

To whom it may concern.

Those who discuss the 'phantom time' hypothesis enjoy semantic games with historical documents. However, scientists have their own approach to issues of chronology.

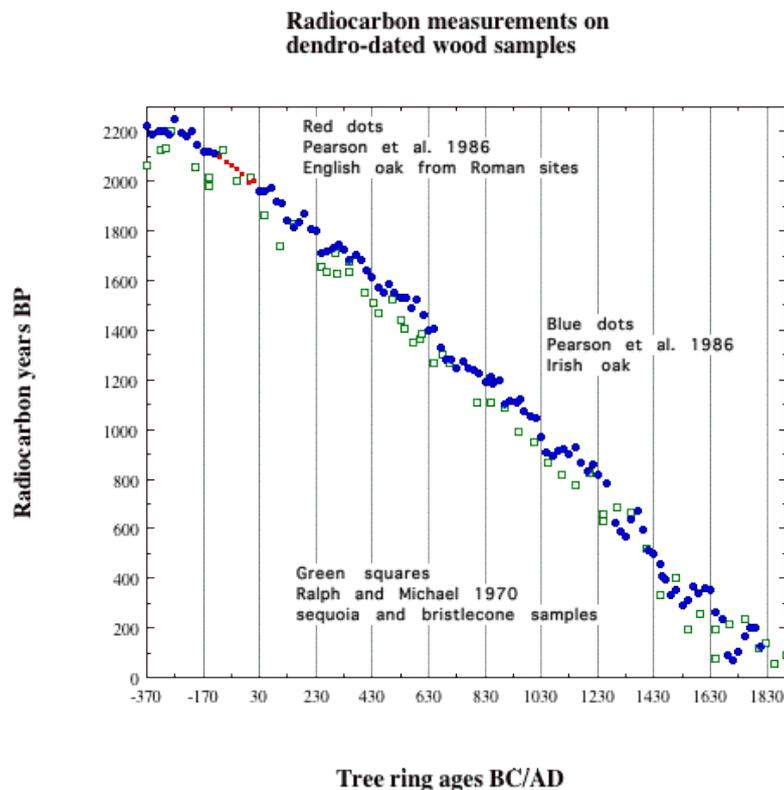


Figure 1. Radiocarbon dates on precisely dated samples of sequoia and bristlecone pine from N America (green squares) compared with high precision radiocarbon dates on precisely dated Irish oak (blue dots) and English Roman wood samples (red dots).

In 1970 Ralph and Michael published a radiocarbon calibration dataset (green squares in Fig 1). These dates were based on measurements on samples from ultra-long sequoia and bristlecone pine trees from N America. Thus there can be no questioning of the tree ring scale with respect to these samples. (They used multiple samples to replicate the records and iron out any problem rings, but in essence they might as well have sampled from a single long lived tree).

People who have been keeping up with the debate will remember that in Ireland we could not find wood to bridge the 1<sup>st</sup> century BC and as a result we obtained samples from timbers from Roman sites in England (dated by dendrochronology against the Irish chronology). So I have plotted the seven Roman-wood dates for the bi-decades AD 10 to 110 BC in red while the remainder of the Irish oak calibration is plotted in blue.

Looking at the green squares it is evident that all the radiocarbon measurements on long-lived American trees from AD 30 to the 19<sup>th</sup> century give radiocarbon dates that are *less than* 1900 radiocarbon years BP, while all their dates on wood older than AD 30 are *more than* 1984 radiocarbon years BP. Although all these American dates were performed earlier and on inferior equipment, it is interesting to see that the high precision results produced by Pearson et al. at Belfast in the later 1970s and 80s duplicate the same basic trend. All the dates on Irish oak from AD 30 to the 19<sup>th</sup> century are *less than* 1977 radiocarbon years BP while all dates on wood older than AD 30 are *more than* 1992 radiocarbon years BP.

So, any way this figure is viewed the block of radiocarbon dates on Roman wood samples, measured by Pearson, cannot be moved forward in time to comply with the phantom time hypothesis (nor is there any good reason to even consider such a move).

Key papers:

Ralph E.K. and Michael H.N 1970 MASCA radiocarbon dates for sequoia and bristlecone pine samples. In, *Nobel Symposium 12: Radiocarbon Variations and Absolute Chronology* Ed I.U. Olsson. John Wiley and Sons New York. pages 619-623

Pearson G.W., Pilcher J.R., Baillie M.G.L., Corbett D.M. and Qua F. 1986. High-Precision 14-C Measurement of Irish Oaks to Show the Natural 14-C Variations from AD 1840 to 5210 BC. *Radiocarbon* 28, 911-934.