

## SYNOPSIS

Two papers reference Tp1 and Br2 have discussed geographical statements made by The Venerable Bede in his text “Ecclesiastical History of the English People,” and possible maps or data available to him. This paper explores the hypothesis previously developed that a map or maps by Claudius Ptolemy and Roman Military Maps were available for study in Britannia circa 650AD, and were copied, and or amended.

## PRECIS OF OTHER PAPERS

Diagrams Br1D01 and Br1D02

The Venerable Bede commenced his “*Ecclesiastical History*”<sup>1</sup> with a first chapter devoted entirely to the subject of geographical and natural matters pertaining to *Britannia*. These geographical statements can be traced to the writings of GILDAS, who in his text “*De Excidio Britanniae*”<sup>2</sup> (c520 AD) wrote the following;

*II The History, chapter 3; The island of Britain, situated on the utmost border of the earth, towards the south and west, and poised in the divine balance, as it is said, which supports the whole world, stretches out from the south-west towards the north pole, and is eight hundred miles long and two hundred broad, except where the headlands of sundry promontories stretch farther into the sea. It is surrounded by the ocean, which forms winding bays, and is strongly defended by this ample, and, if I may so call it, impassable barrier, save on the south side, where the narrow sea affords passage to Belgic Gaul. It is enriched by the mouths of two noble rivers, the Thames and the Severn, as it were two arms, by which foreign luxuries were of old imported, and by other streams of less importance. It is famous for eight and twenty cities, and is embellished by certain castles, with walls, towers, well barred gates, and houses with threatening battlements built on high, and provided with all requisite instruments of defence. Its plains are spacious, its hills are pleasantly situated, adapted for superior tillage, and its mountains are admirably calculated for the alternate pasturage of cattle, where flowers of various colours, trodden by the feet of man, give it the appearance of a lovely picture. It is decked, like a man’s chosen bride, with divers jewels, with lucid fountains and abundant brooks wandering over the snow white sands; with transparent rivers, flowing in gentle murmurs, and offering a sweet pledge of slumber to those who recline upon their banks, whilst it is irrigated by abundant lakes, which pour forth cool torrents of refreshing water.*

Following such hyperbole the text written by the Venerable Bede is measured and dry. Two of Bede’s statements were singled out for detailed analysis;

1) In paper Tp1, concerning Bede and the Tabula Peutingeriana I seek to explain the first statement he made, “*Book One, Chapter One, The situation of Britain and Ireland; their earliest inhabitants. Britain, formerly known as Albion, is an island in the ocean, lying towards the north west at a considerable distance from the coasts of Germany, Gaul, and Spain, which together form the greater part of Europe. It extends 800 miles northwards, and is 200 miles in breadth, except where a number of promontories stretch further, so that the total coastline extends to 3600 miles.*”

This paper explored post Roman Britain, and the likelihood of Roman Maps<sup>3</sup>, texts or treatises being available, and being copied by monks in the *Scriptoria* of the many monasteries which were gradually populating the landscape. It also focussed upon the possibility that the *Itinerarium Antonini*, [*It. Ant.*] and the *Tabula Peutingeriana* [in original format, by reconstructing the lost portion containing *Britannia*] were copied and thus used to convince both *Gildas* and the Venerable Bede that *Britannia* was an island some 800 miles in length and 200 in width.

2) In text Br2, “*Between Ptolemy and Bede, just where is Ireland?*” I seek to explain the following sentences within Book One; Chapter One;

*“Ireland is the largest island after Britain, and lies to the west of it. It is shorter than Britain to the north, but extends far beyond it to the south towards the coasts of Spain, although a wide sea separates them.”*

This paper concentrates solely upon the geographical relationship of Ireland to Britain within the context of monastic knowledge, via the extra-ordinary travels recorded for various monks or brethren. In the *Scriptoria* of many monasteries, documents were copied, some rather well, others with numerous errors. Thus it was possible to extrapolate a scenario with Ireland, *Ibernia Insula*, being correctly positioned apropos the *Rhinns of Galloway*, *Novantarum Prom*, and the southern extent of Ireland being repositioned further south from the original alignment on the *Lleyn Peninsula*, *Ganganorum Prom*, to, at first possibly the line of *St. David’s Head*, *Octapitarum Prom*, and thence to *Land’s End*, *Belerium Prom*.

Within that text, diagram Br2D04, seeks to illustrate what may have been so very apparent to the monks of *Wearmouth and Jarrow Monasteries*, the *Venerable Bede’s* home, that the orientation and positioning of *Caledonia, Scotland*, was completely wrong as drawn on the map of *Claudius Ptolemy*.

It indicates that from *Vedra Fluvius, the River Wear*, Scotland is a due east alignment, and as such would have been visible to the monks at *Wearmouth*. It patently is not, and those same monks, quite educated people, would have known the map was false. This paper concluded that the *Tabula Peutingeriana* could not have been the source map for the description of Ireland’s geographic position given by *Bede*, and therefore he was privy to other information.

That ‘other information’ is possibly explained not only by *Bede’s* own admission that, *“I have drawn extensively on the works of earlier writers gathered from various sources”*, but also from the statement made in another of his texts, *“Vita sanctorum abbatum monasterii”*, {Lives of the Abbots}, where in para 15 he states that a document obtained by *Benedict Biscop* on his travels abroad was a *“Cosmographiorum codici mirandi operis”* (manuscript of the cosmographers).

It is quite feasible that this latter document was a copy of *Claudius Ptolemy, Geographia*<sup>4</sup>, which although originally in the Alexandrian Greek script, would surely have been translated into *Latin* for the Roman audience it was intended. Even though it is acknowledged that some high ranking Romans were fully conversant in the Greek language. In *Britannia*, it is highly unlikely that a Greek text would have had the value of *8 hides of land* in the context of English monasteries full of Latin scholars. However, the extent to which the Greek language was used in *Britannia* circa 700AD is unknown, but, because of the Romano/Greek fusion it may have been used. Conversely, it is also highly likely it *was* exchanged for land precisely because it was a Greek text and may have had maps appended.

The assumptions made for this paper are therefore as follows;

- 1] *Gildas* was influenced by a copy of the *Tabula Peutingeriana* or a similar table, or Roman map, which as the original paper argued influenced *Bede* to accept the geographical format of a rectangular island.
- 2] *Bede* was privy to information arriving in *Britannia* via peripatetic monks and scholars enabling him to expand the descriptive passages, and by virtue of the Clergy’s geographical knowledge see a revised copy of *Claudius Ptolemy* which agreed with the dimensions quoted by *Gildas*.
- 3] These two forms of map/table fused into a single representation.

Thus we arrive at the *raison d’etre* for this paper where we can now discuss what action the scribes may have taken to correct a copy of *Claudius Ptolemy’s* map of *Britannia*, and how it may have affected future descriptive text.

## CLAUDIUS PTOLEMY

### Diagram Br1D03

To enable comparisons to be drawn, and future research attempted, the map of *Britannia* utilized for these papers has been a freehand version drawn by the author of *Map II, Europe Tabula Prima; Prima Europe Tabula Continet Insulas Britannicus Cum ceteris Insulis Que Circa Ipsa Sunt*, taken from *Codex Lat. V F. 32<sup>4</sup>*, belonging to the National Library, Naples, Italy. This version is believed to have been drawn by *Nicolo Germano, "Dominus Nicolaus Germanus"*, cosmographer and illuminator, around 1470. He was also responsible for the famous *ULM* edition of *Ptolemy* in 1482.

## BRITANNIA

### Diagram Br1D04

The joint monasteries of *Wearmouth and Jarrow*<sup>5</sup> were founded by *Benedict Biscop* [c628-689], in c673 and c681 respectively. At the height of the epoch for the *Wearmouth and Jarrow* monasteries there were over 700 monks in residence. They were probably all literate, and had a disciplined skill. But, more importantly this must have represented an enormously high proportion of the total literacy and talent of the small semi-barbarian Kingdom of Northumbria.

On the opposite west coast, close by the *Rhinns of Galloway*, and founded in the 5<sup>th</sup> century, was *Candida Casa*, the *White House*, the monastery of *St. Ninian* at *Whithorn*. There are two sentences in *Bede's Ecclesiastical History, Book III, chapter 4, "How the Picts received the Faith of Christ [AD565]*, that will assist us, but the second is more pertinent;

*"The place belongs to the province of Bernicia and is commonly known as Candida Casa, the White House, because he [St. Ninian] built the church of stone, which was unusual among the Britons."*

Archaeological evidence has confirmed the remains of a Christian cemetery beneath the medieval *Whithorn Priory Church*. Thus the *Venerable Bede* knew of, and where *Whithorn* was, geographically.

The pedestrian route from *Whithorn* to *Jarrow* is a reasonable easterly stroll towards *Carlisle*, and then following either the route of *Hadrian's Wall* or the *Stanegate* [original frontier road] to *Jarrow* on the east coast.

The map of *Claudius Ptolemy* would have those same monks walking virtually **due south!** Literate monks would surely question such an error and seek to correct it!

Likewise, the *Lindisfarne* monastery, founded by *Aidan* in AD635 was known to *Bede*, who writes in his preface, *"I have in part taken and accurately copied from a Life already compiled by the brethren of the Church of Lindisfarne;"* and in *Book III, chapter 3* he writes, *"On Aidan's arrival, the King appointed the island of Lindisfarne to be his see at his own request. As the tide ebbs and flows, this place is surrounded by sea twice a day like an island, and twice a day the sand dries and joins it to the mainland."*

The map of *Claudius Ptolemy* would have those monks, to exchange letters, walking virtually **due west** from *Lindisfarne* to *Jarrow*, instead of the near **due south** that it is! Literate monks walking between monasteries to exchange letters or copies of a singular treatise cannot but have known, and recorded, the geographical directions of their travels! Thus for a literate monk or brother amongst hundreds of literate brethren, to have tried to argue that the map of *Claudius Ptolemy*, where it pertains to *Caledonia*, was accurate, was drawn correctly, is patently nonsense.

That is not to say that the southern portion of the map was not accepted as drawn. It bears more than a passing resemblance to the geographical form of *Britannia*. However the problem of the *Tabula Peutingeriana* format and its possible use by those same monks must also be considered when evaluating their knowledge.

But, let us be quite clear regarding the information available in the 7<sup>th</sup> century. The last peoples to survey, map and write extensively about *Britannia* were the Romans, who finally departed these shores circa 406CE. And it is highly unlikely that any form of mapping or surveying took place post 275CE, with the first usurpation of the Legions by *Carausius* c287CE. The Legions, their Agrimensors etc., were probably rather busy with the Picts and insurrections to worry about mapping.

Thus the available profiles of *Britannia* were possibly provided by *Claudius Ptolemy* and the lost portion of the *Tabula Peutingeriana*. Although Roman Military maps were known to exist.<sup>6</sup>

## PTOLEMY REVISED, BEGINNINGS

Diagrams Br1D05 and Br1D06

It is quite apparent from a cursory glance at *Ptolemy's map of Britannia* that the problem is an apparent hinge point, a *Cardo*, at the *River Wear, Vedra Fluvius*. The resolution of this apparent hinge position is dealt with in text Cp1.

It is the visual impact of the map and the consequences of the simple mis-placements, such as *Epidium Prom* [Mull of Kintyre], and *Robogdium Prom* [Ireland], in reality just 22Km apart which point the way. These are facts which would have been known to peripatetic monks, and they require to be addressed.

The simplest method of correcting the *Ptolemy Map* would be to use the putative hinge point and redraw *Caledonia* with a northerly projection as a promontory. Adjustments could be made to align *Epidium Prom* to *Robogdium Prom*, leaving Ireland as drawn. To align the two promontories in a satisfactory geographical layout would entail lengthening the section of coast between the River Wear and the Firth of Forth, and at the same time minimise the over large *Novantarum Prom* [Rhinns of Galloway]. Thus, to consider how a scribe in the 6<sup>th</sup> or 7<sup>th</sup> centuries may have determined the adjustment necessary to the *Ptolemy Map of Britannia*, for a truer representation of *Caledonia*, we must first examine how the northern limit would have been established.

## THE MATHEMATICS OF CLAUDIUS PTOLEMY

Diagram Br1D06

“-----There follows a critique of the work of *Marinus of Tyre*. After praising the wealth of information gathered by his predecessor [though not without a few pointed remarks on his uncritical acceptance of untrustworthy material], *Ptolemy* sets forth his theories on the Earth's dimensions. For its maximum circumference he accepts the figure of 180,000 Stadia postulated by *Posidonius* [this figure, widely divergent from *Eratosthenes* far more accurate calculation, was almost universally adhered to in the middle ages and Renaissance, seriously hindering further progress]<sup>4</sup>.

Thus we have the *Ptolemaic* world = 180,000 Stadia or 500 Stadia per degree. For this exercise the Greek Stade equalling c202 yards will be utilized and thus we can calculate a degree of Latitude, a constant, and, the varying degrees of Longitude. *Claudius Ptolemy* established a ratio for that variance, with *Britannia*, as 11:20 Longitude to Latitude, and hence 275 to 500 Stadia per degree. *Britannia* was originally from c52N to 61N, some 9 degrees or 4500 Stadia; 516 Statute Miles; 562 Roman Miles, and from 15E to 21.5E, some 6.5 degrees or 1787 Stadia; 205 Statute Miles; 223 Roman Miles.

## PTOLEMY REVISED, MONASTIC CARTOGRAPHERS

We can assume a longitudinal centre-line for *Britannia* as 19E and a latitudinal centre-line for *Caledonia* as 60N. Therefore the total *Ptolemaic Britannia* geographical distance is; 7.5 degrees latitude or 7.5 x 500 Stadia = 3750 Stadia plus, 12 degrees longitude or 12 x 275 Stadia = 3300 Stadia; total = 7050 Stadia.

But, 7050 Stadia = 1424100 yards or 809 statute miles.

Immediately we have the base dimension both *Gildas* and the *Venerable Bede's* describe as the length for *Britannia*. (See also *Tp1*). This length, c800 miles or 7000 Stadia had to be maintained, for the simple reason that the monastic scribes would have no idea of the true or geographical length of Britain, unless the Romans had left a dimensioned map.

Thus when they came to pivot *Caledonia* from its easterly format to the northerly format, the pivot point at the junction of the centre lines would be found to be wrong and not accord to the length given by *Gildas*.

This is no more than a simple exercise with a pair of compasses. A pivot at 60N/19E would have resulted in an overlong *Britannia*; 500 Stadia or 57 miles too long! But, by moving the pivot point to 59N/19E the *Ptolemaic* overall length is maintained, and *Epidium Prom* is

placed adjacent to *Robogdium Prom*, giving the map a factual representation of the actual geography.

This re-orientation of *Caledonia* produces the revised latitudinal length for *Britannia* which can be simply counted from the original southern most point on Ptolemy's map, *Ocrinum Prom*, Lizard Point at c51.5N to the new northernmost point at c66N.

In the simplest of terms this new length is 14 latitudinal degrees of 500Stadia per degree or 7000 Stadia total, c800 Statute Miles.

*Gildas and the Venerable Bede considered Britannia to be 800 miles in length.*

The width of *Britannia* according to *Gildas* and the *Venerable Bede* is 200 miles, "except where a number of promontories stretch further." From *Ptolemy's* map it is possible to determine the longitudinal limits, "except where etc" and calculate the width of the island. The longitudes which encompass the majority of the land mass and leave those ubiquitous promontories, are, 15E to 21.5E, a total of 6.5 degrees, or as stated 205 miles.

*Gildas and the Venerable Bede consider Britannia to be 200 miles in Breadth!*

## CONCLUSION 1

A copy of *Claudius Ptolemy's Map II*, comprising *Albion Insula* and *Ibernia Insula* with a partial coastline of Europe, probably arrived in *Britannia* by the middle of the 7<sup>th</sup> century via peripatetic monks and brethren. In all probability it was the "*Cosmographiorum codici mirandi operis*." The map was recognised as being inaccurate with regard to the form of *Caledonia*, Scotland, and it was revised when copied, thus allowing the *Venerable Bede* c730 to describe the whole island as extending 800 miles northwards and being 200 miles in breadth, "except for promontories," and to describe Ireland in a way that could only result from the study of a geographical map. The Peripatetic Clergy would know it was wrong!

## THE PERCEPTION OF THE EUROPEAN COASTLINE

Diagram Br1D07

There are two descriptions of *Britannia* dating from the 1<sup>st</sup> century BC. The first by *Diodorus Siculus*<sup>7</sup>, a Greek writer, is probably based upon the work of *Pytheas the Greek* [4<sup>th</sup> century BC]; "*Britain is triangular in shape, much as is Sicily, but its sides are not equal. The island stretches obliquely along the coast of Europe, and the point where it is least distant from the continent, we are told, is the promontory which men call Kantion and thus is about one hundred stades from the mainland, at the place where the sea has its outlet, whereas the second promontory, known as Belerion, is said to be a voyage of four days from the mainland, and the last, writers tell us, extends out into the open sea and is named Orkas. Of the sides of Britain the shortest, which extends along Europe, is 7500 stades, the second, from the Strait to the tip is 15000 stades, and, the last is 20000 stades so that the entire circuit of the island amounts to 42500 stades.*

The second description is taken from "*The Conquest of Gaul*" by *Gaius Julius Caesar*<sup>8</sup>, where-in at Book V, 13 he states; "*The island is triangular, with one side facing Gaul. One corner of this side, on the coast of Kent, is the landing-place for nearly all the ships from Gaul, and points east; the lower corner points south. The length of this side is about 475 miles. Another side faces west, towards Spain. In this direction is Ireland, which is supposed to be half the size of Britain, and lies at the same distance from it as Gaul. Midway across is the Isle of man, and it is believed that there are also a number of smaller islands, in which according to some writers there is a month of perpetual darkness at the winter solstice. Our enquiries on this subject were always fruitless, but we found by accurate measurements with a water-clock that the nights are shorter than on the continent. This side of Britain, according to the natives' estimate, is 665 miles long. The third side faces north; no land lies opposite it, but its eastern corner points roughly in the direction of Germany. Its length is estimated at 760 miles. Thus the whole island is 1900 miles in circumference.*" The translators of the Penguin Classics edition appended an end note, No 34, which is quite pertinent, as it fully states the situation apropos the geographical consensus; 34. [V.13]. *It will be obvious to English readers that the coasts of Britain are incorrectly orientated in Caesar's description, and their length over-estimated. The idea that northern Spain lay to the west of Britain, with Ireland between them,*

resulted from misconceptions shared by most ancient geographers. According to their belief, [1] the coast of Gaul stretched south-west in an approximately straight line from the Rhine to the Pyrenees; [2] the south coast of Britain was roughly parallel to it; [3] the Pyrenees ran north and south; [4] the north coast of Spain ran not west but north-west from the Pyrenees and was much nearer Britain than it really is.” (Paper Cp2 discusses these facts and in fact dismisses them)

By the mid 3<sup>rd</sup> Century AD we have possibly the original *Tabula Peutingeriana*, which although diagrammatic firmly indicates a geographical knowledge to allow for such an extraordinary undertaking. It is plausible to infer that a *Mappa Mundi*, possibly that of *Claudius Ptolemy* was utilized in the construction of the road map. That *Gildas and Bede* utilized the rectangle 800 x 200 for *Britannia* does not affect the fact that they appear to know precisely where *Britannia* lay apropos Europe. Thus it appears there was a reversal in perhaps the 8<sup>th</sup> and 9<sup>th</sup> centuries which led to the *Diodorus Siculus/Julius Caesar* idea of *Britannia* being revisited in *The Cotton Map*. This is in part confirmed by another history written in the 9<sup>th</sup> century.

## FROM NENNIUS TO THE COTTON MAP

Diagram Br1D08

The monk *Nennius*<sup>9</sup> [early 9<sup>th</sup> century], is a Welsh ecclesiastic who wrote “*Historia Brittonum*”, the History of the Britons, and within chapters 7, 8 and 9, concocted a geographical description based upon both *Gildas and Bede*’s text, but widely variant in its detail.

However it is the literal translation of chapter 7 which provides a link to the descriptive texts concerning *Britannia*;

“*Brittania insula a quodam Bruto, consule Romano, dicta. Haec consurgit ab Africo boreali ad occidetem versus. D CCC in longitudine milium, CC in latitudine spatium habet. In ea sunt viginti octo Civitates et innumerabilia promuntoria cum innumeris castellis ex lapidus et latere fabricate, et in ea habitant quattuor gentes; Scotti, Picti, Saxones atque Brittones.*”

“*The island of Britain is called after one Brutus, a Roman Consul. This [the island] rises up [appears] beyond North Africa towards the west [i.e., it emerges from the ocean to the north and west of the Mediterranean]. It extends [is] 800 miles in length and 200 in breadth. On it are 28 states and innumerable promontories with innumerable forts constructed from stone and wood [?], and on it dwell four races; Scots, Picts, Saxons and Britons.*”

*Britannia* by the early 9<sup>th</sup> century was a Christian country allied to *Gaul* by the Monastic fraternity. There is no reason for *Nennius* to describe *Britannia* in relation to North Africa/Mediterranean unless there was a compelling reason, perhaps a visually imperative manuscript map? Perhaps it was a map which diminished *Gaul/Iberia* and enlarged the Mediterranean and thus the North African landmass. *Bede* utilizes *Germany, Gaul* and *Iberia* to locate *Britannia*.

Consideration can be given to an alternate *Tabula Peutingeriana*, where the strip of land representing *Gaul/Iberia* is for-shortened and the Mediterranean/African littoral remains as the hypothetical construct in paper one indicates. This would provide the simplest of explanations for the above description. We are after all talking about a road map and not a geographical layout.

But as even *Julius Caesar* uses *Spain* and *Germany* to locate *Britannia*, a note of caution must be sounded before we proceed further. *Nennius* is Welsh and the Welsh Annals provide for the story line also told later by *Geoffrey of Monmouth*<sup>10</sup> concerning the founding of *Britain* and *Ireland*. The founders of *Ireland* wandered from *Troy* through *Africa*, and the story line is included by *Nennius* in chapter 15. Therefore *Nennius* may just have been paying attention to his storyline, ensuring his readers were prepared for future events.

That he knew the geographical position of *Britannia* is undoubted; chapter 8 states, “*Three considerable islands belong to it [Britannia]; one, on the south, opposite the Armorican shore called Wight; one, between Ireland and Britain, called Eubonia or Man; and another directly north, beyond the Picts, named Orkney;*”

Therefore, as *Nennius* knew of Europe and his description of the geographical position of *Britannia* is at variance with that knowledge, can we assume that there was an imperative, another document which assisted or confirmed this description.

## THE COTTON MAP<sup>11</sup>

Diagram Br1D08

The maps of *Claudius Ptolemy* cannot be considered the basis for such a description of Britain and Europe. One early map, *THE COTTON MAP*, or “Anglo- Saxon World Map,” so named because it is dated to the late 10<sup>th</sup> century by most scholars, and was then owned by Sir Robert Cotton [1586-1631], does however provide for a partial comparison to the form of Europe described above, a semicircular bay south of Britain. This map is considered to have been drawn in Britain, with perhaps its ultimate source being a Roman World Map.

This is considered feasible because of the named Roman Provinces there-on with the format of very straight frontier lines. This Roman attribution is quite possible, but the size of the map, virtually a square of 8 x 7 inches, and the lack of reference points preclude any direct comparison other than visual. But, a Roman attribution is perhaps negated by the drawn form of the Italian peninsula.

Even the *Tabula Peutingeriana* is more realistic, and that is a road map! One suspects that the minute size of the map probably led to copy errors compounded by the scribe commencing with the Island of *Britannia* at such an in-ordinate size for this world map to be fitted to the space available.

If the *Cotton Map* is studied, it becomes quite apparent that Britain is possibly a reversal of the *Ptolemy* map. The *Cotton map* has been drawn with geographical East to the page north position, a common occurrence in later maps based upon the Christian theology and Jerusalem’s position in the east.

Has the scribe copied *Britannia* at a much smaller scale and double twisted the orientation because of the differing north points? It is also possible that elements of other original maps, even falsely drawn/copied maps may have been collated into this single Anglo-Saxon map, which is some two hundred years after the *Venerable Bede* is writing.

A great deal of turmoil ensued in that intervening period, with a large number of the northern monasteries being ransacked time and again. Thus the *Cotton map* appears to owe more to the map forms of *Eratosthenes*, *Dicaerchus*, *Strabo* and *Dionysius Periegetes*, from the 3<sup>rd</sup> century BC to the 1<sup>st</sup> century AD<sup>11</sup>, than to *Ptolemy* or the *Tabula Peutingeriana*.

## PTOLEMY / COTTON / BEDE / BRITANNIA

Is it the extra-ordinary positioning of Spain, the Iberian Peninsula, indicated upon a forerunner of the *Cotton Map* which instigated the curious description by the *Venerable Bede* concerning the situation of Ireland?

Was there a previous map, Anglo-Saxon in Age which was based, 1] upon the work of *Claudius Ptolemy*<sup>4</sup> and, 2] the Roman Agrimensores<sup>3</sup> survey notes? It is doubtful there is any other source. Therefore we must consider that, somehow, the coastline of Europe was re-invented; it was perhaps curtailed because of another scribal error.

If we study the *Mappa Mundi* of *Claudius Ptolemy*, there is visual evidence that may explain the appearance of Europe’s peculiar coastline. The neck of land between *Gaul* and the Iberian Peninsula indicates a northerly Pyrenees and it would take only a minor adjustment for the Iberian Peninsula to be twisted through ninety degrees and to be drawn as an extension of the Bretagne peninsula of *Gaul*.

Again we can see the possible mistakes made when, through the “religious” necessity of re-orientating maps with East to the page north position, the scribes could become so very confused. Thus we arrive at a *raison d’etre* for part of the *Cotton map*. But was the nearly correct *Ptolemaic Mappa Mundi*, the written descriptions of these coasts and the apparent knowledge of the peripatetic monks abandoned, or was it lost! That is highly unlikely, given the transfer of copied texts from monastery to monastery, and the existence, even today, of original copies of *Bede*’s text.

We must therefore consider the simple alternative for the shape of the European coastline and the positioning of Ireland to accord with *Bede's* description, that of scribal errors following the reworked *Ptolemaic* map of *Albion Insula*.

## IRELAND OF THE SOUTHERN LATITUDES

Diagram Br1D09

The revised *Ptolemaic* map of *Britannia, Albion Insula*, was formed from the original map using the alignment of the two promontories, *Epidium (Britain) and Robogdium (Ireland)*. Thus Ireland is situated roughly central upon the map form of *Albion Insula*. Ireland is then very close in length, when compared to *Albion Insula*, to the remark of *Gaius Julius Caesar*, “-- Ireland, which is supposed to be the half size of Britain,---“. Thus for Ireland, “--- to extend far beyond it to the south towards the coast of Spain,---“ must have required the most extraordinary information, or, just really bad copying within the various monasteries the map passed through.

If we first consider speculating with the position of Ireland, using Map II, the large scale *Britannia*, and merely use the most simple of possible errors, the mis-alignment of the south coast of Ireland, we can move Ireland southwards in two or three stages. The first would be to align the south coast to St. David's Head, *Octapitarum Prom*, [the correct alignment], and then to both Cornish promontories, *Belerium Prom* and *Ocrinum Prom*. But this does not really equate to the statement, “---extend far beyond it---“, although that could be poetic licence.

However, if we carry out the same exercise using the Map I, or the *Mappa Mundi*, the situation, vis a vis that statement is rectified, and the visual appearance of the map is exactly *Bede's* description! *Ibernia Insula* becomes just over twice its geographical length, or *Ptolemaic* length, and extends “far beyond it.”

If we bear in mind the likely size of any “paper” used in the *Scriptoria* then it is most likely that the scale of the maps was so reduced that perhaps something like the *Cotton Map* was the norm. Thus we should consider the *Mappa Mundi* as the base map for the original statements by the *Venerable Bede*.

## FROM PTOLEMY TO PEUTINGER TO GOUGH AND THE 15<sup>TH</sup> CENTURY

Dating from the 14<sup>th</sup> century, circa 1360 is the GOUGH Map<sup>11</sup>; it is quite enigmatic in its status nowadays, with virtually nothing known about its origins. However, if the basic form of *Britannia* there-on is compared to the putative monastic map of *Britannia* following the *Gildas, Bede and Nennius* descriptions there is a very real basis for considering a utilization of that monastic map as the basis for the GOUGH Map.

Diagrams Br1D10 and Br1D11 compare these various maps.

All of the maps produced in the medieval period are considered to have earlier source maps. There is no suggestion that a survey of any kind was carried out to ascertain the actual form of *Britannia*, other than data gleaned from the peripatetic monks and clergy roaming the landscape. The Gough Map is striking in its visual similarity to both the proposed putative maps, and is much more advanced than the maps of *Matthew Paris*<sup>11</sup> which just preceded it.

The Gough Map certainly has nothing in common with them apropos the form of *Britannia*. But following that map we have from c1400, appended to a copy of *Geoffrey of Monmouth's* text another map of *Britannia* which has been geographically inverted. It is the *Totius Britanniae tabula chorographica*<sup>11</sup>. The inversion is possibly the result of a scribe copying an East/North format *Britannia* and re-orientating the map through 90 degrees in the wrong direction.

But, if this map is inverted, there is no resemblance to the Gough Map (see Gm1) which just precedes it, but, it has a striking resemblance to the putative *Tabula Peutingeriana* map promulgated in *Paper Tp1*, and complies with the *Gildas/Bede/Nennius* dictum of a 4:1, 800:200 mile rectangle with numerous promontories etc.

Thus it is possible to hypothesize that through the monastic system two very different forms of map were copied; firstly those based upon Roman map/diagrams of which the *Tabula Peutingeriana* is our example; and, those based upon a revised *Ptolemaic* map of which the Gough Map is the example.

When we reach the 15<sup>th</sup> and even 16<sup>th</sup> centuries we see a possible fusion of both formats in the works by cartographers<sup>12</sup> such as *Martin Waldseemuller* and *Bernard Sylvanus* when they produced revisions to *Claudius Ptolemy's Geographia*. Diagram Br1D12 illustrates both maps dated 1511 and 1513 indicating a *Britannia* of 4:1 proportion and an Ireland stretching southerly, not quite to *Bede's* description but certainly approaching it.

There is then a sea change in the shape of *Britannia* on the maps produced in Europe as Surveyors appear and realistic plots are made available to be drawn. But, prior to this the shape of *Britannia* is regulated by an apparent mystical rectangle based upon a 4:1 ratio which can be traced back to the Roman period.

## CONCLUSION 2

The peripatetic monks and brethren of the early Church/Monasteries travelled to Europe collecting documents of many types and subjects, which were sent back to *Britannia*. These we know included Greek/Roman/Alexandrian papers, which are recorded in the early monastic texts. On their arrival in Britain, the *Scriptoria* set to work copying those which were capable of being exchanged for other documents not in that monasteries possession. Thus it is possible that the text or maps of *Claudius Ptolemy* could have been copied. But if only lists of geographical positions were available, it is highly unlikely they would have had a great exchange value, and thus would not have been copied until the data was translated and used to produce a map or maps.

Then, either deliberately or by copy error the maps became debased and a synthesis of other maps produced some of the extra-ordinary maps and Mappae Mundi we see today which date from the Anglo-Saxon and Early Medieval period.

The great disaster of history for this research is obviously the sacking of the monasteries through the 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> centuries when a large amount of the early transferred documents would still have been available. Add to that the dissolution of the monasteries by *Henry VIII* in c1537, and the wholesale destruction wrought upon both building and contents, and research is all but impossible.

We know not what we have lost, thus this form of speculative paper is written. But, we can be certain that the *Venerable Bede* believed in the data presented to him, and thus somewhere in the Anglo-Saxon world there was evidence, probably via a map, that *Britannia* was an island approximately 800 miles long and 200 miles wide!

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*Br1*

WHEN WAS BRITAIN A RECTANGLE?

EARLY TEXTS ANALYZED AND MAPS INVESTIGATED

ABSTRACT

There is a surprising amount of geographical information in the early texts; both Roman Latin and British Latin, which if analyzed indicate a changing description of Britannia. That change is from a Triangular shape to a Rectangle. Why?

These two shapes are hardly compatible. Thus this speculative paper is a hypothesis on the reasons for the change, its basis in fact, and its record in the early maps.

It is also one of three texts which combine to explain the early map history of Britannia.

This paper is 9 A4 pages and has 12 A4 full colour diagram maps.