OGAM: CELTIC OR PRE-CELTIC?
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In the Celtic languages, Indo-European /p/ disappeared, leaving such correspondences as Latin *pater* 'father' and Old Irish *athir*. This change apparently proceeded in stages first with the shift from /p/, possibly through /ɸ/ (McCone 1996: 44), to /h/ or /χ/ (Lewis and Pedersen 1973: 27), and then finally to null. Within Celtic, some dialects developed a new /p/ from /k^w/, leading to such correspondences as Middle Welsh *pymp* 'five' and Old Irish *cóic* (compare Latin *quinque*).

1. OGAM. In the British Isles, the Celts developed the ogam (or ogham) writing system, the earliest extant evidence of which is found in monumental stone inscriptions beginning in the fifth century. The writing system consisted of strikes across or emanating from a vertical line, most often along the edge of a stone. Typically, it was inscribed from bottom to top, leading to the traditional rendition of the signary in table 1.

N	/n/	Q	/k^w/	R	/r/	I	/i/
S	/s/	C	/k/	Z	/t^s/	E	/e/
F	/w/	T	/t/	GG	/g^w/	U	/u/
L	/l/	D	/d/	G	/g/	O	/o/
B	/b/	H	/h/	M	/m/	A	/a/

TABLE 1: The Ogam Alphabetic Signary

The traditional Roman representation for each sign is given to the right of the sign with a capital letter. The broad phonetic values represented in table 1 are largely those determined by McManus (1991: 36-39), with one adjustment (Z) reflecting ongoing research.

1.1. THE TALLY SYSTEM. A cursory glance at the signary shows that it is quite transparently derived from some sort of tally system (compare, for example, Gerschel 1962, McManus 1991:14-15), and we do find tally systems of this kind in the British Isles continuously from the Upper Palaeolithic (as illustrated in Barham et al. 1999: 80, 102). Given recent DNA evidence for the stability of the population from the Palaeolithic right through to the present (Barham et al. 1999), the fact that this type of tally system appears and reappears is quite significant for the development of ogam, for it shows that the people who used the tally system were the same people who used ogam inscriptions or who at least influenced their development.

The regularity of spacing on apparent tally marks (or "offsets") and the correspondence between these spaces and measurements at Newgrange (dating from about 3200 BCE), suggested to Brennan (1980: 47-55) that the system may have been used for determining regular measurements – an aspect of megalithic architecture known to have been used at least on a local basis (compare Burl 2000: 50-53). Certainly, Brennan's hypothesis of a (local) yard of twenty units fits within the structure of the ogam signary and even within the vigesimal system of Celtic numeration. Even if we take a conservative view and restrict the system to tallying proper, however, the linkage between the tally system and the signary is quite firm.

1.2. PHONETIC VALUES. Crucial to the development of the ogam signary used in inscriptions was the association of sounds with the various tally values. The predominant theory is that sounds were designated for the initial twenty signs on the model of the Roman alphabet, but that ogam was not a cipher of Latin (McManus 1991: 31). (There is evidence to support some contribution from Greek – Macalister 1935: 119 – at least in the signs that were added later.)

There has also been some speculation as to whether the originators of ogam writing might have been influenced by the Roman grammarian Donatus (for discussion, see McManus 1991: 28). While there are some similarities between Donatus' phonetic values for the Roman alphabet and the arrangement of the ogam signary, the early notion that this represented a direct influence is regarded as doubtful today, as the date for the signary has been pushed back earlier and earlier (compare Stevenson 1990: 165) – finally to a point that would make such influence quite impossible. Indeed, as we shall see below, the phonetic values would have been assigned to the tally system far earlier than heretofore believed and far too early for any influence on their arrangement to have been derived from the Roman alphabet.

Regardless of the influence of Latin or of any other language, one of the most

strongly held tenets in the study of ogam is that the various columns are arranged in accordance with phonetic principles. These principles need not have adhered to those of any other language, nor would they have corresponded to our current view of phonetics. Nonetheless, the sounds within the signary would have followed some mnemonically rational interpretation of the relationship between one sound and another within an overall pattern.

2. RECONSTRUCTING *P. While it is generally assumed that the ogam system proper (that is, its use in written language) developed in Ireland, no stone inscription there contains the signs H or Z (Macalister 1945: v; and some contend that GG occurs too infrequently for precise phonetic determination – Gippert 1990: 291). While the latter will not be treated in this short presentation, the absence of H lies at the heart of the matter. The mnemonic word usually associated with the sign H is the Old Irish *hÚath* 'hawthorn' in which the initial /h/ had already been reduced to null. In all such cases, the /h/ would have been silent and, being a grammatical entity, would not have been represented in the writing. Certainly as regards this sign, the phonetic value associated with the tally mark necessarily predates Irish.

Given the fact that we are dealing with an earlier phonetic form that had since disappeared but that lingered as a representation of the now-silent H, we should consider what the original sound might have been. One word associated as a kenning with H is Old Irish *úath* 'fear, horror' (compare also Merony 1949: 28) corresponding to Latin *pavēre* 'to be terrified', a point made by Peter Schrijver and reported by McManus (1991: 37). McManus, however, dismissed the speculation that H might have been derived from the sound /p/ as it represented a linguistic situation much too early for the monumental inscriptions. On the other hand, the monumental stone inscriptions were preceded by a period of unknown duration in which the signs were inscribed in wood, which, of course, has long since decayed.

That ⊣ indeed represented the sign *P */p/ is precisely what is argued here, and this argument proceeds both from the internal structure of the system and from comparative evidence.

2.1. THE STRUCTURE OF THE SIGNARY. Once again, we should examine the signary from a phonetic point of view, but without the assumptions that the developers of the system would have followed foreign grammatical theory or that they could have followed modern phonetic principles. Nonetheless, modern phonetics has provided us with a means of examining such structures in feature or componential analysis.

Since the vowel column is the clearest, let us begin there. The first thing we notice is that the base value of the fourth column is A. With the tongue low and central, this sound places us at a point of entry into the vocalic array in the oral cavity. As we go up the column, we notice that the next two signs proceed quite rationally up in the back of the oral cavity from O to U. Turning to the front of the oral cavity, we then proceed in precisely the same manner from E to I. The idea that the first two values above the base value progressed in one manner and that the next two progressed in another, but related manner is by no means new, having been pointed out, for example, by Carney (1975: 54-61). Thus, we may well have determined the phonetic pattern that the originators followed.

Shifting to the bases of the consonantal columns, we find the noncontroversial B and M in the first and third columns. These sounds at the labial position of articulation are quite parallel with the A in the vowel column, as they represent an articulatory base position that may be considered as a starting point to the consonant articulations in the oral cavity. It would stand to reason, then, that the base value under question – the ⊣ – would also have been labial, so as to provide the same entry point.

When we proceed up the columns, we find that the phonetic parameters used by the originators of ogam appear to have involved the perception of "hardness" and "complexity." The B column starts with the softest, most liquid pair and ends with somewhat harder continuants. Within each pair, the second is demarcated from the first by a growing complexity – the retraction of the tongue. [It is interesting to note that if we change from the beth-luis-fern (B-L-F-S-N) order to the alternative beth-luis-nion (B-L-N-S-F) order, the couples are marked externally by articulation with then without the tongue in contact and internally by the same retraction of the tongue into the oral cavity and away from the base value – following the vowel pattern.]
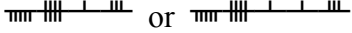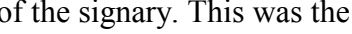
The M column starts where the B column leaves off. In the first pair, the nasal continuant hardens to the voiced stop, which is made more complex in the continuant off-glide. Likewise in the second pair, the single affricate is complicated in the continuant trill.

Reconstructing *P for the base value of the second column can now be seen as highly consistent within our pattern. The first pair starts with a voiced stop, which his hardened to its corresponding homorganic voiceless stop – a relationship that would have been (and often still his) perceived as one of hardening. In the second pair, the voiceless stop (hard) is complicated by an off-glide (complex).

Once we see how this patterning occurs within each column, the reconstruction

of *P for the base value of the second column becomes all-the-more convincing. The progression from B to *P is along the parameter of hardness, while the addition of nasality in M provides complexity. Moreover, the consonants within the *P column indeed demonstrate the level of hardness that we would expect from the column that begins with the hard member of the labial group, while those within the M column demonstrate the level of complexity that we would expect from that column.

2.2. COMPARATIVE EVIDENCE. Not only is the signary better served with the *P instead of the H, but the reconstruction of *P fits into comparative evidence as well. To see this, we must cross the North Channel to evaluate the inscriptions in Pictish – a Brythonic Celtic dialect in which /kʷ/ had already changed to /p/ (see Forsyth 1997).

While Pictish ogam is frequently problematic, one of the names that stands out very clearly and that is corroborated by the king lists is ᚈᚈᚈᚔᚔᚔᚔ or ᚈᚈᚈᚔᚔᚔᚔᚔ that is, NEHT- or NEHHT- in the traditional rendition of the signary. This was the designation for the name *Nechtan* (variously spelled), and we can see quite clearly that the Picts were in fact using the ogam sign ᚆ to represent a spirant /χ/ related with the aspirate /h/ both in sound and evidently in the perception of the speakers.

As it were, NEHT- would have been the root meaning 'grandchild, nephew, descendant' cognate with the root NET- found in Irish ogam inscriptions. Of course, both terms call to mind Latin *nepos* 'grandchild, nephew' with its root *nepot-* (compare McManus 1991:100). Indeed, this was also used by Latinized Celts as a name – compare Cornelius Nepos of Cisalpine Gaul – Rankin 1987: 106. (The name may possibly be related with NETTAS in Gaulish – Evans 1967: 369-70.)

In these three forms, then, we see the historical progression noted at the beginning of this paper in which Indo-European /p/ (as in Latin) changed first to a spirant that could ultimately be realized as /h/ or /χ/ (as in Pictish) and then to null (as in Irish). The realization of /χ/ in Pictish is quite in accord with more general changes from the Indo-European /p/ before /t/ (compare Lewis and Pedersen 1973: 27), as we find in Irish where the /t/ followed directly, as in *nechta* 'granddaughter'. Evidently, Pictish had retained the reflex spirant but had changed the /kʷ/ to /p/ (there being no longer any competing sound).

We should bear in mind that this evidence makes no statement as to the region of origin for ogam. On the one hand, the use of ogam on monumental stone inscriptions begins in Ireland; but that is only the use on stone – perhaps in imitation of Roman grave markers – and says nothing about how long and how widely it might have been used on wood before then. On the other hand, the retention of H for the

reflex of *P in Pictish does not imply that Pictish ogam orthographic practices in general were any more ancient than those in Ireland, but simply that Pictish did not undergo one of the sound changes that occurred after the establishment of the ogam signary, wherever and whenever that might have been.

3. IMPLICATIONS. While we may not be able to use this evidence to claim the origin of ogam either for the Irish or for the Picts (be they in Alba or in Antrim), we can certainly use it to determine when it was developed relative to both languages: Quite clearly it was developed before Irish and before Pictish as we know them. This puts us in a quandary with regard to Celtic itself.

Gone are the days when we could confidently cite Gordon Childe (1926) and claim that Indo-European was deposited upon Europe by hordes of invaders from the East. On the one hand, archaeologists have tried and failed to find the physical evidence of such an invasion (see Hodson 1964, Harbison 1994: 171-72). On the other hand, such processual archaeologists as Colin Renfrew (1987) have demonstrated that the population of Europe and the development of the languages can more broadly be accounted for by the gradual spread of farming from Anatolia to Europe, from one generation to another. While the settlement of the European loessland may well have proceeded through "insertion," farming techniques in Western Europe were more likely achieved by indigenous peoples through "adoption" (compare Sherratt 1997: 22).

Furthermore, recent DNA evidence supports the theory that the Anatolians penetrated only the Balkans and the loessland, leaving the northwest of Europe and all of the British Isles to adopt their own agriculture, albeit on the Anatolian model (compare Barham et al. 1999: 133-34). As noted above and certainly in the case of the famous Cheddar Man, we see that the British population has maintained its stable core since the Upper Palaeolithic.

While later influences by such peoples as the Beaker Folk (who may well have been the alcohol-drinking, horse-racing, though less violent Indo-Europeans of Childe) are clearly supported in the archaeological evidence and in DNA studies, we cannot tell whether the indigenous peoples already spoke Indo-European languages and just how much linguistic influence later peoples may have had (compare Cavalli-Sforza 2000). All we can tell is that there was a ratio of population impact to cultural influence that gradually tilted in favor of the latter in a progression westward into the British Isles (it is far easier to move ideas across the English Channel than masses of people – compare Koch 1991: 25).

What all of this means for the study of Celtic and for the origin of ogam is that Indo-European languages may well have been spoken in the British Isles far earlier than even the 2500 BCE date of dispersal from the loessland given by Gimbutas (1970). And throughout all of this time, people were using the tally system that would eventually give rise to the ogam signary.

When people applied phonetic values to the tally system either as some form of writing *per se* or simply as a mnemonic device to identify the elements of the tally system itself, both the internal structure of the system and the comparative evidence noted above indicate that the value for ⊣ was denoted by some word beginning with the sound /p/.

If we designate Celtic as a language group in which /p/ had already been supplanted by an aspirate or by null, then the people who assigned the phonetic values to ogam were pre-Celtic. Indeed, the ogam signary can thus be seen as pre-Celtic, although it could still have been Indo-European in its now more ancient sense.

At this point, we shall have to reassess just what "Celtic" means. Shall we take the narrow view and say that ogam is indeed pre-Celtic, or shall we take the broad view and say that Celtic stretches back much, much further into the past than we would perhaps prefer? If we choose the latter course, we may well find ourselves in the uncomfortable position of reconnecting the Celts with the megalithic cultures; but if we choose the former course, the ogam signary will fall outside of the linguistic tradition of Celtic, which will make its adoption problematic.

Into this disquieting uncertainty, we should also add the compelling arguments of Simon James (1999) for the "Atlantic Celts." The continuity of archaeological findings and the peculiarity of the Atlantic cultures suggest a separate "Celtic" cultural tradition (in the broad view) with a later admixture of Hallstatt and La Tène innovations. As an insular invention with "pre-Celtic" characteristics (in the narrow view), ogam – with its reconstructed *P – would now appear to be quite consistent both with insular continuity and with insular peculiarity.

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