

DOES MORPHOLOGICAL RECONSTRUCTION REALLY EXIST?

WE are persuaded that in linguistics we do such a thing as reconstruction. There can be no doubt that an important aspect of reconstruction is phonological. That is what the doctrine of the Lautgesetz is all about. Let us look at a reconstruction of the phonology of a morpheme, or lexeme, that is of a degree of complexity sufficient to be interesting. We choose the Indo-European etymon ‘daughter’, for which we select as evidence a range of descendant forms from the various branches of which the Celtic has a current interest.

OIr. *der*;¹ Le Larzac Gaulish *duxtir*;² Celtiberian TUATERES;³ OFris., Dutch *dochter*, OS *dohtar*; Eng. *dɔ:tr*, ON *dóttir*, Runic pl. *dohtriR*, Goth. *dauhtar* < **duhtēr*; Toch B *tkācer*⁴ Lith. dial. *duktē*, G. *dukterès*, Npl. *dükteres*;⁵ Resian *xr'*;⁶ = SCr. *kĉi*, OCz. *dci*; not quite = Russ. *doč*; Armen. *dustr*,⁷ (from which we here deliberately omit Vedic *duhitā* to enhance display of the power of our method); Wakhī *ðəʕd*;⁸ Prasun *lüšt*;⁹ Waigali *ǰū*; Shinā *dīh*;¹⁰ Gujerati *dhī*;¹¹ Marāthi *dhūv*;¹² Lycian *kbatr-u*;¹³ Luwian *duat(a)r-(a/i-)*;¹⁴ **dhugHtē*, *dhugHter-* (Pokorny *IEW* 277 needs revising.)

On the basis of Michael O’Brien’s inspired recognition (1956) of OIr. *der* in women’s personal names I have shown (1975) that this form must go back to an exactly two-syllable pretonic Archaic Irish pre-form, which has now (1985) been gratifyingly confirmed in the new Gaulish lead inscription from Le Larzac. The new (1995) Celtiberian bronze, again from Botorrita, shows us with two instances of our word that the medial **H* is more complex than we

¹E. P. Hamp, *MSS*, 33, 1975, 39–40.

²M. Lejeune et. al., *Études Celtiques* 22 (1985) 88 ff.

³E. P. Hamp, *Veléia* 13 (1996) 271–3.

⁴D. Q. Adams, *Tocharian historical phonology and morphology* (1988) 16, 18, 21, 33, 124, *Dictionary of Tocharian B* (Leiden 1999).

⁵Z. Zinkevičius, *Lietuvių Dialektologija* (Vilnius 1966) 256–67.

⁶E. P. Hamp, field notes; so too Tsakonian.

⁷E. P. Hamp, *JAOS* 90 (1970) 228–31.

⁸A. L. Grjunberg and I. M. Steblin-Kamenskij, *Vahanskij Jazyk* (Moskva 1976) 342.

⁹G. Morgenstierne, *NTS* 13 () 233; 15 (1949) 208; E. P. Hamp, *JAOS* 90 (1970) 228–31.

¹⁰R. L. Turner, *Comparative dictionary of Indo-Aryan languages* (1966) item 6481.

¹¹*Ibid.*

¹²*Ibid.*

¹³E. P. Hamp, *JNES* 39 (1980) 215; J. D. Hawkins, *KZ* 92 (1978) 112–6). I am not sure the cited ‘anaptyxis’ of Melchert adduced by F. O. Lindeman, *Linguistica* (Ljubljana) 33 (1993) 115, is really a meaningful distinction in this matter of reconstructed vocalization. Outside of phonology, I reconstruct systematic phonetics (and ‘human’ phonetics) though not ‘real’ phonetics.

¹⁴E. P. Hamp, *ibid.*; Hawkins, *ibid.*

thought, surprisingly on internal Celtic; this finding has enabled us to propose a solution to the unsolved Oscan form *fuutír*. One may ask if the Gaulish outcome shows ‘schwa deletion’ as an areal isogloss with North European IE.¹⁵ The Resian *tʷ* shows that the Slavic medial consonantism can come only from a **kt* seen in the Lithuanian. Prasun Nuristani *lüšt* shows with its *š* that the **gH* gives a palatalized result in Indic-Nuristani thus clarifying and confirming the *h* in Indic *duhitá* against the *g* of Avestan *dugdar-*. The Indic-Nuristani palatalization (**ǰh* or **žh*) now enriches the complexity of the Continental Celtic evidence, which both perhaps point to a sequence of two laryngeals **H_xH_a*. Shiñā clarifies our understanding of the Indic aspirates. Lycian *kb* (probably [kβ]) is the regular result of [t_u]. Loss of *gh* or Anatolian *gh* is regular in Luwian. In Armenian all gutturals merge as *s* as if *ǰ* after *u*. In Germanic, Baltic, and Slavic a medial schwa (syllabified laryngeal) is lost; in Iranian the medial laryngeal failed to syllabify.¹⁶ The Baltic and Slavic show that the old nominative had no **-r*. Therefore the phonological sequence of the nominative was **dh+u+g+H+t+ē* oxytone. It is by morphological reasoning that we know that the lexical stem entry is **dhugHter-*.

Basically, in doing morphological reconstruction we take what is hoped to be an adequate set of syntactic-semantically acceptable comparanda (itself a complex and principled decision); observe the correspondences in the phonological strings (to which we add the Greek withheld until this point for the same reason of presentation as has been given for the Vedic, withheld without damage but gratifying to exploit; note also the Greek α and Tsakonian *śati* show the colouring of the laryngeal to have been *H_a*): *duxti(r)* = *tkāce(r)* = *duktē* = *x^tu* = *dust(r)* = *lüšt* = *kbāt(r)-* = $\vartheta\upsilon\gamma\acute{\alpha}\tau\eta(\rho)$; attribute these to a proto-string **dhugōtē*;¹⁷ which then is interpreted on the proto-level phonologically **dhugHtē* < (by internal reconstruction) **dhugHtērs* (elaborated by Szemerényi). In short, with greater or less complexity and mental computation, an equation is stated, the captions of the equated terms are left in the original strings, the terms of the proto-string are interpreted, and an invariance is preserved between the proto and the descendants. To take an outlandish but straightforward example: Armen. *ełbay(r)* = Welsh *brawd* ‘brother’ (to which Albanian *v(ë)lla*¹⁸ is *not* related, i.e. does not enter into

¹⁵See *Zeitschrift für celtische Philologie* 37 (1979) 158–66.

¹⁶As the deliberately omitted Avestan *dugdar-* and Persian *dukt*, *dukhtar* [doxt] show. Perhaps a medial laryngeal in Iranian was lost in the same process as general loss of Indo-Iranian ‘voiced aspiration’.

¹⁷The Greek accent, relative to the Vedic, reflects a morphological retraction in feminines in opposition to the masculine personals, including kin-terms; i.e. by attending carefully to the accent in this Greek word we can contribute also to the formulation of a much broader purely Greek morphological rule which perhaps we owe to Vendryes.

¹⁸See Bardhyl Demiraj, *Albanische Etymologien (AE)*, Amsterdam 1997, 417, with a half-dozen earlier proposals of which only Jokl’s (1923) can be taken seriously when adjusted, as I have done (1976), to **ue-Oaud^ha-* (not ‘isoliert’). See also the fuller and clearer (if flawed) account, V. E. Orël, *Albanian Etymological Dictionary (AED)*, Leiden 1998, 503–4 which should be read with *vajzë* ‘girl’ (deficient in Demiraj), p. 493, which however misses the social dimension. See below, footnote on P. C. Messori Roncaglia, et. al.

this set of correspondences), whereby

$b = b < *bh$;

$\ddot{t} = r < *r$ by regular metathesis and dissimilation; this ordering determined by the following rule;

$e = \text{zero}$ by Armenian development because initial r - is not permitted;

$a = aw < *\bar{a}$;

$\text{zero} = d < *t$ intervocalically;

$y = \text{zero} < *\bar{e}$, from non-syllabic $*i$ in Armenian and final-syllable loss in British Celtic.

We can now concatenate the captions of the equated terms: $*bhr\bar{a}t\bar{e}$ (Vedic and Germanic show that the $*\bar{a}$ bore the accent) and interpret this as $*bhr\acute{e}H_{at}\bar{e} < (\text{by internal reconstruction}) *bhr\acute{e}H_{at}ers$.

By following our principles, it will already be noted, we have departed from (but not abandoned) the comfortable land of the Lautgesetz when we write accents on $*dhugH\bar{t}\bar{e}$ or $*bhr\acute{e}H_{at}\bar{e}$. Yet these are intimately bound up with Verner's Lautgesetzlichkeit when we consider additionally $*pH_{at}\bar{e}$ in relation to German *Vater* and *Bruder*. This reasoning arises in an important way in the matter of OIr. *neb/neph*-¹. Middle Breton *breuzr* shows analogical spread of the oblique stem seen clearly in the Gaulish derived personal name *Bratr-onos*.

We now ask whether a similar reconstructive enterprise can be conducted on the basis of morphological elements. One immediately thinks of Indo-European noun inflections. In English we find:

		ModE	< ME		< OE
sg.	plain	<i>stone, ox</i> ^a	common	<i>stōn</i>	nom. acc. <i>stān</i>
	possess.	<i>stone's, ox's</i>	gen.	<i>stōn(e)s</i>	gen. <i>stānes</i>
			dat.	<i>stōne</i>	dat. inst. <i>stāne</i>
pl.	plain	<i>stones, oxen</i> ^b	common	<i>stōnes</i>	nom. acc. <i>stānas</i>
	possess.	<i>stones', oxen's</i>	gen.	<i>kinge</i>	gen. <i>stāna</i>
					dat. inst. <i>stānum</i>

^aWelsh *ych*

^bWelsh *ychen*, OBret. *ohen*

If we attend to the morphology, and not to the phonology (where Welsh gives us more clearly $*uks-\bar{t} < \bar{e}$, pl. *en-es*: Skt. *ukṣ-an-*), of these forms, we have (where Welsh gives us less):

ModE	< ME	< OE
base	base	base (+acc.)
base+poss.	base+gen.	base+gen.
	base+dat.	base+dat./inst.
base+pl.	base+pl.	base+rectus pl.
base+pl.+poss.	base+gen. pl.	base+gen. pl.
		base+dat./inst. pl.

We know that the Old English paradigm of these elements can be mapped fairly successfully, with gaps, on other older IE paradigms, e.g. Latin *equus* ‘horse’:

<i>equus</i>	stem+nom. sg.	<i>equī</i>	stem+nom. pl.
<i>equum</i>	stem+acc. sg.	<i>equōs</i>	stem+acc. pl.
<i>equī</i>	stem+gen. sg.	<i>equ(or)um</i>	stem+gen. pl.
<i>equō</i>	stem+dat. sg.	<i>equīs</i>	stem+dat./abl. pl.
* <i>equōd</i>	stem+abl. sg.	<i>equīs</i>	

But a similar mapping of Modern English on Latin would offer huge problems of allotment and of accounting for the mismatches. Notice, too, the high proportion of dissimilarities that are manifested by zero or absence, e.g. nom. sg., dat. sg., all of the pl. We find few equations comparable to that of Resian *tʷ* = Lith. *kt*, even assuming we could recognize them when we saw them.

Let us take a more complex, yet more convincingly direct, comparison. It is more convincing precisely because of its intricacy. The Modern English = Latin equation is so lean that it is hard to say whether an unbiased (and historically untutored) onlooker would accept it as more than a merely chance or universalist juxtaposition. The next table presents centrally the Vedic Sanskrit and (selected) Armenian *r*- and *n*-stem noun declensions, with all interesting Greek equivalences shown, as well as some other suggestive or provocative forms and remarkably valuable Celtic reflexes of ‘river’ (where *b* shows it is Old Irish, *f* Welsh, and *v* Breton).

Arm.		Skt.	Gk.	
<i>hayr</i>	N	<i>pitá</i>	πατήρ	Lith. <i>duktẽ</i> ^a
<i>hayr</i>	A	<i>pitáram</i>	πατέρα	(Lith. clear here
<i>hawr</i>	L	<i>pitári</i>	πατέρι	but complex re
<i>hawr</i>	D	<i>pitré</i>	πατρί	Saussure laws) ^b
<i>hawr</i>	G	<i>pitúr</i>	πατρός	Avest. <i>brāθrō</i>
<i>hawrē</i>	Abl	<i>pitúr</i>		
<i>harb</i>	I	<i>pitrá</i>		
	V	<i>pítar</i>	πάτερ	
<i>harsn gaṛn</i>	N	<i>rājā</i>	τέκτων	Lat. <i>homō</i> OIr. <i>aub</i> Ptol. Αβον ^c
<i>harsn gaṛn</i>	A	<i>rājānam</i>	τέκτονα	Welsh <i>afon</i> , Bret. <i>avon</i>
<i>harsin gaṛin</i>	L	<i>rājani</i>	δόμεν	Bret. <i>aven</i>
<i>harsin gaṛin</i>	D	<i>rājñe</i>		
<i>harsin gaṛin</i>	G	<i>rājñas</i>	ἄρ ν ός	OIr. <i>abae</i> * <i>ab en s</i>
<i>harsnē</i>	Abl	<i>rājñas</i>		
<i>harsam b</i>	I	<i>rājñā</i>		OLith. <i>wandemi</i> OIr. <i>anmainm</i> (<i>ainm</i> ^N) ^d
	V	<i>rājjan</i>	ἄπολλον	

^a*Baltistica* 31/2 (1996) 139–40.

^bSaussure's classic laws are morphophonemic and put *stresses* (not tone) just in first and last syllables, generalized in noun declension (Baltic and Slavonic generalize *-er-* and *-en-*).

^cCf. *SC* 22–3 (1987–88) 7–9 § 2; 24–5 (1989–90) 139; *Zeitschrift für celtische Philologie* 43 (1989) 188–9; *Linguistica* (Ljubljana) 34/2 (1994) 127–8 (and references therein).

^dCf. *Ériu* 47 (1996) 209.

Arm. <i>har k^c</i>	N	Skt. <i>pítaras</i> Celtib. TUATERES	Gk. πατέρες Lith. <i>dùkteres</i>	>	Arm./thematics <i>cer gorci</i>
<i>har s</i>	A	<i>piṭṛñ</i>		>	<i>cer gorci</i>
<i>har s</i>	L	<i>piṭṛ-ṣu</i>	πατράσι	>	<i>cer ji-oj, ĵer gorcwo</i>
<i>har c^c</i>	D	<i>piṭṛ-bhyas</i>		>	<i>ceroy</i>
<i>har c^c</i>	G	<i>piṭṛñām</i>		>	<i>ceroy, Gaul. ATRE-BO</i>
<i>har c^c</i>	Abl	<i>piṭṛ-bhyas</i>		>	<i>ceroy, Gaul. MATRON^a</i>
<i>har b k^c</i>	I	<i>piṭṛ-bhiṣ</i> <i>pítaras</i>			pronouns
<i>harsun k^c</i>	N	<i>rājānas</i>	τέκτονες		
<i>harsun s</i>	A	<i>rājñas</i>			
<i>harsun s</i>	L	<i>rāja-su</i>		>	<i>imum, k^cum, um</i>
<i>harsan c^c</i>	D	<i>rāja-bhyas</i>		>	<i>imum, k^cum, um</i>
<i>harsan c^c</i>	G	<i>rājñām</i> OIr. <i>ban</i> (: <i>ben^L</i> or <i>bé^N</i>)			<i>imoy, k^coy(oy), oyr</i>
<i>harsan c^c</i>	Abl	<i>rāja-bhyas</i>			
<i>harsam b k^c</i>	I	<i>rāja-bhiṣ</i>			Gaul. GOBED-BI ^b

^aCf. *ÉC* 27 (1990) 181–2.

^bA related variant to OIr. *gobae*, W. *gof*.

The Armenian **o*-stems and pronoun forms are juxtaposed simply to validate the discriminations made (by any Armenian grammar) for case. The hyphens in the Vedic forms indicate external sandhi (phonological word-end). Inflectional morphological cuts in the Armenian are indicated by vertical lines; some similar cuts are shown in the Greek and Old Irish. It is sufficient for our purpose to mark only these few cuts and not to clutter our page; a simple comparison with the eye or a glance at a standard grammar book will provide what is needed in specific cases. Details of the Armenian *n*-stem comparisons, including the importance of *r̄* in *gaṛin* ‘of, in, to the lamb’, are to be found in my article, *Annual of Armenian Linguistics* 9 (1988) 19–20. For our present purpose the distinction between *gaṛn* and *gaṛin*, i.e. stem + NA and stem + LDG, offers morphologically no different problem from that which is well known in e.g. Eng. *run* vs. *ran*. The real problem which we face here is that of matching the morphophonemic phenomena of two languages (e.g. Vedic length and zero vocalism with Armenian vowel quality and zero, or internal alternations of the base) and of aligning defective categorial paradigms:

		Sg.	
Arm.	NA	=	Skt. N
	LDG	=	D,G
	Abl	=	(Abl.)Adverbial ₁
	I	=	(I,)Adverbial ₂
		Pl.	
Arm.	N	=	Skt. N
	AL	=	A,L
	DGAbl	=	(DAbl,G,)Adject.
	I	=	I

The above attempts morphological matching only for the *r*-stems. That is sufficient to indicate the nature and the gravity of the difficulty. Surely, this is the reason why after 150–200 years of noteworthy progress we have good agreement on the precise phonological reconstruction of tens of thousands of IE descendant words, but debate on several features of the fundamental noun declensions. The broad agreement we do have on IE morphological structure comes, we see, from reasoning which is different from what we have been inspecting. If we plodded along on the phonological analogy the most we could extract for the above *r*-stems would resemble this:

sg.	pl.
*N	N
(A)	A
(L)	L
D	I
G	G
Adverbial ₁	Adject. in <i>-sk̑-</i>
Adverbial ₂	

Some elementary flaws in this result (which covertly has used inferences from the Greek and Latin genitive pl.) consist in the inability to recognize the basic centrality of the accusative, the pivotal rôle of the ancient locative, the identity of the Adverbial₂ and the 1pl., the fact that Adverbials and Adjectives did not belong to the core of the IE noun paradigm (as does an Algonquian locative), and that IE properly had no fixed plural paradigm for the *casūs obliquī*, i.e. other than N,A, and perhaps G. In short, a sadly imprecise result based on rich and ceaselessly analyzed data. If we took modern English ('father', 'ox'), Armenian, Marāṭhī, Athenian, Hebridean Gaelic, and even Lithuanian and Czech (*māti* 'mother' and *kámen* 'stone', with Upper Lusatian *mać* 'mother'), the result would be even more impoverished.

We see that in this way we do best with a small fraction of near identities out of the whole, where there is really almost no true reconstruction to be done. Of course, we are grateful to stumble upon valid identities—that is called guessing, with luck—but that covers little of the terrain needed in the discovery of productive reconstructions, or inductive solutions leading to rewarding new territory.

If there is any meaning to the notion of reconstructing morphologies, we have seen that it is not to be realized in more than a superficial and infantile way by following a routine that is calqued upon the highly successful method of phonological reconstruction. Let us leave the obvious morphological paradigms at the core of the grammar and fix our attention on morphologically related sets of lexemes. Consider the following set of forms:

‘Estuary’: Scottish Gaelic *inbhear* < **iniḃer-* (: Ogam INIGENA) < **eni-b(h)er* (: Gaulish *Enigeni*) : Welsh *go-fer* ‘overflow’ < **u(p)o-b(her)-*.
Welsh *aber* < **abber-* < **ad-b(h)er-*

Koblenz < Lat. *confluentēs* = Bret. *kemper* *Quimper* < **komber-* < **k’om-b(h)er-* ‘with-, together’

AI (= Antonine Itinerary) Roman British *Conbretovio* = *Com-brit-ou-io-* : OIr. *do-beir* ‘gives’ : *breth* (formed on *berid*) ‘carrying’

AI, Gaul *Condate* ‘Northwich, Rennes, Lyons’ > *Condat*, *Condé*, *Cond*, *Kunz* : OIr. *do-rat* ‘has given’ < *to⁺ro-ad-də-* (suppletive)

AI British Latin *Isca Dumnoniorum* ‘Exeter’ = *dumno-n(o)-io-* ‘world chief pertaining’ > Welsh *Dyfnain*, Corn. **Devnen* > OE *Defnas* ‘men of Devon’

OIr. tribe *Fir Domnann* **dumno-no-n* (Gpl.) ‘of world chiefs’ *dumno-n-on-on* ‘of world chiefs’ individual(s)’. These names linked by equal syntaxes showing systematically the suffix **-no-* ‘chief of a social unit’. A further equivalent is the name *Dumno-rix*, and a synonym of like structure is the Gaulish *Bitu-riges* > ‘Bourges, Berry’

The Celtic words for ‘estuary’ or ‘confluence’ all involve a striking and parallel formation pattern: the verbal base **bher-* compounded with a directional particle, **eni-* (a variant of **en*)¹⁹ ‘in’, **ad-* ‘to’, or **kom-* ‘with, together’; these formations match that of Welsh *gofer*, with **uo-* < **upo* functioning as an intensive in British Celtic. Now that we have identified **b(h)er-* ‘flow’ in Celtic we can identify it morphologically. The Antonine Itinerary name *Conbretovio* must be a different derivation of the same compound which we see in Breton *Kemper*. We are then able to equate,²⁰ the Antonine Itinerary and Gaulish name *Condate* with *Conbretovio* on the basis of the identical suppletion seen in OIr. *do-rat* < **to⁺ro-ad-də-*, perfect to *do-beir* < **to-s⁺beret(i)* ‘gives’. In this fashion we may be sure that our morpheme **b(h)er-* ‘flow’ is none other than the familiar base **bher-* ‘carry’. Here a purely morphological reconstruction has recovered for us a syndrome of proto-formations and a precise identification of a base. A consideration of the Welsh preverb *ry-* would expand our gloss of the base and the sense ‘flow’ to include the action of tides.

¹⁹See my analysis of this and related forms in *Ériu* 28 (1977) 145–6, and in *American Indian and Indoeuropean studies: papers in honor of Madison S. Beeler*, ed. K. Klar, M. Langdon, S. Silver (The Hague 1980) 341–4 and the references therein.

²⁰See my article in *Zeitschrift für celtische Philologie* 39 (1982) 208.

On the other hand, beside *Dumno-rix* and *Bitu-riges* we may also have *Albio-rix*, *ard-rí*, *ro-ríg-*, and locutions with British *teyrn*. Besides expanding our grasp of lexicon and aspects of social structure, we may thus enrich our formulation of the structure of affixation, compounding, and phrases—pervasive rules and isolated fossils.

We will now reconstruct a portion of Indo-European grammar, specifically a characteristic of IE word formation, by observing a characteristic held in common by a number of IE morphological reconstructions. In turn, we shall reach these reconstructions by one or both of two methods: by one method we observe a restricted regularity in a surviving descendant language; such a regularity may be vestigial and non-productive, and perhaps so reduced to wreckage as to be visible only in fragments, yet we attribute the rule(s) yielding this regularity to the ancestor language. An example of such a vestige in English is the trace of Verner's Law in the past tense forms *was* : *were*. By the other method we reconstruct full forms separately through phonological and syntactic-semantic criteria; then on the proto-level we perform a morphological analysis of the reconstructed forms.

It has been insufficiently recognized that IE grammar imposed a strict and clear-cut difference on word formation depending on whether the stem was a simplex (single base) or a compound (double base). Thus we find the following dichotomy of parallel IE formations:

*IE	Simplex	Compound
*verbal noun	various suffixations	-io- [neut.], -o-, -ti-, zero
*Adjective	-ú-, -ró-	-es-
N → Adj.	-o-	-i-/Indeclinable _
*Participle	-meno-	-to- ^a
	ú	-uen-
Caland *Adj.	various	-i/_ Substantive

^aGreek treated privative *n- as compounding, which Sanskrit did not, hence

ἄτρωακτος; see our discussion *IF* 81 (1976) 41–2, and *Živa Antika* 29 (1979) 72.

Let us pass these in review. The famous Caland alternation²¹ observes that certain adjectival suffixes were replaced in compounds by *-i- when such adjectives were compounded as prior member.²² So:

²¹See *KZ* 31 (1892) 267; 32, 592, which generalizes for Indo-Iranian; see also Hübschmann, *IF Anzeiger* II, 49–50; Wackernagel, *Altindische Grammatik* II, 1, 59–61 § 24.

²²I see this now as a partial residue of a more general pre-IE (or pre-Indo-Hittite) function of a phrasal element *-i-. I expand on this in a separate article (2002, but refined 2005) arising from work over 1987–1998 with many interruptions, Celtic, Albanian, Slavic, Greek and IE., and reported on sporadically at conferences.

Ved.	<i>krū-rá</i> ‘bloody’	<i>á-kravi-hasta^a</i> ‘without bloody hands’
Av.	<i>tax-ma</i> ‘swift’	<i>taci.aipya</i>
Ved.	<i>dhr̥ṣnú-</i>	Avest. <i>darši-</i>
Gk.	βραχ-ύς	Avest. <i>mərəzī-šmya-</i>

^aThis is analytically ‘bloody-handed’ before it is ‘un+bloody-handed’, a distinction which Greek has erased (i.e. that negation belongs to phrasal or sentence/clause organization); see my analysis of Gaul. *sunartiu*; *Études celtiques* 29 (1992) 215, of a Celtic instance. The Indic morpho-syntactic state of this phenomenon must be the earlier, and corresponds to our order of chronological separation for Indo-Iranian(-Nuristanī). Phonological reconstruction alone (not even $\nu\omega\varphi\epsilon\lambda\acute{\eta}\varsigma$ or $\nu\tilde{\eta}\sigma\tau\iota\varsigma$) would fail to specify what has been distinguished here.

In other words, the simplex suffixes **-ró-* and **-mo-*, which Caland first observed (as well as others later integrated, partly unjustifiably I think, into the rule), were replaced initially in compounds by **-i-*. We have a specimen of this in OIr. *Airg-dig* ‘Bright-house’ **arǵ-i⁺teg-es* (Skt. *árjuna-*, Gk. $\acute{\alpha}\rho\gamma\upsilon-\acute{\rho}\omicron-\varsigma$;²³ I have discussed the systematic suppletion of verbal noun suffixes in the *Indo-Iranian Journal* 29 (1986) 103–8. We may present a selection of these from Latin; a less transparent set of relics can be found in Old Irish (GOI § 735) and Welsh (BBCS 34 (1987) 112 ff.)

<i>loquēla</i>	:	<i>colloquium</i>
<i>fuga</i>		<i>refugium</i>
<i>pudor</i>		<i>repudium</i>
<i>dictiō</i>		<i>indicium</i>
<i>i-t-er</i>		<i>in-i-t-ium</i>
<i>agmen</i>		<i>rēm-ig-ium</i>
		<i>vindēmia</i> < <i>*uīno-dē-m-iā</i> (collective)

This is ancient, since it is well evidenced in Indo-Iranian. On the basis of this knowledge we are now able to validate a morphological complexity of Albanian that no phonological comparison would suffice to solve. Some time ago I reconstructed²⁴ the present and perfective preterite of the Albanian verb ‘eat’ as follows, i.e. a compound verb **?ed-* with the IE perfective preverb **ho-*,²⁵ as also in Armenian *utem* ‘eat’ pres.). I now analyze²⁶ the noun ‘food’, North

²³M. Furlan, *Linguistica* [Ljubljana] 33 (1993) 52) which I have dealt with in connexion with Lith.

²⁴See *Studime Filologjike* 26 (1) 81–3 = *Studia Albanika* 8 (2) (1971) 153–5.

²⁵Cf. *Glotta* 61 (1983) 192.

²⁶See ‘Albanisch *hae*’, *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung* 42 (1989) 102–4. The normal Tosk non-finite form of the verb ‘eat’ is *ngrënë*, without the preverb. This gives B. Demiraj *AE* 297–8, with no *ha* headword, (and others; Orël *AED* 140–141 is hopeless for the entire verb ‘eat’ and cites me as if I agreed with his phonological and morphological violation) endless trouble—lack of Tosk rhotacism, vocalism not e.g. *u*, etc. As I have pointed out elsewhere, we must have, as in *qenë* < *kl'enë* ‘be(en)’ and others such as *thënë* or *dhënë*, not the past participle *-no-* but the verbal noun suffix **-sn-om / -ā* seen well in Baltic and Old Prussian, and in Latin *cēna* and Oscan, and Hittite; hence **(Vn-)g^wra-sn- < *g^wrH_o-s(e)n-* (~nom. acc. heteroclitite *-sr?*).

Geg *hae*, as a *nomen actionis* in *-io- regular for an IE compound, confirming our preverb and the previously perplexing vocalism (and *h*-):

Alb.	1. hā	< *háëa-	< *háem-	< ho+H _e ed-mi (-m(i) > -m̄?)
	2. ha	< *háë(s)	< *háes(-s)	< ho+H _e ed-s(i)
	3. ha	< *háës	< *háes(-)	< ho+H _e ed-t(i)
	Geg (and Tosk <i>hë</i> -)			

pret. *hângër* < *háëngar- < *ho+(e-)Vn-g^worH_o- (to allow for augment)

Kosov. Pejë *hë*, Dushmani *hæ*, Rugovo *hée* ‘food’ < *háëe < *háejā < *háedijā < *hó+H_eed-iā (or > +H_eēd- > *háoja* > *háëe*).²⁷

Such compound formations must be explored further in Albanian.

Greek and Indic illustrate well the rule that transports an adjective in *-ú- (which Latin always transformed into a *fem. *i*-stem) or *-ró- into a formation corresponding to the noun in *-es- as final in a compound:

Greek			
βαρύς ‘heavy’,	οἶνο-βαρής	< *g ^w rH _a -ú-, -g ^w erH _a -es-	< *fem. Lat. <i>gra-u-is</i>
θρασύς ‘bold’	ἵππο-θέρσης	< *dh _{rs} -ú-, -dh _{ers} -es-	
Rhod. θαρσύ-βιος			
βαθύς ‘deep, high’,	πολυ-βενθής	< *g ^w ndh-ú-, -g ^w endh-es-	
	ἀγχι-βαθής		
Indic.			
<i>mṛdú-</i> ‘soft’,	<i>úr̥ṇa-mradas</i>	< *-mld-ú-, -mled-es-	< *fem. Lat. <i>mollis</i>

For an elaboration of this question see my discussion *Živa Antika* 29 (1979) 72.

From Italic, Celtic, and Armenian we have good evidence that **o*-stems in compounding with initial indeclinable elements become **i*-stems; this seems to be an ancient inverse ‘Caland’ rule.

Lat.	<i>arma</i> n. pl.	:	<i>in-ermis</i>
	<i>lingua</i> f.		<i>ē-linguis</i>
	<i>annus</i>		<i>bi-ennis</i>
Arm.	<i>gorc-ov</i> ‘work’		<i>an-gorc -iw</i> ‘inactive’ (shown in instrumental)
	<i>xrat-u</i> ‘counsel’		<i>an-xrat -iw</i> ‘wild, undisciplined’
OIr.	<i>fos(s)ad</i> ‘solid’		<i>an-fosaid (anbhfosaidh)</i> ‘unstable’
	<i>nert</i> ‘strength’		<i>éinirt</i> ‘infirm, weak’

²⁷I prefer to write *H_eed-, and all instances of H_e, as ? . I consider the *ē > o interstage a less likely route, less motivated or direct. I write *h* for H₄, which colours *e to *a but had no colouring effect for *o.

Greek normally required and admitted the IE suffix **-to-* in a compound in replacement of the participle in **-meno-*. Latin preserves a remnant of this rule in the pairs *alumnus* ‘nursling’ < **alo-m(e)no-s plēnus*; *adultus* ‘full grown’ < **ad+al-to-s, com⁺plē-tus*. A parallel remnant has been identified in Lithuanian where *pilnas* and *plónas* have been exploited to avoid a confusing homonymy. In Indic we find that the participial ending *-ú-* is generally replaced in compounds by **-uen-*. In *IF* 81 (1976) 41–2, I have analyzed and discussed $\varphi\omicron\iota\beta\omicron\varsigma$ (β < $g\underset{\circ}{u}$ or γF) and $\acute{\alpha}\varphi\iota\chi\tau\omicron\varsigma$ as a case of compounding **-tó-* functioning for original simplex **-ú-*.

It would be plausible if the productive Albanian non-finite Geg *-un-* (> Tosk *-ur-*) had resulted from a generalization of the zero-grade weak-case form of the compounding **participle* in **-uen-* (and verbal noun of infin. $-F\varepsilon\nu(\alpha)$, Gaulish *barnaunom*, Celtib. *(uer)Taunei*; Brit. *-vellaunus*). The weak-case noun could have been heteroclite in **-r* for casus rectus. Then North European IE could have taken **un* as zero-grade **n̥* and thematized to **-no-* > **-na-* for Germanic and Slavic (in the latter sharing the field with **-to-* for participles).

Morphological reasoning on the proto-level as well as use of ethnographic knowledge for the area secure for us a very fine and plausible reconstruction of the long-standing crux Albanian *vajzë* (*-zë* is a fem. diminutive and hypocoristic) ‘girl’, pl. *vashaz(ë)* (*-z* is an infrequent component of plurals); the argument of my proposed solution²⁸ can be summarized in its morphological aspect:

$$\begin{aligned} *sue-sór &\rightarrow \underline{ue-sór-} > \underline{u(ë)sór} > \underline{u(ëór)} > \underline{v(ë)ar-} > \\ & & & & & \underline{var-jë+zë} \\ sue-sr̥ &\rightarrow > (\underline{u})e-sr̥ > \underline{uēr̥} > \underline{uēr̥} > \underline{vōr-} \\ *mātrā uór- & (> var-) > motrë (var-) \end{aligned}$$

‘sister’, with deletion of the NP head.

That is to say, we begin with the IE lexeme ‘sister’, in which we must recognize two stem states (in Sanskrit tradition the ‘strong’ and the ‘weak’). Through levelling between these two allomorphs we arrive at *vajzë* ‘girl’, with the cultural semantics of a rural Balkan village society where, we know, all peers are termed siblings. The blood ‘sister’ is then specified with the adjectival form, in correct stem shape, of ‘mother’ just as is $\acute{\alpha}\delta\epsilon\lambda\phi\omicron\varsigma$ > $\acute{\alpha}\delta\epsilon\rho\phi\omicron\varsigma$ ‘brother’ with $\delta\epsilon\lambda\phi\omicron\varsigma$ ‘womb’ + $\acute{\alpha}$ - < $\acute{\alpha}$ - (before φ) < **sm-* ‘same, co-’ in Greek where $\varphi\rho\acute{\alpha}\tau\eta\rho$ was pre-empted for a fellow member of a phratry. Such a reconstruction exploits a reconstructed grammar, but does not establish it as did the examples of simplex and compound word formation.

Now an example of complex exploitation of phonology and reconstructive grammar which in turn yields for us a further detail of reconstructed morphology; I compress here my argument of *Ériu* 25 (1974) 281–2. Welsh *hawdd* ‘easy’ must be derived from **sād-*. Its comparative *haws* must then be traced to an archaic thematic **sād-s-o-* which was an adjectival derivative of the regular intensive nominalization in **-es-* (**sād-es-*) from which IE comparatives were quite normally derived. On this basis we may now analyze OIr. *asse* ‘easy’

²⁸P. C. Messori Roncaglia and G. B. Pellegrini (ed.), *Studi Albanologici, Balcanici; Bizantini e Orientali in onore di Giuseppe Valentini S. J.* (Firenze 1986) 109–10; and, with detail for the plural, *Studime Filologjike* (Tiranë) 1–4 (46–9), 1992 [1995] 35–6 (in Albanian).

as **ad-sād-s-io-* (> **ass(ss)(a)e*), with regular syncope), with intensive *ad-* (cf. *ad-amrae* ‘wonderful’) and compounding *-*io-* (cf. Latin *caldi-crebr-ius*, *prō-uerb-ium*, *tri-noct-ium*), Gk. τρι-πρόδ-ιον. We then find but one analysis imposed on us for *an(n)se* ‘difficult’: **n̄-sād-s-io-* > a presumed **éss(sse)*, which was replaced by the more perspicuous *anse ~ ins(ae)* (a rare alternant) such a replacement is not abnormal in Old Irish. As a result of these analyses we have extracted one more fact of early Celtic grammar. In morphological formation, the intensive and negative prefixes are normally exclusive:

INTENS	}	+ stem + compound derivation
NEG		

With this point established we may now proceed to a fresh double reconstruction which has not been formulated before; in the process I assemble and present evidential examples for an IE type of word formation. The Old Irish reconstruction is reached through phonology and diachronic morphology already worked out. The IE reconstruction results from the projection of moribund, fossil, fragmentary rules of word formation in daughter languages here mostly Indic (and Iranian, which we pass over for the present), Greek and Old Irish; the last gives us highly important testimony. The rôle of moribund rules and fossilized formations is important to note in this connexion.

In R. Thurneysen’s *Grammar of Old Irish* the negative prefix *neb/neph^L-* is set forth and exemplified (pp. 544–5):

OIr.	<i>nebchretem</i> ‘non-belief’
	<i>nephis</i> (- <i>fis</i>) ‘non-knowledge’
	<i>nephabirt</i> ‘non-infliction’
→	<i>nebmarbtu</i> ‘immortalitas’
	<i>nephchorpdae</i> ‘incorporeal’

This prefix negates verbal nouns and old participles. Michael O’Brien has observed that in the Würzburg glosses we find *neb-* before vowels and voiced consonants, but *neb-* or *neph-* before voiceless consonants; the later Milan and St. Gall glosses show uniformly *neph-*. I explain the primary *neb-* as resulting from regular Old Irish pretonic voicing (like *do-* from *to-* and *b-* ‘your’ (pl.)), i.e. *n̄’eβ-* < *n̄’eφ-*; this provides us with valuable information on an earlier word-boundary and compound accent pattern. I then propose that **neφ-* be derived from **ne-su-V* ... the prevocalic form of the conglutinate **ne+su-*, whose preconsonantal shape was eliminated by its great phonetic divergence, [n̄eʷ], [n̄eoʷ], [n̄iuʷ], or [n̄ehó], [n̄ehú]. This must be a fresh Celtic formation because the sentence negative (note the verbal bases of these formations) and, as we have seen, the concatenation of negative and intensive violate the old rules of word formation; i.e. the negative is not the prefixed **n̄-*, and behaves partly like *ex-* as in Gaul. *Exobnus* = W. *ehofn* (with *h!*), Ir. *essamain* : *omun*.

Such a new formation is, in turn, easily understood, since, I have shown,²⁹ that the IE compounding element **ʔsu-*, which was originally an intensive

²⁹On the reconstruction of earlier syntax from morphology, *Mid-America Linguistics Conference Papers*, Columbia MO (1972) 207–14.

'really', had become in Celtic, as in other IE dialects, a productive allomorph for 'good'. The old intensive value, having become moribund, was therefore not displaced by the new negative **ne-*.

Having taken account of the fate of one distribution of **ʔsu-* in Old Irish, we now assemble fresh evidence so as to survey the range of this compound-forming formation in IE which we find expressing recurrent socially important attributes. These are attributes founded in Reality and Truth.

**ʔsu + N*

Skt. *su-cakrá* 'having good *wheels*, really wheeled', Gaulish *Sucellos*: *Ver-cellius* 'having a good (the best) hammer', Gk. εὖ-κυκλός 'well-turned'; -τροχός 'well-wheeled' : τροχός τρέχω; -ξωνός 'well-girded' (cf. ζῆυξ); -κνήμιδ- 'well-greaved', OIr. *so-chenēuil* 'of good family' : *cenél*; *-chlainn* (also *-chlann* '(with) good children') : *clann* (early borrowing from Lat. *planta* replacing reflex of εὖ-γενής); *-choisc* 'docile' : *cosc* (Welsh *cosb*), cf. εὖ-πειθήεις but *cosc* is not a *simplex.

Besides the clear surface equations in phonological or semantic features of **ʔsu + N* just cited we find the following, which are equivalences in form, formation rule or synonymy:³⁰

³⁰To these we add from a careful selection from the *DIL*

N → N (a) – *DIL* classification

<i>soaice</i>	'good fosterage' <i>-altar mi-, ro-</i> Ancient Laws i 168.i
<i>-áig</i>	'fair fight'
<i>-ball</i>	'healthy limb'
<i>-bert</i>	good 'action' <i>soibheart</i>
<i>-blad</i>	good 'fame'
: <i>-thuicse</i>	'intelligible' (note the presence of 'empty' <i>to-</i>)
<i>-gein</i>	'noble person' <i>soighein</i>
<i>-gním</i>	'virtuous act' <i>sóignim</i>
<i>-shlúag</i>	'fine host'
<i>-lúth</i>	would be recognized only by etymology in <i>solad</i> 'augury'

N → Adj (b)

<i>sochorp</i>	of good 'body'
: <i>carae</i>	is disguised in <i>sochrait</i> 'profitable'; cf. <i>sochrach</i> below.
<i>-dath</i>	'finely coloured'
<i>-derc</i>	'visible' <i>-fhaicse, -fhechain</i>
<i>-lámaig</i>	'dexterous' : <i>solam</i> 'speedy'; the latter surely original and well-formed.
<i>-leptha</i>	'amorous', contrast <i>soi-thngæ</i> below
<i>-radhairce</i>	'fair to see'

Verb → Adj (d)

Intensives (c) are dealt with below to include a formal category.

Adj → Adj (can be < (a) (c) (d))

And interesting even for its opaque decay: *son, sona(e)* (E. P. Hamp, *Ériu* 43 (1992) 211).

- Alb. *zo-g* ‘bird’ (cf. Armen. *bo-k* ‘barefoot’),
 Skt. *su-gá* ‘easy to traverse’; Gk. εὐ-βατος OIr. or Celtic: OIr. *so-charthe* (*-*t*-
 derivative) ‘attractive’ (cf. *Su-caros* below)
 Skt. *su-gama* ‘easy to traverse’ (cf. *DIL* s.v. *so-* type c.); Gk. εὐ-βολος ‘throw-
 ing luckily’ (*o*-grade thematic); OIr. *so-gonta* (plus *-*t*- derivative) ‘easily
 wounded’ (cf. *DIL* type c.)
 Gk. εὐ-γονος ‘prolific’ (i.e. ‘very’ or ‘easily’); cf. below OIr. *soirb* (: *sreb*
 ‘stream’) in detail (*o*-grade); Gk. εὐ-θροος ‘loud-sounding’ : θρόος
 ‘noise’, θρέω ‘shriek’; Gk. -χλοος ‘freshening’
 Skt. *su-gupta* ‘well-guarded’ (cf. *DIL* type c. which remarks participles as
 frequent); Gk. εὐ-κρατος ‘mixed’ (for drinking, i.e. of wine, modern
 Gk. κρασί neut. ‘wine’); εὐ-κριτος ‘manifest’ Skt. *su-grhita* ‘held
 firmly’; OIr. *so-fhostad* (back-formed < adj. in slender -*d*‘?) ‘firmness’;
 Gk. εὐ-ήρατος ‘much loved’; Gaul. *Su-caros*, W. *hy-gar*, OBret. *Ho-car*
 (suppletive *car-* *Ériu* 27 (1976) 1–20)

On the ambiguous place of **ʔsu-* in the grammar:

- Skt. *su-jñā* ‘knowing well’ (intensive) (Gk. ἀ-γνώς ‘unknowing’) cf. OIr. *suí*,
nephis, *so-gnaid* below; = *su-prajñā* ‘very wise’ (= Lat. *prō*, Celt. *ro-*
(Festschrift Puhvel 1 JIES Monograph 20 (1997) 123–30);³¹ **pro* was
 originally always innermost, according to A. V. W. Jackson and Strachan)

We now note stem types, especially sigmatic:

- Skt. *su-tápas* (V) ‘warming’ (agent); Gk. εὐ-ἄγής ‘nimble’ (ἀγ-); ‘pure’
 (ἀγ-); εὐ-γενής Ep. εὐ-ἦ- ἦ- ‘well-born, noble’, OIr. *so-genda* (Irish
 seems poor in **s*-stem adjs., contrary to Greek where we see they replaced
 final *u*-stems)
 Gk. εὐ-πλακῆς = εὐ-πλοκος ‘well-plaited’ (alternants were possible); εὐ-
 στωλῆς = εὐ-στολος ‘well-arranged’ (**s*-stems prospered in Greek, as
 in IE neuters pirated old *u*-stems, e.g. OIr. *ucht* → Lat. *pectus*; *o*-grade
 thematics did well too); Gk. εὐ-πειθής ‘obedient, persuasive’ (πειθω was
 a dying *i*-stem); cf. *so-choisc*, *-theguisc* (but Gk. lost **i*-stems)
 Skt. *sú-tapta* ‘very hot, patient’; Gk. εὐ-πιστος ‘credible, credulous’ (note the
 diatheses); OIr. *-chreitte*, *-chreitmech*, OIr. *neb-* ‘non-, in-’ (N.B. Skt. *śrad-*
dhā was a lexicalized clause);³² Gk. εὐ-σεβής ‘pious’, εὐ-σεπτος ‘holy’
 (diatheses with a deponent)

³¹I can add that Albanian contributes scattered evidence on **pro* intensive and perfective (not even mentioned by Demiraj *AE* 316–17); I attribute to intensive *pr-apë* ‘back(wards)’ *AE* 330–332 (excellent entry, though I still relate this to *hap*); *për-para* ‘forwards’ *AE* 331 (for *-a* < **au* see *Celtica* 21 (1990) 173 f.); *për-posh(t)* ‘down(wards)’ *AE* 329–30, Pedersen *KVG* 150 (add to Hamp citations my postscript in *Zeitschrift für celtische Philologie* 44 (1991) 74–5, and delete Demiraj’s erroneous last paragraph); *për-jashtë* ‘outside’ *AE* 42, Orël *AED* 153 (reminiscent of Latin *procul Festschrift Puhvel*). Clear perfectives are *për-kul* ‘bend’ *AE* 317, Orël *AED* 320 from Jokl; and *për-tyt* ‘chew’ *AE* 317–18, beside *sh-tyt* ‘squash’ *AED* 444, both with a fine account of the base from Mann at *AE* 318. *AED* garbles things a bit from one entry to another.

³²I believe that *śrad* was the regular locative sg. **kred* ‘in the heart, at heart’ of **kērd*.

Skt. *su-śrávas*; Gk. εὐ-κλεής ‘renowned’ (or ‘endowed with fame’), OIr. *so-chla* (: *clú*); (a famous sigmatic noun); Gk. εὐ-στρεφής = εὖ-στρεπτος = εὖ-στροφος ‘well-twisted’ (patient); Gk. εὐ-τρεπής ‘ready’ (OIr. *so-ullam*), εὖ-τρεπτος ‘changeable’, (patient?) εὖ-τροπος ‘versatile’ (agent); Gk. εὐ-τραφής ‘thriving, nourishing’: Gk. εὐ-τρεφής ‘well-fed’ (diathesis by ablaut; we expect no *u*-final compounds. Perhaps they left Schwundstufe behind)

And old thematic deverbal nouns and adjs.:

Skt. *su-tára* (V) ‘easy to cross’, OIr. *so-imthechta*; Skt. *su-tyaja* ‘easy to abandon’ (deverbal thematics)

Skt. *su-dína* (RV) ‘clear, bright, clear weather’; Gk. εὖ-διος εὐ-δία εὐ-διέσπερος (comp.) ‘calm, fine, clear’, εὐ-δείλος ‘very clear’ OIr. *so-shín*; Gk. εὖ-ρχιος ‘shadowy’ = OCS *dvǝždь* ‘rain’³³

A participle or verbal noun could be thematic:

Skt. *sú-dhita* ‘well set up’; Gk. εὖ-θετος ‘convenient’: OIr. *so-char* (o, m.) ‘valid contract’: *cor*³⁴ (≠ *-car-* above) ‘contract’ → *sochrach* ‘profitable’ (then with slender < **-i-* productive *so-lámaig* ‘dexterous’), *so-ad*, *sód* ‘sufficiency’: *sáth* f., *neb-* + verbal noun

Some more participles:

Skt. *su-pakva* ‘thoroughly ripe’; Gk. εὖ-γραμπος ‘easily bent’;

Skt. *su-prasiddha* ‘well-known’ (cf. *-pra-jñā*; *so-gnāid*); OIr. *so-básaiithe* ‘mortal’

Skt. *su-baddhá* (RV) ‘bound fast’; OIr. *so-naisc* (derived regularly from verbal noun) ‘well bound’, *so-shnadhma* ‘easily bound’

Skt. *su-bhīta* ‘greatly afraid’; Gaulish *Su-obnus*; Gk. εὐ-δάκρυτος ‘lamentable’, OIr. *so-thoirseach*

Skt. *sú-ṣuta* ‘well pressed’ (*soma*) (a solemn and serious context)

Skt. *su-yajñā* (RV) ‘sacrificing well’ (cf. εὐ-αγής ‘pure’)

And verbal nouns:

Skt. *su-yuj* (V) ‘well yoked’; Gk. εὖ-ζυξ -υγος ‘well paired, matched’ (Lat. *con-iunx*; directional or perfective?)

Skt. *vṛdh* (RV) ‘glad’, OIr. *so-fhorbfáilid*, Gk. εὐ-γρηθής, -γρήθητος

And in addition to the above derived stems, the following IE prime or primary adjectives. These must represent a semantic extension of the earliest value, ‘real(ly)’ < ‘be-ing’, which we derive from the observed reconstructed morphology fitted to the contextual semantics.

³³For an IE or Slavic farmer or herdsman, rain (**dus-di-*), as an opposite of **su-di-* (clearly an old IE deverbal) ‘really clear, bright’, is not ‘bad’, as the standard references assume; it is ‘poorly, not really clear, bright’, and suggests *neph^L*.

³⁴*cor-* has replaced, with its ancient present suffixation ‘*cer-d-*’, the IE base *d^he?*-. See, in connection with Botorrita Celtiberian, *Veleia* (Vitoria) 7 (1990) 165–6.

- Skt. *su-dīrgha* ‘very long’; Gaulish *su-mar(i)o-* ‘very large’; OIr. *so-lethan* ‘very wide’ (spatial dimensions)
 Slav. **sъ-dorvъ* ‘healthy’;³⁵ Gaulish *su-mel-*, OIr. *so-milis* ‘very sweet’ (natural sensations)
 Skt. *su-tīkṣṇa* ‘very sharp’; OIr. *so-glan* ‘very pure’ (environment observations)
 OIr. *so-breg* ‘very fine’, *so-cháin* ‘very good’; (global judgements) cf. also *DIL so-* type c intensives: *-bocc*, *-thig*, *-thoirsech*, *-ullam*

Then there are some stems which are derived, functioning as nouns or adjectives; they seem to be more complex formations modelled on items or clauses already encountered.

- Skt. *su-dharman* ‘practising justice’; Gk. εὐ-γνώμων ‘indulgent, prudent’, (this, like *prudent*, may render *-(pra-)jñā*) Skt. *su-mánman* (RV) ‘very devout’ (for *-yajñā*); Gk. εὐ-εἶμων ‘well dressed’ (class of -ζωνος, -κνήμιδ-), εὐ-θήμων ‘well made’ (: ἄθετος), εὐ-μνήμων ‘easy to remember’ (formed on -κλήεις)

Finally, a couple of ancient prime nouns:

- Gk. εὐ-βουες ‘rich in cattle’, OIr. *so-búair*,
 εὐ-γλαγι ‘rich in milk’, -ής, -ος, ἔτος

We may now observe some further interesting facts of derivation: when a corresponding noun did not exist, it seems, such a noun was formed from the generated *i*-stem adjective:

- OIr. *so-lus* ‘bright’ (*lés*) → *soillse*; OIr. *so-óil* ‘good to drink’ : *soimól* ‘good round of drinks’ → *soóla*
 Gk. εὐ-πλοος ‘sailing smoothly’ → εὐ-πλοια ‘fair voyage’, εὐ-πνοος ‘breathing freely, fragrant’, εὐ-πνοια ‘ease of breathing’, εὐ-λογία, εὐ-πορος ‘easy, rich in’, εὐ-πορία ‘facility, wealth’ but ≠ ἄ-

Note that although Greek does not form the adjective in *i*-stem, the noun is *-ια*, i.e. **-i-H_a*, which led to interpretation as an abstract.

If we then consider:

OIr.	<i>so-theguisc</i>	‘docile’ :	<i>sothecosc</i>
	<i>so-thinchoisc</i>		‘good instruction’
	<i>so-thecoscda</i>		

we see that the order of derivation here must be first the noun and then the adjective, the other adjectives depending on rules for verbal adjectives and preverb compounding. In other words, holes in the pattern, some by (non-)survival, some by phonetic development, others by starting accidents

³⁵Polish *Z-bigniew*, most likely with this reading of **sъ-* ‘very fighting fiercely’. Cz. *zboží* ‘goods’, without Winter’s lengthening, cannot be to Skt. *su-bhága*; must go with **bog-* ‘god’ → ‘wealth’ (< Iranian?).

of form class, led to bi-directionality of derivation. Thus we can analyze it synchronically, but not be clear in every case on the starting range of stems.

Now for OIr. *sochmacht* ‘capable’ : *cumachta* ‘power’ (and *sochma* (adj. and noun) ‘easy, gentle, genial’ somewhat analogously?). We may understand the final *-ae* in the noun which is unexpected in the light of OWelsh *comoid* (Juvenicus) > Modern Welsh *cyfoeth*, a lexeme which I analyze fully elsewhere. Since the noun **komoxti-* was a formation in **-ti-*, an *i*-stem adjective could not be distinguished in the intensive **su-komoxti-*, and later the *-cht* would block slenderness. Therefore a new distinctive noun **su-komoxtiā* was formed, available as a new ‘simplex’. The vowel affection would have produced **komuxti-* and **sokomuxteiā*, and the sequence **(o)-o-u* would have obscured the verb, inviting an alternating order **o-u-o* and producing **(so)kumoxti/e-*. Thus we also motivate the difficult *cum-*.

OIr. *soiraid* ‘smooth’ (*réid*) → *soirthe* has been attributed to *réid*. The base must, instead, be **ret-* ‘run’ (OIr. *riuth* ‘running’ < **ritu-* < **rtu-*, and **rotós/roteH_a* ‘wheel’). Thus **su-rot-i-* → **su-ret-iā* would seem adequate.

But the problem is more complex, and we should in any case motivate the reconstructed ablaut. This is a good point at which to introduce the case of OIr. *soirb* (: *sreb* ‘stream’) which is not transparent and involves complexities that only an etymological analysis can penetrate. One might consider a series

sreb-* (or **srib-* < **srb-* < ?srg^w-*)
 → **su-srobi-i-*
**sósorbi-*
**so(h)rǫb’- > soirb*

but, eliminating other impossible reconstructions, that would still require an undesirable metathesis. We are therefore directed for such problems to a classic series of findings of Pokorny (affection for and by height of vowels, *muinél*, *cuilén*) and Thurneysen (syncope quality, which I have interpreted as regular phonetic presyncope metathesis for rounding). Thus, correctly:

**srIb-* **su-srob-i-*
**sósrobi-* (1st affection)
**sósrobi-* (Pokorny)
**sósruǫbi-* (lenition certain)
**sós^wuǫb’i-* (phonetic quality)
**sós^rVǫ^(w)i-* (Thurneysen and metathesis)
**sohr’ǫ⁽ⁱ⁾i-* (syncope)
**so(h)rǫb’i-* (cluster adjustment) [r’ǫb’]
**sorǫb’* <soirb> (apocope)

We see then that we must have also *so-raid* → *soirthe* < **su-rot-iā* (: *riuth* < **ritu-* < **rtu-* or better **retu-*). Our sequence is clear.

Our reconstructions are morphologically correct—rule governed. We have reconstructed the Old Irish (Celtic) forms (adjective and noun) and then made a synchronic analysis for the reconstructed morphology (rules). We must be conscious of this sense: reconstructed morphology requires reconstructed phonology, but both are necessary; and the latter can, after being begun alone, be refined and perfected only by taking account of the former.

We have seen in the context of formational rules ($\epsilon\ddot{\upsilon}$ -πλοος \rightarrow $\epsilon\ddot{\upsilon}$ -πλοια, -πνοια, $\epsilon\ddot{\upsilon}$ -πορία, etc.) that Greek presents the noun in -ια; we may then consider equating these with OIr. *soillse*, *soírthe*, etc.—i.e. they may share $*-i(i)a$ (or $*-i(e)H_a$). Now the question is: did Greek lose, or Irish (Celtic, apparently leaving a trace in Gaulish *su-aus-ia*) develop, adjectival $*-i-$? Yet the Irish $*-i-$ apparently belongs to the rule we have observed (and called ancient) for Armenian and Latin *arma* \rightarrow *in-erm-is* etc.; I consider this important, too, since I am convinced that Greek and Armenian share a genetic commonalty. Note that $*-i(e)H_a$ can also go as a collective to the verbal noun suppletion of Latin *colloquium*, *in-i-t-ium*, OIr. *fre-cre*, etc., which is genetically as old as Indo-Iranian. I submit that Greek has surely lost $*-i-$ to the thematics. We should expect compound adjectives in -ig.

When we turn to OIr.

<i>suí, suad</i> ‘sage’	:	<i>sous, sós</i> (o,n.) ‘knowledge’	:	<i>fis</i> (u,m. > o,n.)
$*\text{?su-uid-}$:	<i>suithe</i> n.	:	$*\text{?uid-tu}$

we find an agglomeration of forms which are ancient but probably of unequal age, yet all rule-governed in grammar, e.g. *sós* < *sous* < $*su-u(o)id-to-m$ x $*\text{?uid-tu-}$. And *suithe* must be back-formed from *suad* (i.e. *suí*) as if earlier $*\text{?suath}$, etc.

Notice now in the following Greek formations the vowel length which follows $\epsilon\ddot{\upsilon}$: $\epsilon\ddot{\upsilon}$ -ήνωρ ‘inspiring; rich in brave men’; $-\acute{\omega}\delta\eta\varsigma$ ‘sweet smelling’ : Lat. *odor* (< $*-s$); $-\acute{\omega}\nu\upsilon\mu\omicron\varsigma$ ‘of good name’ : $\acute{\omicron}\nu\upsilon\mu\alpha$, *ainm*ⁿ, *nōmen*, Alb. Geg *emën*. The lengthening introduced in these laryngeal-initial bases ($\acute{\alpha}\nu\eta\rho$, $\acute{\omicron}\delta\mu\acute{\eta}$ = Armen. *hot*, $\acute{\omicron}\nu\upsilon\mu\alpha$ < $*H_a n(e)r-$, $*\text{?}^w ed-$, $*\text{?}nomn \sim *nmen-$) was regularly produced in the vocalisation with the negative $*n-$ before each laryngeal in Greek; thus, $*n-\text{?}nom-o$ > $\acute{\omega}\nu\upsilon\mu\omicron-$ ‘unrenowned’.³⁶ The fact that this underlies the intensive in $\epsilon\ddot{\upsilon}$ reminds and instructs us of/in the background of *neph^L-*. It is as if the lengthened ‘prothetic’ vowel, a partial reflex of each laryngeal in Greek and Armenian, was allotted to *both* the negative and the intensive as a class of prefixes.

We may now formulate our findings in a summary fashion, leaning on our parenthetic remarks of detail. To keep this summary as brief and clear as possible, yet abundant enough to enable the attentive reader to retrace the rule-governed reasoning, the examples given will be taken largely from the inventory already presented but without detailed remarks being repeated here. It is hoped that this will help to get the main points through with emphasis and clarity, yet desired detail with specificity. Our corpus has gaps, is of fitful access and uneven preparation. My knowledge is limited. True chronology of the formation of an item is partly unknowable, and therefore our problem and solution is partly a circular process. But some lines seem clear, and our method must be kept so. Within their formal class presentation of examples

³⁶One would expect $\nu\eta$ here (cf. Old Prussian), but the model must already have existed with leakage of the rounding from the following syllabic. Cf. EPH, *MSS* 37 (1978) 59–64.

will favour presumed earliness for chronology of formation. ('X' stands for Verb base, Noun, or Adj.)

This is a summary for PIE; we (or I) know too little of Anatolian (except *aššu-*) to lay comparable claims for Indo-Hittite. Latin and Germanic seem to give us next to nothing to work with (but I have not searched diligently); I have not canvassed Armenian or Slavic systematically for remnants (cf. my recent study of Makedonski *zbor* 'word' : Irish *as-biur*).³⁷ Lithuanian *sù* offers many possibilities of ambiguity. I leave Tocharian to the experts in that field. For examples in summarizing I lean heavily on Celtic and Irish. This is not just because I hope to be addressing a Celtic audience; it is because, when we unwrap the packaging, Irish offers the richest diagnostic exemplification of this structural feature.

³⁷I have made a deliberate search of Albanian, and find *ca.* a half-dozen possibilities: *sh-kabë* 'eagle', *gabonjë* 'id.' (*su-káp/gab-* : Welsh *cael*); *shkak* 'noose, reason, causes' (IE **sk*, *sk* must be Alb *h-*) is unexplained; *shkas* 'slip' appears to oppose *ngas* 'get moving' (the base may be **g^wə-*), and if so we could have **dus-g^wə-ti-*; *shk(r)ep* 'resemble' **s₁m-k₁p-* or *su-k₁p-* (: Latin *corpus*, Welsh *cryf*, Breton *kreñv*); *shikoj/shëkaj* 'look' can be a sequence **su()k^w-ā-je/o* (with **H_ook^w-* > (*H*)*ak^w-* of Latin *oc-ulus*, Alb. *qyr* [k₁yr] 'look') and perhaps *shoh* 'see (pres.)' **su-Hák^w-sk-* > **sěásk-* > *šāx-* > *šoh*; and a final intensive is perhaps to be seen in *shtarët* 'bitter' if we may adduce *thar(b)(t)* 'sour', i.e. at the stage **s(ë)-^lθar-*. I have searched *d-* without success for possible initial **su*+vowel.

?su + Nominal →

Noun stem → ‘real’ + Noun → ‘very’ + Adj (→ ‘good, well’)

ZERO

suí suad ‘sage’

sous **su-μ(o)id-to-m*
‘knowledge’, *-tu-s (fis)*

Skt. *su-jñā* ‘knowing well’

Skt. *su-yuj*, εὔ-ζυξ -ζυγ- ‘well yoked, paired’

Skt. *su-gá*, ‘easy to traverse’
**-g^wm-*() (: Go. *ga-qumþs*),
εὔ-βατος, **-g^wm-t-* (Lat. *ad-uen-tu*), εὔ-βου-ς, OIr. *so-buair*,
-γλαγ- ‘rich in cattle, milk’

-ES-

(*κλέος* n. ‘fame’)

Skt. *su-srāv-as*, εὔ-κλεής
‘renowned’ : **kléu-es-*, *so-chla*
(: *clú*; phonol. attrition and re-derivation); N.B. productivity of
-ης in Greek, and availability as alternant

ZERO and RELICTS

RV *su-dína* ‘clear weather’
(x pple. or : Slav. **днь*
m. ‘day (light)’?),
Slav. **дъжь* ‘rain’

RV *su-dína*, εὔ-δι-ος ‘bright, clear’
(Alb. *di-het* ‘it dawns’)

-TI-

(Welsh *cy-foeth* *‘power’ →
cumachta)

so-chmacht (**-ti-*) ‘capable’

THEMATIC

so-char ‘valid contract’
(: *cor* ‘contract’, Eng. *doom*,
etc.) (*Lingua Posnamiensis*
16 (1972) 87–90; 27 (1984)
11), *so-īmól* ‘good round
of drinks’, *so-balad* ‘good
smell’

Skt. *su-vīra*, OIr. *soer* ‘noble’
(: *fer* ‘man, *‘hero’), *so-chrach*
‘profitable’ (secondary derivation)
(cf. formal pples.), Gaul. *Su-caros*,
Welsh *hy-gar*, Skt. *su-cakrá*, εὔ-τροχος
‘well wheeled’, εὔ-κυκλος
‘well turned’, Skt. *su-tára* ‘easy to
cross’, Skt. *su-gama* ‘easy to tra-
verse’ **-g^womo-* (renewal of **-g^wm*),
so-gon-ta ‘easily wounded’ : *gwn*
(**-t*-extension > pple.) N.B. pre-
valled in Greek, esp. with *o*-grade
verbal bases)

PARTICIPLES

Skt. *sú-dhita* ‘well set up’, εὔ-θετος
‘convenient’, Skt. *su-pakva*
‘thoroughly ripe’, *so-básaigthe*
‘mortal’ (*-the* displaces old **-to-*),
Skt. *sú-suta* ‘well pressed’, εὔ-κρᾶτος
‘mixed’, Skt. *su-baddhá*
‘bound fast’, *so-naisc* ‘well bound’

Adj → ‘very’ + Adj

<i>dīrgha</i>	Skt.	<i>su-dīrgha</i> ‘very long’	
<i>tīkṣṇa</i>		<i>su-tīkṣṇa</i> ‘very sharp’	
	Slav.	* <i>sr̥b-dorvъ</i> ‘healthy’	
<i>māro-</i>	Gaul.	<i>Su-mar(i)o-</i> ‘very large’	
<i>lethan</i>	OIr.	<i>so-lethan</i> ‘very wide’	
		((X →)	N/Adj+*thema)
Vb		* <i>ǵnH_o</i>	*- <i>to-</i>
		<i>gná</i>	<i>gnáth</i> ‘known’
"		<i>reth-</i> ‘run’	<i>roth_L</i> ‘wheel’
		<i>riuth</i> v.n.	Welsh <i>rhod</i>
N		* <i>H_aner-</i> , ἀνήρ,	*- <i>to-</i> (cf. <i>sous</i>)
	Arm.	<i>ayr</i> , Skt. <i>nṛ</i>	<i>ner^N</i> ‘strength’
	Alb.	<i>njer-í</i> ‘person’	Welsh <i>nerth</i>
"		Lat. <i>op-us</i>	* <i>op-s-mó-</i> > <i>omm-</i>
Vb		Skt. √ <i>kr</i> , <i>kr-tá</i>	<i>sú-kr̥ta</i> , Av. <i>hu-kərətā</i>
	W.	<i>peri</i>	<i>pryd</i> , <i>cruth</i>
"		* <i>peH_oi-</i> ‘drink’	- <i>im-ól</i> ‘round of drinks’
		*(<i>p</i>) <i>ōi-elo-m</i>	> <i>óul^L</i> ‘drinking’

But with non-thematics:

		<i>lés</i>	
N		*(<i>s</i>) <i>d(l)ng^huH_a</i> >	* <i>t̥ng^{wh}ā</i>
			<i>tengae</i> ‘tongue’
			W. <i>tafod</i> , Bret. <i>teod</i>
			Ploemel V. <i>t̥ia</i>

↓

‘very’ + Adj+* <i>i-</i> →	Noun * <i>-H_a[abstract]</i>
<i>so-gnaid</i> ‘decorous’	
<i>so-raid</i> ‘smooth (running)’	<i>soirthe</i>
<i>so-nairt</i> ‘strong’ →	<i>sonairte</i> ‘strength’
<i>so-imm</i> ‘rich’ →	<i>sommae</i>
<i>so-chrud</i> ~ <i>-chraid</i> ‘seemly, shapely’	
W. <i>hyfryd</i> : Skt. <i>sú-kr̥ta</i> , Av. <i>hu-kərətā^a</i>	
<i>so-óil</i> ‘good to drink’	<i>so-óla^b</i>
<i>so-lus</i> ‘bright’	<i>soillse</i>
<i>soi-thnge</i> (* <i>-iō-</i> , perhaps to * <i>-iā-</i>)	

^aE. P. Hamp, *Études Celtiques* 29 (1992) 215–7.^bIn all IE only modern Scottish Gaelic can confirm this.

Note that OIr. *soithnge* has the unextended form of ‘tongue’ **su-(s)d(l)ng^(h)uā-iō-*³⁸ and exactly matches in formation Gaulish *Su-aus-ia*

³⁸See E. P. Hamp, *Ériu* 53 (2003) 185–6.

‘sharp=hearing, good listener(?)’. With *cruth* both phonology (*k^w) and the participle rule can have led to ambiguity of outcome.

Finally, we note some complex productive formations:

Skt. *svāyúj* ‘easy to yoke’ (RV) (note above form without *ā*-); OIr. *soid*, *sogabalta(e)*, *sochoisc* ‘docile’ : *co-sc*, *sofhu-laing* ‘tolerable’;

Skt. *súāhuta* ‘well sacrificed to’ (RV) cf. *su-yajña*; *sofhor-bfáilid* (‘so’ : *for-b(o)ali-t-*) OIr. with *-i-* to a delocutive participle;

OIr. *suacubuir* ‘desirable’ : *accobor*

And a late Indic privative, unconnected but reminiscent of Old Irish *nebt^L* : *a-su-tara* ‘difficult to cross’ (NEG + INTENS + stem).

We may now speculate further on the background of OIr. *nephis* ‘non-knowledge’. As it stands the word is surely a neologism but we must note that Greek attests $\nu\tilde{\eta}\tilde{\iota}\zeta$. I have reconstructed³⁹ this as **ne-uid*; just as we find in Latin *ne-scius* and *ne-scit*. The length of η (*ēta*) must result from intrusion of a misdivided **nēsti* (ORussian *něstь*, Indic *nāsti*; OIr. *ní^h* < **ne-est*, *GOI* 153) < **ne-(?)esti* ‘isn’t’, later forced out by the negative $\omicron\tilde{\nu}(\chi)$.⁴⁰ On the grounds of *sous* ‘knowledge’ we may postulate an ancient **ne-(?)su-ū(o)id-tu-*. On the evidence of Greek η in $\nu\tilde{\eta}\tilde{\iota}\zeta$ we may now claim that **ne-?su-uid-* existed as an ancient phrase in Greek and thus the laryngeal got detached as *ne?* - > $\nu\eta$ - (thereby not violating the rule of intensive-negative exclusion for **nē-s(u)uid-*); in Latvian the locution for ‘isn’t’ is today *ne vad*. Subsequently **nesuūissu-* could have been taken as a Sievers output and phonologically reinterpreted as **nesuūissu-* > **neφis^w*. The last could have simply lived on as a mis-parsed *ne-fīs*. The first syllable was not raised to *i* since the identity of the negative was conserved in these formations.

Perhaps it is not too bold to propose the above formulations as the core set of formation rules which applied to IE compounding **?su*.

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³⁹See *Studii Clasice* 19 (1980) 91–2).

⁴⁰Note that the supplement to the revised Chantraine *DÉLG* (1997:1417–18, signed by the meticulous Charles de Lamberteri) struggles with the η of $\nu\tilde{\eta}\tilde{\iota}\zeta$ and concludes with allowing (as also for *οἶδα* p. 1419) an original initial laryngeal in **?ueid-*, although maintaining correctly with his customary clarity, that Armenian *gitem*, with aorist *gītac‘i*, must descend from **uoid-*. Yet we surely cannot brush aside $\epsilon\rho\acute{\epsilon}\phi\omega$ beside $\delta\rho\omicron\phi\omicron\varsigma$ and $\delta\rho\omicron\phi\eta$ (to OE *ribb*), $\epsilon\rho\acute{\epsilon}\tau\eta\varsigma$, Mycen. *ereta* (infinitive *erehen* *DÉLG* 1999 : 1398) ‘oarsman’ beside Od. $-\omicron\phi\omicron\varsigma$ (**-?r?o-s ?*) (to ON *rōa*, Lith. *irti*, OIr. *rám* ‘rowing’, *rám(a)* ‘oar’, Latin *rēmus* ‘oar’) or the archaic Greek borrowing $\epsilon\rho\acute{\epsilon}\beta\iota\nu\theta\omicron\varsigma$ beside $\delta\rho\omicron\beta\omicron\varsigma$; $\epsilon\rho\acute{\epsilon}\theta\omega$: $\delta\rho\omicron\theta\acute{\upsilon}\nu\omega$ is too ambiguous a pair to invoke here. In short, I take the evidence as consistent in showing **uoid-* with no laryngeal; **ueid-* and **uid-* must likewise have had none. We must seek the length of η elsewhere.