

## The Origin of Time<sup>1</sup>

One of the words for ‘time’ in the Celtic languages is the etymon represented by OIr. *aimser* (ā, f), W *amser* (masc.), OCor. *anser* (*n* for *m* probably a scribal error), OBret. *amser*, ModBret. *amzer* (fem.). In OW, *amser* occurs as a temporal and causal conjunction ‘when; because’ (Falileyev 2000: 6). In accordance with a cross-linguistic tendency, these words for ‘time’ can also refer to the ‘weather’,<sup>2</sup> thereby evidencing a remarkable semantic shift of reference from a primary abstract<sup>3</sup> concept to a phenomenon of daily practical experience.

The Irish and British words manifestly go back to a common ancestor which is typically mechanically reconstructed as *\*ammesterā* (e.g., De Bernardo Stempel 1999: 273, 426) or, with disregard of the historical phonology and morphology of Celtic, as *\*amstero/ā* < earlier *\*h<sub>2</sub>emos-tero-* (EDPC 33–34) or, even less specific, *amm* + a suffix *\*-stero/ā* (LEIA A-35, 67). Stokes’ and Bezzemberger’s (1894: 10) *\*ad-messerā* < *\*ad-menserā*, derived from *\*mens-* ‘to measure’ which is no longer recognised as an Indo-European root, is obsolete (cf. O’Rahilly 1950: 339). OIr. *aimser* and cognates are evidently related to OIr. *amm* ‘time’, apparently originally a neuter, later a masculine *o*-stem, judging from the attestations quoted in eDIL ([dil.ie/3157](http://dil.ie/3157)). Gaul. *amman*, a word attested once on the fragmentary Calendar of Coligny (MacNeill 1928: 34; RIG III) is also believed to be related if – as is conceivable in the context – it refers to a period of time. The first letter of the word is lost except for a tiny portion of the tip (RIG III, 32–33), which is sufficient to identify it as an *A*. The portion of the inscription before the *q* is missing completely, but most scholars agree that there was no further letter before it as this position coincides with the left-hand margin of the column. Because of this lack of further space, Olmsted’s (2001: 45) idiosyncratic reconstruction [S]AMMEN, which he connects with Celtic *\*sam-* ‘summer’, is unconvincing. The ending *-an* of *amman* has all the appearances of the expected Gaulish ending of the nominative singular of a neuter *n*-stem. Despite their similarity, *amm* and *amman* do not therefore form an exact equation with each other, but synchronically they continue different stem formations based on a common root.

The further etymology of *amm* and *aimser* is commonly regarded as unclear (cf. LEIA A-35, 67; EDPC 33–34). One etymology that has been proposed connects it with Hitt. *hamešhant-* ‘spring’<sup>4</sup> (RIG III, 422; EDPC 33–34; Stüber 1998: 79), deriving both from a root *\*√h<sub>2</sub>em-*, whose meaning, however, cannot be ascertained independently since it is not attested outside of those two branches of

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<sup>2</sup> A random collection of languages where the cited words have the double meaning ‘time’ and ‘weather’, or where the two are closely related: Fr. *temps*, It. *tempo*, Sp. *tiempo*; dialectal German *Zeit*; Serbo-Croat *vrijeme*, Bulg. *epeme*, Czech *čas* ‘time’, *počasí* ‘weather’, *nečas* ‘bad weather’, Russ. *год* ‘year’, *погода* ‘weather’; Latv. *laiks*; ModGr. *καρρός*; Alb. *kohë*; Hung. *idő*; Tagalog *panahon*; Vietnamese *thời gian* ‘time’, *thời tiết* ‘weather’. Note finally that OIr. *sín* ‘bad/good weather’, MW *hin* ‘weather, bad weather’, Bret. *hinon* ‘fair weather’ < *\*sīnā* could contain the same root *\*seh<sub>2</sub>i-* as MW *hoedl* ‘life(time), age’, MBret. *hoazl* ‘age’, Lat. *saeculum* ‘generation, lifespan’ (Zair 2012: 120), or *\*seh<sub>1</sub>i-* as in Gaul. *siro-*, OIr. *sír*, MW, MBret. *hír* ‘long’ < *\*sīro-*.

<sup>3</sup> What can be more abstract, i.e. less visualisable as an object, than time? For the difficulties that even theoretical physicists have with defining what time is, see, as one example among many, Carroll 2010.

<sup>4</sup> Kloekhorst (2008: 280–281) derives *hamesha(nt)-* from the root *\*√h<sub>2</sub>meh<sub>1</sub>-* ‘to mow’ (LIV 279), since spring, which could also be written with the sumerogramme *Ú.BAR<sub>8</sub>* ‘harvest’, was the time of harvest in Anatolia and in the Near East. The three months of April, May and June are the time of bloom and of rain in the Anatolian highlands (Tischler 1983: 143–144). This semantic link with mowing or harvesting is ruled out for Celtic by agricultural facts. Kloekhorst accordingly does not mention the alleged connection with Celtic at all.

Indo-European.<sup>5</sup> Also, the unlenited *m* of Celtic remains unexplained by this proposal. Zavaroni (2007: 32) takes recourse to a fanciful, idiosyncratic root “\**HmB* ‘cum, par, simul’ > ‘join, even’”. To avoid the circularity of an explanation *obscurum per obscurius* that besets all previous suggestions, a new solution is proposed in this article. It will be argued that a more satisfactory etymological and morphological analysis is possible, and that this group of words can be connected with semantically more proximate words outside Celtic.

The Proto-Indo-European root \* $\sqrt{h_2et}$ - ‘to walk, wander’ (LIV 273), which occurs as a verb only in the rare Vedic *at-* ‘to go, walk’, underlies Italic and Germanic words for ‘year’, i.e. Lat. *annus*, Osc. loc.sg. *akeneí*, *acenei*, gen.sg. *aceneis*, gen.pl. *acunum*, Umbr. acc.sg./pl. *acnu*, and Goth. *aþn(s)\** and *ataþni\**, all ultimately from a preform \**h<sub>2</sub>et-no-* (De Vaan 2008: 43–44; Kroonen 2013: 40). The semantic motivation behind the occurrence of this root in a word for ‘year’ is probably the idea of the ‘cycle/course/perambulation’ that the sun performs across the sky from one solstice until it reaches its position again. Although superficially only the initial *a-* seems to relate the words in these two language families with the above-mentioned Celtic lexemes, on a deeper level a preform can be set up from which all forms can be derived in equal measure.

Starting from this premise, two slightly diverging reconstructions for the immediate precursors of OIr. *amm* and Gaul. *amman* are possible, both meaning approximately ‘the going/course (of time)’:

1. The first one starts from pre-Celtic \**h<sub>2</sub>et-mo-* > \**atmo-* > PC \**ammo-* for OIr. *amm*, and *mutatis mutandis* from \**h<sub>2</sub>et-m̃* for Gaul. *amman*. This etymology implies an *ad hoc* rule that PIE \**-tm-* resulted in \**-mm-* in Celtic. There is, to my knowledge, no other example in support of this change, nor is there a counter-example. Original \**-dm-* behaved differently. In OIr. *ammus* ‘attempt’ < \**ad-med-tu-* and in verbal forms such as *con-ammalt* ‘has ground/consumed’, where *ad* functions as perfective augment, it seems to have been assimilated to *-mm-*, but this behaviour may be morpho-phonological. In analogy to other contexts where the dental of *ad* assimilated regularly to a following consonant, yielding a geminate sound that resisted lenition, e.g. PC \**ad-tek<sup>h</sup>o-* > OIr. *attach* ‘refuge’, or \**ad-bat̃jon-* > \**abbat̃jon-* > *apthu* ‘death’, this behaviour of preverbal *ad* could also have been extended to the position before *m*. Otherwise the retention of the cluster \**dm* can be observed. In formations such as OIr. *maidm* ‘breaking’ < \**mad-man-* and *feidm* ‘effort, work’ < \**ued-man-*, the *d* may have been retained under influence from paradigmatically related verbal forms such as the preterite *memaíd* or the present tense *feidid*. However, no such analogy is possible in the case of the hapax gen.sg. *deid-mea* ‘law, usage’, nom. *dedm\**, cognate with MW *deddyf/deddf* ‘id.’, OBret. *dedm\** in *annedmolion · anomala*, ModBret. (artificial?) *dezv* ‘decree’ < \**dedmā* < PIE \**d<sup>h</sup>e-d<sup>h</sup>h<sub>1</sub>-mo-*, cf. Gr. θεσμός, Dor. τεθμός ‘law, custom’ (Zair 2012: 184). I conclude from this evidence that the regular treatment of \**dm* is its retention.<sup>6</sup> The different behaviour of \**-tm-* vs. \**-dm-*, and the former’s greater propensity for assimilation to the following resonant, could be due to the lesser sonority of the voiceless occlusive.<sup>7</sup>

2. Phonologically neater, but adding to the morphological complexity, is the second possible reconstruction, namely pre-Celtic \**h<sub>2</sub>et-s-mo-*, which effortlessly leads to the desired result, via \**atsmo-* > \**asmo-* > \**ammo-* (for the treatment of Proto-Celtic clusters involving *s* see Stifter forthc. a). In this solution, the suffix \**-smo-* could either be the ‘sigmatic’ variant of \**-mo-*, replacing the latter by a

<sup>5</sup> RIG III, 422 refers to the dictionary entry for *hamešh(a)-* in Tischler (1983: 143–144) who, however, makes no mention of the Celtic words. In the discussion of the etymology of the Hittite word, Tischler critically reports a suggestion by Čop according to which it derives from an Indo-European root \**Hem-/Hom-* ‘hot’. Other Indo-European scholars have not accepted the existence of such a root.

<sup>6</sup> This point has also been made by O’Rahilly (1950: 339), who ascribes the assimilation in *ammus* to the influence of the cognate *commus* ‘power’.

<sup>7</sup> Other examples of the divergent treatment of voiced and voiceless stops in Irish are rare, but not completely lacking. The sequences \**-akR-* and \**-agR-* gave different results: \**dakru-* > *dér* ‘tear’ and \**makliiā* > *mélai* ‘shame’ vs. \**agrā* > *ár* ‘slaughter’ and \**maglo-* > *mál* ‘prince, noble’. \**-tr-* yielded *-thr-* and *-thar*, e.g. \**aratrom* > *arathar* ‘plow’, whereas \**-dr-* gave either *-r-* with compensatory lengthening when there was a clear morpheme boundary between the two sounds, e.g. \**ad-rīmā* > *áram* ‘counting’, or it resulted in *-ddr-* elsewhere, e.g. \**kredri-* > *cretair* ‘sacred object’.

common process of substitution,<sup>8</sup> or \*-mo- has been added to an underlying *s*-stem *\*h<sub>2</sub>etes-* ‘the going’, for which, however, there is no independent evidence. The disadvantage of reconstructing the Celtic forms in this way is that it removes the direct comparison with the Italic and Gothic forms, which are clearly non-‘sigmatic’, cf. Umbr. *acnu* or Goth. *apn(s)\**.

At this stage of the comparison, irrespective of which of the two solutions is adopted, the Celtic and the Italo-Germanic words only make a root-equation, that is to say, they are built from the same root *\*√h<sub>2</sub>et-*, but their morphology is separate, one showing the suffix *\*-no-*, the other the suffixes *\*-(s)mo-* and *\*-(s)men-*. As Michael Weiss has pointed out to me (via a Facebook comment, 31 May 2016), it is in fact possible to unite all forms in a common morphological framework. Starting from the neuter *men*-stem, which only survives in Gaulish, allows combining all attested words in all three language groups, Celtic, Italic and Germanic, in a single derivational complex. From the neuter verbal abstract *\*h<sub>2</sub>etm̥* ‘the wandering’ (pre-Celtic *\*atman* > PC *\*amman* > Gaul. *amman*; see Stüber 1998: and 2015: 114–115 for the type of formation), a thematic derivative *\*h<sub>2</sub>etmno-* ‘having wandering, that which wanders = year/time’ can be derived. The complex cluster *\*-tmn-* subsequently underwent simplification in the individual branches in accordance with a general tendency in Indo-European to avoid such sequences (Mayrhofer 1986: 159).<sup>9</sup> In Italic and Germanic, the medial consonant was suppressed to yield *\*atno-*, whereas in pre-Celtic the thematic derivative, perhaps under analogical pressure from the verbal noun *\*atman*, the preform of Gaul. *amman*, lost the third consonant,<sup>10</sup> viz. *\*atmo-* > PC *\*ammo-* (notwithstanding the question of whether the suffixes *\*-man* and *\*-mo-* had been replaced by *\*-sman* and *\*-sno-*, a question that is of no consequence for the etymology as such). With this solution, a common Western Indo-European word for ‘year, (period of) time’, *\*h<sub>2</sub>etmno-*, can be reconstructed.

How does OIr. *aimser*, W *amser* etc. fit in this picture? The word is most effortlessly derived from the Celtic verbal abstract *\*amman* via further suffixation by means of the complex suffix *\*-stero/ā*, i.e. *\*ammanstero/ā*. The difference in gender (feminine in Irish and Breton, masculine in Welsh) is unclear. Maybe it hints at an earlier adjectival status of the word, or the feminine served originally as a collective to the masculine/neuter. W *amser* and its other British siblings continue the preform *\*ammanstero/ā* regularly, with syncope of the middle syllable (Jackson 1953: 651–656). In Irish, tautosyllabic *\*an* became *\*en*, and the syncope of the front vowel then yielded regularly the attested *aimser* with a palatalised cluster.

The suffix *\*-stero/ā* is very rare in Celtic, if not isolated. In the section on suffixes (VKG ii 22), Pedersen mentions only *aimser* as an example for the suffix *-stero-*, *-sterā-*. However, in the phonological section (VKG i 80), Gaul. *Epostero-uidus*, *Epotsoro-uidus* is cited as a parallel formation, albeit the only one and without an etymological analysis. In fact, the variant with *-e-* is a ghost form, the inscription (CIL 13, 1036; Santons) has *Epotsorouidus*, which Delamarre (2003: 282) and Raybould & Sims-Williams (2009: 153) regard as a compound involving *\*storo-* ‘firm, solid, forceful’ < PIE *\*ster-* ‘rigid, stiff’. A superficially similar-looking ending occurs in the pair OIr. *sinser* ‘the elder, the eldest; a senior; pl. elders, ancestors, forefathers’ and *ósar* ‘one who is younger, a junior’. This pair is unlikely to contain the same suffix as *aimser*. *Sinser* has been persuasively explained as a formation

<sup>8</sup> See Stüber (1998: 52–53) and De Bernardo Stempel (1999: 241–243, 265–267) for doublets of the suffixes *\*-men/\*-smen* and *\*-mo-/-sno-* across the Indo-European languages and even within a single branch. This morphological variation seems to entail no functional difference.

<sup>9</sup> Another possible example for this type of simplification may be found in OIr. *gein* ‘birth’. PIE possessed a verbal abstract *\*gēnh<sub>1</sub>men-* ‘birth’ of the root *\*√gēnh<sub>1</sub>-* ‘to be born’, as evidenced by Ved. *jániman-* and Lat. *germen*. The Irish cognate can be explained through loss of the laryngeal in a first step, i.e. *\*gēnmen-*, and then through loss of the middle nasal in those parts of the paradigm where the suffix stood in the zero grade before a vowel, e.g. the inherited instrumental, i.e. *\*gēnmneh<sub>1</sub>* > PC *\*gēnn<sup>o</sup>*. From there the new *en*-stem *\*genen* could have been created. Doric Greek γένῶν ‘descent’ < *\*gēnh<sub>1</sub>mn-eh<sub>2</sub>* shows a similar behaviour (NIL 140).

<sup>10</sup> This must have occurred at a very early, perhaps pre-Celtic, date. In the case of Gaul. *acaunos\**, attested in the placename *Acaunus* (t. Saint-Maurice-en-Valais, Cn. Vaud/Waadt, Switzerland; the ancient name is preserved in the name of the monastery Abbaye de Saint-Maurice d’Agaune) and in glossaries under the form *agaunus* ‘rock’, which arguably continues *\*h<sub>2</sub>ek̑mno-*, a thematic derivative of PIE *\*h<sub>2</sub>ek̑mon-* ‘stone’ (NIL 292), this simplification did not occur.

\**sen-is-tero-*, where the ‘Oppositivsuffix’ (oppositional suffix) \**-tero-* has been added to the comparative stem \**sen-is-* (with zero-grade of the comparative suffix) of *sen* ‘old’ (LEIA S-114–115; De Bernardo Stempel 1999: 425–426). *Ósar* ‘junior’ is similar, albeit less straightforward. The oldest form appears to be *ósar* with a non-palatalised *s*;<sup>11</sup> later palatalisation spreads there as well, perhaps in parallel to *sinser*, and forms with initial *s-* arise, i.e. *óiser*, *sósar*, and *sóiser*. *Ósar* cannot go back to a preform \**jou-is-tero-* since this should have resulted in \*\**oíser* in Old Irish. Instead it presupposes something like \**jou-s-tero-* or \**jou-ā(i)s-tero-*, which had arisen under influence from the comparative *oā* ‘younger’ < \**jou-ās* < \**jou-āiūs* of *oāc* ‘young’ (McCone 1994: 124; LEIA O-3). In any case, the origin of the suffix *-sar* seems to be the same as that of *-ser* in *sinser*.

There is thus no formation in the Celtic languages that exactly parallels the second part of *aimser*. De Bernardo Stempel (1999: 273 fn. 104) floats the idea of an obscured compound with the verbal root \* $\sqrt{\text{sterh}_3}$ - ‘to strew, spread out’ (LIV 599–600), but does not expand on it. Nominal formations from this root are typically *o*-grade verbal nouns with preverbs as first members in Old Irish, e.g. *cosar* ‘strewing; bed, couch; slaughter’, *essair* ‘strewing; litter’, *fosair* ‘strewing; litter’, *osar* ‘litter, bed’ (all cited following eDIL) < PC \**kom/exs/uo/uds-storā*, although semantically ‘(temporal) expanse/spread’ would make sense as an etymon for ‘time’.<sup>12</sup> Bret. *gouzer* ‘litter’, the cognate of OIr. *fosair*, seems to show the *e*-grade, but since it stands beside the variant *gouzel*, it has no evidential value. As an alternative, one may speculate if the second element of *aimser* etc. is PC \**ster-* ‘star’, cf. W *ser* ‘stars’, OIr. *ser* ‘star’ < PIE \**h<sub>2</sub>ster-* ‘star’ (see Stifter forthc. b), but semantically this idea is not appealing. The provenance of *-ser* remains obscure for the time being.

The Celtic words do not add decisive evidence to answer the question whether the PIE root \* $\sqrt{\text{h}_2\text{et}}$ - ‘to go’ had a root-final laryngeal, i.e. \* $\sqrt{\text{h}_2\text{etH-}}$ , a possibility implied by Ved. *átithi-*, Avest. *asti-* ‘guest’ < \**h<sub>2</sub>etHti-* (LIV 273 fn. 1). According to the complex rules of laryngeal developments in Celtic, as described in Zair 2012, \**h<sub>2</sub>etH-men-* should have resulted in Proto-Celtic \*\**atamen-* (> OIr. \*\**athaim*), cf. MW *adaf* ‘hand, talon’ < \**φatamā* < \**pth<sub>2</sub>-meh<sub>2</sub>-* (Zair 2012: 193–201). In the thematic derivative \**h<sub>2</sub>etHmno-*, on the other hand, the laryngeal would have been regularly lost in the position CHCC (Zair 2012: 160–168), resulting in \**h<sub>2</sub>etmno-* which would then have developed as described above. From this derivative, the allomorph without a laryngeal could have then been analogically introduced into \*\**atamen-* → \**atmen-* as well, thus obscuring the trace of the putative laryngeal. It is less certain what \**h<sub>2</sub>etH-smen-* would have yielded, but it is likely that in accordance with the general trend just mentioned the laryngeal would have been lost.

If the etymology for *amm* etc. suggested here is correct, it implies a cyclical, not a linear concept of time<sup>13</sup> for Proto-Celtic, a concept that has also been suggested for the Italic languages and thus makes a minor contribution to the idea of Italo-Celtic (see Zair forthc. for the concept of Italo-Celtic). The Slavic languages provide a semantic parallel for cyclical time. PSlav. \**verme*, OCS *vrěmę* ‘time’ continues the Indo-European verbal abstract \**uert-men-* ‘turning’, cf. Ved. *vartman-* ‘track, course’. A similar notion may underlie the etymon PIE \**H<sub>1</sub>eh<sub>1</sub>ro/ā*, which designates the ‘year’ or related concepts in a range of languages (Germanic \**jēran*, Avest. *yārə* ‘year’, PSlav. \**ěrъ/a* ‘spring’), but which can also be used more generally for ‘time’ in Luvian *āra/i-* or Gr. *ᾠρα*, if this noun is connected with the verbal root \* $\sqrt{\text{h}_1\text{ei}}$ - ‘to go’ (LIV 232–233). Tocharian A *pukäl*, Tocharian B *pikul* ‘year’ could continue the root \* $\sqrt{\text{k}^u\text{elh}_1}$ - ‘to turn’, but an alternative and more widely accepted etymology derives it from \* $\sqrt{\text{pek}^u}$ - ‘to cook, mature’ (NIL 549–550).

<sup>11</sup> Once-attested *úaser* (*Colmán’s Hymn* 5b, MSS *anuas.../anóser*; *Theis*. ii, 300), rhyming with *úasal*, may contain an archaic spelling of the second syllable.

<sup>12</sup> Cf. OCS *prostorb* ‘extent, space’ for a semantic parallel, but again with a preverb as first member and *o*-grade of the root.

<sup>13</sup> The cyclical perception of time is a psychological illusion suggested by the observable reiteration of natural processes such as the courses of the sun and the moon, or the annual return of the seasons, not an intuitive understanding of the fundamental structure of the world. Time is directional, i.e. it constantly progresses. The arrow of time is ultimately linked with the Second Law of Thermodynamics and the increase of entropy, and thus with the ensuing irreversibility of physical processes in the macroscopic world (Carroll 2010: 135 ff.). It has even been suggested that entropy itself is the cause of which time is only an effect.

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