The meaning of life: PIE. *gʷih₃u̯-

ABSTRACT: This article tries to explain the anomalous properties of the Proto-Indo-European verb *gʷíh₃u̯e/o- 'live', its relation to the adjective *gʷih₃u̯ó- 'living' and further etymological connections. One of the ideas resulting from the discussion is a new etymology of *gʷou̯- 'cow, head of cattle'.

The Proto-Indo-European present *gʷíh₃u̯e/o- 'live' (Lat. *vīvō*, OCS. *živǫ*, Ved. *jívati*, TB. *śaiṃ*, Hom. Gk. ζώω, etc.) has several aberrant properties. To begin with, it combines the barytone accentuation, typical of pure thematic presents like *bʰér-e/o- 'carry', with the zero grade of the root.[1] Next, the morphological segmentation of *gʷíh₃u̯e/o- is baffling: the *u̯ preceding the thematic vowel looks as if it belonged to a formative suffix rather than the root of the verb (whether one prefers *{gʷei̯h₃} or *{gʷi̯eh₃} as its canonical form); however, if analysed as *gʷíh₃-u̯e/o-, it has no parallel among the known types of Proto-Indo-European present stems. One is tempted to connect it directly with the adjective *gʷih₃u̯ó- 'living, alive' (Lat. *vīvus*, OCS. *živŭ*, Lith. *gývas*, Ved. *jīváḥ*, Gk. ζωός, etc.), usually taken to contain the adjective-forming suffix *-u̯ó-. Such a solution is in fact adopted by Meier-Brügger (2002: 168-169), who (following Rix 1994: 79) treats *gʷíh₃u̯e/o- as "eine hocharchaische Denominativbildung mit Nullsuffix". Archaic or not, the formation is still unique and puzzling. A normal stative present derived from *gʷih₃u̯ó- should be of the form *gʷih₃u̯e-h₁-i̯é/ó- 'be alive'.[2] The zero-derivation of *gʷíh₃u̯e/o- from *gʷíh₃u̯ó-, even if accepted for the sake of the argument, requires a shift of accent from the suffix to the zero-grade root syllable; no convincing motivation for such a shift has been proposed. The influence of the pure thematic type must be doubted, since it has no visible effect on Proto-Indo-European oxytone presents like *gʷr̥h₃-é/ó- 'devour' (Ved. *giráti*).

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[1] The Greek and Tocharian stems might in theory contain a "full grade II" (*gʷi̯óh₃u̯e/o-), but if one accepts the breaking of *i and *u before tautosyllabic *h₂/₃ in Greek and Tocharian (in particular *ih₃ › PGk. *i̯ō and PT. *ya), reconstructions other than *gʷíh₃u̯e/o- must be considered superfluous; the same holds for the adjective *gʷih₃u̯ó- › Gk. ζωός (for a similar change in Armenian, cf. *ih₃ › *i̯a in *keam* 'live').

[2] In fact, it may have existed: it virtually underlies Lat. *vīvidus* 'full of life' and possibly OInd. *jīvatha-* 'long-lived' (cf. *albeō* 'be white': *albidus* 'whitish'). Another expected derivative is the inchoative *gʷih₃u̯e-h₁-sḱé/ó- › Lat. *vīvescō* 'become alive, grow lively' (cf. *albescō* 'become white').

There is, however, another type of present whose formal resemblance to *$g^wíh_3 u̯e/o$- may be significant: reduplicated thematic stems like *$sí-zd-e/o$- 'sit' or *$ǵí-ǵn-e/o$- 'beget, bring forth'[3], with accented *$í$ in an initial syllable. Rasmussen (2004: 272) convincingly explains the vocalism and accentuation of this type by assuming accent retraction to the reduplication syllable if at a certain pre-stage of Proto-Indo-European it became countertonic by virtue of being two syllables away from the original accent: pre-PIE. *$se-sed-é-ti$ › *$sì-s°d-é-ti$ › PIE. *$sízdeti$.[4] Let us suppose that the structure of *$g^wíh_3 u̯e/o$- was initially similar — namely, that the stem represents an obscured reduplication, not unlike *$píb(h_3)e/o$- 'drink' ‹ *$pí-ph_3-e/o$-. The dissimilation of *$g^w...g^w$ to *$g^w...h_3$ is plausible, since there are good reasons to reconstruct a voiced dorsal fricative [ɣ] as the approximate pronunciation of PIE. *h_3. The actual root would therefore be *$g^we u̯$-, forming the reduplicated present *$g^wí-g^w u̯-e/o$- › *$g^wí-ɣu̯-e/o$-.

It is now time to clarify the relationship between the verb and the adjective *$g^wih_3 u̯ó$-. Reduplicated nouns are not unknown in Proto-Indo-European, one particularly transparent example being *$k^wé-k^wl-o-s$ 'circle, wheel' (from *k^welh_1- 'turn, go round'), coll. *$k^w°-k^wl-áh_2$. Given the role of accent in distinguishing between related adjectives and substantives (as in Gk. τομός 'sharp, cutting' : τόμος 'slice'), there should be a place in the system for an adjective of the form *$k^w°-k^wl-ó$- — or rather *$k^wi-k^wl-ó$- if vowel reduction rules operated similarly in verbs and adjectives.[5] The use of reduplication probably emphasises repeated or continual activity: *'revolving, moving round in circles' by contrast to other deverbatives from the same root, such as *$k^wólh_1-o-s$ 'turning-point, axis, turn' and *$k^wolh_1-ó-s$ 'moving about' (figuratively, 'guarding, tending', etc.). Whatever, then, the fundamental meaning of hypothetical *$g^we u̯$-, the semantics of the reduplicated adjective *$g^wi-g^w u̯-ó$- › *$g^wi-ɣu̯-ó$- ('living, alive') should be derived by adding overtones of continuity, intensity or repetition. Unlike the present stem, the adjective keeps its accent on the thematic vowel because of its contrastive value (an accent shift would have yielded a substantive).

Once obscured, *$g^wíh_3 u̯e/o$- could easily be interpreted as containing an independent root, *{$g^wih_3 u̯$} or *{g^wih_3}, understood as a zero grade and a possible basis for ana-

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[3] From *$ǵenh_1$-, with the usual simplification (here involving the loss of the root-final laryngeal) characterising compounds and reduplications.

[4] With a very old reduction of unaccented *e/o to *i before certain morphological boundaries (Rasmussen 1999 [1988]).

[5] Perhaps also in the collective, cf. Phryg. κίκλην 'the Great Bear' = '(the wheels of a) wagon'; there is also some vacillation between *e and *i in the first syllable of of the 'beaver' word, *$b^hV-b^hr-o/u-s$ (certainly a reduplication, whatever the underlying root).

logical full grades such as $*g^weih_3$-/$*g^woih_3$-.[6] To be sure, full-grade derivatives of this root are extremely rare. The only example of an *e*-grade stem is the exclusively Homeric Gk. fut. βέομαι (Il. 15.194) ~ βείομαι (Il. 22.431), 2sg. βέῃ (Il. 16.852, 24.431), which looks like an an aorist subjunctive, but whose precise relationship to other forms is unclear.[7] The *o*-grade is attested in the causative $*g^woih_3$-*éi̯e/o*- › PSl. **gojiti* 'cure, protect' and the thematic verbal noun $*g^wóih_3$-*o-s* › PSl. **gojĭ* 'peace', Av. *gaiia*- 'life', Ved. *gáya*- 'household, wealth'. However, in derivatives like these, i.e. the **mon-éi̯e-ti* and **tómh₁-o-s* types, the *o*-grade is derived from an original zero grade.[8] The process resulting in vowel insertion, grammaticalised as a morphophonological rule, remained productive long enough to create analogical derivatives of new roots like $*g^wih_3$- by infixing an **o* in its synchronically "natural" place: **CiC* › **Coi̯C*. Forms allegedly reflecting the "full grade II" $*g^wi̯oh_3$- can be explained differently, namely as containing the usual zero grade (see footnote 1).

There are also forms apparently lacking a reflex of the laryngeal, cf. Goth. *qius*, OIr. *béo* 'living' (as if from $*g^wi̯$-*ó*-); these may be decompositional, and are at any rate parallelled by familiar examples of similarly shortened variants of words like **suhnú*- 'son' and **u̯ih₁ró*- 'man' (i.e. **sunu*-, **u̯iro*-, known from several branches, including Germanic).[9]

The fact that we have **h₃* both in the verb $*g^wíh_3$*u̯e/o*- and the adjective $*g^wih_3$*u̯ó*- can be explained with recourse to analogical generalisation. However, it is possible that the levelling was not carried out consistently and that isolated traces of older forms could survive. Thus, beside the widespread normal developments of $*g^wih_3$*u̯ó*-, we have (NW)Gmc. **kwikwa*-. Rather than interpret the second **k* as resulting from the irregular hardening of **h₃* in the passage from Proto-Indo-European to Proto-Germanic (**ɣ* › **g*, yielding PGmc. **k* by Grimm's Law)[10], it is now possible to explain **kwikwa*- as a relict, directly reflecting $*g^wi$-g^wu-*ó*-. Such an analysis enables us to accommodate the Latin abstract noun *vigor* 'liveliness, force' as a member of

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[6] Cf. the neo-root {*bib*} 'drink' in Latin, with its own perf. *bibī* and p.p. *bibitus* (co-existing with *pōtus*), or the occasional transformation of compound verbs such as **h₁pi-s(e)d*- 'sit upon' into unanalysable roots like *{peisd}* in some branches (cf. Ved. perf. mid. *pipīḍé* 'suppressed' ‹ **pi-pižd-ái*).

[7] See footnote 20.

[8] See, in particular, Rasmussen's *o*-infix theory (Rasmussen 1989a: 145–230; 1992) .

[9] Gk. βίος 'manner of life, means of life' may alternatively reflect $*g^wíh_3$-*o-s*. In either case the reduction possibly originated in compounds; cf. Gk. ἡμί-βιος 'half-alive' (vs. the full form in Lat. *sēmi-vīvus*), Gk. σύμ-βιος 'living together' (Skt. *saṃ-jīva*-), etc., which would make βίος a mutilated substantivisation of $*g^wih_3$*u̯ó*-. There are also other shortened derivatives in Greek that contrast with full variants occurring elsewhere, e.g. βίοτος (= βίος) : OCS. *životŭ* 'life' ‹ $*g^wih_3$*u̯o-to-s*.

[10] As proposed by Rasmussen (1989b: 158).

the same word-family, namely *$g^w ig^w u̯ ōs$ 'the condition of being lively'.[11] A variant form of this -es-stem, this time with *h_3, underlies Gk. ὑγιής 'healthy' ‹ *$h_2 iu$-$g^w ih_3 ēs$,[12] a bahuvrīhi compound that can be understood as *'having youthful vigour'. [13]

   At this point one cannot escape speculation about the original meaning of the reconstructed root *$g^w eu̯$-. Reduplicated presents are normally paired with root aorists,[14] so the meaning of *$g^w íh_3 u̯e|o$- should have arisen as the durative counterpart of a verb with punctual semantics. 'Move' is a sensible preliminary conjecture, given that the concept of 'living' is intimately associated with bodily movements and the power of locomotion.[15] Let us observe, first, that Proto-Indo-European has a pair of alliterating roots, *$g^w em$- and *$g^w ah_2$-, both of which mean approximately 'proceed on foot (come, go)' and both form root aorists (*$g^w em$-t › Ved. ágan; *$g^w ah_2$-t › Ved. ágāt, Gk. ἔβην) accompanied by various kinds of derived presents (*$g^w m̥$-$i̯é|ó$- › Gk. βαίνω, Lat. veniō; *$g^w m̥$-$sk̑é|ó$- › Ved. gácchati, Gk. βάσκω; reduplicated *$g^w i$-$g^w áh_2$- › Ved. jigāti). It is often assumed that the two roots are somehow related, though the nature of the relationship remains unexplained. There is an intriguing parallel with roots meaning 'run', *drem- (Skt. drámati, reduplicated intens. dandramyate; Gk. aor. ἔδραμον, perf. δέδρομα[16]) and *drah_2- (Ved. drắti; Gk. ἀπο-διδράσκω, aor. ἀπ-έδρᾶν 'ran away'). In Proto-Indo-European, the elements *-em- and *-ah_2- were in all likelihood fossilised "extensions" rather than bona fide morphological units, but the fact that they recur in verbs of motion strengthens the impression that we are dealing with relicts of pre-Proto-Indo-European derivational morphology. Of course, the hypothesis that *$g^w em$-, *$g^w ah_2$- were once decomposable into smaller constituents does not mean that one-consonant verb roots like *{g^w} are admissible for Proto-Indo-European or, for that matter, for pre-Proto-Indo-European — the *g^w may reflect an old cluster reduced to a single segment.

   There is, however, another root beginning with *dr- and meaning 'run', namely *dreu̯-, represented by Ved. drávati, -te (RV.) 'run, hasten, flee' ‹ *dréu̯-e|o-, perf.

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[11] With delabialisation before a rounded vowel in pre-Latin: *$g^w ig^{(w)} u̯ ōs$ › *$g^w ig^w ōs$ › *$u̯ igōs$; hence the analogical velar stop in vigeō 'be lively, thrive' and vigescō 'become vigorous'.

[12] Or, alternatively, *-$g^w iu̯ ēs$ (either form seems possible as the compositional simplification of *$g^w ih_3 u̯$-es-).

[13] Lat. perf. vixī and p.p. victus may owe their velar stop to the influence of forms preserving their -g-, although at least in the case of vixī laryngeal "hardening" (*$h_3 s$ › ks) is a possibility.

[14] Note that Gk. ἐβίων (Hom.+), although employed as the aorist of ζώω, is not a root verb but reflects *$g^w ih_3$- extended with the stative suffix *-eh_1- — a secondary formation, corresponding to the present βιόω (Arist.+) 'pass one's life' (by contrast to ζώω, Att. ζῶ, wich means 'live' in the sense 'exist' or 'be in full vigour').

[15] Suffice it to mention such figurative expressions as walk the earth or alive and kicking.

[16] In a suppletive paradigm, with the present forms supplied by τρέχω.

dudrāva (Brāh.) ‹ **de-dróu̯-e*, reduplicated thematic aor. *adudruvat* (Brāh.), etc.[17] In strictly comparative terms, the attestation of **dreu̯-* outside Indo-Iranian is scanty and uncertain, but the root happens to be exceptionally productive in old European hydronymy: river-names reflecting **drou̯-o-*, **dru-tó-* (cf. Skt. *drutá-* [Mbh.] 'swift, speedy') and **dru(u̯)-ént-* or **dréu̯-o-nt-* (*drávat* [RV.] 'running, swift') are numerous and widely distributed,[18] which compensates for the inherently limited value of onomastic data and confirms the Proto-Indo-European status of **dreu̯-*. The reconstruction of the approximate meaning of **gʷeu̯-* as 'move'[19] is therefore strengthened by the fact that such a root would fill a gap in the following pattern:

$$\text{*gʷ-em-} \qquad \text{*gʷ-ah}_2\text{-} \qquad \text{(*gʷ-eu̯-)}$$
$$\text{*dr-em-} \qquad \text{*dr-ah}_2\text{-} \qquad \text{*dr-eu̯-}$$

In this scenario, the only original form of the verb **gʷeu̯-* that survived into the historically known Indo-European languages was the reduplicated thematic present,[20] whose meaning evolved rather naturally from 'keep moving, move repeatedly' to 'live, be alive'.[21] The morphological obscuration of the present stem caused the word-family based on **gʷeu̯-* to disintegrate, and the competition of the alliterating near-synonyms **gʷem-* and **gʷah₂-* ousted the remaining forms (such as the hypothetical aor. inj. **gʷéu̯-t/*gʷu̯-ént*). On the other hand, **gʷíh₃u̯-e|o-* supplied its own, analogically created verb-forms with shifted semantics (including new aorists meaning 'survived' rather than 'moved').

Though lost or distorted beyond recognition as a verb, **gʷeu̯-* may have left its traces elsewhere. Primary verbs form root nouns, originally acrostatic (with an *o*-grade in the strong cases), like **k̑lṓp-s* (Gk. κλώψ 'thief') from **k̑lep-* 'steal', **spṓk̑-s* (Gk. σκώψ 'scops owl') from **spek̑-* 'look' or **ptṓh₂-s* (Gk. πτώξ 'hare'), from

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[17] The "extension" **-eu̯-* is also vaguely discernible in a few other verbs expressing movement, such as **sreu̯-* 'flow' and **pleu̯-* 'swim, float, travel by water', but this is obviously a controversial matter requiring further study.

[18] Cf. Krahe (1963: 322–324).

[19] The actual meaning may have been more specialised, referring to some particular mode of moving, but such details are hardly recoverable.

[20] If the ει in Hom. βείομαι (hapax) represents lengthening *metri causa*, one could entertain the possibility that βέομαι, βέη reflect unreduplicated **gʷéu̯-e|o-* from the old root aorist. A meaning like 'shall go/walk' is at any rate compatible with all their occurrences in the Iliad!

[21] Note the reverse semantic evolution of Eng. *quick* from 'alive' to 'swift' and the frequent use of the reflexes of **gʷih₃wó-* in various languages to describe vigorous movement, cf. Lat. *vīvus flūmen* 'running water'.

*ptah₂- 'flinch, crouch'.[22] Since such nouns can serve as epithets describing a characteristic habit, it is easy to see how some of them came to be used as animal names: owls, when hunting, spend most of their time watching from a perch; a hare is most often seen cowering or trying to leap out of sight. An animal that habitually wanders from place to place could accordingly be named *gʷṓu̯s (acc. *gʷōm, gen. *gʷéu̯s). In other words, I propose that the Proto-Indo-European word for 'head of cattle'[23] is a deverbal root noun presumably motivated by observations of herds of cattle roaming open grazing-lands or being driven by herdsmen. Calling a naturally nomadic gregarious animal a 'roamer' or 'onward-walker' is not without precedent, cf. Hitt. *iyant-* 'sheep' (lit. 'going, marching') and Gk. πρόβατα, coll. of *pró-gʷm̥-t-, lit. 'forward-going' (cf. προβαίνω 'step forward, advance, go on').[24] In Homer, Herodotus and generally in Ionic and Doric Greek πρόβατα means 'cattle' or refers to any ruminant livestock ("flocks" and "herds" alike); only in Attic prose and comedy (and in later Greek) does the term mean specifically 'sheep'. It is therefore unlikely, *pace* popular etymology, that it should originally have been applied to small livestock — sheep and goats, which allegedly "went before" the more valuable cows when driven together. It follows that πρόβατ- and *gʷou̯-, though formed independently at different times, have entirely convergent etymological explanations.

I have tried to demonstrate that the verb *gʷíh₃u̯e/o-, which at first glance looks anomalous and hard to account for, on closer inspection not only turns out to be a regular member of the Proto-Indo-European verb system but may also hold the key to the solution of several other etymological puzzles. It is because of these ramifications that the problem of the 'live' word seems worth reopening.

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[22] For the now-standard classification of root nouns and examples of *o*-grade root nouns that are "noms d'agent ... avec une nuance itérative", cf. Schindler (1972).

[23] Ved. *gáuḥ*, Av. *gauš*, Gk. βοῦς (Dor. βῶς), TA. *ko*, TB. *keᵤ*, Lyc. *wawa-*, HLuw. *wawa/i-*, Lat. *bōs*, OIr. *bó*, OE. *cū*, Latv. *gùovs*, Arm. *kov*, etc. As regards its apophony and case-forms, see Schindler (1973).

[24] The neuter sg. πρόβατον is analogical.

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