How (exactly) to slay a dragon in Indo-European?

PIE *bheid- {h₃ège”him, kʷˈmi-}*

Abstract: In this paper I present evidence for a formula associated with the Indo-European dragon-slaying myth, Proto-Indo-European [PIE] *bheid- {h₃ège”him, kʷˈmi-} ‘split serpent/worm’.

This formula is derived via an examination of the verbal collocations which frequently occur in the context of the Vedic dragon-combat; these involve not only *h₂han- ‘slay’, but also the semantically more specific verbs *bheid- ‘split’, *vraśc- ‘tear, cut, split’, and *vṛuj- ‘break’. Not only are these latter three verbs employed in describing the dragon-slaying itself, but they also often appear describing actions linked to the dragon-combat (e.g. the releasing of the waters/cows), and in both cases co-occur with forms of *h₂han- Vedic is found to provide robust evidence for the reconstruction of PIE *bheid- {h₃ège”him, kʷˈmi-}, which is supported by data from Iranian and Germanic.

Though not as widely distributed as PIE *g’h₃en- h₃ège”him ‘slay serpent’ (attested for instance in Vedic āhann āhim ‘(he) slew the serpent’) – a formula discussed in great detail by Watkins (1987, 1995) – *bheid- {h₃ège”him, kʷˈmi-} ‘split serpent/worm’ is semantically more specific, and therefore more distinctive, than *g’h₃en- h₃ège”him, thus lending additional support for Watkins’ thesis that there exists a distinctively Indo-European dragon-slaying myth, and serving to further characterise the nature of that myth.

1. Introduction: the reconstruction of Indo-European formulae and myths

Calvert Watkins (1987, 1995), in a sensitive close study of Indo-European texts drawn from Ireland to India, recovers a Proto-Indo-European [PIE] formula associated with the Indo-European dragon-slaying myth, *g’h₃en- h₃ège”him. Watkins’ thesis is this: while the general theme of slaying a serpent or dragon is attested in many cultures, particular formulaic collocations (or rather the etymological equatability, in the daughter languages, of partially-fixed phrases derived from the PIE form) can single out a specifically Indo-European version of this theme.

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Evidence suggesting an inherited PIE formula *g"hen- h₃ég"him is abundant in both Indo-Aryan and Iranian, and Watkins (1995: 357-369) makes a plausible case that Greek also displays reflexes of *g"hen-h₃ég"him. However, moving beyond these three language families, the evidence for PIE *g"hen- h₃ég"him becomes more problematic. Hittite, Old Norse and Old Irish present somewhat less convincing reflexes of *g"hen- h₃ég"him, as all of the potential reflexes in these three languages employ a root other than *h₃ég"him for the second term of the formula – and only in Old Norse and Hittite are there examples found in the context of dragon-slaying.

This is not to say that I dispute Watkins’ claim that all of these examples reflect an inherited formula PIE *g"hen- h₃ég"him. On the contrary, the goal of this paper is to present further supporting evidence for Watkins’ thesis that there existed a particularly Indo-European dragon-slaying myth. The difficulties one faces in positing that, for instance, ON orms einbana ‘the serpent’s single slayer’ reflects and thus provides evidence for an inherited PIE formula *g"hen- h₃ég"him are largely the same difficulties faced in all work in comparative linguistics. Matasović (1996: §308) provides a succinct synopsis of the situation:

> Comparative linguistics is neither mathematics nor natural science, and although the same criteria of rigor should apply to all of them, their results cannot be equally certain. As is the case with other historical sciences, the object of textual reconstruction is not directly observable. However, textual reconstruction is nevertheless an empirical science, and all of its hypotheses must be based on facts. The hypotheses of our science will be the more probable, the more they are confirmed by the facts.

Since the reconstruction of PIE formulae (or ‘textual reconstruction’ as Matasović puts it) necessarily involves the use of reasoning on the basis of indirect evidence, it is impossible to ‘prove’ that *g"hen-h₃ég"him was a formulaic sequence in PIE or that the was a dragon-slaying myth that was part of the culture of PIE speakers. However, the more evidence can be amassed, the more probable these theses become.

In this paper I offer additional evidence for a PIE dragon-slaying myth through the consideration of other formulaic collocations which are associated with dragon-slaying. Specifically, I consider Vedic collocations which occur in the context of the Indra-Vritra combat involving the roots √bhid- ‘split’, √vraśc- ‘split, rend’ and √r uç- ‘break’, and compare these with formulations in Iranian and Germanic which appear to be cognate. These roots, when used to describe the action of dragon-slaying, have the advantage over √han- ‘slay’ (< PIE *g"hen-) that they
are semantically more informative since they describe a particular means of slaying.¹

In addition, I investigate cases in which we find co-occurrence of formulae. Watkins 1995 suggests that a formula may express a theme which is socio-culturally significant – and thus events which we find to be repeatedly associated with formulaic sequences are likely to be those with some sort of cultural significance. An event is frequently associated with multiple formulaic sequences is thus even more likely to be one with a central place in the cultural ideology.

Matasović (1996: §114) points out that in both Old Irish and Vedic not only do we find a formula reflecting PIE *gʷōs h₂eg- ‘to drive cattle’, but that this formula frequently occurs alongside forms of PIE *gʷhen- ‘to slay’. In Old Irish *gʷōs h₂eg- occurs as part of larger formulaic expressions with the meaning ‘men are killed, women are taken, cattle are driven off’, as in example (1).²

(1) fir gontair, mná brattair, báí agthar  
‘Men are killed, women are taken, cattle are driven off’  
(TBC, 3425)

In the following example, (2), the same basic formula occurs, though here bó (< PIE *gʷōs) has been replaced by étit.

(2) mná brataitir, ol Cú Chulaind, eti agatair, fir gonaitir  
‘Women are taken, said Cú Chulainn, cattle are driven off, men are killed.’  
(TBC, 2124)

¹ Cf. Matasović (1996: §103-4) on Schmitt’s (1967: §493, 495-6, 501) reconstruction of PIE *h₁ekwos h₂ek₁u₁- ‘swift horse’, on the basis of the correspondence of Gr ὀκτώς ἱπποί (in nom. pl. eleven times in Homer, e.g. Il. 5.257, 8.88 etc) and Vedic áśvāśo...āśávo (RV 10.78.5, in other cases as well, see Schmitt 1967: §493), along with the Avestan āśu.aspā- (which never occurs in the nominative plural). The metaphorical nature of PIE *klewos nδλγ’ hitom ‘imperishable fame’, discussed below in Section 1.1.1, is absent in *h₁ekwos h₂ek₁u₁-. In other words, while ‘imperishable’ is highly informative with respect to ‘fame’, the epithet ‘swift’ is uninformative with respect to ‘horse’ since swiftness is an easily observable trait of horses, there is nothing remarkable, or peculiarly Indo-European, about the latter collocation.

² Translations from Matasović (1996: §114)
In the RV twice we find a reflex of *gʷōus h₂eg- co-occurring with a form of √han-, once in the context of the dragon-fight (3a), the other in the context of the slaying of a demon named Dribhika (3b).

(3) a. yó hatvāhim āriṇāt saptaśindhūn yó gá udájad apadhā valāsya yó āśmanor antār āgniṁ jajāna samvṛk samātsu sā janāśa indraḥ

(RV 2.12,3)

‘He who, having slain the serpent, let the seven rivers flow; who drove out the cows, after the removing of Vala; who gave birth to the fire between two stones, who gets loot in combats – he, o men, is Indra’

b. ádhvaryavo yó dībhīkāṁ jaghāna yó gá udájad...

(RV 2.14,3ab)

‘O Adhvaryus, he (=Indra) who slew Dribhika, he who drove out the cows...’

Once it co-occurs with √bhid- (4), one of the verbs investigated later in this paper.

(4) úd gá ājad ābhinaḥ brāhmaṇā valām...

(RV 2.24,3c)

‘(Indra) drove out the cows; he split Vala with an incantation.’

The general co-occurrence of *gʷōus h₂eg- and *gʷhen- points to cattle-raids as an important event in PIE culture (cf. Lincoln 1976). The occurrence of *gʷōus h₂eg- in the context of dragon-slaying possibly indicates that cattle-raids and the dragon-slaying myth were connected in PIE (cf. Ivanov and Toporov 1974).

The remainder of Section 1 discusses how formulaicity is evaluated, from psycholinguistic, statistical, and philological perspectives, and establishes a classification of formulae based on the level of correspondence of their putative tokens. Section 2 reviews Watkins’ (1987, 1995) evidence for the reconstruction of PIE *gʷhen- h₂égʰ him, and suggests that the formula would be better represented as *gʷhen- {h₂égʰ hi-, kʰtmi-}. In Section 3, I discuss the formulaic use of √bhid-, √vraśc-, and √ruj- in the context of the Vedic dragon-combat, amassing evidence for a Vedic inheritance of the PIE formula *bheid- {h₂égʰ him, kʰtmi-}. In Section 4, an Iranian reflex is suggested; and Section 5 examines the

3 All translations herein are mine, unless otherwise noted.
Germanic evidence for *bheid- {h₂égʰhim, kʰīmi-}. Section 6, the concluding section, provides an overall evaluation of the validity of the reconstruction *bheid- {h₂égʰhim, kʰīmi-} and suggests the thematic reason behind the splitting of the dragon in Indo-European – a topic to be further investigated in a future study.

1.1 Formulaic language and PIE formulae

In considering reconstructed formulae, it is perhaps useful to begin by distinguishing between the different types of reconstructions which can be established on the basis of correspondence between Indo-European texts. It is also useful to consider the reconstruction of PIE formulae from the perspective of general linguistic studies of formulaic language (e.g. Firth 1957; Pawley and Syder 1983; Wray and Perkins 2000; Wray 2002; Garley et al. 2010 forthcoming). I begin with a tripartite classification of three types of correspondence upon which the existence of PIE formulae may be inferred (with varying degrees of confidence), illustrated with examples connected with the well-known ‘imperishable fame’ formula (Kuhn 1853).

1.1.1 Classification of formulaic reconstructions

A formula may be reconstructed on the basis of complete correspondence between texts, as in the case of Skt. śrávo...áksitam (RV 1.40,4b; 8.103,5b; 9.66,7c) and Gr. κλέος ἄφθον (II. 9.413) ‘imperishable fame’, where not only the roots but the other morphological elements correspond genetically, thus allowing us to reconstruct a complete PIE formula *klewos ndhg’hitom (Schmitt 1967). Such a reconstruction can be referred to as a COMPLETE FORMULA.

Other correspondences involve etymologically cognate roots, but one or more of the words involves a different formation, as in Kuhn’s (1853) original comparison of Gr. κλέος ἄφθον with Skt. áksiti śrávas (RV 1.9,7bc), where áksiti is built with a suffix *-tey/-ti-. The formulaic reconstruction made on the basis of this comparison would be PIE *klewos ndhg’hi-. This kind of reconstruction can be called an INCOMPLETE FORMULA.

Finally, some formulae are reconstructed on the basis of partial etymological correspondence of roots. This is the case of the RENEWED FORMULA, the name given on the basis of the idea that one or more of the languages in which the formula is supposed to be attested has ‘renewed’ the formula by replacing one or more of the roots with

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1 I use ‘text’ here simply to refer to one or more words.
another which is (nearly) identical in its semantics. For obvious reasons, this is the most difficult case of reconstruction to establish with any degree of certainty. A somewhat doubtful example (Watkins 1995: 415-6, Matasović 1996: §102) would be the connection of OE. dōm unliðtel ‘un-little fame’ (Bwf. 885b) with the ‘imperishable fame’ formulae discussed above, or more closely with the apparently related formula (attested only in Greek and Sanskrit) PIE *klewos megh; ‘great fame’ > Skt. máhi śrāvas, Gr. κλεδος µέγα (Schmitt 1967: §128ff.).

1.1.2 Psycholinguistic and computational/statistical approaches to formulaic language

From a psycholinguistic perspective, a formulaic sequence can be characterised as

a sequence, continuous or discontinuous, of words or other meaning elements, which is, or appears to be, prefabricated: that is, stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar. (Wray and Perkins 2000: 1)

In other words formulaic sequences are treated in some respects as individual items, ‘stored and retrieved whole from memory’ like single lexical items. As such, some formulaic sequences (often referred to as ‘idioms’) exhibit deviant syntactic behaviour, e.g. by and large; and/or semantic non-compositionality, e.g. kick the bucket; or compositionality with shifted (metaphorical) reference (Nunberg et al. 1994), e.g. spill the beans. But many (perhaps most) formulaic sequences are perfectly regular both syntactically and semantically, which is unsurprising if, as Wray and Perkins (2000) suggest, formulaic sequences primarily serve two functions: as a crutch for language-production, where ‘prefabrication’ acts as a countermeasure against the limits of memory and (neuro)linguistic linguistic processing capacity, aiding in the real-time production of fluent speech; and as a means of indexing socio-cultural identity.5

5 From a less explicitly psycholinguistically-oriented perspective, the tradition of ‘oral-formulaic’ analysis originating in Milman Parry’s (1928, 1930, 1971) comparisons of the Homeric epics with traditional Yugoslavian oral verse, arrives at similar conclusions about the functional properties of formulaic language. For Parry (1930) the fact that both the Homeric epics and the traditional oral verse of the former Yugoslavia (the latter composed largely by unlettered poets) are characterised by the repeated use of ‘frozen’ traditional formulae suggested that the Homeric epics were composed in a manner similar to what he observed to be the case for the traditional Yugoslavian verse, i.e. that the frequent appearance of ‘ready-made’ formulae is due to the fact that this use
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Unfortunately, such psycholinguistic and functional characterisations of formulaic language do not usually provide a ready means of actual identification of particular linguistic sequences as being formulaic or not. Some formulaic sequences can be readily identified as such by native speakers of a language, i.e. English speakers have an intuition that friend or foe is formulaic whereas friend or enemy is not – this is of course of little help for the purposes of detecting formulae in texts composed a millennium or more before the present day.

Computationally-implemented statistical approaches to collocations are potentially useful as a method of evaluating formulaicity. A simple count of the number of times a collocation appears in a text is not very telling in terms of whether or not the collocation is formulaic. For examples, in the consideration of a newspaper corpus, the collocation of the would be extremely frequent, but one would not want to count of the as formulaic. The computational-statistical algorithms provide a more reliable metric of formulaicity by comparing the frequency of the occurrence of XY against: the frequency of the occurrence of X¬Y, the frequency of the occurrence of ¬XY, and the frequency of occurrence of ¬X¬Y. These algorithms thus would not evaluate of the as being very formulaic since both of and the frequently occur outside of the string of the.

The potential usefulness of such approaches can be illustrated by considering the ranking in terms of collocational strength of all of the bigram sequences from the RV. The prototypical Vedic dragon-slaying of prefabricated linguistic sequences allowed for the fluent production of verse in real-time.

Later ‘oral-formulaic’ practitioners (Foley 1991; Nagy 1996, 2004a,b) have emphasised the importance of the socio-cultural aspect of formulaic language; Foley (1991: 5-6) refers to this feature of formulaic language as ‘traditional referentiality’, which he suggests is some ways similar to literary allusion, except that, rather than making reference to a particular scene or image in a particular text, traditional referential elements ‘reach out of the immediate instance in which they appear to the fecund totality of the entire tradition...bear[ing] meanings as wide and deep as the tradition they encode’ (Foley 1991: 7).

For sake of exposition, I restrict the discussion to the evaluation of bigram collocations, i.e. collocations with only two elements, though the method discussed is applicable also in the case of collocations with more than two elements. For a general introduction to computational methods for the extraction of n-grams from a text, see Roark and Sproat (2007).

I.e. the occurrence of X followed by an element which is something other than Y.

This was done by first extracting all of the bigram sequences from the RV, using the pada pātha text available in electronic form from the Thesaurus Indogermanischer Text- und Sprachmaterialien [http://titus.uni-frankfurt.de]. The resulting bigrams were then
formulae \( \text{āhann āhim} \) ranks extremely high in terms of the strength of association between \( \text{āhann} \) and \( \text{āhim} \), out of the 165004 bigrams in the RV, \( \text{āhann āhim} \) is in the top 0.1\%\(^9\). Here the computational-statistical approach thus provides strong support for the idea that \( \text{āhann āhim} \) is formulaic in the RV.

In other cases, such statistical methods yield less helpful results. For example, \( \kappa\lambda\iota\sigma\zeta \xi\phi\theta\tau\tau\alpha\nu \) occurs only once in Homer (II. 9.413), and so is not statistically a very strong collocation in Homer. However, as Matasović (1996: §97) points out, it occurs in a passage which is crucial for both the storyline and artistic impression of the epic: Achilles wonders whether he should return alive to Phthia; or fight and perish at Troy, thereby obtaining \( \kappa\lambda\iota\sigma\zeta \xi\phi\theta\tau\tau\alpha\nu \) ‘imperishable fame’ (II. 9.412-413) – a decisive point in the epic which encapsulates the basic theme of entire Iliad. Likewise, additional computational complexity would have to be introduced into the algorithms calculating the association strength of elements in order to detect formulaic instances like Skt. \( \text{śrāvo...ākṣītam} \) (RV 1.40,4b; 8.103,5b; 9.66,7c) where the formula is discontinuous.

In summary: the psycholinguistic characteristic of formulaic language – while useful in thinking about what it means for something to be formulaic – does not offer a ready means for the identification of formulaic language in old texts; the computation-statistical approach is potentially useful, but is of limited use in the identification of discontinuous formulae or formulae which are infrequent but identifiable by philological means by their context.

However, the results of research on formulaic sequences in (modern) spoken languages is helpful in evaluating whether or not two pieces of text constitute tokens of the same formula, as discussed in the following section.

1.1.3 Complete and incomplete formulae: formulaic flexibility

Schmitt 1967 largely accepts only complete formulae, and those based upon the correspondence between Indo-Iranian and Greek texts (see Matasović 1996: §10-12, §56ff. for some discussion of the reactions of

\[ \text{ evaluated by using the log-likelihood test of association (Dunning 1993, Moore 2004), as implemented in the Ngram Statistics Package (Banerjee and Pedersen 2003).} \]

\[ ^9 \text{āhan(ī)n)} \ X \text{ appears 40 times in the RV. In 11 instances } X=\text{āhim, in 5 instances } X=\text{vṛtrām (putting } \text{āhan vṛtrām in the top 0.7\%). with no other value of } X \text{ occurring more than twice, and the majority only once.} \]
other researchers to Schmitt 1967), two branches in which we have extant texts from a very early period. In the case of branches which are only attested from a much later date (e.g. Germanic) we are of course more likely to encounter cases of incomplete correspondence.

Campanile (1993) presents an example which he construes as presenting difficulties for the Schmitt-style ‘formalist’ reconstruction which requires correspondence in form as well as meaning. Campanile suggests that the following set of correspondences illustrate the difficulties in accepting only complete formulae as reconstructable for PIE (cf. Matasović 1996: §59). Comparison of the following collocations would seem suggest an inherited PIE formula: Skt. vācam...bharāmahe (RV 1.53,1a) ‘we bear the word’, vācam...bibharti (RV 10.177,2a) ‘he bears the word’, Av. vācam baraiti (Y. 31.12) ‘he bears the word (=he speaks)’, Gr. ἐπος φερειν (in Euripides), L. vocem (ad-) fert (in Virgil). From these examples we cannot construct a complete formula as the examples vary in which person the verb occurs, and whether the noun ‘word’ is a root-noun (Ved. vāk < PIE wōkʷ-), or an s-stem (Gr. ἐπος < PIE *wekʷos).

Consideration of modern English formulaic phrases also points to the fact that the grammatical/functional elements (such as tense, person/number agreement etc.) of a formula can often be varied without altering the formulaic nature of the collocation itself. For example, consider the variant realisations of the idiom let the cat out of the bag: Don’t let the cat out of the bag; He always lets the cat out of the bag; You will let the cat out of the bag etc.

However, there are some difficulties with Campanile’s equating of the Sanskrit, Avestan, Greek and Latin texts. Perhaps the more serious issue is that Campanile’s examples do not seem to be equatable in terms of their semantics. The Vedic formulations appear to carry a sense of ‘bringing forth of sacred speech’, whereas the apparent equivalents in Greek and Latin bear a more prosaic sense of ‘to speak’.

Further, it is not entirely clear that different stem-forms of the same root, e.g. PIE *wōkʷ- and *wekʷos, are instances of the same ‘word’, or if the Greek form would have to be considered an instance of renewal on a par with formulae in which one root has been replaced by another. As discussed in the following section, though renewal of terms of a formula would seem to be an expected phenomenon, such renewal makes it more difficult to confidently identify the true correspondences between texts upon which formulaic reconstruction depends.

10 To connect RV 10.177,2a we also have to allow for a reduplicated present.
1.1.4 Formulaic renewal

Replacement/renewal is common in the case of single lexical items, e.g. OE *hound* and Skt. *śvan* were the unmarked terms for ‘dog’, both deriving via mechanical sound change from PIE *kwen*- However, in the modern descendants of these languages, we find lexical replacement on both sides: the unmarked words for ‘dog’ are English *dog* (< OE *docga*, of unknown origin) and Nepali *kukur* (< Skt. *kurkurāh*). It is to be expected that formulaic sequences are susceptible to the same forces which lead to the replacement of individual lexical items.

However, instances of formulaic sequences in modern English often exhibit resistance to such renewal/replacement of lexical items under (near) semantic identity, e.g. if one of the elements of the idioms *friend or foe* or *kick the bucket* is replaced under semantic identity – for instance *friend or enemy* or *kick the pail* – the result is not formulaic, and in the case of *by and large*, the ‘renewed’ form *by and big* is simply ungrammatical. Additionally, though it is sometimes suggested that replacement is to be expected when one of the old terms of the formula becomes obsolete (e.g. Matasović 1996: §102) on possible reflexes of PIE *klewos megh₂* ‘great fame’ in Slavic and Celtic with lexical replacement of *megh₂* on the basis that in both Old Irish and Slavic no adjectival form of *megh₂* survives), obsolete words often survive just in the case that they are part of a formulaic expression (sometimes with reinterpretation or folk-etymologising). For instance, in English *with kith and kin* ‘with friends and family; with the whole family’ (OED), *kin* is rather archaic and *kith* (< OE *cýþ* ‘knowledge; known, familiar country; acquaintances, friends’) is found only in this context. In the German formulaic expression *mit Kind und Kegel* ‘with the whole family’, *Kegel*, like *kith*, is similarly opaque; Lambrecht (1984: 782) comments that ‘[o]nly etymologically sophisticated speakers know that *Kegel* once meant “illegitimate child” (and that it

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11 In some cases, lexical replacement is incomplete in the sense that the old unmarked form remains in the language with a specialisation of meaning, e.g. PIE *kwen*- survives, with specialisation of meaning, in Hindi *sonhā* ‘a kind of wild dog’ (Turner 1962-1966: #12750, #12651). English *hound* of course survives with the specialised meaning of ‘hunting dog’, while *Hund* remains the unmarked word for ‘dog’ in German. The Hindi form *kunā* ‘dog’ is not directly related to Skt. *kurkurāh*; while Hindi *kūkar* is cognate with Nepali *kukur*, but shows a specialised meaning of ‘puppy’ (Hock and Joseph 1996: 234-5).

12 The first instance of this idiom occurs in 1377 in *Piers Plowman* where it means ‘native land and people’ (OED); the phrase later develops semantically to mean ‘with family and acquaintances’ or ‘with the whole family’.
has nothing to do with the homophonous Kegel “cone”), so that mit Kind und Kegel literally meant “with child and bastard”. Further the phrase to have and to hold (as in the English wedding vows) is a formula where the signifiants have survived intact (cp. hêold mec ond hæfde (Bwf. 2430a) ‘protected and looked after me’) with a shift in the interpretation to ‘keep and embrace’ mirroring the changes in the signifiés of ‘have’ and ‘hold’.

On the other hand, there are modern English formulae which do allow for variation of the terms, e.g. between the Devil and the deep blue sea and between a rock and a hard place, both variations on older between Scylla and Charybdis; to blow one’s top and to blow one’s stack. Moreover, other formulaic sequences are extremely mutable, such as If X is good enough for Y, then X is good enough for me (cf. Pawley and Syder 1983: 212). So formulae do appear in principle to be mutable, but mutability varies widely from one formula to another.

Furthermore, even formulaic expressions which are normally very restricted in terms of variation can, in the right context, be creatively distorted. For instance, though none of the lexical elements of the English idiom to kick the bucket can usually be varied (i.e. to kick the pail doesn’t have the idiomatic meaning), the following example, (5), is perfectly acceptable to native English speakers.

(5) Nah, he didn’t kick the bucket – he barely nudged it
    (said of someone who had a what perhaps seemed like a near-fatal experience, but wasn’t)

For further discussion, see Carter 2004, who gives other examples of creative reforming of idioms like I guess you are now over the moon, Mars, Jupiter and the whole galaxy (based on the fixed idiom to be over the moon).14

13 In fact, a special term has been coined for this kind of formulaic sequence which originate as variants of some well-known phrase: ‘snowclone’ (see Pullum 2003, 2004); the name given with reference to the formulaic phrase If Eskimos have N words for snow, then... A more typical example is X is the new Y (originally X is the new black, earlier X is the new neutral – itself apparently ultimately stemming from a catch-phrase of fashion editor Diana Vreeland, cf. ‘And, though it’s so vieux jeu I can hardly bear to repeat it, pink is the navy blue of India’ (Vreeland 1984, cp. Zimmer 2006). An online database of such ‘snowclones’ is available at http://snowclones.org/.
14 Examples of this sort can be easily multiplied, e.g. she let all of the cats out of the bag ‘she revealed all of the secrets’ etc.

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Since there is no reason to believe that the poets of the RV, the Avestas, Beowulf, the Eddas etc. were any less creative in their use of language (including formulaic expressions) than modern day speakers (quite the contrary, in fact), we must allow for the fact that some instances of what appear to be formulaic renewal may simply reflect the creative artistic reforming of an inherited formula.

2. Watkins’ \( *g^\text{"hen-} h^\text{\acute{e}g}{\text{"him}} \)

In this section I briefly review Watkins’ (1995) primary examples for the reconstruction of PIE \( *g^\text{"hen-} h^\text{\acute{e}g}{\text{"him}} \). I show that, based on the arguments laid out above in section 1.1, \( *g^\text{"hen-} h^\text{\acute{e}g}{\text{"him}} \) can be reconstructed for PIE with a high degree of probability. However, while some of the examples Watkins cites as instances of variants of this formula are reasonable, in other cases Watkins casts his nets too wide, his notion of ‘themes’\(^{15}\) leading him to posit \( *g^\text{"hen-} h^\text{\acute{e}g}{\text{"him}} \) as existing at such a level of abstraction as to potentially allow an enormous range of expressions to count as reflexes.

Not only does Watkins (1995: 302) suggest that the \( *g^\text{"hen-} h^\text{\acute{e}g}{\text{"him}} \) formula is represented abstractly (‘thematically’) as HERO SLAY (*\( g^\text{"hen-} \)) SERPENT (with WEAPON/COMPANION), but he allows for great variation even at this level of abstraction:

The semantic constituents of the basic theme may undergo paradigmatic (commutational) variants: for the HERO’s name there may appear an epithet (e.g., slayer); for SLAY we may find KILL, SMITE, OVERCOME, BEAT, etc.; for SERPENT (ADVERSARY) we may find MONSTER, BEAST, but also HERO\(_2\) or ANTI-HERO.

As Justus (1997: 640) points out, ‘how is SLAY ADVERSARY ([with] WEAPON) of peculiarly IE inheritance and not the epitome of a

\(^{15}\) Watkins (1987: 270-1) says of formulae and themes:

*Formulas* are the vehicles, the carriers of *themes*; *theme* is the deep structure of *formula*. These formulas are collectively the verbal expressions of the traditional culture of the Indo-European, which is the totality of themes. They are not remembered and repeated merely because they delight the ear; rather they are *signals*, in poetic elaboration and as verbal art, of the relations of things: of the traditional conceptualizations, the perception of man and the universe, the values and expectations of the society. The function of the Indo-European poet was to be the custodian and transmitter of this tradition. The totality of themes as expressed in formulas was in a preliterate society entrusted precisely to the professionals of the word, the poets.

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western culture that started over five thousand years ago when Sumerian Gilgamesh slew his Ancient Near Eastern monster, Humbaba?’

Verbal expressions, whether morphemes or multi-word texts, can be (probabilistically) reconstructed via the application of the comparative method. Cultural facts or patterns (‘themes’) cannot be directly compared in this way, and, further, cultural patterns and conceptions may easily be innovated or borrowed or simply represent more universally human ideas. In dealing with the reconstruction of texts, it is preferable to adopt a more conservative position, such as that expressed by Matasović (1996: §72):

The genetic correspondence of themes [in Watkins’ sense—BMS] can be proved only by etymological correspondence of the formulas by which these themes are expressed in the genetically related languages; we must try to avoid at any cost the circular reasoning by which some cultural contents are attributed to the Proto-Indo-Europeans, because they are expressed by formulas in various IE languages, while, on the other hand, we define formulas as those syntagms or phrases that express the contents attested in other IE linguistic communities.

In reconstructing PIE formulae, one must allow for some amount of variation, for reasons discussed previously, but etymological correspondence must remain the core component.¹⁶

2.1 Indo-Iranian: an almost complete formula

In the RV, one of the primary functions of Indra, the storm-god, is the slaying of the demon serpent Vritra, who hoards waters and/or cows (on the hoarding of cows as belonging to the Vritra myth see Venkatasubbiah 1965). A well-known instance of this event is narrated in RV 1.32, see example (6) below.

(6) indrasya nā vīryāṇi prá vocāṇān
yāṇi cakāra prathamāni vajrī
āhann áhim ānv apās tatārda
prā vakṣāṇā abhinat pārvatānām

āhann áhim pārvate śiśriyāṇām

(RV 1.32,1,2a)

¹⁶ On constraining formulaic reconstruction, see also the ‘3 2 1 rule’ of Fisher (2007): A traditional sequence of Proto-Indo-European date is likely when a collocation of two or more words consisting of established reflexes of IE roots, expressing the same semantic message, and retaining at least one reflex of the reconstructed roots exists in three separate branches and that one of these phrases occurs at least three times in at least one branch. In addition at least one branch should consistently deploy both roots.
‘I tell now of the heroism of Indra, the first which he did armed with a vajra\(^7\).
He **slew the serpent**, afterwards drilled through to the waters, he split through the bellies of the mountains.

He **slew the serpent** who lay on the mountain...’

Indra’s serpentine opponent is sometimes referred to as an áhi-‘serpent’ (< PIE \(^*\)h\(\overset{\text{\texttrademark}}{\text{eg}}\)w\(\overset{\text{\texttrademark}}{\text{hi}}\).), but more frequently by its ‘name’: vytrá-‘the encloser’ (< IIr. \(^*\)vytrá̃ ‘obstruction, obstacle, resistance’, cf. Benveniste and Renou 1934). The waters enclosed by Vṛtra appear, at least originally, to be conceived of as being headwaters originating in the mountains (cf. Oldenberg 1923/1988), though later on these seem to be reconceptualised as rain as the Nighañţu (I.10) considers both vytrá- and áhi- as synonyms for ‘cloud’ (and Sāyaṇa too interprets Vṛtra as a cloud, and Indra’s slaying of him as the release of rain from the cloud). Further discussion of the Indra-Vṛtra combat can be found in Oldenberg (1923/1988); Benveniste and Renou (1934); Venkatasubbiah (1965); Schmidt (1968); Dandekar (1979); Lahiri (1984); Gonda (1989); Falk (1997); Söhnen (1997); Söhnen-Thieme (2001); Witzel (2004), and in Section 3.

The prototypical Vedic dragon-slaying formula is áhann áhim, found in this form eleven times in the RV,\(^8\) which Watkins (1995) suggests reflects an inherited formula PIE \(^*\)(ē)g\(^*\)hent h\(\overset{\text{\texttrademark}}{\text{eg}}\)hīm.

In Iranian, we find a collocation which stands in almost perfect correspondence to Vedic áhann áhim: Avestan (yō) janať aźim, associated with the slaying of a dragon by the (human) hero Thraetaona, as in example (7) below.\(^9\)

(7) ...hraētaoṇō...
yō janať aźim dahākōm
ōrīzfānām ōrikamōrēdōm
xšuuā.s.āşim hazagrā.yaoxštīm...

(Yt. 14.38,40)

\(^{17}\) ‘Thunderbolt’ or perhaps ‘cudgel’.

\(^{18}\) 3sg.: 1.32,1,2; 1.103,2; 4.28,1; 5.29,3; 10.67,12. 2sg.: 2.11,5; 3.32,11; 4.19,2; 6.30,4; 10.133,2.

\(^{19}\) On the Avestan dragon-slaying story, see Benveniste and Renou 1934.
How (exactly) to slay a dragon in Indo-European?

...Thrætaona...

who *slew (the dragon) Azi* Dæhaka,
the three-jawed, three-headed,
six-eyed one of a thousand skills...

The sequence *(yō) janaFš*(PC71ažīm occurs also in Y. 9.8. The etymological correspondence between the Vedic and Avestan formulae is not quite perfect since the Avestan imperfect *janaft* has been thematised20 (and the Avestan expression occurs as a relative clause),21 but on the whole Watkins’ evidence for an Indo-Iranian formula reflecting PIE *(é)gʷhent h̥égʷhim* is fairly sound (cf. Benveniste and Renou 1934).

2.2 Greek: a virtual correspondence

The Greek data are somewhat more difficult, as we here we find no direct reflexes of PIE *gʷhen- h̥égʷhim*. However, Watkins (1995: 364) derives a ‘virtual’ reflex by comparing two passages from Pindaric odes, *Ol*. 13.63-4, (8), mentioning the Pegasus as the child of the serpentine Gorgon, and *Pyth*. 10.46-8, (9), which narrates Perseus’s slaying of the Gorgon.22

(8) δς τας όφηδεος νιόν ποτε Γοργόνος ή πόλλαρ αμφί κρουνοῖς
Πάγασον ξεδίζατα ποθέων ἐπαθέν

(8) Ol. 13.63-4)

‘who beside the Springs, striving to break the serpentine Gorgon’s child, Pegasos, endured much hardship.’

(9) ἐς ἀνδρῶν μακάρων ὄμμλων ἐπεθνὲν τε Γοργόνα καὶ ποικίλων κάρα
δρακόντων φόβαισιν ἠλθεις νασιώταις
λίθων θάνατον φέρων

(9) Pyth. 10.46-8)

‘to that throng of blessed men. He *slew* the Gorgon, came bearing the head, intricate with snake hair, the stony death to the islanders.’

As Watkins (1995: 364) puts it, ‘[by] [c]ombining the syntagms όφηδεος...Γοργόνος and ἐπεθνὲν Γοργόνα we can restore the real

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20 Cp. Old Persian aja.
21 The lack of an augment in Avestan is not as problematic since the Vedic imperfect occurs also in an augmentless form as hàn.
22 Translations from Lattimore 1960.
mythographic formula, just below the surface.' Watkins’ virtual formula is given in (10).

(10) *ἐπεθνεν ὄφιν

Comparison of the Indo-Iranian and Greek evidence thus can only result in the reconstruction of an incomplete formula, PIE *gʷ*hen- *h₃ēgʷ*him. As discussed above in Section 1.1.3, incomplete formulae still provide good evidence for the existence of a formula in the protolanguage, since even contemporary English formulaic expression often allow for variation of tense, number etc. Thus Watkins’ virtual *ἐπεθνεν ὄφιν* does seem to support a reconstruction of *gʷ*hen- *h₃ēgʷ*him, surviving at least in Indo-Iranian and Greek.

2.3 Hittite and Old Irish: formulaic renewal

In Hittite we do find the verb *kuenta* ‘slew’ – which corresponds exactly to the Vedic imperfect (ā)han – employed in a dragon-slaying context. However, we do not find any reflex of PIE *h₃ēgʷ*hi-, but instead Hittite *illuyanka*- (apparently the unmarked Hittite term for ‘serpent’, cf. Beckman 1982) as shown in example (11).

(11) D¹IM-aš uit nu=kan MUŠ illuy[ankan] kuenta DINGIR=es=a katti=essi ešer (CTH §12, KBo. 17.5 i 17)

‘(Tarlž)ME–unnas) came and he killed the serpent;
and the gods were with him.’

We may only assume that Hittite *illuyankan kuenta* reflects an inherited PIE *gʷ*hen- *h₃ēgʷ*him if we suppose that the Hittite formula has been ‘renewed’, replacing *h₃ēgʷ*hi- with *illuyanka*. Of course, as discussed above in Section 1.1.4, in principle formulae, like lexical items, may undergo renewal; however, the comparison of a potentially refashioned formula like *illuyankan kuenta* with, for instance, Vedic áhann áhim, does not constitute robust evidence for the reconstruction of PIE *gʷ*hen- *h₃ēgʷ*him as does the correspondence of the Vedic formula with the Avestan or Greek examples discussed above. The fact that a reflex of *h₃ēgʷ*hi- does not occur elsewhere in Hittite, where *illuyanka*- has become the unmarked term for ‘serpent’, does little to strengthen the correspondence, since often otherwise obsolete words survive just in the context of the formula (cp. English *kith* in *kith and kin*, as discussed above in Section 1.1.4).
The possible Celtic reflex of PIE *g"hen- h₃ég"him proposed by Watkins is a bit of (somewhat garbled) Old Irish found in an Old English medico-magical treatise (Lacunaga, Harl. 585), in the context of a wyrm gealdor (charm against body-internal worms), to be sung into the ear of a person or animal who has swallowed a worm. The relevant portion is given in example (12).²³

(12) Gonmil orgomil marbumil

(Pollington 2000)

‘I slay the beast, I slaughter the beast, I kill the beast.’

Here again no reflex of *h₃ég"hi- is found, and gono is a 1sg. present absolute form (not an imperfect as in the Indo-Aryan, Iranian, and Hittite examples), and mil means ‘beast’ and not ‘serpent’ or ‘dragon’. The possible connection of gonomil... with *g"hen- h₃ég"him derives from the fact that OE wyrm is used to refer not only to worms, but also to snakes and dragons. And, in fact, as discussed below in Sections 4 and 5, there is evidence that PIE *k"rm-i- (of which OE wyrm appears to be a reflex, with deformation of the initial consonant) may also have referred not only to ‘worms’ but also to ‘serpents’. However, be that as it may, this is to a certain extent irrelevant for the Old Irish example in (12), which does not itself contain a reflex of *k"rm-i-, and which thus constitutes rather weak evidence for the reconstruction of PIE *g"hen-h₃ég"him.

2.4 Germanic *wurmi-banōn and Indo-Iranian *k"rm-i:- variation in PIE

Germanic also possesses no reflex of PIE *h₃ég"hi-, for ‘serpent’ we instead find Gmc. *wurmiz < PIE *wrmis, a rhyme formation (possibly a tabu-deformation) in Indo-European of *k"rmis (cp. Latin uermis). For ‘slay’, Gmc. displays no non-derived verbal reflex of PIE *g"hen-, but instead employs *ban-ōn, which appears to derive from an o-grade form *g"hon-, though the phonological developments involved are not completely clear.²⁴

²³ See Thurneysen 1919 on the translation of gonomil orgomil marbumil ‘I slay etc.’, and Meroney 1945 for further discussion of the remainder of the Irish words of this charm.
²⁴ Watkins (1995: 423), following Seebold (1967) (cf. Ringe 2006: 105-112), takes *b to be the normal reflex in Gmc. of PIE *g"h, in word-initial position not followed by a reflex of a PIE sonorant. Before *u (and thus before the sonorants PIE *r, *ŋ, *l) Gmc. *ur, un, ul), *g" appears to have been delabialised, bleeding the change *g"(h) > *b
Key examples of Gmc. *wurni-banōn are found in Old Norse, as in (13) and (14) below, with reference to the slaying of the Midgard-serpent by Thor, the Germanic storm god.

(13) orms einbani

‘the serpent’s single bane’ (=Thor)

(14) bórr berr banaðr af Miðgarðsormi

‘Thor bears the killer’s word to the Midgard-serpent’ (= Thor will slay the Midgard serpent)

Such Germanic examples, with renewal of the second term of *g"hen-h-心疼 him would constitute no better evidence than the Hittite examples but for the fact that *g"h(e)aj- kʰmy- appears to be a synchronic variant in PIE of *g"hen-h-心疼 him, on the basis of evidence from Indo-Iranian, as discussed below.

(Seebold 1967; Ringe 2006: 92, 106-122): thus ON gūþ ‘battle, war’ < a zero-grade form *g’hun- (→ Pre-Gmc. *g’hun- > Gmc. *gun-). Following a homorganic nasal, *g’(h) > Gmc. *gw, e.g. from PIE *seng’h- ‘chant’ > Gmc. *singwaną ‘sing’ (cf. Goth. siggwan, ON syngva, but with loss of labialisation in OE, OS, OHG singan). Intervocally apparently *g’(h) > Gmc. *w, as in PIE *snōg’h-os, o-grade derivative of *sneig’h- ‘snow’, > Gmc. *snaiwaz (cf. Goth. snāiws, ON snjór, OE snw, OHG snó). On the one hand, Gmc. *warno- (cf. ON varmr, OE wearm etc.) appears to be straight-forwardly derivable from PIE *g’horm-o ‘warm’, o-grade derivative of *g’herm- (cp. the reflexes of the e- and o-grade forms of this root in Skt. gharma ‘heat’, Av. garmama ‘hot’, Gk. θερμα ‘hot’, Lat formus ‘warm’, OPruss. gorme ‘heat’, Alb. žiarma ‘heat’, Arm. yerm ‘warm’), if it is assumed that PIE *g’h( ) > Gmc. *w. On the other hand, in addition to PIE *g’hen-, Seebold 1967 gives two other examples which support the idea of *b as a Gmc. reflex of *g’h: Gmc. *bidjan ‘pray, entreat’ (cf. Goth. bidjan, OE biddan) < PIE *g’hedh-yo- ‘ask, pray’ (Pokorny’s (1958: 2.114) derivation *bidjan < PIE *bhedh-yo- ‘bend’ involves a less straightforward semantic development) and Gmc. *breh- (cf. OE brāþ ‘smell, vapour’) < PIE *g’hreh- ‘smell’. Seebold 1967 also considers, but ultimately rejects, Gmc. *berd ‘bear’ (cf. OHG bero, OE bera) as another example of Gmc. *b < PIE *g’h. The potential source of berd would be PIE *g’hēr- ~ *g’hēr- ‘wild animal’ (cf. Gr. ὄρος, Lat. ferox ‘wild’), but here it would seem that the traditional derivation from PIE *bher- ‘brown’ is likely correct. Another possible example of Gmc. *b < PIE *g’h suggested by Watkins 2000 is Gmc. *birnan ‘burn (intr.)’ (cf. Goth. brīnan, OE burnan, byrnan) < PIE *g’hern- (Pokorny’s (1958:143) derivation from PIE *bh(e)reus ‘boil’ is again more difficult semantically). Since we have somewhere between three to six examples of Gmc. *b < PIE *g’h in initial positions not preceding Gmc. u, and only one apparent counterexample to this change, i.e. *warno-, it is plausible if not entirely certain that Gmc.irstōn derives from an o-grade form *g’hon-.

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In Vedic, reflexes of *kʰrmi- and *gʰen- collocate, though Skt. kṛmi- is used with the sense of ‘body-internal worm’ rather than ‘dragon’, as in example (15).

(15) udyānā ādityāḥ kṛmīn hantu nimrōcan hantu raśmibhiḥ yē antāḥ kṛmaye gāvi [1]


... (AV 2.32,1,3-5)

‘May the rising sun slay the worms; may the setting (sun) with his rays slay the worms which are inside the cattle. [1]

... Like Atri, like Kanva, like Jamadagni, I slay you, o worms, with the incantation of Agastya, I crush up the worms. [3]

Slain is the king of the worms, and slain is their governor. The worm is slain, having a slain mother, having a slain brother, having a slain sister. [4]

Slain are his vassals, slain is his neighbours; moreover, those who are as vile little ones, all of those worms are slain. [5]

...’

Like the slaying of dragons, in the Atharvaveda the slaying of kṛmi- is frequently associated with Indra, as in examples (16), (20), and (17) below.

(16) asyēndra kumārāsya kṛmīn dhanapate jahi [ab] (AV(Ś) 5.23,2)

‘O Indra, lord of treasure, slay the worms in this boy!’

(17) indrasya yā mahī drṣāt kṛmer viśvasya tārhaṇī [ab]

tāyā pinaśmi sāṁ kṛmīn drṣādā khālvārhiva [cd] (AV(Ś) 2.31,1)

As Watkins (1995: 521n2) comments, the manuscripts vary between kṛmini- and kṛmi-, and though Roth and Whitney (1856) adopt the former, the latter seems to be the original.
‘With the great mill-stone of Indra which overcomes all *worms*
I do grind to pieces the *worms*, as lentils with a mill-stone.’

The *dṛśāt* mentioned here may be compared with Indra’s use of an *āśmāna*- in RV 4.22, as shown in example (18) below.

(18) *yó āśmānam śavasā bibhrad ēti*  
‘Which stone (Indra) comes wielding with strength’

Further, the use of *sā́m pinasmi* in (15) and (17) may be compared with the use of *sā́m-ṛpiś*- with reference to Indra’s slaying of Vṛitra three times in the RV, once with the object *āhim*, RV 6.17 (=example (19)), and twice with the object *vṛtrām*, RV 3.30,8 and 4.18,9 cf. Benveniste and Renou (1934: 120).

(19) *...vājraṁ sahāsrabhr̥ṣṭiṁ ... chatāśrim*  
*yēna nāvantam *āhīṁ sā́m pīṇag ḷjēśin*  
‘...the vajra with a thousand points and a hundred edges ... with which you ground up the roaring serpent, O Drinker of the Third Pressing (of Soma).’

Similarly, AV(Ś) 5.23 invokes Indra (alongside Sarasvati and Agni) to assist in the destruction of worms:

(20) *sārveśāṁ ca krimiṁāṁ sārvāsāṁ ca krimiṁāṁ [ab]*  
*bhinādmy āśmanā śīra dāhāmy agninā mūkham [cd]*  
‘Of all the male worms and all the female worms,  
I split the head with a stone; I burn their face with fire.’

Again, this is a root which also appears in the context of the RV dragon-combat, where *bhid-* is used with to describe Indra’s splitting of the head of Vṛitra (cf. RV 8.6,6; 1.52,10 etc. discussed below in Section 3.1.1).

Thus, though the AV verses use *kṛmi*- in the sense of body-internal worms, the slaying of such worms is often associated with Indra and employs the same verbs and imagery used to describe Indra’s slaying of the dragon Vṛitra.
Iranian provides even better evidence for *gw*\(^{\text{h(e/o)n-}}\) *k\(^{rmi-}\) as a synchronic variant of *gw*\(^{\text{hen-}}\) *h\(^{\text{eg\'-} him}\) in PIE, as Pahlavi *kirm* in used to refer to a draconian creature in the *Kārnāmag*, where it occurs with a reflex of PIE *gw*\(^{\text{hen-}}\) (cf. Watkins 1995: 302), as shown in example (21).

(21) ān *kirm* ōzad būd

(Kārnāmag ī Ardaxšīr ī Pābagān 9.1)

‘(Ardashir) had slain that dragon’

The comparison of the Indo-Iranian examples involving *k\(^{rmi-}\) with Gmc. *wurmi-banōn* suggests that even in during PIE there was variation between *k\(^{rmi-}\) and *h\(^{\text{eg\'-} hi-}\) as the second term of the basic dragon-slaying formula. This PIE dragon-slaying formula would thus be better represented as *gw*\(^{\text{hen-}}\) *{h\(^{\text{eg\'-} hi-}, \ k\(^{rmi-}\)}*.

2.5 Conclusions

Thus the basic Indo-European dragon-slaying formula may be reconstructed at four different levels. For Indo-Iranian, we may reconstruct the complete formula *{(e)gw*\(^{\text{hent}}\) *h\(^{\text{eg\'-} him}\). On the basis of Indo-Iranian and Greek, we may reconstruct the incomplete formula *gw*\(^{\text{hen-}}\) *h\(^{\text{eg\'-} him}\). For ‘core PIE’ (PIE after the Anatolian and Tocharian branches have split off), we can reconstruct an incomplete formula with variation of the second term: *gw*\(^{\text{hen-}}\) *{h\(^{\text{eg\'-} hi-}, \ k\(^{rmi-}\)}*. These three reconstructions are highly probable, due to the etymological correspondence of both terms. Lastly, we have evidence for the formula *gw*\(^{\text{hen-}}\) *{h\(^{\text{eg\'-} hi-}, \ k\(^{rmi-}\)}* occurring with lexical renewal/replacement (of the second term), if the Hittite evidence is admitted.
3. Splitting Dragons, Mountains, and Forts in the Rigveda

The name of Indra’s serpentine adversary, vytrá, derives from √vr- ‘to enclose, cover, obstruct’ with the instrumental suffix -tra, and, indeed, the obstruction of the flowing of the waters is the primary action of Vritra. These ‘waters’ most likely, at least originally, refer to rivers which are released from the mountains during the late spring/early summer snow-melt (Schmidt 1968, Falk 1997, Witzel 2004). The personified obstructions are likely to be dams which could form in the river courses, preventing the vital waters from flowing along their normal paths, cp. the river name sāravatī ‘the one with many ponds’.28

Sometimes the waters are metaphorically compared to cows (e.g. RV 1.32), and sometimes it is in fact literally cows which are rescued from the serpent (e.g. RV 2.19,3; 6.17,1; 10.48,2; cf. Venkatasubbiah 1965).29 Therefore, I examine not only the formulaic use of √bhid-, √vraśc-, and √ruj- where áhim or vytrám is the patient of one of these roots, but cases where the patient is not the dragon but something associated with the dragon-fight, such as the mountain in which the waters are trapped. I also consider instances of these roots used with Indra as agent and píras ‘forts’ or gotrás ‘cattle-stalls’ as patient, which function as enclosures for cattle. For the latter instances I limit the consideration to those cases where Indra’s dragon-combat is also mentioned in the same hymn.

Just as Vritra’s basic function is enclosing (√vy-) precious elements (waters, cattle etc.), Indra’s basic function is that of (violently) opening up enclosures containing precious elements, whether these be obstructing serpents (e.g. vytrá), mountains in which waters are trapped, or cattle-enclosures (gotrás, píras). Thus, though the number of times Indra’s slaying of the dragon is described using √bhid-, √vraśc-, or √ruj- is comparatively small, the number of instances in which they occur in descriptions of other aspects of the dragon-fight is not inconsiderable (see Table 1). As will be shown, these roots are intimately connected with Indra’s basic function as a (violent) discloser of precious commodities in general, and more specifically with Indra’s actions in the

28 Also see Falk 1997, who suggests that the Vritra-myths are more likely to have originated when the Indo-Aryans inhabited Greater Iran, as the rivers coming down from the mountains of Afghanistan are much more uncertain in their courses than those of the Punjab, i.e. more subject to obstructions which could dam or divert the waters from their normal courses.

29 Herein I examine all áhi-combats, regardless of whether they have been associated with the ‘Vritra-myth’ or the ‘Vala-myth’, cp. fn.32 below.
dragon-fight – which include not only the slaying of the serpent, but also, for instance, the freeing of waters from the mountains.

3.1 \textit{bhid-}

3.1.1 \textit{āhīr-vṛtrā-}

Indra’s slaying of the dragon is described six times using forms of \textit{bhid-} ‘split, cleave, cut’ (cf. Benveniste and Renou 1934: 119).\footnote{Based on an examination of the relevant entries in Graßmann (1873), \textit{bhid-} occurs in various forms a total of 88 times in the Rigveda.}

Though \textit{bhid-} itself apparently never occurs with the overt direct object \textit{āhim}, collocations with \textit{bhid-} are not infrequently to be found in association with the prototypical form of the Vedic dragon-slaying formula, \textit{āhann āhim} or variants thereof involving the root \textit{han-}. For instance, in RV 2.11 – in which the formula \textit{āhann āhim} occurs at 5d, (22) – in reference to slaying the serpent \textit{abhinat} twice appears with the verbal particle \textit{āva} ‘down’, (23), (24).

(22) \textit{āhann āhim śūra vṛṣyēṇa}

(RV 2.11,5d)

‘O Hero (=Indra), with valour, you \textbf{slew the dragon}.’

(23) \textit{srjó mahīr indra yā āpinvaḥ pāriṣṭhitā āhina śūra pūrvēē āmartyaṁ cid dāsām manyamānam āvabhīnād ukthaīr vārvdhānāḥ}

(RV 2.11,2)

‘You make flow the great ones, O Indra, which you made swell, of which many are surrounded by the \textbf{dragon}. O Hero. Strengthened by songs of praise, you \textbf{chopped up the Dasa}’\footnote{The use of \textit{dāsā} to refer to Vritra recalls the Iranian name of the serpent, \textit{āžī dahāk}, suggesting that this is another element common between the Indo-Aryan and Iranian myths. Falk (1997: 79) notes that ‘[Indo-Aryan] [n]ames like \textit{dāsa (dahī) or pāṇi (parṇoī) bear witness to an at least historical contact with peoples we know from Greek sources to have lived in Greater Iran’}. (Vritra), who thought himself immortal.’

(24) \textit{dhisvā śāvaḥ śūra yēna vṛtrām avabhīnād dānum aurṇavābhām}

(RV 2.11,18ab)

‘O Hero [Indra], put on the strength with which you \textbf{chopped up Vritra}, the Danava Aurnavabha.’

\textit{bhid-} therefore appears to be a legitimate formulaic variant of \textit{han-} in the dragon-slaying formula, as is borne out by the co-occurrence in

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single hymns of dragon-slaying formulae involving both roots. However, to say that these collocations with √bhid- are formulaic variants of the √han-+áhim/vṛtrām formula is not to say that they are entirely equivalent. Perhaps it would be better to say that bhid vṛtrām is a FORMULAIC ASSOCIATE of áhann áhim, that is, they are formulae which co-occur in the context of the dragon-combat (similar to the observation of Matasović 1996: §114 that in both Old Irish and Vedic texts, reflexes of PIE *gʷóus h_segment- to drive cattle’ occur alongside reflexes of PIE *gʷhein- to slay’, see Section 1 above).

The ‘splitting’ of the dragon is a rather more specific event than the ‘slaying’ of the dragon. Forms of √bhid- in the dragon-slaying context specifically denote an opening-up of the dragon. This is obvious, for instance, in RV 1.52,5d, given below in (25), where Indra’s ‘splitting’ (=‘slaying’) of Vrita is likened to Trita’s ‘splitting’ (=‘opening up of’) the enclosures of Vala.32

(25) tāṁ vṛtrahātye ānu tasthūḥ ūtāyāḥ ... indram
  indraḥ yāt ... bhinād valāsya paridhiṁṝr iva tritāḥ

(RV 1.52,4cd,5cd)
‘Beside that Indra in the Vrita-slaying stood (his) helpers ...
When Indra ... split (Vrita) as Trita the enclosures of Vala.’

Perhaps the fact that √bhid- occurs usually with vṛtrām as its object, rather than áhim, is because vṛtrā- ‘the encloser’ forms such an excellent counterpoint to the sense of ‘splitting open’.

In RV 1.52, we also find √bhid- twice in the context of dragon-slaying, see example (25), above, and (26), below.

32 Schmidt (1968) concludes that the Vrita and Vala myths are not identical, the basic differences being that the former is associated with the release of the waters and the latter with the release of light from darkness. Even if one decides that synchronically these myths are distinct, this certainly does not rule out their having developed from a common source. Stanley Inslers (p.c.) suggests that vala may an l-variant from √ve-, the source of vṛtrā- (though he maintains that the myths are different enough to rule out derivation from a single original myth), reflecting the fact that both Vrita and Vala enclose elements necessary for life (water and cattle, respectively). In any event, at some level the Vrita and Vala myths, whatever the exact details of their Indo-Aryan origins, both appear to reflect a more basic PIE idea of slaying of a serpent who encloses some vital element.
How (exactly) to slay a dragon in Indo-European?

(26) māde sutāsyā śāvasābhīnac chīrāḥ

(RV 1.52,10d)

‘In the intoxication of Soma, (Indra) with strength, split the head (of Vritra).’

The collocation √bhid-+vrāsyā śīras ‘the head of Vritra’, found in RV 1.52,10d, (26) above, is found twice more in the Rigveda, at RV 8.6,6 (27) and RV 8.76,2 (28).

Forms of √bhid- in dragon-slaying contexts also occur with the verbal particle vī- ‘apart’, (27), (28), (29).

(27) vī cid vrāsyā...

vājreṇa śatāparvaṇā

śīro bibheda vrṣṇīnā

(RV 8.6,6)

‘(Indra) split apart Vritra’s ... head with his bullish hundred-jointed vajra.’

(28) ayām īndro marūtsakhā vī vrāsyāśābhīnac chīrāḥ

(RV 8.76,2)

‘This Indra, with Marut companions, split apart Vritra’s head.’

(29) āyuddhaseno vibhvā vibhindatā ... vrāhāḥ tūjyāni tejate

(RV 10.138,5ab)

‘With an unconquerable host, with great power to cleave, ... the Vritra-slayer sharpens his bolts.’

In the hymns in which (25)-(29) occur, we do not find the formula āhann āhīm, however, we do find formulaic variants of the type vrtra-+√han-. In RV 10.138, vī+√bhid- occurs in the same line as vṛtraḥāṁ, ‘slayer of Vritra’, see (29) above. In RV 8.6, we find vṛtraḥantama, ‘best of Vritra-slayers’ at 37a; and in RV 1.52, both vṛtraḥāye ‘in the slaying Vritra’ (4c) and jaghanvāṁ...vṛtrāṁ ‘having slain Vritra’ (8ab) appear.

√bhid- also occurs in a dragon-slaying context in RV 1.32, where it is used to describe the slain āhī Vritra, in example (30), as

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33 Except for hymn 8.76.

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(30) nadám ná bhinnám amuyā śāyānam

‘lying yonder like a split reed’

RV 1.32 is also rife with occurrences of √han-+āhim/vṛtām. The most prototypical form of the dragon-slaying formula, āhann āhim ‘slew the dragon’, occurs twice, at 1c and 2a; 1.32 also contains numerous variants of this formula: āhan...prathamajām āhīnām ‘slew the first-born of dragons’ (3d, 4a), āhan vṛtām ‘slew Vritra’ (5a), vṛtām jaghanvānām ‘had slain Vritra’ (11d).

3.1.2 Mountains

In addition to describing Indra’s slaying of Vritra, forms of √bhīd-frequently occur in the context of another event closely linked with the Vedic slaying of the dragon, namely the freeing of the waters and/or cows from the mountain. Often the waters/cows are freed by Indra ‘splitting the mountain’; representative examples are shown in (31), (32), (33).

(31) bhinād girīṁ śāvasā vājram īśānān āvīśkṛṇvānāḥ sahasānā ṽajah vādhiḥ vṛtāṁ vājrena mandasānāḥ sārann āpo jāvasā ṽatāvrṣṇīḥ

‘He (=Indra) split the mountain, sending his vajra with strength, violent, revealed his power. Intoxicated, he slaughtered Vritram with his vajra; the waters, (now) with their bull slain, flowed swiftly.’

(32) jaghāna vṛtāṁ svādhitir váneva rurōja pūro āradan nā sīndhūn bibhēda girīṁ nāvam in nā kumbhāṁ ā gā āndro akṛṇuta svayūghbiḥ

‘He (=Indra) slew Vritra as an axe the tree, broke the forts, cleared a path as it were for the rivers. He split the mountain like a new water-jug, Indra brought forth the cows with his allies.’

(33) indrasya nū vīryāṇi prá vocāṁ

yānī cakāra prathamāṇi vajrī
āhann āhim ānv apās tatārdā
prā vakṣāṇā abhinat pārvatānāṁ

‘He (Indra) split the mountain, sending his vajra with strength, violent, revealed his power. Intoxicated, he slaughtered Vritram with his vajra; the waters, (now) with their bull slain, flowed swiftly.’

RV 10.89,7

‘He (=Indra) slew Vritra as an axe the tree, broke the forts, cleared a path as it were for the rivers. He split the mountain like a new water-jug, Indra brought forth the cows with his allies.’
‘I tell now of the heroism of Indra,
the first which he did armed with a vajra.
He slew the serpent, afterwards drilled through to the waters,
he split through the bellies of the mountains.’

Here the sense of ‘splitting apart’ as ‘opening up’ is obvious. Note here again the linkage between dragon-slaying (āhann āhīm in RV 1.32,1 = (6); jaghāṇa vṛtrām in RV 10.89,7 = (32); for RV 4.17, āhan-is found thrice, at 1c vṛtrām...jaghanvān and 19b vṛtrā...hanti, and the suppletive vadh-, 3c vādhid vṛtrām ‘killed Vritra’) and the splitting open of mountains.34

3.1.3 Forts

ṅbhīd- is a root frequently used with Indra in general. ṅbhīd-+pūras ‘forts’ is a collocation occurring numerous times with ‘Indra’ as its subject, as in the examples in (35).35 Here too ṅbhīd-+pūras often co-occurs with the prototypical Vedic dragon-slaying formula in ṅhan-, as in RV 8.93 where vṛtrahā occurs in the same verse as pūro bibhēdā, see example (34) below. In fact vṛtrahān- occurs seven other times in 8.93, at 4a, 15b, 16a (as vṛtrahāntama- ‘best of Vrita slayers’), 18b, 20c, 32a (as vṛtrahāntama-), and 33a; as well, note 7b, vṛtrāya hāntave ‘to slay Vrita’.

(34) náva yó navatīṁ pūro bibhēdā bāhvōjasā
āhīm ca vṛtrahāvadāhīt

(RV 8.93,2)

‘Who with the power of his two arms split nine-and-ninety forts, and the Vritra slayer killed the serpent.’

This pattern of co-occurrence of ṅbhīd-+pūras in the same hymn as one or more instances of the dragon-slaying formula in ṅhan- is found elsewhere as well, as shown by the examples below in (35). The (i)-examples are instances of ṅbhīd-+pūras; the (ii)-examples are instances, co-occurring in the same hymn as the (i)-examples, of the dragon-slaying formula in ṅhan-.

(35) a. (i) tvāṁ satā vāṅgrdasyābhinat pūro

(RV 1.53,8c)

‘You split the hundred forts of Vangrida.’

34 Also in 4.17,7d we find āhīṁ... vi vṛṣcāh, on which see section 3.2.1 below.
35 See also RV 1.11,4; 1.33,13; 1.174,8; 8.1,8; etc.
(ii) tvā...amadan...té sómāsaḥ vytrahātyesu satpate

(RV 1.53,6ab)

‘These soma-drops gladdened you in the Vritra-slayings, O Lord of the Good (= Indra).’

(35) b. (i) ...yāḥ śatāṁ śambarasya púro bibhédásmanevasaḥ pūrvīḥ

(RV 2.14,6ab)

‘...he who split a hundred ancient forts of Shambara as with a rock.’

(ii) vytrāṁ jaghānāśāṇyeva vṛksāṁ

(RV 2.14,2b)

‘(Indra) struck/slew Vritra as a lightning-bolt a tree.’

(35) c. (i) púro vibhindāmn acarad vī dāśiḥ

(RV 1.103,3b)

‘(Indra) kept splitting apart the forts of the Dasas.’

(ii) áhann áhim abhinad rauhiñāṁ vī

(RV 1.103,2c)

‘(Indra) slew the serpent, split apart Rauhina...’

(35) d. (i) ...vajrībhināt pūrāḥ

(RV 8.1,8d)

‘...the vajra-wielder (=Indra) who splits forts.’

(ii) ...vytrahan...

(RV 8.1,14b)

‘...O slayer of Vritra...’

(35) e. (i) ayāṁ yāḥ púro vibhināttīy ōjasā

(RV 8.33,7c)

‘He (Indra) is the one who splits apart forts with his power.’

(ii) ...vytrahan(n)...

(RV 8.33,1c,14c)

‘...O slayer of Vritra...’

In the RV 1.33, we find an instance of Indra splitting forts (36a), but no occurrence of ‘han-; however, an apparent variation of áhann áhim occurs in pāda 13c (36b).
(36) a. vi...púro *bhēt* (RV 1.33,13b)

‘....(Indra) split apart (their) forts.’

(36) b. sáṁ vájreṇa asṛjat vṛtrāṃ indraḥ (RV 1.33,13c)

‘Indra struck Vritra with his vajra.’

In fact, the epithet *pūrbhīd* ‘fort-splitter’ is almost exclusively Indra’s, applied to him seven times in the Rigveda. Representative examples of its use are given in (37), where (i) contains *pūrbhīd*, and (ii) the prototypical Vedic dragon-slaying formula with *śhan-*.  

(37) a. (i) índro yāḥ *pūrbhīd* āritāḥ (RV 8.33,5d)

Indra who is honoured as *fort-splitter*.

(ii) ...vrtrahann... (RV 8.33,1c,14c)

‘...O slayer of Vritra...’

(37) b. (i) indraḥ *pūrbhīd*... (RV 3.34,1a)

‘Indra, the splitter of forts...’

(ii) ghnántaṁ vrtrāni... (RV 3.34,11d)

‘...who slays the Vritras...’ (cp. 3.34,3)

The single time it appears not applied to Indra is not truly an exception, as it is used of Soma who is compared to Indra: RV 9.88,4, given below in (38).

(38) indro nā yāḥ mahā kārmāṇi cākriṁ *hanāḥ vrtrāṁ* asa soma *pūrbhīt* (RV 9.88,4ab)

‘Like Indra who has done great deeds, you, O Soma, are a slayer of Vritras, a *fort-splitter*.’

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30 RV 3.34,1a; 3.51,2c; 8.33,5d; 8.53,1c; 10.47,4c; 10.104,8b; 10.111,10b; cp. 1.11,4a *purāṁ bhindūr*.
The splitting of forts also associates with dragon-slaying, e.g. *pūro bibhēda* with *āhīṁ ... vrtrahā* in RV 8.93,2 = (34), and with *vrtrahā* in RV 9.88,4 = (38).

As well as *pūrbhīd*, Indra is twice given the epithet *gotrabhīd* ‘splitter of cattle-stalls’, RV 6.17,2c, 10.103,6a (shown below in (39)), consistent with his role as a discloser of precious commodities.\(^{37}\)

(39) *gotrabhīdāṁ* govīdāṁ vājrabāhum

‘Splitter of cattle-stalls, kine-winner, vajra-armed’

3.2 *vrašc*-  
3.2.1 *āhī-/-vrtrā*-

A semantically related root *vrašc*– ‘split, hew, cut, rip’, usually with the verbal particle *vī* ‘apart’, also appears several times in the dragon-slaying context (cf. Benveniste and Renou 1934: 119; Watkins 1995: 309). Here again, forms of this root also often co-occur with the prototypical Vedic dragon-slaying formula *han-+āhī/-vrtrā*-. Forms of *vrašc*– appear three times with *āhīṁ* as the overt object, RV 2.19,2b; 3.33,7b; 4.17,7d – given in (40)-(42) below, where (a) contains the dragon-slaying formula with *vrašc*–, (b) the prototypical dragon-slaying formula with *han*–.

(40) a. *āhīṁ* indro arṇovīyaṁ vī vrṣcat  

‘Indra *split apart* the flood-enclosing *serpent*.’

(40) b. ...āhīḥ...  

‘...dragon-slayer (=Indra)...’

(41) a. indrasya kārma yād *āhīṁ vivṛscat*  

‘Indra’s deed, that he *split apart* the *serpent*.’

(41) b. āpāhan vrtrāṁ paridhiṁ nādīṁ  

‘(Indra) struck down Vritra, the enclosure of currents.’

\(^{37}\) The epithet *govīda*– ‘kine-winner’ co-occurs with both *pūrbhīd* (RV 8.53,1c = (37a-i)) and *gotrabhīd* (RV 10.103,6a = (39)).
How (exactly) to slay a dragon in Indo-European?

(42) a. áhīṁ vājreṇa maghavan vi vyṛscḥ

(RV 4.17,7d)

‘O Maghavan (=Indra), split apart with your vajra the serpent.’

(42) b. hāntā yō vṛtrāṁ...

(RV 4.17,8c)

‘(Indra) who is the slayer of Vritra.’

(as well as 1e: vṛtrāṁ...jaghaṁvāṁ and 19b: vṛtrā...hanti)

We find vi (a)vyṛscḥ occuring twice with Vritra as its object, RV 1.61,10 and 10.113,6 (examples (43a) and (44a) below). Both hymns also contain an instance of the prototypical Vedic dragon-slaying formula; again, in (a) is shown the formula with āvraṣc-, in (b) the co-occuring formula with āhan-.

(43) a. asyed eva śāvasa śuṣṣaṁtaṁ vi vyṛscad vājreṇa vṛtrāṁ indraḥ
gā nā vrānā avāṁca abhi śrāvo dāvāne săcetāḥ

(RV 1.61,10)

‘Through his strength, Indra with his vajra split apart the hissing Vritra. The rivers, which were like penned-in cattle, he freed, with the idea to give them away for the sake of fame.’

(43) b. asmā īd u gnāś cid devāpateṁ īndrāyārkāṁ ahīṭya īvuh

(RV1.61,8ab)

‘To him, to Indra, even the wives of the gods, the divine consorts, during the dragon-slaying wove songs of praise.’

(44) a. vṛtrāṁ yād ugrō vy āvṛscad ājasāpō bibhrataṁ támasā pāṁvṛtam

(RV 10.113,6cd)

‘...as the powerful one (=Indra) with strength split open the darkness-enclosed Vritra, who abducted the waters.’

(44) b. devēbhīr īndro maghavā śayāvabhīr vṛtrāṁ jaghaṁvāṁ...

(RV 10.113,2cd)

‘Indra Maghavan, with his followers, the gods, having slain Vritra...’

In example (45), Indra splits apart nāva...navatiṁ ca bhogāṁ.

(45) nāva yād asya navatiṁ ca bhogāṁ sākāṁ vājreṇa maghavā vivṛscat

(RV 5.29,6ab)

‘When Maghavan (=Indra) with his vajra simultaneously split apart nine-and-ninety coils of the serpent.’
Sāyāna takes bhogān to mean ‘forts’, presumably on the basis of the parallelism with RV 8.93.2 (given as example (34) above). However, bhogān derives from the root √bhuj- ‘to bend’, and appears as the possessive complement of áhi- in RV 6.75.14, example (46) below, where it occurs as a metaphorical description of an archer’s brace.

(46) āhir iva bhogaī páy eti bāhūṁ...

‘As a serpent winds its coils around the arm...’

(RV 6.75.14a)

Again, vyrścāt co-occurs in the hymn with the prototypical Vedic dragon-slaying formula; in fact two of the instances of áhann áhim occur in this hymn, at 2c, 3d, given below in (47).

(47) a. ádatta vájram abhi yād áhīn hánn apó yahuś asatvatā u

‘...then (Indra) grasped his vajra when he slew the serpent. He released the swift-streaming38 waters to flow free.’

(RV 5.29,2cd)

(47) b. tád dhi havyāṁ mánuṣe gā āvindad áhann áhim pápivāṁ indro asya

‘...then this oblation (Soma) found cattle for man; having drunk of it, Indra slew the serpent.’

(RV 5.29,3cd)

In addition to the above cases where áhi-/vṛtrā- is the literal object of vṛtra-, there are two instances where the slain serpent or the slaying of the serpent is compared to the hewing (vṛtra-) of a tree, namely RV 1.32,5 and 1.130,4, given below in examples (48), (49).

(48) áhan vṛtrāṁ vṛtrātāraṁ vyāṁsam indro vājreṇa mahatā vadhēna skándhāṁśva kūlišenā vivr Knoxahiḥ sayata upaṁk prthivyāḥ

‘Indra, with his powerful slaying vajra slew the wide-shouldered Vritra, worst of Vritras/obstructors. As tree-trunks split apart by an axe, the serpent lies flat on the earth.’

(RV 1.32,5)

38 Geldner (1951-1957) renders as jüngstgeborenen (Gewässer).
How (exactly) to slay a dragon in Indo-European?

(49) dādṛhānā́ vájram indro gábhastyoḥ ksádmeva tigmám ásānāya sāṁ śyad ahīhátvāya
sāṁ śyat
...

tāṣṭeva vṛksāṁ vanino ní vṛścasí paraśvéva ní vṛścasí

(RV 1.130,4abc,4fg)

‘Grasping his vajra with two hands, made it sharp like a carving-knife for hurling, made it sharp for slaying the serpent...you cut down the trees, as a craftsman the tree, cut them down as with an axe.’

These hymns too contain instances of the prototypical Vedic dragon-slaying formula, co-occurring with √vraśc. On the occurrences of this formula in RV 1.32, see section 3.1 above, following example (30); in RV 1.130, the áḥann áhim formula, in the form ahīhátvāye, occurs in the same line as √vraśc-, see (49) above.

3.2.2 Trees

In fact, √vraśc- is often used to describe the (literal or metaphorical) hewing of trees, wood or other vegetation; aside from (48) and (49), √vraśc- occurs in this context five other times: in the nominal form vṛskā́ in RV 1.162,6a (yāpavraskā́ḥ ‘hewers of the sacrificial post’); in a verbal form with ‘tree’ or ‘plant’ as its object in RV 6,2,9d (vānā ‘tree’), 6,8,5d (vaninam ‘tree’), 8,40,6a (vratáter guspiṭām ‘tangle of a creeping plant’), 10,28,8b (vānā ‘wood’). As a representative example, RV 8.40,6a, from a hymn addressed to Agni and Indra, is given below in (50).

(50) ápi vṛśca purāṇavād vratáter iva guspiṭām ójo dāsāsyā dambhaya

(RV 8.40,6abc)

‘Split up, as in former times, like the tangle of a creeping plant, confuse the power of the Dasa.’

Here √vraśc- and √bhid- differ in their distribution. As above, √vraśc- is used to describe the hewing of trees, whereas √bhid- is never used in this way. On the other hand, √bhid- is also used to describe the splitting of rocks (ádrim) and mountains (giri-, pārvata-) and forts (pūra-), while √vraśc- is not. Thus, there is not complete semantic overlap of these two forms.
3.3 √ruj-

3.3.1 áhī-/vrtrā-

Forms of √ruj- occur twice in the RV with vrtrām as its object, as shown in examples (51) and (52a). In RV 8.6, we find the co-occurrence of a variant of the dragon-slaying formula in √han- (52b).

(51) sāṁ vrtréva dāsam vrtrahārujām

‘I broke up/crushed the Dasa, like the Vritra-slayer the Vritras.’

(RV 10.49,6b)

(52) a. ví vrtrām parvasó rujān

‘...when (Indra) broke Vritra apart joint by joint’

(RV 8.6,13b)

(52) b. ...vrtrahantama...

‘...O best slayer of Vritras...’ (nb. 8.6,6 with √vraśc, given above in example (27))

The same verbal root is used to describe Indra’s ‘breaking apart’ of Vritra’s jaw in RV 10.52 (53a-i), which co-occurs in the same verse with a variant of the dragon-slaying formula in √han- (53a-ii). Similarly, see (53b), with the same basic pattern of co-occurrence of forms √ruj- and √han-.

(53) a. (i) ví vrtrāsyā hānū ruja

‘(Indra), break apart Vritra’s jaws’

(RV 10.52,3b)

(ii) ...vrtrahann...

‘...O slayer of Vritra...’ (cp. 10.52,2b)

(RV 10.52,3c)

(53) b. (i) ví vrtrāsyā samāyā pāsyārujāḥ

‘You broke apart Vritra’s jaw(?)’

(RV 1.56,6d)

(ii) áhan vrtrāṁ...

‘You slew Vritra...’

(RV 1.56,5d)
3.3.2 Forts

Like \textit{bhid}-, \textit{ruj}- is also used to describe Indra’s destruction of forts: \((54a), (54b), (55a)\); and cattle-stalls: \((54c)\). Here we find the co-occurrence in the same hymn of variants of the dragon-slaying formula in \textit{han}- (the (i)-examples contain instances of \textit{ruj}+\textit{puras}, the (ii)- examples (variants of) the dragon-slaying formula in \textit{han}-).

\((54)\) a. (i) \ldots \textit{árujaḥ pūro dāṣīr}…

\begin{itemize}
\item \ldots which Dasas’ \textbf{forts you broke}…’
\end{itemize}

\((54)\) b. (i) \textit{ruroja pūro}…

\begin{itemize}
\item \ldots he \textbf{broke the forts}…’ (see \((32)\) above)
\end{itemize}

\((54)\) c. (i) \textit{gotrā rujān}…

\begin{itemize}
\item \ldots \textbf{breaking the cattle-stalls}…’
\end{itemize}

\((55)\) a. \textit{pūraḥ purohā…dṛḻhā ruroja}…

\begin{itemize}
\item \ldots \textbf{The Fort-breaker} \((=\text{Indra})\) \textbf{broke the strong forts}’
\end{itemize}

\((55)\) b. \ldots \textit{rujād ádriṅ}…

\begin{itemize}
\item \ldots he \((=\text{Indra})\) \textbf{broke the mountain}…’
\end{itemize}
3.3.3 Mountains and Trees

Forms of √ruj- are also used to describe Indra’s breaking apart of the mountain containing the waters – see (55b) above, as well as RV 6.30 (56) below; in the latter case the same hymn also contains a form of the dragon-slaying formula in √han- (56b).

(56) a. tvām apō vi ārūjo viśūcīr indra dṛjḥāṁ arujaḥ pārvatasya

(RV 6.30,5ab)

‘You, Indra, (let) the waters (run) through the doors on all sides, broke the firmness of the mountain.’

(56) b. āhan āhim pariśāyānam ārṇō

(RV 6.30,4c)

‘You slew the serpent who made the floods lie down.’

Only once does √ruj- occur referring to the breaking of trees, at RV 6.6.3d.

3.4 √bhid-kāmi-

As discussed above in Section 2.4, √bhid- also occurs in the Atharvaveda with kāmi-, as in example (20), repeated below as (57).

(57) sārveśāṁ ca krimīnāṁ sārvāsāṁ ca krimīnāṁ [ab]

bhinādmy āśmanā śīra dāhāmy agnīṇā mūkham [cd]

(AV(Ś) 5.23,13)

‘Of all the male worms and all the female worms,
I split the head with a stone; I burn their face with fire.’

It would seem that like the basic dragon-slaying formula, *g”hen-{h₂ēg”hi-, k”kīmi-}, the ‘dragon-splitting’ formula involves variation of the second term between *g”hen- *h₂ēg”hi- and *k”kīmi-. Thus: *bheid- {h₂ēg”hi-, k”kīmi-} – which is also supported by Iranian, as shown below in Section 4.

3.5 Conclusions

Forms of √bhid-, √vrāśc-, and √ruj- are all used to describe Indra’s slaying of Vritra (in addition to the slaying of other adversaries of Indra and other deities/heroes), as well as other deeds of Indra during or associated with the dragon-fight. However, the distributions of these three roots are not identical. Forms of √bhid- and √ruj- are also employed to describe the splitting/breaking of mountains (pārvata-,
giri-) and forts (pūras), while √vraśc- never takes either of these as object. On the other hand, √vraśc- is frequently used to describe the splitting of trees (vānā- etc.) or other vegetation, while √bhid- is never used in this way and √ruj- only once (RV 6.6,3d).

RV 10.89 (example (32), repeated below as (58)) is a particularly revealing verse, for here we find a variant of the Vedic dragon-slaying formula in √han- co-occurring not only in the same hymn but in fact in the same verse with both a form of √bhid- (applied to girî) and √ruj- (applied to pūras).

(58) jaghâna vytrâm svâdhitir váneva rurôja pîro áradan ná sindhûn bibhêda girîm návam in ná kumbhâm á gâ indro aknûuta svayûghbih

(RV 10.89,7)

‘He (=Indra) slew Vritra as an axe the tree, broke the forts, cleared a path as it were for the rivers. He split the mountain like a new water-jug, Indra brought forth the cows with his allies.’

This verse exemplifies the interconnectedness of the Vedic dragon-slaying formula in √han- with collocations built around forms of √bhid-, √vraśc-, or √ruj- referring to Indra’s splitting or breaking open of mountains or forts which contain waters or cattle – events closely linked to Indra’s slaying of the dragon Vritra. This co-occurrence of formulaic associates (see above, Sections 1 and 3.1.1) has been shown throughout this section, emphasised by the pairing of examples from the same hymn containing an instance of Vedic dragon-slaying formula in √han- and a form of √bhid-, √vraśc-, or √ruj- whose patient is the mountain containing the trapped waters, a fort or cattle-pen or the serpent Vritra itself. Table 1 summarises this network of co-occurrences of collocations containing these four roots in the context of the Indra-Vritra combat:

<table>
<thead>
<tr>
<th>√han-</th>
<th>√bhid-</th>
<th>√vraśc</th>
<th>√ruj-</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.32</td>
<td>áhann áhim (x2) [1c,2a], áhan...pratha-majám áhînám (x2) [3d,4a], áhan vytrám [5a], vytrám jaghanvâṅ [11d] (vytrám) nadám ná bhinnám [8a], prâ vakṣaṇâ abhinat paraśatanâm [1d] akándhâṅšva ...vivyâkṣaṅhiḥ [5cd]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Han-</td>
<td>Bhid-</td>
<td>Vraśc-</td>
<td>Ruj-</td>
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<tr>
<td>1.53</td>
<td><em>vṛtrahātyasya</em> [6b]</td>
<td>abhinat pūro [8c]</td>
<td></td>
</tr>
<tr>
<td>1.56</td>
<td>āhāṃ vṛtrāh [5d]</td>
<td></td>
<td>vī vṛtrāṣya... arujah [6d]</td>
</tr>
<tr>
<td>1.61</td>
<td>abhihātya [8b]</td>
<td></td>
<td>vī vṛścad... vṛtrām [10b]</td>
</tr>
<tr>
<td>1.101</td>
<td>āhāṃ āhīṃ [2c]</td>
<td>pūro vibhindāṃ [3b]</td>
<td></td>
</tr>
<tr>
<td>1.130</td>
<td>abhihāṭyāya [4c]</td>
<td></td>
<td>vanino nī vṛcasi [4fg]</td>
</tr>
<tr>
<td>2.11</td>
<td>āhāṃ āhīṃ [5d]</td>
<td>dāśāṃ...avābhī nad [2cd], vṛtrām avābhī- nad [18ab]</td>
<td></td>
</tr>
<tr>
<td>2.14</td>
<td>vṛtrām jaghānā [2b]</td>
<td>pūro bibheda [6ab]</td>
<td></td>
</tr>
<tr>
<td>2.19</td>
<td>ahīḥa [3b]</td>
<td>āhīṃ...vī vṛcāt [2b]</td>
<td></td>
</tr>
<tr>
<td>3.33</td>
<td>śāhāṃ vṛtrām [6b]</td>
<td>āhīṃ vīvṛcāt [7b]</td>
<td></td>
</tr>
<tr>
<td>3.34</td>
<td>ghnāntant vṛtrāni [11d]</td>
<td>indraḥ pārbhid [1a]</td>
<td></td>
</tr>
<tr>
<td>4.6</td>
<td>vṛtrāṃ... pārāhan [7a]</td>
<td></td>
<td>gotrā rujān [8d]</td>
</tr>
<tr>
<td>4.17</td>
<td>vṛtrāṃ... jaghānān [1c], hántā yō vṛtrām [8c], vṛtrā...hanti [19b], vādhiḥ vṛtrāh [3c]</td>
<td>bhinād girīṁ [3a]</td>
<td>āhīṃ...vī vṛcāḥ [7d]</td>
</tr>
<tr>
<td>5.29</td>
<td>āhīṃ hānn [2cd], āhāṃ āhīṃ [3d]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.30</td>
<td>āhāṃ āhīṃ [4c]</td>
<td></td>
<td>dhīham arujah pārvatasya [5b]</td>
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<tr>
<td>8.1</td>
<td>vṛtrahan [14b]</td>
<td>bhināt pūrāḥ [8d]</td>
<td></td>
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<tr>
<td>8.6</td>
<td>vṛtrahantuṃa [37a]</td>
<td>vī...vṛtrāṣya... śīro bibheda [6]</td>
<td>vī vṛtrām...rujān [13b]</td>
</tr>
<tr>
<td>8.33</td>
<td>vṛtrahan(n) (x2) [1c,14c]</td>
<td>pūro vibhinātty [7c], pārbhid [5d]</td>
<td></td>
</tr>
</tbody>
</table>
How (exactly) to slay a dragon in Indo-European?

I argue that these data provide evidence for a PIE formula *abh- (h3e'g"hi, k"frmi) ‘split serpent/worm’, and that the instances with *vraśc/-vṛśc- and *ruj- represent ‘renewed’ formulae, varying *abh-

*bhind- is the form with the soundest IE etymology, which is straightforward; it derives from PIE *abh- and cognates in Italic (Latin findere ‘to split’, fissurā ‘cleft, fissure’) and Germanic (Goth. beitan ‘to bite’, OE bītan ‘to bite, to cut (with a sword)’).

The root *vraśc/-vṛśc- has no obvious IE cognates and is in fact not particularly well-behaved even in Sanskrit: (1) the future vṛṣṭvā, as well as the Atharvaveda gerund vṛṣtivā, are formed as if derived from a base *vṛ(ṣ)ā (cf. Whitney 1891: §221b); (2) the derivative vṛskā ‘splitting, hewing’ (in RV 1.162,6a yūpavraskās ‘hewers of the

<table>
<thead>
<tr>
<th>Table 1: Forms of *abh-, *vraśc-, or *ruj- and their co-occurrence with áhann áhim and its variants (RV unless otherwise noted)</th>
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<tbody>
<tr>
<td>8.93</td>
</tr>
<tr>
<td>9.88</td>
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<tr>
<td>10.49</td>
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<tr>
<td>10.52</td>
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<tr>
<td>10.89</td>
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<tr>
<td>10.113</td>
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<tr>
<td>10.138</td>
</tr>
<tr>
<td>AV(S)5.23</td>
</tr>
</tbody>
</table>

39 Bolding indicates that patient of the verb is áhim or vytrām (or kēmin, or a body-part of vytrām or kēmin); plain roman indicates that the object is ‘mountain’ or ‘rock’; and italics indicates that the object is ‘fort/cowpen’ or ‘tree’.

40 Skt. -s becomes -k before s, and -s before t, th in internal sandhi, cf. Whitney (1891: §218).
sacrificial post’) shows no palatalisation of the sk-cluster, a process which presumably occurred in pre-Vedic; (3) the ta-participle vṛkñā and the RV gerund vṛktvī appear to reflect a base *vr(a)k-. On etymological grounds alone we can thus rule out vṛaśe/-vṛśe- as reflecting the form of an earlier PIE formula.

vṛaj- has been related to Grk. λυπός ‘mournful, sad’, Latin lugere ‘to mourn’, Lettish lauzit ‘to break the heart’, and thus could be derived from PIE form *leug- ‘to break’, if we accept that Sanskrit has preserved the original meaning and that Latin, Greek and Lettish forms reflect a later semantic development – much less straightforward than the etymology of bhid-. Moreover, bhid- is the form which most frequently occurs in the dragon-slaying context and has the advantage of having a more specified semantics than vṛaj-.

4. Dragons and worms: Splitting dragons in Iranian

Iranian also offers evidence for the reconstruction of *bheid-<ṣhég”hi-, k”f’mi->. In the Pahlavi Kārnāmag, the hero, Ardashir, kills a kirm, who lives in some sort of mountain fortress, worshipped by a group of people who feed it on the blood of cattle (see Section 2.4 above). Ardashir, on the pretence of feeding the worm cow’s blood, instead pours molten brass into its mouth, and then,

(59) kirm čiyōn rōy ō tan mad pad 2 škāft
Kārnāmag ī Ardaxšīr ī Pābagān 8.11
‘As the brass permeated through the whole body, the Worm burst [=škāft ‘split’ - BMS] asunder into two pieces.’

Here the second term has undergone renewal and appears as škāft. Obviously this is not a perfect correspondent for the Vedic formula(e) in terms of etymology – due to the lexical renewal – but the semantics are preserved.

As in the RV, the Pahlavi instance of ‘splitting the dragon’ co-occurs with a reflex of PIE *g”hen-<ṣhég”hi-, k”f’mi->, cited earlier as (21), repeated below as (60).

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41 Translation from Sanjana (1896).
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(60) ān kirm ōzad būd

(Kārnāmag ī Ardaxšīr ī Pābagān 9.1)

‘(Ardashir) had slain that dragon’

5. Writing and cutting: splitting dragons in Germanic

There is evidence for the dragon-splitting formula in Gmc. as well, though it is less straightforward than in Indo-Aryan. In Beowulf, the eponymous hero slays a dragon; the relevant lines are given in example (61).

(61)

Þāgēn sylf cyning gewēold his gewitte wǣlisseaxe gebrǣd biter ond beaduscæarp ȝæt hē on byrnan wæg forwrāt Wedra helm wyrm on middan.

(Bwf. 2702a-2705)

Then again the king himself (=Beowulf) gathered his wits, drew a slaughter-seax biting and battle-sharp that he wore on his byrnie

The Helm of the Wederas (=Beowulf) cut asunder the dragon in the middle

The verb used here to describe the slaying of the dragon is for-wrāt, a past tense form (with verbal particle for) of OE writan < Gmc. *wreitan ‘scratch, tear, cut’. If Bwf. 2705 is, as I suggest, a reflex of PIE *bheid- {h₂égʰh₂-, kʰrmt-}, the first term of the formula has here too, as in Pahlavi, undergone lexical renewal.

However, it is intriguing that this passage does in fact contain a reflex of PIE *bheid-: OE. biter ‘sharp, biting, bitter’ (2704a), which describes the weapon with which Beowulf ultimately slays the dragon. Note that in Vedic dragon-slaying contexts as well, references to the hero’s weapon can be involved in the formula, as in example (62), where

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42 Beowulf appears to be one of the earliest OE texts, though in the last few decades this has been the subject of much debate. On the controversy surrounding the date of composition of Beowulf, see the collection of papers in Chase (1997). For persuasive linguistic arguments for maintaining a traditional early dating of Beowulf, which place the date of composition between 685 - 825 C.E., see Fulk (1992); this early dating would also be supported by the conclusions of Hock (1991, 2000) on the development of relative clause structures in Old English.

43 Beowulf has numerous similarities to the Germanic thunder-god who appears in Old Norse as Thor; cf. Müllenhoff (1849), Olrik (1903-10), Panzer (1910), Dronke (1968), Clark (1990: 29), Slade (2007).
Indra’s *vajra* is described as *vádha*, from *vadh-* (RV 1.32,5ab)

‘Indra, with his powerful **slaying vajra** **slew** the wide-shouldered Vritra, worst of Vritras/obstructors.’

Yet, despite the apparent lack of cognates of OE. *writan* outside of Germanic and the singularity of the occurrence of a reflex of PGmc. *wreit-* in Gmc. in the context of the dragon-fight, there are reasons to believe that the formulation *forwritan wyrm* represents an archaism in the poem, and in fact a (partially) frozen formula.

Firstly, *forwritan* itself is a hapax legomenon in OE. *Writan* in OE primarily means ‘to write, to form letters’, though it can also mean ‘to draw’ (cf. Bosworth and Toller 1921). The earlier meaning of ‘to

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45 Though note the thematic similarity of the dragon-slaying scene from the Old Norse version of *Tristram and Isolde* in (i) below.

(i) *hjó hann i sundr i mîðju*. (ON *Tristrams saga ok Ísöndar*, Jorgensen 1999:97-98)

‘(he) cut it (=the dragon) asunder in the middle’.

46 For *writen* occurs only once elsewhere in *Beowulf* at l.1688, where it refers, somewhat unclearly, either to a runic inscription or an image engraved on a sword-hilt:

(i) *on dē wēs ōr writen fynggwynes syðpan flōd ofslōh gifen géotende giganta cyn* (Bwf. 1688b-90b)

‘on which [hilt] was written(?)/engraved(?) the origin of ancient strife, – the pouring ocean – the race of giants.’

The ambiguity arises in part from the fact that several lines later the poem refers to runes on the sword, though it is unclear if these runes are meant to include what was *writen* on the sword. Most likely the runes are a separate inscription:

(ii) *swā wēs on dēm scēnnum scīran golde scūr rūnstafas rihte gemearcod gesetel ond gesēd hwâm pet swoerd geworht* (Bwf. 1694-6)

‘So/Also on the sword-hilt of shining gold it was in rune-staves rightly marked – for whom the sword was wrought.’

As noted by Klaeber (1950: 189), it has been suggested that the earlier mentioned *writen* inscription was a graphic illustration. On this sword-hilt, see further Osborn (1978: 977-978) and Viswanathan (1979).
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scratch, cut’ is also found, in the sense of inscribing an image⁴⁷ or letters⁴⁸ into wood, stone etc.⁴⁹

Secondly, outside of Bwf. 2705, OE. writan means ‘to cut’ only in the sense of ‘cutting into, incising’, never ‘cutting’ in the sense of ‘chopping’ or ‘hewing’.⁵⁰ In Old Saxon, on the other hand, uuritan denotes not only ‘to write’, but also ‘to cut, to wound’;⁵¹ in Old Icelandic rīta ‘to scratch, to write’; cf. modern Dutch reißen ‘to tear, to rip’. These cognates suggest that Gmc. *wreitan had a sense like ‘to scratch, to tear, (to cut?)’. The sense ‘cut asunder’ (‘tore asunder?’) of Bwf. 2705 forwrāt clearly preserves an earlier sense of the verb, otherwise unattested in Old English. The fact that only here does OE. writan have this sense strongly suggests the possibility that this archaic sense is preserved due to Bwf. 2705 being in some sense formulaic, since formulae can serve to preserve senses lost elsewhere (see above, Section 1.1.4, as well as the English legal phrase without let or hindrance, which preserves a sense of let otherwise lost in English).

Like the Pahlavi case discussed above in section 4 here too the second term of the formula has undergone lexical renewal. Since PIE *bheid-developed the sense of ‘bite’ in Germanic (PGmc. *beitan), losing the earlier meaning ‘split’, it could no longer be felicitously employed in the Germanic formula, and was replaced in this case by (for)writan – its

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⁴⁷ Cp. wrīt ḯyne circul mid dīnes cnīfes orde on ānum stāne (Lchdm. i. 395,3) ‘inscribe this circle with the point of your knife on a stone’.
⁴⁸ Cp. genim hæslenne sticcan, wrīt dīne naman...gefylle mid blōde dōne naman (Lchdm. ii. 104,7) ‘take a hazel stick, write/carve your name on it,...fill the name with the blood’.
⁴⁹ The development of ‘scratch’ to ‘write’ appears to derive from the fact that Germanic speakers first wrote on wood, evidenced by the fact that Germanic runic letters (as developed from Greek letters) avoid curved or horizontal lines, which would be difficult to cut into wood (e.g. Antonsen 2002).
⁵⁰ Frantzen (1991: 343-344) compares forwrāt to the writen of l. 1688 (referring to the inscription on the sword-hilt), noting that both share a meaning of ‘to cut, to carve’, suggesting that forwritan however means ‘to cut through’ perhaps in the sense of ‘interpret’, to ‘make meaning present’. Frantzen suggests that both acts of ‘engraving’ refer to origins (as the writing on the sword-hilt tells for whom it was first made) and ends (the slaying of the dragon). He further compares forwritan to forscreifen ‘proscribed, condemned’ of Bwf. 106, an obvious loan-calling from Latin proscribere, suggesting that forwritan might bear some of the connotation of forscreifen. Sharma (2005: 272ff.) pursues this latter suggestion. However, whatever other resonances/connotations forwrāt might have had for the audience of the poem, it still must have had a literal meaning along the lines of ‘cut asunder’, otherwise the passage would be uninterpretable.
⁵¹ Hēliand 5787-9: ...thena lichamon liobes hērren...uwundan uuritanan ‘...the body of the dear Lord...torn/cut/wounded) with wounds’ (cited from Cathey 2002).
formulaicity suggested by the archaic nature of the meaning of *forwitan itself.\textsuperscript{52}

Here too, as in Indo-Aryan and Iranian, the Beowulfian example of ‘splitting the dragon’ occurs in close proximity with an apparent variant of *g"hen- {h\textecircumflexa}g"hi-, k’\textecircumflexa}mi-}, see example (63).

(63) \begin{verbatim}
bona swylce læg
egeslic corðdraca ealdre berēafod

wyrm wōhbogen...
\end{verbatim}

(Bwf. 2824a-2825,2827a)

‘The slayer (of Beowulf) also lay (next to the slain Beowulf) –
the terrible earth-dragon, bereft of life

... the coiled serpent...’

6. Conclusions: the validity of *bheid- {h\textecircumflexa}g"hi-, k’\textecircumflexa}mi-} and some notes on treasure-swallowing serpents

There is robust evidence for a Vedic formula meaning ‘split serpent’: {√bhid-, √vraśc-, √ruj-} {āhim, vrtrām}, as discussed in Section 3. This formula co-occurs with forms of āhann āhim, the latter identified by Watkins (1995) as a reflex of PIE *g"hen- h\textecircumflexa}g"him, a formula widely attested in IE. In addition, forms of √bhid-, √vraśc-, and √ruj- also appear – again, usually co-occurring with forms of the Vedic dragon-slaying formula in √han- – describing other actions of Indra occurring during or associated with the dragon-fight (e.g. splitting the mountains in which the waters are trapped). Based on etymological and distributional considerations, √bhid- appears to be the original verb of the formula, with instances containing √vraśc- or √ruj- being innovative variants.

In addition, √bhid- also occurs with k’\textecircumflexa}mi- ‘worm’ in the Atharvaveda (AV(Ś) 5.23,13) using imagery similar that employed in descriptions of Indra’s slaying of Vritra in the RV (cp. RV 8.6,6; 1.52,10; also compare AV(Ś) 2.31,1 with RV 4.22,1d and 6.17,10 – as discussed in section 2.4). This combined with the appearance in the Iranian and Germanic data of reflexes of *k’\textecircumflexa}mi- rather than *h\textecircumflexa}g"hi- suggests that, just as we found

\textsuperscript{52} Though bītan can be used in OE. where the agent is ‘sword’, as in Bwf. 1454b, 1523b, 2578a, this is simply a metaphorical extension of the sense ‘bite’.
that Watkins’ PIE dragon-slaying formula is better represented as \( *g^\text{hen-} \{h_\text{eg}^\text{hi-}, k^\text{fmi-}\} \), so too the PIE dragon-splitting formula is best captured as \( *\text{bheid-} \{h_\text{eg}^\text{hi-}, k^\text{fmi-}\} \) – in both cases indicating the existence of variation of the second term in PIE itself.

In Iranian (Pahlavi \( k\text{irm...sk\text{"aft}} \)) and Germanic (Old English \( forwr\text{"at...wyrm} \)) there is no direct evidence of the proposed PIE dragon-splitting formula which contains a reflex of PIE \( *\text{bheid-} \); in both instances we find what appear to be lexically-renewed variants of the formula, where an alternative verb (Pahlavi \( sk\text{"aft} \) ‘split’, OE. \( forwr\text{"at} \) ‘cut/split asunder’) appears in place of a reflex of PIE \( *\text{bheid-} \). However, the context of the appearance of the Pahlavi and Old English examples is the same as the Vedic, which strongly suggests that these lone examples are cognate with the robustly attested Vedic formula \( \sqrt{\text{bhid-}} \{\text{\text{"ahi-}, v\text{tr\text{"a-}, k\text{fmi-}}} \).

Textual reconstructions of this sort are difficult to ‘prove’. However, we can test the plausibility of reconstructing PIE \( *\text{bheid-} \{h_\text{eg}^\text{hi-}, k^\text{fmi-}\} \) against Fisher’s ‘3-2-1 rule’ (cited above in fn.16):

A traditional sequence of Proto-Indo-European date is likely when a collocation of two or more words consisting of established reflexes of IE roots, expressing the same semantic message, and retaining at least one reflex of the reconstructed roots exists in three separate branches and that one of these phrases occurs at least three times in at least one branch. In addition at least one branch should consistently deploy both roots. (Fisher 2007)

Again, this is only an evaluation metric which serves to constrain possible textual reconstructions by establishing a minimum evidence requirement; it is not a litmus test. However the reconstruction of PIE \( *\text{bheid-} \{h_\text{eg}^\text{hi-}, k^\text{fmi-}\} \) conforms to Fisher’s 3-2-1 rule.

1. It consists of two words, and occurs in three branches of Indo-European: Indo-Aryan (Vedic), Iranian (Pahlavi), and Germanic (Old English).

2. It expresses the same semantic message (i.e. ‘splitting the dragon/serpent’ in the context of a god or hero slaying a dragon) in all three languages.

3. A reflex of PIE \( * k^\text{fmi-} \) appears in the formula in all three languages.

4. The phrase occurs more than three times in Vedic.
5. Vedic consistently deploys both roots, i.e. reflexes of both *bheid- and *h₁égʰi (or *kʷmi-) individually, although it is the variant vytrá- rather than áhi- (< PIE *h₂égʰi) which consistently occurs with bhíd-.\(^{53}\)

Thus, on the basis of the evidence presented herein, *bheid- {h₁égʰi-, kʷmi-} is a plausible PIE formula, which is the formulaic associate of PIE *gʰhe nh- h₂égʰim, a formula established to be of PIE vintage by Watkins (1987, 1995). Since killing of a dragon by ‘splitting’ is semantically more specific than simply ‘slaying a dragon’, the reconstruction of *bheid- {h₁égʰi-, kʷmi-} serves not only to strengthen Watkins’ claim that there was a specifically Indo-European dragon-slaying myth, but also helps to flesh out the details of that myth.

The ‘splitting of the dragon’ is an intriguing aspect of the PIE myth. In a future study, I shall examine in more detail the reason behind the god’s/hero’s splitting of the dragon and explore the association of other formulae (which can be reconstructed for PIE) with the PIE dragon-slaying myth. The purpose of splitting the dragon was hinted at earlier in the discussion in section 3. In the RV, Indra not only splits the dragon, but also splits the mountain guarded by the dragon in order to free the trapped waters, or splits enclosures in which cows are held. The purpose of the PIE dragon was to hoard some commodity vital to the wellbeing of PIE speakers: WATER, CATTLE (and later on the ritual substance SOMA) in Vedic; GOLD in the gift-exchange culture which supported early Germanic lord-retainer society.\(^{54}\)

There are data suggesting that – at least in some versions of the myth – that the PIE dragon actually hoarded these precious commodities by swallowing them,\(^{55}\) thus necessitating the splitting of the dragon by the hero in order to recover the elements vital to his society.

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\(^{53}\) Áhi- does occur consistently with the variant of bhíd-, i.e. vraśc-.

\(^{54}\) On the importance of the giving/exchange of gifts, especially gold, in Anglo-Saxon and Germanic society, see e.g. Leise (1953), Irving (1968), Hill (2000).

\(^{55}\) For the moment I will point to only a few pieces of Vedic data:

(i) tváḥ vytráṁ sávásā jaghanván
ṣṛṣāḥ sindhúfr āhīnā jagrasānān
‘You [=Indra], having slain Vritra with might, released the rivers swallowed by the serpent.’

(ii) tṛitāya gā ajanayam āher ādhi
‘For Trita, I [=Indra] produced the cows from the serpent.’

And from Vedic prose:

(iii) indro vṛtram aham...
	tāsya vṛtrasya śīrṣató gāva úd āyan
‘Indra slew Vritra...From the head of Vritra cows came out.’
How (exactly) to slay a dragon in Indo-European?

Abbreviations

AV(Ś) = Atharvaveda Sanhitā (Śaunakīya), Roth and Whitney 1856
Bwf. = Beowulf, Klaeber 1950
CTH 321 = Illuyanka (entry 321 of Catalogue des textes hittites, Larotte 1971), Beckman 1982
Edda(El) = Elder/Poetic Edda, Jónsson 1949
Edda(Sn) = Snorri Sturluson’s Edda (Younger/Prose Edda), Jónsson 1959
Il. = Iliad, Monro and Allen 1982
Ol. = Pindar, Olympian odes, Snell and Maehler 1989
Pyth. = Pindar, Pythian odes, Snell and Maehler 1989
RV = Rgveda Sanhitā, Bandhu 1963-6
TBC = Táin Bó Cúailnge, O’Rahilly 1976
IL. = Iliad, Monro and Allen 1982
Y. = yasna of the Avesta, Geldner 1886-1895
Yt. = yasht of the Avesta, Geldner 1886-1895

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