of Magnus Portus was taken in the upper part of the Water, just off the town of Southampton, he is nearly correct as to the relationship of the two meridians. In my edition of Ptolemy<sup>4</sup> it is suggested that Magnus Portus is either "Portsmouth or Portamon, where is the city of Southampton." Camden describes the Southampton Water thus: "Hic etenim retractis magno recessu littoribus et Vectæ Insulæ objectu portus fit egregius." Much impressed as he was by the "magnum recessus" and the "portus egregius," he failed to recognise in it *Magnus Portus*, and goes on to record his judgment that it is the place spoken of by Ptolemy as *Trisantonis* fluvii Ostium. Now, the river Trisanton is the next place eastward of Magnus Portus in the progress of Ptolemy, yet Camden reverses their position, and, selecting Portsmouth for Magnus Portus, places Ptolemy's eastern port to the west of the other, disregarding both the order of Ptolemy's progress and the order assigned by his figures of longitude. If the names belong at all to these, Southampton and Portsmouth, the eastern of the two places must be Trisanton. The mistake of Camden in fixing Trisanton in the Southampton Water is due to his habitual disregard of Ptolemy's figures, and to his dependence on some etymological accidents. At the head of the Western arm of the Southampton Water there flows in the river Test. Camden says that in the lives of the saints he has found this river named the Terstan; that upon the river are places called An-dover, Ant-port, and South-anton; and hence he concludes that the river must have been the Anton or Trisanton of Ptolemy. By the kindness of the Dean of Chichester I have been enabled to refer the question of the meaning of the word Trisanton to Professor Earle and Professor Rhys, of Oxford. From their valuable communications on the subject I am allowed to quote. Professor Earle says: "No doubt Camden was

<sup>4</sup> J. Moletius. Venice, 1564.

influenced by the name of Hampton to identify it with Trisanton, but he would never have seen Anton under the form Hampton had it not been for the names Andover, Amport, and Abbots Ann in the upper streams of the same water. When we see Anton on that water in the Ordnance map this is, of course, a piece of archaeology, good or bad;<sup>5</sup> but there is no question that those names are peculiar and unexplained, and that they seem to indicate some such names as 'Ant,' for the river on which they stand. But the longitude in Ptolemy seems to decide it that Trisanton is east of Magnus Portus. Well, if so, I should then look for Trisanton at Chichester." Leaving aside for the present the learned professor's suggestion as to Chichester, I will point out some further considerations which stand in the way of appropriating to the river Test or to the Southampton Water, which Camden includes with it, the name "Anton" or "Trisanton." The syllable *am*, or *an*, or *ant*, on which he entirely relies, is not confined in Hampshire topography to the head waters or line of the river Test. In Wherwell Hundred, where are "Amport," "Andover," and "Abbots Ann," we can add "Little Anne," all grouped near the head waters of the Test; but far from it, we have in Fawley Hundred "Hinton Ampner"; in Mansbridge Hundred, "Anfield"; in Hambledon Hundred, "Amner." In Sussex, though forming a part of Hampshire, and extending in a singular line quite across the Weald or Andred wood, is "Ambersham" (Am-beresham), and still further east in Sussex, on the southern margin of the great forest, is "Amberley" (Am-bere-ley). The *an* syllable seems to have been too widely spread to admit of its allocation being now limited to a single river district, where assuredly, from remote antiquity, the name of Test has been used for the Hampshire river.

But those who know Southampton will remember that, quite independently of the name any river there has borne, the name Southampton is locally accounted

<sup>5</sup> The archaeology of the Ordnance Map is influenced by the imposition of Bertram of Copenhagen.

for. The town stands on a tongue of land, which projects into the Southampton Water, between the two arms of the water, which run up on the west to the Test, and on the east to the Itchen river. Within my memory this tongue of land has much advanced its point on the open water by extending on the reclaimed mud banks the dockworks and dock estate. In former times a great deal of land has been reclaimed from the Itchen estuary, on the east side of the tongue, so that where the ancient town of Southampton now stands, on the west side of the tongue, was once the tongue itself, and the town was originally the South-hampton on that tongue; north of it, and against the waters of the Itchen, on the same tongue, is North-ham, where the first bridge of the Itchen stands, and where probably in old times was the first practicable ferry across the Itchen estuary. I remember a good clear mile of open ground between the suburb of Northam and Southampton. Northam had, nevertheless, long been considerable for its shipbuilding, and now the spread of houses has made the two towns join hands. Southampton in very early ages gained a superiority which eclipsed its neighbour, and which is marked by the *hampton* instead of *ham*. Camden certainly never heard of Northam, or he could not have overlooked the natural connection between the two places and their names. But Camden, although not directly expressing it, evidently hung to the idea that Ant, Anton, and Hanton gave the name to "Hantshire." On the derivation of this name I venture a suggestion, which I should be glad to have considered, although a little irrelevant to our principal subject. When we quit the coast of Hampshire and go east we leave the shires and enter the counties, first the coast of Sussex, and then, proceeding along the south and east coasts of England, we have Kent, Essex, Suffolk, and Norfolk in succession—all of them counties from the fact that in Roman times they were ("sub dispositione viri spectabilis *Comitis Littoris Saxonici*") in the jurisdiction of the Roman officer, the count of the Saxon shore. Kent partly and Sussex entirely had through their length the

vast forest of Anderida, which terminated at the west in, and included a part of, Hampshire—viz., in the Hundreds of Meon and East Meon, Finchdean and Odiham, Waltham, Hambledon, and perhaps more. Hampshire was then the first shire west of the counties; and, touching on the great forest of Andred, it so derived its name. Andredshire, or Andshire, or Hantshire, somewhat as its neighbouring shire, took its name from the forest of Berroc, which it contained: hence Berkshire.

We now return to the Magnus Portus of Ptolemy, and from it proceed to Trisanton. The first syllable of this name suggested to me that Ptolemy translated into Greek that portion of the name which represented triplicity, and that Tris-Anton must mean something like *Thrice-Anton*. To have known what Anton means would have been very satisfactory. Professor Rhys, who has kindly communicated his views on the subject, says: "The name *Τρισάντωνος* was probably Gaulish—a language which is little known, but a comparison with the other Celtic languages which are known, makes it in the highest degree probable that in Gaulish *tris* or *tri* meant three, so there is no need to suppose that we have here to do with a Greek word. As to the rest, I can only say that its meaning is unknown, but if I were to offer a conjecture, I should say that the compound meant the river of *three roads* or *three courses*. But I must not withhold the fact that there is a phonological difficulty in the way of this guess. Supposing that I have hit the meaning of the word, one would have expected it to appear as *Τρισέντωνος* rather than *Τρισάντωνος*. This is not quite conclusive, as we know so little of Gaulish words. On the whole, I think Mr. Hills had better not go further than the *τρεις* he has been able so well to explain by his knowledge of the place." Before I proceed to the explanation which had been laid before the learned professor of Celtic at Oxford, I will just remark that, whilst Ptolemy understood the syllable *tris* or *tri*, it is likely he did not understand the *anton* or *santon* more than we do; and that he, or whoever wrote it first, had to write in the alphabet of one language a word not

understood, and reported to him out of another and an unwritten language. No wonder, then, if it now appears in a doubtful form, as Professor Rhys shows.

I must also call further attention to the opinion of Professor Earle. After the remark I have already quoted from him, that Trisanton might be Chichester, he refers to the common belief that the Saxon name of that city, Cissanceaster, was derived from the name of Cissa, the prince who established the Saxon supremacy in the district now Sussex. The Professor says: "Cissanceaster, the Saxon form of Chichester, can hardly be derived from the name of a man, 'Cissa,' and it is just conceivable that it may contain a barbarous alteration of *Trisan*. I experience, however, the greatest difficulty in supposing any other place can be Magnus Portus except Portsmouth. This name preserves within it the very word 'Portus,' and so also do the names by which it is surrounded—viz., Portsea, Porchester, Portsdown. That this name is older than the arrival of the Saxons, and that it was unintelligible to them, is plain from their mythic explanation of it in the early chronicles, where it is said that a man named Port landed there as settler."

I ask my readers to give all the weight to this opinion which the great authority of Professor Earle must command, and to refer back to it when they have gone over the next few sentences.

Take in hand a really good map of the south coast, showing Hampshire, the Isle of Wight, and Sussex; county maps which show Hampshire and Sussex separately will not do, for it is the fact of their being so seldom drawn in union that has prevented the most remarkable physical feature of this part of the coast from being noticed. The Ordnance index map of ten miles to an inch will do; sheets nine, ten, and eleven of the Ordnance Map, one mile to an inch, are better. Failing these, W. H. Smith and Son's reduced Ordnance Map of the Isle of Wight, to be had at nearly all railway stations for a shilling, is the best I know, though it unfortunately falls short of including Chichester. A glance at these maps tells the eye that Southampton

Water is physically the Magnus Portus ; that it lies, with regard to the Isle of Wight in the true position Ptolemy assigns to it ; and that west of it we have what I will call Trisanton—viz., that remarkable estuary, with the three ports or entrances, now known as the entrances to Portsmouth Harbour, Langston Harbour, and Chichester Harbour. The seaward side of the estuary extends from Gosport, in Hampshire, to a narrow tongue of land, or rather beach and shingle, jutting out from the parish of West Wittering, in Sussex ; but also the seaward front of the estuary is almost entirely occupied by Portsea Island and Hayling Island. These islands divide the water-frontage into the three narrow mouths already spoken of, whilst the form of the islands towards the back of the estuary allows the water to open out into three large spaces, connected together by narrow waterways behind the islands. In Roman times each of the three divisions of the estuary had an important town on the mainland, and each of those towns still exists—viz., at the back of Portsmouth Harbour, Porchester, announcing by name its Roman origin and fortification, and possessing a splendid mark of its long-continued importance in its fine Norman castle. At the back of Langston Harbour, the town which that most learned archaeologist, the late Mr. W. H. Black, pointed out as the British town Y-Gwent, Romanised into Venta, and now Havant. At the back of the eastern extremity of the estuary, the city of Chichester, marked by numerous Roman remains, and by its name for an important Roman station. It must be admitted that the quality of triplicity, which the name Trisanton implies, belongs in a remarkable degree to this singular estuary and its adjuncts.

I am sinning against the cautious advice of Professor Rhys not to meddle with the *anton*. Yet I venture to point out that along the back of the whole estuary there extended, not more than three to six miles distant, the fringes of the forest of Andred, where its great south barrier, the South Downs, comes to its western extremity, and breaks up. Just as at the eastern extremity of the forest we know the Saxons called its sub-divisions Bera

and Berende, we have still the forest of Bere at the north of Porchester, ending at Stansted, on the Sussex border, and then continued eastward, after an interruption of two or three miles, by the forest lands of West Dean Woods, Singleton Forest, and the East Dean Woods. This Sussex forest crowns the heights which overlooked the whole breadth of the great weald or forest of Andred itself.

Following the method I have previously taken, after considering the coast line, I now come to the towns named by Ptolemy in the interior. These are the towns of the Belgæ; Ischalis, Aquæ Calidæ, and Venta; the town of the Dobuni, Corinium; the town of the Attrebatii, Calleva or Nalcuæ; and the town of the Regni, Neomagus.

There is no doubt that the country of the Belgæ extended from the Bristol Channel and the Severn to the British Channel and the Isle of Wight, having the Damnonii and Durotriges to the south, and for their northern neighbours the Dobuni; and at the eastern portion of their north boundary, the Attrebatii. The Attrebatii and Cantii were the northern neighbours of the Regni. Ptolemy marks Ischalis as the most western town of the Belgæ. The name and the longitude point to the mouth of that river Axe of which we have already spoken in Somersetshire. Here, on the lofty promontory called Worlebury Hill, which closes Uphill Bay, into which the Axe discharges, is the most stupendous example of ancient British architecture in existence, the magnificent stone fort or citadel called Worlebury, immediately above the town of Weston-super-Mare. Besides this extraordinary citadel, built with uncemented stone walls, from 10ft. to 30ft. thick, and 30ft. to 35ft. high, there are extensive earthworks marking the inner and outer enclosures, and some of the internal features of a large town.

The second town, Aquæ Calidæ, no one has ever doubted to be Bath.

In respect to Ischalis and Aquæ Calidæ, Ptolemy's figures of latitude and longitude approach the truth nearer than usual. Aquæ Calidæ had long before Roman times



possessed regular roads to London; and it can hardly be doubted that Ptolemy's figures are calculated on the actual distances between those two places, as reported to him. They are nearly in the same latitude, the difference being only about seven minutes. Ptolemy estimated that difference at thirty minutes, and the difference in longitude at one hundred and sixty minutes. The hypotenuse of the triangle, or actual distance in his minutes, comes to only one hundred and sixty-two minutes. The true distances being one hundred and forty-one of our minutes of longitude, and only seven minutes of latitude, the hypotenuse is less than one hundred and forty-two minutes. Ptolemy tells us that his great distances in longitude were in some cases regulated by the difference of time observed at two positions with respect to an eclipse, and we account for some of his inaccuracy by the imperfection of the instruments then in use for measuring time. It is likely that in such a case as the distance between *Aquæ Calidæ* and *Londinium* both a geometrical measurement and a horal measurement would have been considered; and the result is that the error of Ptolemy is much less than the 27 per cent. of his great measurements, and is reduced to barely 12 per cent. in the measurement between *Aquæ Calidæ* and *Londinium*.

In justification of my identification of *Ischalis* with *Worlebury*, I must point out that it is as Ptolemy estimated, a little south of the parallel of *Bath*; and that carrying on the correction of 12 per cent. in the longitude, it brings us exactly to where the village of *Worle* is marked on the map.

The third town, *Venta*, is attributed by the editor of my copy of Ptolemy to *Bristol*, and *Camden* states that his predecessors had so placed it. He removed it to *Winchester*, where an almost universal consent has since left it. The late *Mr. Black* was the first to assert that its proper connection was with *Havant*. This identification is not free from important difficulties, for it implies not only that Ptolemy's exact figures of longitude cannot be accepted, but that this place, which he puts upon a meridian a little west of *Magnus Portus*, is really

east of that place, whether we take Magnus Portus to be Southampton, or, as Professor Earle thinks, Portsmouth. The difficulty, I suspect, arises from Ptolemy's reckoning for Venta having been made with regard to Bath, with which it is grouped in his list. If he had happened to group it with the places reckoned from the Isle of Wight, we should probably have escaped the dilemma we have to contend with in bringing it into that group.

We must here make a remark with respect to Ptolemy's latitudes. They were determined mainly by reference to the greatest length of day reported to him, or by previous geographers. In this way he determined the latitude of London to be  $54^{\circ} 00'$ . It is truly  $51^{\circ} 31'$ . The latitude of the Isle of Wight he reckoned to be  $52^{\circ} 20'$ . It is truly at Carisbrook, which I take to have been Ptolemy's centre,  $50^{\circ} 39' 20''$ . Thus it is seen that in degrees his latitudes are much less seriously in error than his longitudes; but it will at once occur to my readers that unless two places were almost in the same meridian, the difficulty of settling a difference of latitude of less than a degree would be very great. Where two places were nearly on the same meridian, a geometrical measurement would safely give the difference of latitude, but where the meridians were wide apart, either a triangulation or a horal calculation founded on very uncertain data, were his resources. I have placed no reliance on the minutes of latitude where the longitudes are apart, and this reason accounts for the uncertainty which I attach to the latitude Ptolemy gives to Venta.

His longitude brings the meridian of Venta just half way between London and Bath, and his latitude places it on the same parallel as Worlebury or Ischalis, three-sixths of a degree south of the parallel of London, the same north of that of Magnus Portus, and five-sixths north of that of the Isle of Wight. The position thus indicated lies on that part of a meridian of which East Stratton, eight miles north-east from Winchester, is the southend, and the boundary between Hampshire and Berkshire, seven miles west of Silchester, is the north end. This piece of meridian, nearly fourteen miles in length, marks,

however, no place which can be thought to be Venta ; whilst it must be admitted that it indicates more than any other place, either the great Roman city of Silchester, which by its remains so plainly testifies its Roman origin, or Camden's selection of Winchester. What, however, if both those places can be shown to have been represented by other Roman names, as I believe they can from the *Antonine Itinerary*, and that Havant, if not the Venta intended by Ptolemy, was the Venta Belgarum of Antoninus ?

North of the Belgæ, according to Ptolemy, were the Dobuni. The latitude and longitude assigned by Ptolemy to their town, Corinium, brings it, with slight correction, to Cirencester. The approach to correctness in the figures for Aquæ Calidæ has shown that when a good land measurement was to be had, Ptolemy was not bound by the proportion of error which arose in his semi-circumference of the Earth. The distance between Corinium and Londinium exhibits a still nearer approach to correctness. The names Corinium and Cirencester both seem to contain in them the name of the river Churn, on which Cirencester stands ; and this identification I propose to accept.

The next place in the order of Ptolemy's list is the town of the Atrebatii. This people joined to the Dobuni on the east, and must have bounded the north-east corner of the Belgic territory. The town of the Atrebatii, as given in the order of Ptolemy's arrangement, comes between Corinium and Londinium, whilst by his figures its position is exactly half-way in longitude between those places. In latitude it is 5 minutes north of Corinium, and the latter is 10 minutes north of London. The reckonings, no doubt, were in this case made both upon geometric and horal measurements. Between Corinium and London the true distance in longitude is  $1^{\circ} 54'$ . Ptolemy says  $2^{\circ}$ . The true latitude of Corinium or Cirencester north of London, is not more than 11 minutes. Ptolemy says 10 minutes. Presuming that the measurements to the Atrebatian town are as nearly correct, the place indicated is exactly at Alchester or Aldchester in

Oxfordshire, where exist extensive traces of a walled Roman town, with the important suburbs of Bicester a mile and a half to the north-west, Chesterton Magna on the west, and Wendlebury on the south. Camden and all succeeding antiquaries have limited the territory of the *Attrebatii* to the south side of the Thames; but here is evidence that it extended to the north of it. Camden fixed this town at Wallingford, and his was the nearest approach to its true position; but it is too far south for the figures of latitude. He had made up his mind not to extend the tribe across the Thames, and satisfied himself by a fanciful derivation of the name of their town. The ancient name is, indeed, in much greater doubt than the position. Camden says that scribes have sadly mistaken it; that the Greek copies call the place *Nalcua*; the Latin copies, *Calleva* and *Galleva*; and that in the *Antonine Itinerary* there is the like error in the Latin name. Camden would have it read *Gallena*; and this, Reynolds says, is justified by certainly one copy. From this word Camden derives *Guallen*, *Walling*, and *Wallingford*. I may add that in the modern Greek *Tauchnitz* edition of Ptolemy the name is given *Calcua* or *Caleva*.

The key to all this confusion is this—viz., that the different forms of the name refer to three distinct places; and the main difficulty of identification has been that everybody has tried to identify them as one. The *Antonine Itinerary* shows with a good deal of certainty where the *Calleva*, which it mentions three times, stood, and it is presently identified as *Silchester*. It names once another *Calleva*, with the distinction added, *Attrebatum*. The position of this will be hereafter found at the south-west corner of *Surrey*. I therefore conclude that Ptolemy's town, *Nalcua*, of the *Attrebates*, being so far to the north, is properly called by that name, and was situated at *Aldchester*. The name *Nalcua* is accepted by Camden's contemporary, the great *Ortelius*, and also by Reynolds, as the correct reading.

East of the *Belgæ*, and south of the *Attrebatii*, Ptolemy places the *Regni* and their town *Neomagus*.

In the fifteenth chapter of his first book Ptolemy is employed in pointing out inconsistencies in the statements of his predecessor, Marinus, the Tyrian. One of them is that in Britain Marinus places Noviomagus fifty-nine miles southward, although by climate he shows that he ought to have said northward. Several of the editions, but not all, give London as the name of the place which was fifty-nine miles from Noviomagus. Ptolemy does not offer a correction, unless it be in his tables of latitude and longitude, where he introduces Neomagus, which Camden considers to be Noviomagus. Reynolds, in his commentary on the *Antonine Itinerary*, suggests that there is no need to believe the two names to belong to the same place, to which I quite agree, and intend to show by-and-bye that they were separate places. It is very difficult to give any effect to the statement of distance, fifty-nine miles; and although Camden and Reynolds both regard it as starting from London, they quite disregard it in fixing the position of Neomagus or Noviomagus.<sup>6</sup> Some Roman remains at Woodcote, in Surrey, a little south of Epsom, induced Camden to fix Neomagus there. It is unfortunate that in different editions the figures of Ptolemy vary, both of latitude and longitude, for this place. It may be either  $19^{\circ} 43'$  or  $19^{\circ} 45'$  in longitude, and either  $53^{\circ} 25'$  or  $53^{\circ} 45'$  in latitude; but either set of figures would place it somewhere on or near the line of the Stane Street, or Roman road, which to this day runs from London to Chichester, and is in use through the greatest part of its length. Camden might therefore be right as to Woodcote; but, nevertheless, I cannot bring myself to think that the Regni who lay south of the Cantii and Atrebatii came so far north as this. As the Cantii are said by Ptolemy to lay east of the Atrebatii, their territories must have joined either where Kent and Surrey now join, or at some other line drawn across Surrey. Camden's position for Neomagus is not reconcilable with this, and would make the Regni intervene

<sup>6</sup> Either should now be *Newfield*.—Professor Rhys.

between the Atrebatii and Cantii. The *Antonine Itinerary* will presently lead us to think that the Atrebatii extended from Berkshire quite across Surrey to the Sussex border at its west end, and this makes the probability great that the territorial boundary of the Regni was adopted for the county of Sussex, which was therefore about the same in line from its west end until it reached the Cantii as the Sussex line now is. The more southern figures of Ptolemy agree with this, and would place Neomagus in the hundred of East<sup>7</sup> Easewrith or the adjoining hundred of Horsham.

To complete the progress of Ptolemy along the south coast of Albion we have now only two places left—viz., Novus Portus and Promontorium Cantium. The position of Novus Portus depends on whether Ptolemy reckoned its distance from Vectis or from the Promontory Cantium. If he measured from Vectis, his distance of  $1^{\circ} 40'$ , corrected to  $1^{\circ} 12'$  true measure, would bring it to Brighton, and it might be held that the outlet of the river Adur, between Brighton and Shoreham, was intended, an outlet which has varied unquestionably in different ages three or four miles along the coast. A Roman road points to Portslade, at the back of the present harbour, near its Brighton end. Further on the river Adur will come under consideration, and will be identified as Portus Adurni; therefore the more likely idea is that the place of Novus Portus was measured from the Promontory Cantium, from which it is one degree distant by Ptolemy, or forty-three minutes by correction, and this will bring it to the west side of Romney Marsh.

It must be noticed that in his coast-line Ptolemy speaks only of physical subjects, the mouths and estuaries of rivers and the promontories of the land, bays and gulfs of the sea, and not of towns. Those were reserved to be mentioned with the inhabitants of the countries. For this reason I do not suppose Novus Portus to have been a town of Newport, but some haven

<sup>7</sup> Observe the title of a district all along the Sussex border here, from its west end, and comprised in the hundreds of Easebourne (pronounced Ezburn), East Easewrith, and West Easewrith.

newly formed by the sea. In Romney Marsh the sea was re-forming the land at Lympne and Rye all through the period of the Roman occupation, and continued to do so long after. At the earliest period of history the whole of what is now Romney Marsh was a bay of the sea. The Roman fort and harbour at Lympne lay at its east side, and the outlet of the river Rother, with the cliffs of Pleyden and Rye, were at the western side. The gradual emergence of islands, first Roman-ey, and afterwards New Roman-ey, and of other tracts of land, are traced in Holloway's *History of Romney Marsh*. To some new formation here of land and water I have little doubt this name of Novus Portus was applied.

The Promontory Cantium, from the days of Camden, and before, has been received without question as properly identified with the North Foreland in Kent. I have ventured to differ from this acceptation; and in all the preceding references to its longitude I have calculated from the South Foreland, which I have no doubt was intended by Ptolemy instead of the North Foreland. It is, perhaps, the latitude given by Ptolemy on the same parallel as London which has directed attention to the North Foreland. In reality, however, it is only an illustration of the difficulty I have before pointed out which Ptolemy had in determining latitudes within sixty minutes, or where the places were distant in longitude. Novus Portus, he says, is on the south coast, and is  $53^{\circ} 30'$  north. Londinium he makes  $54^{\circ}$  north, and the Promontory Cantium  $54^{\circ}$  north; the town Rutupia  $54^{\circ}$  north, the Island of Counos  $54^{\circ} 30'$  north; and the estuary of Jamissa (Thamissa, or Thames)  $54^{\circ} 30'$  north. Omitting Londinium, the other places are not far apart in longitude, and their relative positions in latitude show that Novus Portus was to the south; Prom. Cantium next to the north, and with it the town Rutupia; the Island Counos still further north, and next the mouth of the Thames. The Island Counos has from very ancient times been identified with Thanet: manifestly it could not be half a degree north of the Prom. Cantium and be that promontory too; therefore the promontory of the

Island of Counos is different from the Promontory Cantium, and is to the north of it; or, in other words, the North Foreland in the Isle of Thanet is the promontory of the Island of Counos, and the southern promontory on the mainland, or the South Foreland, is the Promontory Cantium. The name "Counos" seems to contain within it the *ness* or promontory of the North Foreland; and if that be so, both the North and the South Foreland promontories are named by Ptolemy.<sup>8</sup>

Thanet was an island separated from the mainland by a considerable arm of the sea for long after the era of Ptolemy. In Bede's time it was separated by a water three furlongs across, and with two practicable fords; but Ptolemy believed it to be separated by a much more considerable distance than it really had, for he puts its longitude half a degree east of the Promontory Cantium. This itself is a proof that it could not have contained that promontory. Besides which Ptolemy describes the mainland first, and with it the Promontory Cantium, and places at the end of his description of Albion the islands, and puts Counos with them. The Promontory Cantium was, therefore, on the mainland, and if so, was the point which we call the South Foreland, or some point a little north, and a minute or two more east, on the cliffs between that and Deal, where the cliffs fall down to a level shore.

The towns of the Cantii, known to Ptolemy, were Londinium, Daruernum, and Rutupiaë. The possession of Londinium by the Cantii indicates, as I have already hinted in respect to the Atrebatii, that at this time the authority of the Cantii extended beyond the present county of Kent. Daruernum can be no other than Durovernum, as it appears in other authors, and certainly Canterbury; whilst Rutupiaë, or Rutupium, is as certainly, by a long chain of history, the ruined and deserted Roman fortification on the mainland opposite the Isle of Thanet, now Richborough, itself once a tiny island in the estuary between Thanet and the mainland.

<sup>8</sup> Hackness, in Yorkshire, was written "Ha-canos" quite down to Saxon times.



It is important to notice the era to which Ptolemy's report of the country belongs. He was compiling his books between A.D. 125 and A.D. 140. How much before or after we do not know; but this was nearly two hundred years after the invasion of Britain by Julius Cæsar, B.C. 55. The conquest of the southern provinces began under Claudius in A.D. 43, when Aulus Plautius, with four legions, was sent into Britain. In A.D. 50 Ostorius Scapula succeeded to the command, and found himself master of the country north to the Dee and the Wash, but resolutely opposed by the Silures to the west, so that all the territories we have been considering were under his rule. Didius Gallus and Veranius, following him, did not extend the Roman power. Suetonius Paulinus, the next governor, effectively extended their power into Wales, and was at the furthest point, endeavouring to reduce Anglesey, when the great revolt of Boadicea broke out in the country of the Iceni, which he quickly suppressed. Cæsar, in his expeditions, brought with him water-clocks, and amidst his military anxieties endeavoured to determine the geographical relationships of the parts of Britain he visited to the Continent. The series of commanders who followed after the invasion under Claudius were, no doubt, better provided than Cæsar, and must have brought with them, and maintained, a staff of engineers (*agrimensores*) equal to the survey of a country, both for military purposes, and designed to be permanently occupied. To the governors already named succeeded Petronius Turpilianus, Trebellius Maximus, and Vettius Bolanus, whose attention was but little directed to external affairs, and it was supposed might have organised the province; yet the latter found it too much unsettled by the remains of the civil wars to arrive at a well-ordered state, towards which an important element would be contributed by the Roman law of territorial and land settlement. Petilius Cerealis, the next governor, about A.D. 70, under Vespasian, pursued a more vigorous policy. Ceasing from the temporising measures of his immediate predecessors, he made the military power of his office felt

within his province, whilst he increased it by the subjugation of the Brigantes throughout our northern English counties. The high rank of the men who were sent to administer the affairs of Britain testifies to the importance the central Roman power attached to the settlement of the government set up here.

The next appointment evidently had a special object in view, and which directly bears on my subject. After five years, Petilius Cerealis had so broken the wayward spirit of the subjected races that Sextus Julius Frontinus ("vir magnus," as Tacitus calls him) was sent to complete his work. He still found the Silures obstinate and pugnacious, and did not hesitate to use the military means which Petilius Cerealis had found for the most part effective. He has the credit of having finally broken the fighting propensity of this race, as far as could be done. But the speciality of Frontinus was that he was a great engineer. His works on the aqueducts of Rome, on the surveying of countries and lands, and on the art of war are still extant. He must have made it his special care, in the cause of permanent peace, to measure the country, define the lands, and apply thoroughly to it the work of the College of Land Surveyors; and it is evident he did so. Upon the country thus surveyed and prepared Agricola, who succeeded him in A.D. 78, was enabled "Frumenti et tributorum auctionem æqualitate munerum mollire, circumcisis, quæ in quæstum reperta, ipso tributo gravius tolerabantur." The store-barns were thrown open for the wants of the people; the roads and means for conveyance of the requisitions to the winter quarters were improved to the advantage of those on whom the service of such supplies was imposed; and the gains hitherto monopolised by a few were distributed to the profit of the many. The exactions during peace had been almost as onerous as the forced levies of a time of war. But all this was reformed.<sup>9</sup> This resulted in the first year of Agricola; and the country districts being pacified, his second year

<sup>9</sup> Tacitus, *Agricola*, cap. 19; also 20 and 21.

saw the construction of temples, markets, and courts of justice by public aid and private enterprise, and the construction, for the public security, of forts and castles where deemed necessary after a particular inspection of the places by Agricola himself throughout his province; the foundation of all these important measures having been laid by the engineering talent of Frontinus.

In A.D. 120 the Emperor Hadrian visited the province, and travelled throughout it, inspecting the progress made in fifty years upon the work begun by Frontinus. No doubt that in the great Tabularium at Rome the principal results of all this work were formally recorded on Roman maps. To what extent Ptolemy, who afterwards saw Hadrian at Alexandria, could avail himself of the work of the Roman surveyors we cannot know; but that he attempted to apply it as far as he could to his calculations we cannot doubt; and I have adverted to the history of the Roman survey to show that there were actual measurements in existence to be dealt with, and which Ptolemy may have used and attempted to reconcile with his horal and astronomical observations. Ptolemy's figures cannot, therefore, be regarded as guesses or chances, but as the result of an application of measures different from ours (as in the case of his degree of longitude), and able to be corrected when the nature of his measure is discovered, or in the case of a definite error, when a wrong measure was furnished to him, or a correct one misunderstood.

We next proceed to the *Peutingerian Tables*, to be briefly dealt with. We obtain from them the names of only sixteen places in Britain; and of those, the six which are north of the Thames lie out of the range of the present subject. The compilation of the Tables has been usually attributed to about one hundred and fifty years later than the time of Ptolemy. To those who have not consulted works on the subject I may say that it is a MS. on parchment, of the thirteenth century, copied from some older source, and commonly named after Dr. Peutinger, to whose library it belonged when first noticed. It is 22 feet long and one foot wide, and by

lines drawn longitudinally is made a sort of road-book of the Roman empire, with the names and distances of places marked upon the roads or lines. I have before me the published edition of 1587.

Of the ten names which come within our district, Rutupis and Duroavernus, which we must identify with the Rutupia and Daruernum (Richborough and Canterbury) of Ptolemy, are shown near the coast, and towards the Continent. There are added, in the immediate neighbourhood, the ports of Dubris (Dover) and Lemanio (Lympne); but if the distances were ever inserted, they have been lost by the defective state of the MS., which is greatly damaged just where it would so much interest us to have it perfect. From Duroavernus proceeds a road above which the names of three places are written, all of them unknown to Ptolemy, and with figures (presumed to be of distance) marked against them, "Madus xvii, Raribis vii, Burolevo vii." Of the place called "Raribis" we shall get no further mention, and can only say that the distance of seven Roman miles from Canterbury, on the Roman road to London, brings us just to Nash Court, beyond Broughton-under-Blean. Burolevo we shall find hereafter called Durolevo, and placed at twelve miles from Canterbury, although the two sevens here seem to imply a distance of fourteen miles, which brings it one mile east of Bapchild. "Madus" may be conceived to be the Medway; but the distance goes two miles and a half beyond the Medway, on the direct Roman London road through Rochester, and as much beyond the town of Maidstone, if it be supposed to have gone there by branching off at Sittingbourne. It may have been some place beyond the Medway, at Cobham or Higham; or if it must absolutely be on the Medway, then at Barming or Teston, above Maidstone.

The two remaining names are Iscadumnomorum and Ridumo, with the figure xv attached to the latter, and a road proceeding out of the former to it. These names evidently refer to the places we have already identified as Dorchester and Wareham, the Dunium of Ptolemy having grown into Ridumo or Ridumium. The

most important point we get from this work is the confirmatory evidence it gives that Isca is certainly not Exeter, but Dorchester. The exact distance between Wareham and Dorchester, in Roman miles, is fifteen, as here appears to be given between Isca Dumnomorum and Ridumo.

The next geographical work to be dealt with is the *Ravennas*, a work of antiquity, but of unknown age or authorship. It furnishes catalogues of names placed in strings and groups, out of which I insert here such as can be identified with the places occurring in the other authors under consideration. I postpone to the end of this article the full catalogues embracing the places whose identification I do not attempt. The catalogue for Britain has: Tamaris, Uxelis, Scadam Nuniorum, Moridunum, Londinis, Bindogladia, Noviomagno, Venta Belgarum, Ravimago, Regentium, Cimetzone, Puntuobice; clearly beginning with the district about Ptolemy's town of Tamare, just west of the river Tamar, and ending in the district of the Regni and Attrebates. Uxelis we have had as Uxella. The third name in the list is evidently Isca Damnoniorum, our Dorchester. Next to it Moridunum, already assigned to Wareham under the names Dunium and Ridumo. It then comes up to Londinis (London). Bindogladia we have not previously met with, but shall find it presently as Vindocladia, and its place Winchester. Noviomagno is probably in Kent, as hereafter placed. Venta of the Belgæ is here in order, west of Vindocladia; and this agrees with the place with which we have already identified it—viz., Havant. Ravimago reminds the ear of Neomagus and Noviomagus, previously spoken of, but I cannot venture to identify it. Regentium may be a town of the Regni; but we have no other means to fix its position unless it be Cissbury, a fine ancient fort in Sussex, in the district of the Regni, and of which more remains to be said presently. Cimetzone and Puntuobice are probably the Cunetione of the fourteenth Antonine *iter* and the Pontibus of the seventh, respectively to be identified as the town of the river Kenet, in Wiltshire, and as Pointers, in Surrey.

The next series begins in the country of the Silures, beyond the range of our districts, and has Venta Silurum (Caerwent), Isca Augusta (Caerleon), Glebon Colonia (Gloucester), and enters on the territory under discussion at Corinium Dobunorum; then has Calleva Atrebatum, Lemanis, and Dubris. Corinium we have dealt with from Ptolemy as Cirencester. Calleva Atrebatum remains to be identified, in the south-west corner of Surrey, near Haslemere, from the *Antonine Itinerary*; and Dubris we have already accepted, as universally admitted, for Dover. Starting again from this last place, we are taken to Duroverno Cantiacorum (Canterbury), Rutupis (Richborough), and to Durobrabis, which we shall presently find as Durobrivis, and place it at Rochester, to Londini, and so on into North Wales.

We now come to the *Antonine Itinerary*. It is of the same age as Ptolemy's work, and is conceived to have been compiled in direct connection with the journeys of the Emperor Hadrian, embracing, as it does, the whole of his empire, which he systematically visited.

The great value of the *Itinerary* rests on the fact that it gives precise distances from place to place, so that if only we can be sure of some starting-places, and that we understand the measure applied to the distances, we cannot fail to identify the positions on a really correct map. In Londinium, Eboracum, Cataractoni, Portus Dubris, Portus Lemanis, Duroverno, Verolamio, Glevo, Isca Silurum, Aquæ Calidæ, Ratis, and Lindo, we have probably named all the places in England which have not been at one time or another justly the subject of difference of opinion as to their identity, and that are not more or less open to question; and this chiefly for the reason that the proper measure to be used has not been recognised. The important work on the *Antonine Itinerary*, by the Rev. Thos. Reynolds, published in 1799, contains much learning, and has been of much value to me; but in its principal object, that of identifying the places and distances, it signally fails, although it has remained the principal authority on the subject to the present time. Reynolds might even have overcome the errors of his dependence on the false Richard Cirencester if he had

correctly used Roman miles. Just as, in applying Ptolemy, we must first understand what he accepted as the measurement of a degree, we must know, in applying Antoninus, what was a Roman mile.

If it is urged that this measure cannot be absolutely settled, it may be pleaded that the differences amongst authorities are very slight; and that since there is no attempt in the *Antonine Itinerary* to deal separately with portions of the Roman mile, a very slight departure from a critically correct measure will be of no effect. As all the distances are given by Antoninus in full miles, it must, for instance, be taken that ten miles means a distance nearer to ten than to nine or eleven; that is to say, over nine miles and a half, and under ten miles and a half. It seems, too, that where he knew he had put down ten for something less than ten and a half, he would add the omitted part to make up an integer for his next measure; for in each *iter* he gives a total distance which is intended for the sum of all the figures put down, which it would not be if he had not balanced his fractional parts as he went along.

In the papers of the Institute of Architects it is laid down by Taylor, the partner of Cressy on *Roman Architecture*, that 1 foot 11 inches English is equal to 2 feet of ancient Roman measure; this being the regulated height for stone courses in numerous instances of ancient building. In Smith's *Classical Dictionary* the Roman foot is said to be 11·6496 English inches; or by another calculation, 11·62 inches; making the Roman mile, 1618 or 1614 yards.

These authorities give the following proportions of the Roman to the English foot, ·9583, ·9708, ·9683, and ·9559. Previous calculations, such as I find in Nicholson's *Encyclopædia* (1809), give the Roman foot at ·970; after Titus, ·965; from rules, ·9672; from buildings, ·9681; from a stone, ·9696; and the Roman mile of Pliny at 4840·5 feet English; or of Strabo, 4903. These are founded on calculations of Professor Greaves, a once famous Oxford mathematician; and of General Roy and Colonel Mudge, the founders of the English Ordnance Survey. By Reynolds the subject is fully discussed, and

the authorities for the proportions named in the *Encyclopædia* are given, with the opinion of Dr. Long, the astronomer, "that the Roman mile, and the foot which measured it, seem to be pretty well ascertained." But then Reynolds falls into a singular and extraordinary error, which I believe has passed unnoticed; and because the Roman foot is to the English foot as 967 to 1000, he infers that the Roman mile bears the same proportion to the English mile. But the Roman mile being 5000 Roman feet, and the English mile 5280 English feet, the proportion of the English miles is quite a different thing from that of the feet. Besides the altered size of the foot, the English mile has 280 English feet added on to it. Failing to notice this, Reynolds concluded that there was but little if any difference between the English and Roman miles; and with General Roy's conclusion before him, that 11 English miles exceed 12 Roman by just 108 feet, he threw all authorities aside, and announced his own conclusion to be that the English and Roman miles were the same; and on this mistake he set out the whole *Itinerary*.

The fact is that General Roy very nearly hit the truth. Taking the Roman foot at .9681 parts of an English foot, which is about the medium of the proportions previously given, 12 Roman miles of 5000 Roman feet each, make exactly 11 English miles and 6 feet. As may be shown thus:

1760 yds.  $\times$  3 = 5280 English feet; that is, 1 mile English measure.  
 Subtract 4840 English feet; that is, 1 Roman mile of Pliny,  
 ——— wanting 6 inches.

The difference is 440 Eng. ft. less to a Roman mile than to an English.

Multiply 440 by 12 = 5280 feet, which is the English mile. Therefore, neglecting the 6 inches, in setting out 12 Roman miles, we fall short by just 1 English mile of 12 English; which is to say that 12 Roman miles are 11 English and 6 feet. Another proof is a simple multiplication:

1 mile English = 5280 ft. Eng. Multiply by 11 = 58080 ft.  
 1 mile Roman = 4840 ft. Eng. Multiply by 12 = 58080 ft.



In applying the *Antonine Itinerary* to the English map, therefore, we must use 12 Roman for 11 English miles.

But, further, Mr. Reynolds having assumed a wrong size for the mile, found himself in the confusion that might be expected, and proceeded to find fault with the distances figured by Antoninus; he corrects them when convenient to his identification by the false authority of Bertram of Copenhagen; and, besides, he assumes mistakes, in the numerals of which there is no evidence whatever, only because he thinks an x or a v might have slipped in or slipped out, or an i have been put by mistake after (xi), when he would rather have it before (ix), he assumes the numerals in error. The only justification for supposing the numerals in error of manuscript must be when we find different copies or editions giving different numerals to the same place. When this occurs we have no alternative but to accept some plausible solution of the difficulty, till a better turns up.

Of course it may be, perhaps I ought to say must be, that there are positive errors in the numerals of the distances in some cases; and this is indicated where the sum of the *iter* does not agree with the parts. It may be difficult to say which is right, the sum or the items of it, and we are of course left to more or less uncertainty, but perhaps aided by a choice of readings. One kind of error I believe I have detected twice in the whole of England, which I think is not suggested by Reynolds, though it is in one of the cases suggested by the clever Bertram of Copenhagen. It is where a place seems to have dropped out of, or been missed from, the *Itinerary* altogether. One of these cases we shall touch upon, as it comes near to the districts we deal with, the other is in the north of England. The *iters* relating to the south of London are the third, fourth, and end of the second, the seventh, thirteenth, fourteenth, and fifteenth. We will treat of them in this succession, using Roman miles in all our expressions.

## ITER III.

A LONDINIO AD PORTUM DUBRIS, LXVI M.P.

DUROBRIVIS, XXVII; DUROVERNO, XXV; AD PORTUM DUBRIS, XIV.

As to the route to be followed there is no room for doubt. It is the ancient Roman road, the Watling Street from London to Rochester, to Canterbury and Dover. But the actual distance from London to Rochester is twenty-nine miles; on to Canterbury is twenty-eight miles, and on to Dover is sixteen miles, or seventy-three miles in all. The Watling Street is lost between where it appears in the city of London, and reappears, nearly six miles off, just beyond Greenwich. The line of it shows that from London it continued for a considerable distance on the north side of the Thames, and my solution of the difficulty is that the twenty-seven miles to Rochester were measured from the Thames, at the point where some ferry carried the traffic across to Rotherhithe, very nearly where the Thames Tunnel now is. There is certainly an error in the numeral xxv from Rochester to Canterbury. It is rendered uncertain by the fact that the editions of Aldus and Simler say xv. But the correct distance is given in *iter* II, presently quoted—viz., XXVIII miles. The distance to Dover, XIV miles, falls short by one and a half miles, stopping at the little village of Buckland; most likely because there, or half a mile on, at Charlton, was the post station, to which the measurement was taken, and not to the lofty cliffs where the castle stands, nor to the actual seashore.

## ITER IV.

A LONDINIO AD PORTUM LEMANIS, LVIII M.P.

DUROBRIVIS, XXVII; DUROVERNO, XXV; AD PORTUM LEMANIS, XVI.

All the observations on the distances of London, Rochester, and Canterbury, made just above, apply here. The distance, XVI to Lympne—a place strongly marked by its Roman remains—is absolutely correct for Portus Lemanis.

## ITER II.

This *iter* commences in the north of England, A. VALLO, that is to say, from the wall beyond Carlisle, and proceeds to London. From London the latter part of it is—

NOVIOMAGO, X ; VAGNIACIS, XVIII ; DUROBRIVIS, IX ; DUROLEVO, XVI ;  
DUROVERNO, XII ; AD PORTUM RITUPIS, X.

Instead of the direct road to Rochester taken by the two routes previously given, this journey is by a circuit to the south. It is unfortunate that in every instance except one—viz., from Durolevo to Duroverno—the numerals are more or less in doubt, owing to variations in different editions. The numeral x affixed to Noviomago is altered to XII in Harrison's first edition, whilst the numeral XVIII, affixed to Vagniacis, is altered to VI in Harrison's first edition, and to XVIII in Wesseling, from the Vatican copy. The majority of the editions favour the figures stated at the head. I will first point out that at nine miles from Rochester, on the line of the Watling Street, in the woods of Swanscombe parish, is a singular collection of earthworks, called on the Ordnance maps Clubber-lubber.<sup>10</sup> As the public road is here diverted for several miles from the Watling Street, these remains are little known and rarely visited. I take them to be the site of Vagniacis. If so, eighteen miles from this point and ten from London, that is, from the Rotherhithe ferry, as I take it, is Noviomago. The point falls a quarter of a mile south of Cold Harbour, just a mile north of Addington and west of Wickham Street. I do not know of Roman remains here, though the name Coldharbour bespeaks them, nor do I suppose, allowing for some uncertainty in the numerals, and possibly for roads not actually straight, that we are tied exactly to this point. The great encampment at Holwood Hill, about four miles to the south-east, has been supposed to

<sup>10</sup> On the six-inch scale maps, Clabber-labber, with a suggestion that it is derived from Caer-ber-larber. At Springhead, half a mile eastward, the map marks "Site of Roman town." Very numerous Roman antiquities have been found there.

be Noviomagus. It might be the fort above that town, and somewhere about Keston, the place itself, and this seems the likeliest solution. It is probable that the road from it to Vagniacis joined the Watling Street at Crayford, and thus broke the distance of XVIII or XVIII miles into two lengths. A Roman road from the south passes near to Holwood Hill, going direct for London. Durobrivis has been already admitted as Rochester, and we have here the distance to Durovernus, Canterbury, divided into two spaces—viz., to Durolevo XVI miles and on to Canterbury XII miles, making the actual true distance of twenty-eight miles. We have already had Durolevo, otherwise Burolevo in the Peutingerian tables, but it is here placed two miles nearer to Canterbury. Giving a preference to the Antonine measurement, it seems highly probable that Durolevo was near to the Roman fort, which lies just north of the Watling Street, close to Teynham Railway Station, and marked Durolevum on the inch scale Ordnance map; to this spot the distance exactly points. The *iter* takes us one station beyond Canterbury to the Port Ritupis. Richborough, where stands the Roman fortification considered to be Ritupis, has already been indicated by Ptolemy and the Peutingerian tables. It was in Hadrian's time an island. The distance does not actually reach to it, but only to the shore of the port on the main land, at the end of the Roman road called Each End, from hence it was about a mile and a half over the shallow waters to the castle or fort. I have found the omission of a water distance to be the rule of the Antonine reckonings, which only account for land travelling.

Two hundred and fifty years later than the time of this Itinerary, during all which this port was the chief port of Britannia for communication with the Continent, Rutupis was the head-quarters and seat of government of that great Roman officer already mentioned, of whom we hear in the *Notitia Dignitatum*—viz., “Viri spectabilis Comitum Littoris Saxonici,” or, in the language of to-day, of the Lord Warden of the Cinque Ports, the direct successor in office of the Roman Comes, and still holding his

seat at Walmer Castle, about eight miles from Rutupis. The Roman officer had for his garrison at Rutupis the Legio Secunda Augusta, which, two hundred and fifty years before, Ptolemy had found as I have shown at Maiden Castle, near Dorchester, and stretched out his subordinate garrisons right and left along the coast as follows:—viz., to the left: 1st. On the north shore of Kent, at Regulbium, now Reculver, the tribune of the first cohort of the Vetasians. 2nd. The præpositus of the light Fortensian troops at Othona (Numeri Fortensium), that is Ithancester, in Essex. 3rd. The præpositus of the Stablesian cavalry of Garriononum, at Garriononum, that is to say Burgh on the Sands, in Norfolk. 4th. At Branodun, now Brancaster, in Norfolk, at the entrance to the Wash, the Dalmatic cavalry of Branodun with their præpositus. To the right the first garrison station of the Roman Warden was at Dubris, now Dover; a force of Tungrican milites, under a præpositus. The second station was at Lemannis or Lympe, with Turnacensian troops and their præpositus. The third was at Anderida, with a præpositus and light troops of the Abulci. The name of the station Anderida occurs nowhere else in the authors we have reviewed, and except that it took its name from the great wood of Anderida, and that it was finally attacked and sacked by the South Saxons, we have no local relationships for it; yet by a very general consent it is now believed to be Pevensey, possessing considerable remains of Roman work in its castle walls, once having an important harbour and still a member of the Cinque ports. The fourth and last was at Portus Adurni, the name of which is retained to the present day in the river Adur, in Sussex, whose fort at Bramber was probably the station of this garrison—viz., the præpositus and light troops called Exploratores. The consideration of this last station is of great importance in the next *iter*.

## ITER VII.

A REGNO LONDINIUM, xcvi.

CLAUSENTO, xx; VENTA BELGARUM, x; CALLEVA ATTREBATUM, xxii;  
PONTIBUS, xxii; LONDINIO, xxii.

There is no question as to the numerals in this *iter*, with the single exception that one edition of the *Itinerary* gives the total at cxv, and another at cxvi, instead of the actual total, xcvi. The mistake seems to be the misplacing of the x in both the variations, and the accidental omission of the i in one.

No *iter* has been subject to a wider application. Camden places its commencement (Regnum) at Ringwood in Hampshire; Clausento he gave to Southampton, or its near neighbour, Bittern. Venta had been placed at Bristol; he removed it to Winchester. Calleva he thought Wallingford; others had thought it Oxford, and have since put it at Silchester and at Reading. Pontibus was put by Camden at Colnbrook; and since his time Longford, Windsor, and Old Windsor have been advocated.

In 1723 an inscribed stone was dug up in the North Street at Chichester, and is preserved at Goodwood. It is of the time of the Emperor Claudius; and from the occurrence on it of a part of a name, GIDUBNI (the first portion of the word being broken off), which has been suggested to be COGIDUBNI, it was concluded that we have here the name of the native Prince, of whom Tacitus relates that having remained faithful to the memory of the Roman power, certain states out of the conquests of Ostorius Scapula were given "Cogiduno regi." This conclusion led to another assumption, viz., that the states given to "Cogidunus rex" must have been those of the Regni; and lastly to another, viz., that the capital town of the Regni must be Regnum; and that the discovery of the stone here declared Regnum to be Chichester. Depending on this chain of conjecture, the town Regnum has been invented out of the name of a people or district, and has by antiquaries been ever since

annexed to Chichester. We know from Ptolemy that the Regni were a people, and that their town, Neomagus, lay a considerable distance inland; therefore, when we read that this *iter* starts from Regnum, I conclude that it started from some place not given by name, but in the territory of the Regni; which territory it is pretty evident from the position we have been obliged to give to their town, Neomagus, stretched across Sussex, the present Rape of Bramber forming about the centre of it. This territory, after some time, came to be the most westerly of the jurisdiction of the counts of the Saxon shore; and their seat of authority within it was at Portus Adurni,<sup>11</sup> which can be none other than the port of the river Adur. This river descends almost the whole length of the Rape of Bramber, discharging into the sea now near to New Shoreham, but formerly near to Portslade and Aldrington. In Roman times, we may judge from the present aspect of the land, the river, which still forms a considerable pool up to Old Shoreham, was a tidal lake up to Beeding and Bramber. Bramber is in a strong military position, the key to the inner country. Its ruined Norman castle, and its Saxon earthworks and history, attest its ancient importance. Beneath its shelter grew up the ancient town of Steyning, and from it a Roman road leads to London. At Bramber, on the banks of the Adur, and overlooking the tidal lake, I cannot doubt was the seat of the Præpositus Numeri Exploratorum, stationed, as we know from the *Notitia Dignitatum*, at Portus Adurni, towards the end of the fourth century. To this once important town of Bramber, or to some important position near it, I look for the town of the princes of the Regni who preceded the Præpositus in the government of the district, and for the place from which this *iter* started.

At Cissbury, three miles west of Bramber, we have a remarkable earthen fort, with evidences of Roman and of earlier workmanship. It is an oval in form of plan, covering about sixty acres, its north side hanging over

<sup>11</sup> *Notitia Dignitatum*.

an almost inaccessible declivity, and in other parts having only two points of access. Its site is almost the highest point in this range of the South Downs, and so admirably is it placed for seaward observation, that from the central part of the area of the fort the white surf-line of the breaking sea upon the shore may be seen in clear weather, without interruption, from Selsey Bill to Beachey Head. It has two dependent camps in sight,—one to the southwest, on Highdown, four miles and a half distant; the other at Chanctonbury, two miles and a half distant due north; both of them admirable signal-stations. Highdown is an isolated mount, commanding the whole flat country between the South Downs and the sea. Chanctonbury, 780 feet above the sea, looks directly down upon Bramber, and over the whole breadth of the weald of the Regni, including in the view their northern town of Neomagus.

From Cissbury I conclude this *iter* starts. The first stage is to Clausento, xx. The road seems to have been across the hills and valleys to Glating Beacon, just above the Roman villa of Bignor. Here it falls into the Roman Stane Street, which leads directly into Chichester at the exact distance of twenty miles. Chichester, therefore, was Clausento, and was one of the Roman towns, as we have seen, upon the waters of Trisanton. The next stage is to Venta Belgarum, x. The name not only distinguishes it from other towns named Venta in the *Itinerary*, but seems to indicate the passage from the territory of one people, the Regni, to that of another, the Belgæ. Venta in the country of the Belgæ, we have already placed tentatively, from Ptolemy, at Havant, the middle town of the Trisanton water. The distance given in this *iter* really settles the question, for the accurate measure is a little over nine miles and a half from the crossing of the streets at the centres of the two towns. From Havant a Roman road goes due north through the Forest of Bere, by Rowland's Castle, near which "Roman remains" are marked on the Ordnance map; but what they are I do not know. That there was a road right through to London is pretty certain, though a great deal of it remains to be discovered and marked out. From



Venta to Londinium the journey is sixty-six miles, and this is the exact distance from Havant to London by a nearly straight route. The *iter* divides this distance into three stages, each of twenty-two miles. The first is Venta to Calleva Attrebatum xxii. Here we again pass from the Belgæ to another people, the Attrebates; that is to say, from Hampshire into Surrey. Strange to say, no commentator has noticed the difference in this name and the Calleva of the thirteenth, fourteenth, and fifteenth *iters*. In those three cases it is simply Calleva; in this *iter* it has the distinction of another Calleva, viz., of the Attrebates. Unless this distinction is admitted, it is impossible to lay out these *iters*. The distance (twenty-two from Havant) brings us close to Haslemere in Surrey, which I believe to have been Calleva of the Attrebates, though the road passed somewhat to the west of it, just as a railway now-a-days leaves its towns a little aside. To the next place, Pontibus, is xxii, and it is the same distance from London. After testing the many places suggested for this station, for more than a quadrant of the circle round London, and for all degrees of the circle round other places to which it has been misconnected by antiquaries, and rejecting them all as incompatible with the distance, what was my surprise to find with twenty-two miles in the compasses both from Haslemere and from London, that one leg of the compasses fell upon the name Pointers on the inch-scale Ordnance Map, as if the name Pontibus were still preserved there. My meditated visit to the place has never yet been paid, nor have I ever been nearer to it than at Cobham in Surrey, from which it is about a mile and a half south-west. From Haslemere, the road (well known to be Roman) lies through Godalming and Guildford, and passes a full mile west of Pointers and Pointers' Green, along the hill from which, at Red Hill, a by-road goes off at right angles down to the river Mole, where Pointers and Pointers' Green stand. To the point where this branch-road goes off, the distance seems to fall exactly. The main road is here equidistant from the river Mole and the river Wey. Their proximity and their bridges

perhaps suggested the name Pontibus. Further on, about two miles, the road, after passing over Pain's Hill, crossed the river Mole itself, and so pursued its way, and fulfilled its correct distance of twenty-two to London. The place Pontibus, or Pontes, seems to have given name to the hundred in which it stands, viz., the hundred of Emley Bridge, written formerly Elmeley Bridge, and in *Domesday Book*, "Amelebrige."

### ITER XIII.

#### AB ISCA CALLEVAM, CIX.

The first part of this *iter* is in Wales, which the limits of our subject will not allow us to discuss. It crosses the Severn at *Glevum* (Gloucester). The next stages are to DUROCORNIO, XIV, or in the Vatican MS., XVIII; SPINIS, XV; CALLEVA, XV. The sum of the items is short of the sum total given by ten miles.

The distance (xiv) from Gloucester to Durocornovio will not reach to Cirencester, to which this name is usually allocated, but only to North Cerney on the same river. To the latter place the late Mr. Black assigned it; and in rejecting Cirencester, he gave the opinion that the rich and extensive Roman town still to be seen there was not founded in the early days of the Roman dominion, when the Antonine survey was made. It occurs to me that the Corinium of Ptolemy, which it has been usually thought is the Durocornovio of this *iter*, is certainly a different place; and that these two names really give us Durocornovio for North Cerney, and Corinium for Cirencester; the latter, even when Ptolemy put it down as the principal town of the Dobuni, being a much more considerable place than its neighbour, although for some reason the Emperor Hadrian's route was directed to the smaller place of the two. But whether North Cerney or Cirencester be assumed, the distance (xv) to Spinis brings us into difficulties. The place called Speen, a little west of Newbury in Berkshire, was fixed upon by Camden for Spinis; and standing, as Speen

does, at the junction of two Roman roads, whilst also Spinis is the junction station of this and of the next *iter* to be quoted, the circumstances seem to justify Camden's choice. But then how are we to account for the distance xv, when the actual distance is, from Cerney to Speen, thirty-eight miles, or from Cirencester, thirty-six miles? I can only account for it by the suggestion that the name and distance of a place between Durocornovio and Spinis has from very early times been erroneously omitted altogether in the *Itinerary*. Perhaps even the omission was the error of the original scribe. If Spinis and Speen are correctly identified, this lost place was fifteen miles from it, in the direction of Cirencester. The point on the Roman road, at this distance, falls exactly at the Manor Farm on Wanborough Plain, about midway between the villages of Wanborough and Baydon. Here I suggest is the place whose name and distance from Durocornovio are altogether lost in the *Itinerary* copies.<sup>12</sup> The next *iter* also shows that Spinis was fifteen miles from Calleva. Calleva is also the starting-place of the fifteenth *iter*, which makes it still more important to establish its identification. I have already shown that this Calleva is to be distinguished from Calleva Atrebatum of the seventh *iter*. No name has had so many different identifications as Calleva. Camden thought it Wallingford; Henley, Farnham, Silchester, Oxford, and Reading, have had other advocates. But if Spinis be Speen, then the distance shows that Silchester, fifteen miles from it, is the only place which has a claim to the name. Silchester has long been known for its walls of Roman masonry with a circuit of near three miles; and by the labours of the Rev. Mr. Joyce of Strathfieldsaye, in recent years, our knowledge of its marks of Roman antiquity, has been greatly extended. As long ago as 1732 an inscription was dug up, which showed the people whose city it was in

<sup>12</sup> This suggestion, as printed in the *British Archæological Journal*, has brought to the author a valuable communication from Mr. William Chandler, of Aldbourne. He has long been persuaded, by the frequent discovery of Roman coins and pottery, that the adjoining farm, called North Farm, which he occupies, forms a part of the site of a Roman town. It is intersected by a road called The Portway, and has the suggestive names of Chestercomb and Popplechurch, adjoining.

Roman times to have been the Segontiaci. These people, nearly two hundred years before Hadrian's journey, appeared by an embassy before, and submitted to Julius Cæsar when he reached the furthest point of his second invasion. Their ambassadors were joined with those of their immediate neighbours, the Bibroci or people of Berroc, *i.e.*, Berkshire; also with those of the Cassii, *i.e.*, the people of Middlesex and of Cashiobury in Hertfordshire; with the Ancalites, probably a people of some part of Hampshire; besides the Icenii Magni, the neighbours, in another direction, of the Trinobantes, whose quarrels had brought Cæsar to Britain. Ptolemy does not distinguish the Segontiaci as a separate people in his time; and the probability is that, being of Gaulish descent, they had then come to be included in his mind with the Belgæ. Nor is their town named by him; yet Calleva, which seems to be the city of the Segontiaci, is named in three *iters* of Ptolemy's contemporary, Hadrian. Coins found in abundance at Silchester show that the place was known to the Romans from immediately after the invasion of Claudius. Probably its importance greatly increased under the Roman rule; and when Hadrian visited it, it was in comparatively humble condition. The name appearing three times in his *iters* as simply Calleva, may be thought a little singular; and it may be a matter for wonder why it was not distinguished as Calleva Segontiacorum, just as the other, Calleva Atrebatum, was distinguished by the name of its people.

But to sum up. It really seems, 1st, that by the mention of the Atrebatæ at the one Calleva, and not at the other in its three repetitions, the distinction was sufficiently marked; 2nd, that Silchester is the town of the Segontiaci, the inscription discovered in 1732 proves; and, therefore, if Calleva at all, it is Calleva Segontiaci; 3rd, that it is Calleva is proved by its distance of fifteen miles from Spinis or Speen repeated in two *iters*. I ought to add that the distance is not measured from the modern village of Speen, called Church Speen, but from the place called Stock Cross, near Wood Speen,

about a mile and a quarter west of Church Speen. The station Spinis lay, in fact, in the fork between the two junction-roads from Aquæ Solis and Durocornovio, a little before they united on their way to Calleva. How Calleva came to be so called by the Romans, whilst with the Britons it long retained, in the appellation *Caer Segont* (as it appears in Nennius), the name of its ancient people, and how finally it came to take the appellation of *Silchester*, are difficult questions which I am not competent to enter upon. Its latest appellation it seems to gain from its neighbourhood to the same source which gives to that hugest of English barrows near Avebury the name of *Silbury*, and to the great forest of Wiltshire the name of *Silwood*.

#### ITER XIV.

##### ALIO ITINERE AB ISCA CALLEVAM, CIII.

VENTA SILURUM, IX; ABONE, IX; TRAJECTUS, IX; AQUIS SOLIS, VI;  
 VERLUCIONE, XV; CUNETIONE, XX; SPINIS, XV; CALLEVA, XV.

The total is here in error ten, and should be one hundred and thirteen. The subordinate distances are not open to any question of variation in different copies, yet their discrepancy in the total raises the question whether there is not some error of ten in one of the items.

From *Isca Silurum*, or *Caerleon*, to *Venta Silurum*, or *Caerwent*, is almost nine miles; thence by the *Via Julia* to *Crick*, and turn off to the *Severn* by *Portskewet*, and to the Roman camp on the shore at *Southbrook Chapel*, near to *Portskewet Pill*; cross the *Severn* to the promontory at the *Chessel Pill*; thence by *Pilning Street* to *Awkley Farm*, and so through *Almondsbury* to the Roman *Ridgeway* at *Almondsbury Hill*, and a little beyond the Hill the distance is nine miles, leaving out the water-passage. To the right of the road is the fine ancient encampment of *Knole Park*, which was probably the fort of ancient *Abone*, the place itself being only a small station on the road. The way to *Aquæ Solis* con-

tinues by Wood Green and Trench Lane, and is not further distinguishable on the map; but the distance, Trajectus IX, reaches to a camp on the river Boyd, one mile south of the village of Abstone. To Aquis Solis, VI, brings us exactly to Bath.

I have passed rapidly through the route up to this station, as the places previous to Aquis Solis are not within the limits of the present discussion. From Aquis Solis to Spinis the present existence of a direct Roman road has led to the supposition that this direct route must be followed, although it brings us into a difficulty exactly the reverse of that encountered in the last *iter*. There the perplexity was that the distances given fell considerably short of Speen. In this *iter*, if the direct route from Aquis Solis is followed, the distances are in excess, which plainly indicates that a circuitous and not a direct route was chosen. The two names, Verlucione and Cunetione, given between Bath and Speen, like Derventione in another *iter*, seem to be places deriving their appellations from rivers. Just as Derventione is named from the Derwent, and Cunetione in all probability from the Kennet, so Verlucione may have been derived from a stream having the first part of that name, Verlet or Verlut-ione. Bishop Gibson finds a stream near to Westbury, in Wiltshire, called the Ware, which induced him to fix on Westbury for Verlucione, thinking that river to preserve in its name the first syllable of the old word. Camden preferred the neighbouring town of Warminster, evidently also led by the first syllable of that name, although not mentioning the river Ware. Until the river of Verlut-ione is satisfactorily identified, which I am not able to do, it is probably not possible to identify the place itself, because there is little to show whether the route bent to the north or to the south of the direct road between Bath and Speen. If to the north, then it probably went by the old British road, the Fosseway, about to Chippenham, and then turned towards Speen by the road through Calne, uniting with the direct road near Silbury Hill; but Chippenham stands on the river Avon, and I can scarcely think if that river had

once taken a more distinctive name that the older generic word Avon would now attach to it. If this makes it probable that the route went to the south-east on quitting Bath, then the distances bring us to the neighbourhood of Edgington and Coulston, on the north verge of Salisbury Plain, where only some small springs take their rise. At Edgington and the neighbouring village of Bratton, or rather on the lofty crests of the hills above, there are important earthworks; and this point, if it be Verlu-cione, would be the only one by which the Emperor Hadrian visited the remarkable country which we call Salisbury Plain. From hence the route would lay through Devizes, joining the direct road to Speen, also near Silbury Hill. This great direct road, which was certainly a British road before it was Roman, then passes on near to the great stone circle of Avebury, crosses the Kennet at Marlborough, and beyond that town the course of the river is nearly parallel to the road. At about two miles east of Marlborough, and somewhere within a mile of the Kennet, and on the verge of Saver-nake forest, the distance xv miles from Spinis places Cunet-ione. The place may have been a mere post station, and the town of Marlborough the growth of a later time, or as at Speen, where that place has for ages sunk into insignificance, extinguished by the growth of the now ancient but once new town of Newbury. The concluding town of this *iter*, Calleva, has been fully treated of as the concluding town of the preceding *iter*.

#### ITER XV.

A CALLEVA ISCA DUMNUNIORUM, CXXXVI,

VINDOMI, XV; VENTA BELGARUM, XXI; BRIGE, XI; SORBIODUNO, VIII;  
VINDOCLADIA, XII; DURNOVARIA, IX; MORIDUNO, XXXVI; ISCA  
DUMNUNIORUM, XV.

The discrepancy of the sum total with the items again perplexes us, the actual sum total being one hundred and twenty-seven. It is also suggested by Akerman that the name of the starting place, Calleva, is uncertain. This final route is perhaps the most interesting of all the *iters*, from the confirmation it gives to and receives from the

examination of Ptolemy; from its connection with the termination of the last two *iters*; from its union to the seventh *iter*, and from the fact that its identification differs at every station except the starting point from all previous attempts to map out the route.

Silchester was an important centre, upon which two of the routes already traced converged, but there still exist the lines of ancient roads which converged upon it from other places—viz., from Old Sarum and the country of the Durotriges beyond, from Winchester and Magnus Portus, from Londinium, and from the country north of the forest of Berroc. In the direction we have now to take at starting the traces of the road are lost. The distance to the first station, Vindomis xv, and to the second station, Venta Belgarum XXI, makes thirty-six miles, but the actual distance to Venta Belgarum or Havant, in a straight line, is between thirty-eight and thirty-nine miles. Nearly on this straight line and about sixteen from Silchester is the ancient town of Alton (Ald-ton or Old-town possibly), and this it seems probable was Vindomis. From it to Venta Belgarum or Havant the route lay through the forest of Andred. I cannot agree with those who insist that we must point out a Roman road wherever the *iter* leads us. It is highly probable that some of these early Roman roads were of but a temporary construction, and fell into oblivion during the subsequent two hundred and fifty years of the Roman occupation of the country. The discrepancy of three miles in the distance is, perhaps, to be accounted for by the measure being merely that of the by-road between the points where it touched the main roads out of Calleva and Venta. From Venta the route turns westward, and the first stage is Brige, XI, which distance falls almost exactly to the river at Titchfield, just north of Titchfield Abbey. Sorbioduno, VIII, is written VIII in one edition. The distance VIII brings it just to the estuary of the Itchen, opposite Southampton, but the line of road takes it in the direction of the Roman fortifications at Bittern, opposite the sister town of Northam. The abundant Roman remains found at Bittern leave no doubt of its Roman occupation, and



incline me to give the name Sorbioduno to Bittern rather than to Southampton. The next stage, Vindocladia XII, whether from Bittern or from Southampton, ends actually at the ancient city of Winchester. From Winchester to Durnovaria IX (with, however, the uncertainty imported by one edition, which gives the numeral XVI) brings us to the river Test at Romsey, to the flowing waters of which the name Durnovaria well applies. The next stage, to Moriduno, XXXVI, reaches exactly to the Dunium, Ridunum, or Wareham, on which from Ptolemy and others we have already said so much. From Wareham to Isca Dumnuniorum, XV, ends the route exactly at Dorchester, and confirms the identification suggested by the previous consideration of Ptolemy. If I am correct, this place was at one period, and most likely for a considerable time, the Roman capital of the south of Britain. Some importance of this kind gave to the district an early prosperity, and a teeming population, of which a curious evidence survives in the minuteness of the ancient subdivisions of Dorsetshire. The county is subdivided into fifty-six hundreds and liberties. The much larger county of Devon contains only thirty-two hundreds, indicating three thousand two hundred families, when Dorset indicates probably more than five thousand six hundred.

I have now completed, to the best of my ability, the task of applying the measurements of Ptolemy and the *Antonine Itinerary* in the Southern Counties. In such an attempt one student can hardly be successful. There is so much room for the application of local knowledge, and so much space for the criticism of authorities on the Roman antiquities of Britain, that if I can only hope to have gained the attention of those qualified to point out the correct conclusions, my purpose will be served.

I have designedly postponed to this place the complete consideration of one author, viz., *The Ravennas*. It would have inconveniently overloaded the argument to have introduced sooner the names of places which this author furnishes, but which neither Ptolemy nor Antoninus help us to identify; yet as *The Ravennas* affords the most copious list of ancient classical names

for English places, of any ancient author, and as they complete the evidence in existence of the Roman nomenclature of British geography, the list in full for the districts we have had under consideration cannot well be omitted. I think, too, that the author deserves more attention than he has hitherto received. I cannot pretend to enter into the question when he wrote, further than to remind my readers that the author quotes St. Paul, and speaks of the Saxons having formerly passed over from Antiqua Saxoniam, and occupied Britain, and that in describing the country he speaks of it in the past tense. The edition I have used is that published with the works of Pomponius Mela, published in 1696, ex *MS. Lugdunensi*. So far as I use it I quote the author literally, but I distinguish the places hereinbefore identified by printing them in capitals. The work is divided into five books, of which Book I is introductory; Book II describes Asia; Book III, Africa; Book IV, Europe; Book V, from which the extracts are made, describes the coasts of the Mediterranean and of other seas, and describes the islands of the seas. Concerning the places in Britain it begins and proceeds thus:

In qua Britannia plurimas fuisse legimus civitates et castra ex quibus aliquantas designare volumus, id est, Giano, Eltabo, Elconio, Nemetotacio, TAMARIS, Durocoronavis, Pilais, Vernalis, Ardua, Ravenatione, Devionisso, Statio Deventia, Stene, Duriarno, UXELIS Verteoia, Melarnon, ISCA DUMNUMORUM,<sup>13</sup> Termonin, Mostevia, Miledunum, Apaunaris, Masona, Alongium; item juxta suprascriptam civitatem SCADOMORUM est civitas quæ dicitur MORIDUNO, Alauna Silva, Omire, Tedertis, LONDINIS, Canca, Dolocindo, Clavinio, Morionio, Boluelanio, ALAUNA, Coloneas, Aranus, Anicetis, Moiezo, Ibernio, BINDOGLADIA, NOVIOMAGNO, Orma, VENTA BELGARUM, Armis, Ardaoneon, Ravimago, REGENTIUM, Leucomoga, CIMETZIONE, PUNTUOBICE.

There is no break in the list, although this, so far, seems intended for a survey from Cornwall to London, and into Kent and Sussex; and the next place named takes us into Wales, the list proceeding as follows:

VENTA SILURUM, Jupaniam, Metambala, Albinunno, ISCA AUGUSTA, Bannio, Brenna, Alabum, Cicutio, Magnis, Branogenium, Epocessa, Ypocessa, Macatonion, GLEBON COLONIA, Argistillum, Vertis, Salinis,

<sup>13</sup> These are printed Melarnoni, Scadum Numorum.

CORINIUM DOBUNORUM, CALEBA ATTREBATIUM, Anderesio, Miba, Mutuan-  
toris, LEMANIS, DUBRIS.

Here again seems to be the end of a series which stretches across the country from Caerleon to Dover, The list continues without a break :

DUOVERNO CANTIACORUM, RUTUPIS, DUROBRABIS, LONDINI, Tamese, Brinavis, Alauna, Utriconion Cornoninorum.

And so having arrived as far north as Staffordshire and Shropshire, continues into North Wales, returns to London (this time called "Londinium Augusta"), proceeds into Essex, Suffolk, Norfolk, and Lincolnshire, and on to the line of Hadrian's Wall and Carlisle, and thence back to York, naming sixty-seven places from the last quoted. The author then announces the commencement of a fresh district, and proceeds to the line of the Wall and the countries north of it, naming eighty-two *civitates*, and five places which he calls *loca*. He concludes thus :

Currunt autem per ipsam Britanniam plurima flumina, ex quibus aliquanta nominare volumus, id est, Fraxula, Axium, Maina, Sarva, TAMARIS, Naurum, Abona, Isca, Tamion, Aventio, Leuca, Juctius, Leugosena, Coantia, Dorvatium, Antrum, Tinoa, Liar, Leuda, Vividin, Durohani, Alauna, Coguversuron, Durbris, LEMANA, Rovia, Ractomessa, Senua, Cimea, Velox.

This list of rivers is remarkable for its deficiencies. The Iscs, the Axes, and the Avons, are represented in it, but not so as to identify any particular river. Of the rivers of the southern counties only the Tamar and the Lympe are certainly in the list. Perhaps the Thames is named as the "Tamion": Alauna may be the one identified as the Wey; and "Durbis" is probably written for Dubris or Dover. "Rovia," as it occurs immediately after the Lympe, may mean the Rother, at the opposite extremity of Romney Marsh.

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