

# The Great Famine and the Collapse of the *Pax Britannica*

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In *A Slice through Time: Dendrochronology and Precision Dating* (1995), Baillie provides very strong scientific evidence of a severe climatic downturn in Britain beginning in 536 CE with effects continuing into 545 (compare also Dark 2000:22-25). Dendrochronology is the study of tree rings to determine two things: dates and growing conditions. Each year, trees add on a new layer of bark. In years of good growth, the spaces between the rings are relatively large; while in years of poor growth, they are relatively small. By matching the ring patterns of trees, dendrochronologists can arrive at chronologies precise enough to provide calibrations for the inherently broad radiocarbon readings. For the purposes of determining dates and of identifying years of abundance *versus* years of privation, then, the methodology is certainly robust.

That something affected the growth of trees in Britain and Ireland is evident from such tree-ring graphs as those in figure 1 (from Baillie 1995:95), recording tree ring patterns from Belfast, Northern Ireland and Whithorn, Scotland.

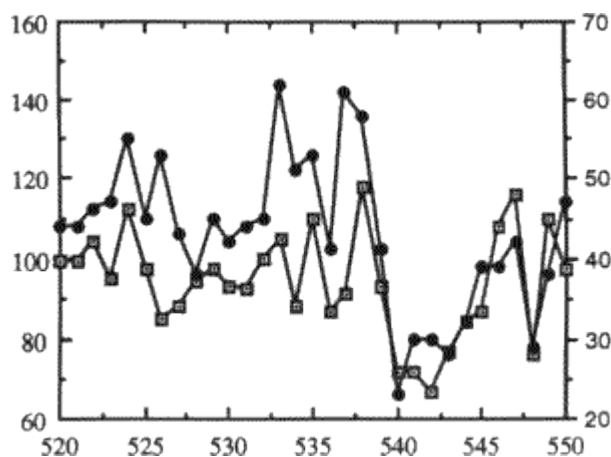


Figure 1: Restricted Growth in Oaks from Belfast (left, solid dots) and Whithorn (right, squares) (after Baillie 1995:95)

Moreover, there is a host of other evidence that a climatic downturn occurred at this time not only in Britain and Ireland, but also in Scandinavia and the Mediterranean as well as in China and North America. A summary of these effects can be seen in figure 2.

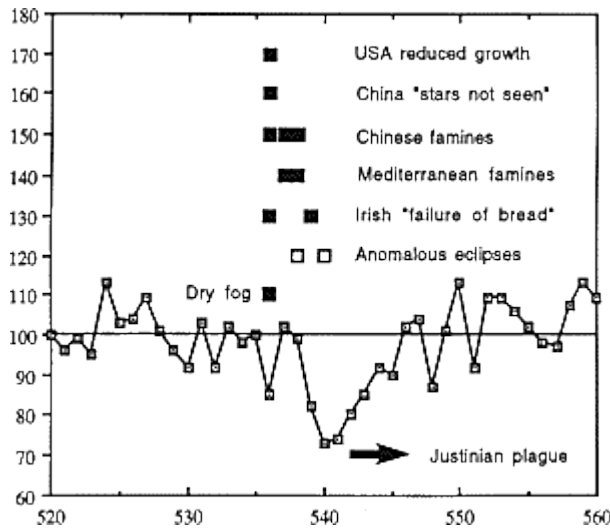


Figure 2: Summary of Phenomena Related to the 536-45 Event (after Baillie 1995:107)

That something catastrophic occurred is quite obvious from the physical and historical evidence. Moreover, Baillie argues in a later work (1999) that some legendary or mythological stories in Britain and Ireland may bear witness to the catastrophe; although, to be sure, his speculations in this regard are open to question. He also speculates on the possible causes for the catastrophe, including volcanic activity, a comet or asteroid, and outgassing.

For our purposes, however, the cause of the catastrophe is quite frankly not important. Rather, the main concern in this study is the effects of the catastrophe on the population of Britain and the light this may provide into the historical developments of the early medieval period and the effect such developments may have had on Arthurian legend.

#### The Collapse of the *Pax Britannica*

For the student of this period of British history, perhaps the most striking aspect of the climatic downturn is that it occurred precisely at the time of the collapse of the tenuous peace between Briton and Saxon at the end of the first half of the sixth century. This period of peace in which British- and Saxon-dominated areas lived under some sort of uneasy truce may be termed the *Pax Britannica*.

Events are not reliably recorded concerning this peace, but it does appear to have begun, at least in legend, with the British victory at Badon Hill. Our only contemporary witness in Britain itself, Gildas, claims to have been born in the same year as the battle, some forty-four years earlier (Gildas 1978:28/98). While *Annales Cambriae* place the battle sometime around 516 (Nennius 1980:45/85), it was far more likely to have occurred around the turn of that century

(Lacy 1986: 38), and the length of the ensuing peace is generally seen, in round numbers, to have been about fifty years. As seen in demographics (compare Chadwick 1963; Cleary 1989:204-205), in genetics (Barham et al. 1999), and in such archaeologically verifiable practices as "long-term continuities in animal husbandry practices and hunting patterns between Early Anglo-Saxon and Iron Age and Roman sites in southeastern Britain" (Crabtree 1991:33; see also James 1999:112-13), the general population remained fairly stable. Thus, the greatest impact of Saxon control was the substitution of one foreign prestige language (Anglo-Saxon) for another (Latin) along with the expected changes in the predilections of the ruling administrative and agricultural classes (compare Davis 1982: 121-27).

In this *Pax Britannica*, the Saxons remained seemingly content within their areas of control and, as pointed out quite vociferously by Gildas, the Britons engaged in their chronic wars of hegemony. Sometime near the end of this halcyon period, Arthur was reputedly killed while fighting with or against a Briton whom *Annales Cambriae* identify as Medraut, and the Saxon onslaught was renewed with such vigor as had not been seen in well over a generation.

That Arthur met his death in battle at this time and that his death emboldened the Saxons to break the *Pax Britannica* are matters of legend. What should warn us that something is perhaps amiss with this account is Arthur's age. As an established cavalry leader (who would have needed some coordinated infantry support for the type of victory that would bring about such a general peace), Arthur must have been old enough before the Battle of Badon Hill to have been taken seriously and to have acquired considerable backing and the requisite military skill. To be such an effective and established tactician, he would probably have been at least about thirty years of age at that time.

Now let us go forward in time to the Battle of Camlann, at which he presumably met his death and which, according to legend, set the stage for the Saxon domination of all of what would become England. Near the end of this fifty-year peace, Arthur would have been approaching the age of eighty - rather too old, especially at that time, to lead a cavalry expedition. Even if we follow the more modest version of *Annales Cambriae*, he still would have been about sixty. It is more likely that this account of the death of Arthur was symbolic of a catastrophe of even more far-reaching importance for the period in question - 536 to 545. This catastrophe - the cause of the legend of Arthur's death at Camlann, not the effect of his death - would have been the collapse of the *Pax Britannica*.

Indeed, *Annales Cambriae*, while the precise dates may be subject to interpretation, do point us in the right direction in the entry for 537: "The battle of Camlann, in which Arthur and Medraut fell: and there was plague in Britain and Ireland" (1980: 45). This plague appears to have been linked with a great famine, the catalyst for the upheavals expressed metaphorically by the death of Arthur and most likely the historical event behind this episode of the literature.

#### **The Great Famine**

Here is where we must return to the scientific evidence. As we have already seen in figures 1 and 2, above, that there was a climatic downturn is obvious from the tree rings as well as from other phenomena worldwide. Nor would the adverse conditions in the period in question simply

have affected the trees; rather, they would have had the same effect on other vegetation in Britain - vegetation certainly to include cereal and vegetable crops.

It seems rather self-evident that a climatic downturn that results in decreased crop yields may lead to famine in agriculturally dependent areas. If there is any doubt, however, we need only look to the Irish demographic crisis of 1740-41 (Drake 1968) which began with a severe frost on 27 December 1739:

The great frost ended in the middle of February 1740. How many people died while it lasted we shall never know. That the number was perhaps quite large is indicated by one source, the burial register kept by the church of Ireland rector in the Dublin parish of St Peter and St Kevin. ... Many of these deaths were probably of old people succumbing to the diseases said to be particularly prevalent at the time.... No doubt malnutrition resulting from the loss of employment in the towns or the loss of animals and potatoes in the countryside took its toll. (Drake 1968: 111-12)

The effects of the climatic downturn and the resulting agricultural disaster were felt the following year in the spreading of disease, a rather typical aftermath of famine arising from any of a number of conditions (compare the plague of *Annales Cambriae*, above):

The spread of the bloody flux through 1741 was helped not only by the weakness of the population due to the food shortage, but also due to weather conditions. The year was an unusually dry one and the summer was unusually hot. Under such conditions food and water easily became contaminated while the bacillus producing dysentery could be carried through the air in particles of dust. (Drake 1968:117)

Famine and the spread of disease resulting from climatic downturn need not be as severe in areas that are more capable of absorbing the effects. Certainly, if food from other areas is available through some well-organized, central distribution scheme, conditions are considerably mollified. As Post points out, "Wheat prices in Dublin advanced until they doubled between January 1740 and January 1741, and then reached a peak in the summer months of 1741. Weather patterns across the Irish Sea in Lancashire were just as bad, and grain prices rose nearly as sharply, but famine was avoided" (1977:15-16). Of course, no such distribution scheme existed in Britain during the period under discussion.

We can thus be confident that the climatic downturn in the period from 536 to 545 would also have brought about a famine in various parts of Europe, at least for those not in a position to weather the downturn. Indeed, Stothers and Rampino (1983) have found four observations from the year 536 that bear witness to a climatic downturn consistent with the effects of volcanic eruption - although, once again, we are not concerned with the cause in this study, but rather with the effect. According to Procopius (*Wars* 4.14.5), "...the sun gave forth its light without brightness, like the moon, during the whole year...;" according to John Lydus (*On Portents* 9c), "...the sun became dim ... for nearly the whole year ... so that the fruits were killed at an unseasonable time;" according to the Syriac *Chronicle* (9.19, 10.1), "... the sun began to be darkened by day and the moon by night...;" and according to Michael the Syrian (*Chronicle* 9.296), "The sun became dark and its darkness lasted for eighteen months" (all quoted from

Stothers and Rampino 1983:6362).

Moreover, Barnish notes, "Among Cassiodorus' major concerns was a Joseph-like duty of relieving a famine, climatically caused, but no doubt exacerbated by war and politics, in north-eastern Italy" (Cassiodorus 1996:lii). From a letter that Barnish dates to the autumn of 537, Cassiodorus concludes, "In other ages, too, this has often temporarily happened with a cloudy sky. Hence it is that, for so long, the rays of the stars have been darkened with an unusual colour; that the harvester dreads the novel cold; that the fruits have hardened with the passage of time; that the grapes are bitter in their old age" (1996:180).

Of course, the famine - represented in figure 2 as the "Justinian plague" - would not have hit all areas of Britain equally. In her research on Welsh growing conditions, Davies (1986: 4-9) shows that areas that are marginally productive are the most immediately and severely affected by climatic downturn. As pointed out by Cleary, moreover, "Even after the inception of the main phase of Anglo-Saxon migration in the middle of the fifth century they [*i.e.* the post-Roman Britons] remained numerically the overwhelming majority and in control of most of the richest land of the island down into the sixth century" (1989:162). The Saxons and their numerous client Britons with whom they were gradually assimilating would have been stuck with the more marginal areas and would consequently have been more vulnerable to a climatic and agricultural downturn.

Furthermore, although we tend to look at the areas under Saxon administration as the best agricultural land, we should note that they had long been subject to over-farming and to poor husbandry practices. Fowler proffers the argument that, as a result of these practices, "by the mid-1st millennium AD, the 'serviceable upland country' of Fox's Lowland Zone also lay in part exhausted and perhaps briefly a food-production desert..." (1978:5). As it were, we are looking at areas that were already on the brink of agricultural disaster at the very moment that they were stricken with a climatic downturn.

#### **The Saxon Reaction to the Great Famine**

Thus, when the downturn did occur, it was the Saxon-dominated regions that were hit the hardest, and it was these populations that were most desperate to expand into areas that could still provide food. Meanwhile, as Gildas so vehemently points out, the British realms were in a constant state of warfare not with the Saxon realms with whom they shared this *Pax Britannica*, but with each other. Such internecine wars of hegemony were in fact enabled to a great degree by the *Pax Britannica* - the tenuous balance of power with the Saxons warlords that allowed the British warlords to tend to each other.

The Saxon broadside would thus have blind-sided the British. The British rulers, unaware in their more favorable agricultural regions as to the degree of devastation visited upon the Saxon-dominated realms, would have been in a poor position to ally with each other against the sudden onslaught. This situation appears to have given rise to such apparently exculpatory legends as the treachery of Mordred against Arthur (compare Lacy 1986:394). Thus, we can more accurately view the entire episode of the death of Arthur not as history *per se*, but rather as a

literary metaphor for the disunity of the British leaders and the shock of the Saxon uprising.

It must be emphasized that Saxon rule did not come about uniformly, either before or after the *Pax Britannica*, but through localized combinations of military actions and diplomacy that left a hodge-podge of realms with varying ratios of Britons to Saxons. In the fifty-year *Pax Britannica*, Saxon rulers with their mixed populations had been content to occupy regions in the agriculturally marginal part of the island, because the favorable climate ensured that even these regions would have prospered sufficiently to maintain population levels. With the climatic downturn in 536, however, the agriculturally marginal realms that had come under Saxon rule would have been hit hard by famine. From this perspective, the invasion of the British realms would have been a matter not of greed, but rather of survival - not a thirst for land, but a hunger for food. Nor is there the slightest reason to suppose that if the Saxons had never come, indigenous British rulers in these same areas would not have reacted in precisely the same way.

With the climatic downturn and the resulting famine in mind, then, we should be able to set to rest one of the great villainies in the history of the early medieval period in Britain. The Saxons were not driven to dominate Britain by some dark Germanic plan, but rather they were forced to break the *Pax Britannica* in search of food. Their success was due not only to the disunity of the British realms, but also to the determination of the inhabitants of the Saxon realms - Britons and Saxons alike - to survive the Great Famine.

For students of Arthurian literature, these events are crucial for an understanding of the legend. As noted above, it is highly doubtful that an historical Arthur would have died in battle at this late date. Rather, this important episode in the Arthurian legend seems to be a reflection of the surprise and dismay of the Britons (in areas under British rule) that they had been caught in their internecine struggles (Arthur *versus* Mordred?) unprepared for a disaster of such magnitude - a disaster metaphorically represented by the death of Arthur himself.

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