INDO-EUROPEAN WARFARE

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ABSTRACT

The Indo-European languages comprise the largest language family in the world and by the Late Bronze Age and Iron Age occupied a broad expanse of Eurasia from Ireland to western China and India. The inherited vocabulary of the Indo-European languages provides us with an image of the prehistoric language(s) that was spoken at least from the late Neolithic onwards and sheds light on the actual names of weapons, types of defensive architecture, terms for aggressive behaviour, trauma, institutions and poetic diction associated with warfare. In addition, there is also a body of ethnographic and mythological data that purports to provide a picture of the social organization and attitudes toward warriors shared by the earliest Indo-Europeans.

There are two primary sources of information for the prehistoric cultures of Eurasia—archaeology and linguistics. The first provides us with the material remains (and one hopes at least occasionally the behaviour) of prehistoric populations and the second provides evidence of the cultural lexicon of a prehistoric language family. If one finds the subject of linguistics a bit removed from the 'real' prehistoric record, one need only quote (if for no other reason than to get an archaeologist's blood up), Mary Haas, who argued:

> When we have only the reconstructed proto-language . . . we still have a glorious artifact, one which is far more precious than anything an archaeologist can ever hope to unearth (1969: 32).

It should be emphasized that correlating the linguistic evidence with the archaeological record is frequently hazardous, often seemingly impossible. To make matters even more difficult, there is a sizeable group of scholars who would also employ a third source of information—the evidence of comparative mythology and ethnology to reconstruct the behaviour of prehistoric populations, and we will briefly examine this evidence at the end of this paper.

In so far as Europe and western Asia are concerned, the primary linguistic construct is that of the Indo-European language family, which extended from Ireland in the west to western China and India in the east. By family, we mean a group of languages that are genetically related so that we can ascribe to them a common prehistoric ancestor, Proto-Indo-European (in the same way that we derive the Romance languages of Italian, French, Spanish, etc from Vulgar Latin). The date and location of this prehistoric entity is

disputed, but we know from the preserved cultural lexicon that the Proto-Indo-Europeans practiced an economy based on mixed agriculture, both cereals and domestic livestock, possessed pottery, rudimentary metals and wheeled vehicles. The latter suggests that this proto-language should have been spoken not much earlier than ca. 4000 B.C., although there are those who would argue that the language actually began to expand as early as about 7000 B.C. (Mallory 1997). The precise time and place of Indo-European expansions is not at issue here, although we can say with total confidence that the Indo-Europeans occupied most of Europe, the Eurasian steppe-lands, Anatolia and the territories of greater Iran and India by the Iron Age; by the later Bronze Age, written and earlier orally transmitted documents indicate that they were certainly in occupation in Greece, Anatolia, Iran and India; that they may have occupied much of Europe by ca. 1200 B.C. is probable but not directly demonstrable due to the lack of any literate societies outside of the Aegean. Yet any model of Indo-European origins, in its necessity to link together Bronze Age Greeks with linguistically cognate Bronze Age populations in Iran and India, would require that substantial territories of the intermediate territory (eastern Europe/western steppe-lands) must have been occupied by Indo-Europeans by the early Bronze Age, i.e. ca. 3000–2500 B.C. Any date earlier and any area larger than this is a matter of greater dispute. It should be emphasized that this paper is not concerned with the frequently-cited dichotomy proposed by Marija Gimbutas (1991) between a pacific female-oriented Neolithic 'Old Europe' and a warlike male-oriented intrusion of Indo-Europeans from the steppe-lands or whether this model is archaeologically to be rejected (e.g. Chapman 1999) or accepted (e.g. Dergachev 2000); this discussion assumes the linguistic identity of archaeological cultures that have themselves been the subject of decades of dispute. The only direct route to the proto-language of a language family is language.

The prehistoric cultural lexicon of the Indo-Europeans is reconstructed through the comparative method in linguistics (Anttila 1972, Campbell 1998) and permits one to recover from a series of genetically-related languages an approximation of the ancestral form (root morpheme, word, etc.) of that portion of their vocabulary that has been genetically inherited (a portion of any vocabulary may also be borrowed from a neighbouring language rather than inherited from a common ancestor). To take possibly the most transparent example, we have the following set of correspondences among the various Indo-European groups: Latin *num* = Old English *nū* = Lithuanian *nù* = Greek *nũ(n)* = Hittite *nu* = Sanskrit *nú* = TocharianA *nu*, all of which indicate the meaning 'now' and which permit us to reconstruct to the proto-language (Proto-Indo-European or PIE) **nu* 'now'. This reconstruction derives from

many of the various Indo-European groups but such widespread correspondences are hardly universal and we generally find a variety of patterns of correspondence, some of which indicate that items of inherited vocabulary are likely to have existed in Proto-Indo-European (and are consequently ancestral to all Indo-European languages) while other items may only be regional isoglosses that emerged later in prehistory between the ancestors of adjacent Indo-European groups, e.g. Celts and Germans. In the following survey, the term Proto-Indo-European will be used solely for those instances where we find cognates in at least one European language group (Celtic, Italic, Germanic, Baltic, Slavic, Albanian, Greek, and, by proxy, Armenian) and one Asian language (Anatolian, Indo-Aryan, Iranian, Tocharian); other patterns of correspondence that *may*, though not necessarily *must*, derive from a later period will be designated as follows: North-West Indo-European (when the cognates are drawn exclusively from Celtic, Italic, Germanic, Baltic and Slavic); West Central (when a North-West word finds a cognate among the several central Indo-European languages (Albanian, Greek and Armenian); and Graeco-Aryan (where the cognates are shared exclusively between Greek and Indo-Iranian, a pattern that has often been presumed to suggest some form of late regional Indo-European).

We will investigate the inherited vocabulary by first examining the items that may be directly expressed as material culture (weapons, defensive architecture) and then we will examine the more conceptual semantic fields related to hostility, combat, trauma, the social institutions involved with warfare and poetic diction. The linguistic citations are drawn extensively from Mallory and Adams 1998 and 2006.

Weapons

The reconstructed Proto-Indo-European vocabulary relating to weapons is neither particularly extensive nor is the reconstructed meaning always transparent. It consists of objects that may obviously also have served as tools rather than aggressive weapons.

Bow and arrow

There is no certain word of Proto-Indo-European date pertaining to archery, although we do have terms that would appear to derive from later periods of Indo-European antiquity. There is the $*g^w(i)y\bar{e}h_a$ 'bow-string; taut thread' which is found in Greek *bios* 'bow' (< 'that which is provided with a bow-string') and Indo-Iranian (e.g., Sanskrit *jyā́* 'bow-string'); importantly, the same

word also exists in Baltic and Slavic but here it only indicates 'thread' and is not associated with any form of weapon and suggests that the word originally indicated a 'string' and was specialized to 'bow-string' in Graeco-Aryan. A similar pattern of correspondence, limited again between Greek and Indo-Iranian, is also seen in *$h_1$ísus* 'arrow' (Greek *iós*, Avestan *išu-*, Sanskrit *íṣu-*) and *tóksom* 'bow' (Mycenaean *to-ko-so-wo-ko* 'bow-makers', Greek *tókson*, Scythian *taxša-*). The latter does have other cognates (Latin *taxus* and Rus *tis*, both 'yew') and traditionally one has presumed that the arboreal meaning was basic and that the meaning shifted to the 'bow' in Graeco-Aryan due to the widespread preferment of yew as a material for making bows. As we recover the meaning 'bow' from Mycenaean, this semantic shift must be earlier than the Late Bronze Age. Huld (1993: 228–229), however, has suggested that 'bow' was the original referent and that the word shifted to the tree in Central Europe and has offered examples of similar processes (shift from the name of an implement to material of manufacture) in other languages. If this were the case, then the word would have a much better claim to Proto-Indo-European status.

To these more widespread cognates we have one tight NW isogloss (Italic and Germanic) seen in *$h_a$érk^{w}os* 'bow and/or arrow' (Latin *arcus*, New English *arrow*). There is also a possible West Central isogloss *(s)bhond-neh$_a$-* 'strap, sling' seen in Latin *funda* and Greek *sphendónē*, both 'sling'.

Drawing historical conclusions from these patterns is extremely hazardous and one can propose at least two scenarios:

1. The Proto-Indo-Europeans had no word (nor technology) pertaining to archery when they initially expanded, so the periphery of Europe (for example, the NW) was settled by Indo-Europeans without bows and arrows. Subsequently, archery terms did emerge in a core area that connected the later speakers of Greek and Indo-Iranian. Archaeologically, such a model is extremely unpersuasive since we would be hard put to find a place in Eurasia that did not practice archery from at least the Early Neolithic onwards. Moreover, the linguistic neighbours of the Indo-Europeans, the Uralic language family (Finnish, Estonian, Hungarian, and a series of languages spoken in the vicinity of the Urals) attest the existence of one word for 'bow' and three words for 'arrow' in their proto-language (Häkkinen 2001: 181).

2. The Proto-Indo-Europeans did have a vocabulary of archery from the very beginning but so many of the languages lost their inherited terms that we are left with a biased pattern confined to the Graeco-Aryan region, the area that offers the most extensive linguistic remains. The original Proto-Indo-European vocabulary may still be seen in the Greek and Indo-Iranian isoglosses, or in several of the words for 'spear', whose meaning may also indicate 'arrow'

(see below). With the subsequent abandonment of the bow and arrow over the course of the Bronze Age in many areas of NW Europe, both the technology and the vocabulary associated with archery disappeared from a number of the European languages, e.g. Celtic where the Irish word for 'arrow' is a loan from Latin. A specifically NW word such as *$h_a$érk^{w}os 'bow and/or arrow' may be a later creation of the Bronze Age in Continental Europe. Archaeologically, this is at least a possible model.

Spear

We have a number of words for 'spear' although semantic identity may be limited to regional isoglosses because the range of semantics is uncomfortably wide and we cannot always be certain that the underlying meaning was exclusively 'spear' and not some other object. For example, Proto-Indo-European *g^wéru means 'spear' or 'spit' in both Celtic (e.g. Old Irish *biur*) and Italic (e.g. Latin *verū*) but 'staff' in Iranian (e.g. Avestan *grava-*). For the meaning of *$kúh_x$-los we can presume 'spear' on the authority of Sanskrit *śūla-* 'pike, spit, javelin' while the other cognates are more diverse (Armenian *slak'* 'pike, spear, dagger, arrow', Middle Persian *swl'ck* 'grill' [< *'complex of spits']) and are limited to the same general area as a Graeco-Aryan isogloss. Proto-Indo-European *$kêl(h_x)$- can mean anything from 'spear' to 'arrow' to 'staff' (e.g., Old Norse *hali* 'point of shaft, tail', Old Prussian *kelian* 'spear', Albanian *thel* 'big nail, spike', Greek *kêla* [pl.] 'arrowshafts', Sanskrit *śalyá-* spear, arrowhead'); semantically the best we can do here is suggest the meaning 'point'. The Proto-Indo-European *$ĝhais$-ó-s is attested semantically as a 'spear' in all its cognates except for Greek where it renders 'herdsman's staff' (*khaîos*); otherwise we have Celtic (e.g. Old Irish *gae* 'spear'), Germanic (e.g. Old English *gār* 'spear' [cf. *gār* + *lēac* 'leek' > New English *garlic*]) and Indic (Sanskrit *héṣas-* 'missile'). As this noun derives from the verbal root *$ĝhh_a i$- 'throw', it suggests a casting spear or javelin rather than thrusting spear (although the original semantic force may not have been maintained in the daughter languages). To these words may be added the more regionally attested WC *$h_a e i\hat{k}smo/eh_a$- 'spear, pointed stick' (e.g., Lithuanian *išmis* 'spit, spear', Greek *aikhmḗ* 'point of spear, arrow, spear') and the merely possible *$h_1 neĝh$-es- '± spear' from Old Church Slavonic *nozĭ* 'knife' and Greek *hégkhos* 'spear'.

From an archaeological perspective we can at best acknowledge that the Proto-Indo-Europeans and their later descendants knew a number of different words for the 'spearshaft' (*g^wéru*, *$\hat{k}úh_x los$*), one for 'spearhead' (*$kel(h_x)$-*) and possibly one for some casting weapon (*$ĝhais$-ó-s*).

Edged weapon or tool

Weapons of the knife or dagger type are attested by several cognate sets. These comprise the extremely vague isogloss for a Proto-Indo-European *wēben 'knife' between Germanic and Tocharian, e.g. New English *weapon*-TocharianAB *yepe* 'weapon, knife'; Schrijver (2004) has recently suggested that the word derives from a verbal root *$h_x$wep- 'mow, shave, cut' which underlies a variety of other words (none of which indicate an actual weapon). Some of the other words for 'knife' are also problematic. For example, Latin *castrō* 'I prune', Albanian *thadër* 'adze', and Sanskrit *śástra-* 'knife, dagger' could all attest a Proto-Indo-European *$\hat{k}$os-trom ~ *$\hat{k}$os-dhrom from the verbal root *$\hat{k}$es- 'cut', i.e. a 'cutting instrument', but all of these could be independent formations as well. As for the *$k\llap{l}t\acute{e}r$ 'knife', the Latin *culter* '(butcher's) knife' may not be cognate with Sanskrit *kuṭhāra-* 'axe' if the latter is borrowed from a Dravidian word. Limited to the east is *kert- 'knife' (Indo-Iranian: Sanskrit *kṛtí-* and Avestan *kərəti* both 'knife') and possibly TocharianB *kertte* 'sword' if not itself a loanword from Iranian.

Of greater interest is the somewhat contested word *$h_{2/3}$ṇsis as it means 'sword' in Latin *ēnsis*, Avestan *ahū-* and Sanskrit *así-* which might suggest the archaeologically unlikely reconstruction of a Proto-Indo-European 'sword'. However, cognates can also mean 'slaughtering knife' (Palaic *hasīra-*), which is its earliest attested (Bronze Age) meaning; also, earlier Vedic literature secures the more modest meaning of 'dagger' or 'knife' rather than 'sword', and there are a number of instances where the meaning of 'knife' has developed to mean 'sword' among the Indo-European languages (Huld 1993: 225). There is a later word for 'sword', *skolmeh$_a$- 'sword' (Old Norse *skǫlm*, Thracian *skálmē*) based on a Norse–Thracian isogloss.

There is nothing in the linguistic evidence that assists us in discerning an IE horizon in the archaeological evidence. Archaeologically, some form of knife has always been part of the human arsenal, while the sword would be out of place before the period ca. 2000–1500 B.C. with a very few exceptions (Mallory 1991). Perhaps the only item of any (minimal) utility is the *$h_{2/3}$ṇsis which might just be a knife but could also be more appropriately drawn from the designation of the horizon of bronze daggers that are found across Eurasia ca. 3300–3000 B.C. and later (Anthony 1996). The advantage of such a solution is that at least the material of manufacture of the referent, bronze, remains constant through the Bronze Age so it is perhaps easier to imagine a semantic development 'dagger' > 'sword' than if the original referent were an object of stone. The *skolmeh$_a$- 'sword' might fit the later spread of sword styles in the Later Bronze Age as it encompasses both a Balkan and North European cognate.

Shield

There is really no certain word for 'shield' as Proto-Indo-European **spelo/eh_a-* only means 'shield' in Indo-Iranian (e.g. Middle Persian *ispar* 'shield', Sanskrit *phálakam* 'shield, board'), while its Germanic cognate indicates 'board' (Old Norse *fjǫl*) and the possible Luvian cognate (*palahsa-*) means 'blanket' or 'coat'. A nominal derivative of the verb **(s)p(h)el-* 'strip, tear off' suggests an item that was probably originally of animal hide developed into a word for 'shield' in some IE groups. There is, however, a later word for 'shield' from the North-West. This is **skéits* 'shield, board' (e.g. Old Irish *scíath* 'shield, Latin *scūtum* 'large leather-covered shield', Old English *scūd* 'thin piece of wood, shingle', Old Church Slavonic *štitŭ* 'shield'). The semantics here are relatively uniform and suggest that the Indo-Europeans of the north-western region developed a common word for the 'shield' that was derived from a wooden board; alternatively, as wooden moulds were employed to stretch leather into shields, e.g. Kilmahamogue, Co. Antrim (Waddell 1998, 240–241) a conflation of the concepts (both 'shield' and 'shield mould') may have occurred which would explain why we have associations with both wood (Germanic) and leather (Latin).

Archaeologically, it is likely that the Indo-Europeans had already expanded over considerable territory before the shield emerged in the archaeological record. The earliest evidence for a shield that I am aware of is one made from wood from a Globular Amphora grave at Börßum, i.e. ca. 3000 B.C. or later (Müller-Karpe 1974: 239).

Club

There is no certain Proto-Indo-European word for 'club', although there are several later regionally-attested words that might be employed to describe a club or staff. The best is the Greek-Indo-Iranian isogloss **wáĝros* 'cudgel'. The Indic war-god Indra carries the *vájra-* 'cudgel' (*cf.* also Avestan *vazra-* 'mace, cudgel' [whence Finnish *vasara* 'hammer']); the word survives in Greek in the personal name of *Meleāgros* which means 'caring for the cudgel'. We have a (just) possible **lorgeh_a-* 'club' (e.g. Old Irish *lorg* 'club', Old Norse *lurkr*) although there are those who would argue that the Germanic word was borrowed from the Celtic. There is also a **bak-* 'staff' (e.g. Old Irish *bacc* 'staff', Latin *baculum* 'staff', Greek *báktron* 'staff' but this hardly need be identified as a weapon.

Axe

As is the case with the 'knife', words for axe may indicate a tool, a weapon or both, and here, despite attempts to associate early Indo-Europeans with

'axes', more specifically 'battle-axes', the linguistic evidence is relatively mea-
gre. We have a Germanic-Anatolian isogloss that supports a Proto-Indo-
European *h₄edhés 'axe, adze' (Old English *adesa* > New English *adze*, and
Hittite *ates-* and *atessa-* 'axe'). The putative Proto-Indo-European *pelek̂us* 'axe'
has always been problematic as the cognates (Greek *pélekus*, Ossetic *færæt*,
Sanskrit *paraśú-* all 'axe') are often compared with Near Eastern words such
as Akkadian *pilakku* that may indicate an 'axe' or perhaps more correctly a
'spindle' (which would then be semantically incongruent; Wüst 1956). In any
event, this word is normally accepted as a loanword into some early IE lan-
guages. Finally, we are unsure of the actual antiquity of *tek̂so/ehₐ-* 'axe, adze'
(e.g. Old Irish *tāl* 'axe', Old High German *dehsa* 'axe, hatchet', Russian Church
Slavonic *tesla* 'axe', Avestan *taša-* 'axe') as the word is such a transparent
derivative of the verb *tek̂s-* 'fabricate, cut' and may indicate independent cre-
ation; even if accepted as Proto-Indo-European, the semantics might suggest
that the word initially at least was applied to a tool. We do, however, have
some regional terms such as NW *sekūr-* 'axe' (Latin *secūris*, Old Church
Slavonic *sěkyra*, both 'axe') from *sek-* 'cut'; WC *hₐegwisy(e)hₐ-* 'axe' (Latin *ascia*
'adze of carpenters and masons', New English *axe*, Greek *aksĩnē* 'axe').

Defensive Architecture

The concept of enclosure was covered by a number of words in Indo-
European, generally derived from verbal roots indicating 'enclose, cover'.
Hence from Proto-Indo-European *gherdh-* 'gird', we have *ghórdhos* or *ghór-
tos* with meanings running from small structures, e.g. Modern Welsh *garth*
'pen, fold' to Russian *górod* 'town' and Hittite *gurtas* 'citadel' which is the ear-
liest attested of these cognates. As to the semantics in Proto-Indo-European,
it is more likely that it simply indicated any enclosure than a specifically mil-
itary fortification. Although Hittite (and its sister language Luvian) denote a
'citadel' and we have somewhat similar structural designations in Phrygian
gordum 'city' (and its capital *Gordium*) the other early attestations (Greek *khór-
tos* 'enclosed place, feeding place' and Sanskrit *gṛha-* 'house, habitation') do
not support the concept of a fortified residence.

Both Hittite *warpa* 'enclosures' and TocharianA *warp* 'enclosure' indicate a
worPo- 'enclosed site'; this comparison might be extended by Latin *urbs* 'city'
which may have indicated specifically a *'ritual enclosure' and Hieroglyphic
Luvian *warpi* denoted the 'temple precinct'. Again, it is difficult to reconstruct
a specifically defensive meaning for the proto-form (in fact, TocharianB *wer-
piye* indicates 'garden').

Proto-Indo-European *wr̥to/eha- or *worto/eha-, (e.g., Old English worþ 'court, courtyard, farm', which remains in many English placenames ending in -worth), Baltic (e.g. Lithuanian var̃tai 'gate, gateway'), Slavic (Old Church Slavonic rata 'gate'), Indo-Iranian (e.g. Sanskrit vr̥ti- 'enclosure') all derived from the root *wer- 'cover, enclose, protect' and all or at least some may be independent derivations and provide insufficient evidence for a Proto-Indo-European 'enclosure'.

The strongest claims for an actual fortified site are to be seen in Proto-Indo-European *pelhₓ- with cognates in Baltic (Lithuanian pilìs 'fort, castle'), Greek pólis 'city, citadel' and Indic (Sanskrit púr 'wall, rampart, palisade'). It is difficult in this instance to suggest a meaning to this word other than 'fortified site'.

We also have some form of site positioned at altitude (from a root *wer- 'high'), i.e. Proto-Indo-European *wriyo/eha-. It is known primarily through placenames, e.g. Messapic Uria, various Celtic placenames that emerge in English such as Wrekin and Wroxeter, and also in Thracian bría 'city, town built on a hill' and TocharianB rīye 'city'; the Greek cognate hríon means 'promontory' which suggests that we are talking about some form of acropolis.

To these we can add a number of presumably later, regionally attested, words. We have the Celtic-Germanic word *dhūnos which is widely found across the Celtic world as dun 'fort' and also in Germanic (New English down(s)). From the West Central area we have *bhergh- 'height' in the specific meaning of 'fort'; in Germanic we find cognates such as Old High German burg 'fortress'. Its putative Greek and Armenian cognates are phonologically problematic, e.g. Greek púrgos 'town, fortress' and Armenian burgn 'town', and some suggest that this word comes from the Near East, e.g. Urartian burgana- 'fortress', while others link the word to an unknown Indo-European language that was later assimilated by the Greeks. More complex in its distribution is the noun *diĝhs 'wall, fortification' which is found in Phrygian dízos 'fortification' and Indo-Iranian (e.g. Old Persian didā- 'wall, fortification') but under other formations gives us also Oscan feího- 'wall' and Greek teĩkhos 'wall'; the underlying meaning is a 'clay/earthen rampart' (Proto-Indo-European *deiĝh- 'work with clay'), except in the North-West region where the nouns derived are exclusively associated with baking, e.g. New English dough belongs here.

It seems reasonable to assume that at various stages of their existence, the speakers of Proto-Indo-European were familiar with the concept of an enclosed fortified site, e.g. *pelhₓ- 'fort' and/or the use of an earthen wall (*diĝhs). Lexical testimony from the Late Bronze Age onwards certainly indicates the names for various fortified settlements that may derive from earlier 'enclosures', e.g. *ghórdhos or *ghórtos. Archaeologically, the term is not particularly diagnostic

as enclosures, usually bank and ditches, are widely known across Eurasia from the Neolithic onwards.

The language of aggression and defence

There is a very sizeable vocabulary, primarily verbal, relating to contention, aggression, assault, physical violence, and trauma in Proto-Indo-European. Time neither permits nor warrants a detailed analysis of each item of vocabulary. Not all of these terms can be read as indications of warfare or even physical strife as some may indicate more mundane physical tasks, e.g. a verbal altercation, striking a blow against a rock or stake rather than an opponent, and not all examples of trauma need be initiated by a human opponent. Comment will be reserved for those terms whose associations with armed aggression, at least among some of the daughter languages, appear to be most explicit. We will review the vocabulary in accelerating terms of violence.

Argument

The vocabulary associated with 'argument' is largely confined to verbal rather than physical activity and the outcomes of these roots in most branches are probably best considered within the context of Indo-European legal disputes, e.g. derivatives of Proto-Indo-European *h_3enh_2- include Hittite *hann(a)*- 'contend against, contest, take legal action [against], sue' and Greek *ónomai* 'impugn, quarrel with'; *mel*- yields Old Norse *māl* 'speech, legal dispute', Greek *mōléō* 'contend, bring an action in a suit' (also *mõlos* 'toil of war'), TocharianB *mäl*- 'argue, contest'; *reus*- includes Middle High German *rüsen* 'make a noise, rage' and Sanskrit *róṣati* 'displeases, takes offence at'; while *h_4erg^w- underlies Latin *arguō* 'assert, prove' and Hittite *arkuwai* 'plead, argue'. Although from the field of legal terminology, PIE *$k^woineha$- 'compensation' is, in its earliest attestations, associated with the 'blood money' claimed for a homicide (e.g. Grk *poinḗ*); cf also Middle Irish *cin* 'guilt, crime, payment due', Sanskrit *cáyate* 'pays, punishes' and the Old Prussian *er-kīnnt* 'freed from the devil'. Hallpike (1977) has noted that such compensation increases the frequency of homicide in Papuan society. Regionally, we have the Greek-Indo-Iranian isogloss *$dusmenēs$* 'hostile', literally 'bad-thought' (Greek *dusmenḗs* 'hostile', Avestan *dusmanah*- 'hostile', Sanskrit *durmanās* 'sad').

Harm

These verbal roots for 'harm' either up the emotional ante or move into the realm of physical violence. For example, Proto-Indo-European *$peh_1(i)$-

provides us with Old English *fēon* 'hate', Greek *pêma* 'suffering, misfortune', Sanskrit *pī́yati* 'blames, reviles'. A Proto-Indo-European **dhebh-* may indicate simply 'harm' but it can also indicate physical violence, e.g. Lithuanian *dobiù* 'beat, hit, kill', Sanskrit *dabhnóti* 'hurts, injures'. Similarly, Proto-Indo-European **mel-* 'harm' is based on cognates in Celtic and Tocharian, the extremes of the IE world, where it attests meanings such as Old Irish *millid* 'harms', *mell* 'destruction' and TocharianB *mäl-* 'wound, damage'. The root **dhwerh$_x$-* 'harm' may derive from the action verb **dhwer-* 'pierce' and can also indicate physical damage, e.g. Hittite *duwarnai-* 'breaks, shatters', Sanskrit *dhvárati* 'bends, cause to fall, hurts' and *dhùrtí-* 'injury'.

Strike

Verbal roots indicating 'to strike' are plentiful and, of course, are not necessarily associated exclusively with aggressive activity against an opponent. Nevertheless, many of the verbal roots do carry the connotations of an 'assault'. The root **bher-* generally indicates 'strike' (New English *bore* is derived from the root) but it also returns Old Church Slavonic *borjǫ* 'fight, struggle' and Sanskrit *bhṛṇā́ti* 'wounds'. Although **k̂er-* carries an intransitive meaning 'decay' (e.g. Old Irish *ara-chrin* 'decays', Latin *cariēs* 'decay', Sanskrit *śī́ryate* 'decays'), it also furnishes transitive verbs 'harm, injure' (e.g. Albanian *ther* 'slaughter, stab, goad', Greek *keraízō* 'devastate, kill', Avestan *a-sarəta-* 'unbroken'). A possible Anatolian-Indo-Iranian isogloss underlies **h$_a$ei-* 'assail' (e.g., Hittite *inan-* 'illness', Avestan *aēnah-* 'violence, damage', Sanskrit *énas-* 'sin, guilt'; also perhaps dialectal Greek *zētrós* 'executioner', and Sanskrit *yatár-* 'avenger' if from a derivative **h$_a$y-eh$_a$-*. Proto-Indo-European *g^{w}hen-* is the best attested verbal root for 'strike' and its semantic field is frequently suggestive of combat, e.g. Old Irish *gonaid* 'wounds, strikes', Latin *dēfendō* 'protect', Old Norse *gunnr* 'combat', Greek *theínō* 'strike', *phónos* 'murder', Armenian *ganem* 'strike', Hittite *kuēnzi* 'strikes', Avestan *jainti* 'strikes', Sanskrit *hánti* 'strikes'. Calvert Watkins (1995) has proposed a Proto-Indo-European "hero slays serpent" motif and this is the verb most commonly associated with the slaying of the serpent, i.e. **h$_1$eg^{w}hént h$_1$óg^{w}him* 'he killed the snake'. The root **keh$_a$u-* gives us New English *hew* and, although it can refer to forging in Baltic, Slavic and Italic, it also gives us TocharianB *kau-* 'kill, strike down, destroy' and nouns formed from the root include Middle Irish *cuad* 'war'. The root **wen-* means 'wound' in general but the semantics of New Welsh *gweint* 'bored through' and Hittite *wen-* 'copulate with' suggest a piercing motion (cf also New English *wound*, Armenian *vandem* 'destroy'). Proto-Indo-European **wedh-* 'push, strike' often carries the connotation of strike (with a weapon or tool) (Old Irish *fāiscid* 'presses' but *fodb* 'weapon'), Baltic (e.g. Lithuanian *vedegà* 'a kind of axe'), Greek *éthei* 'destroys',

Anatolian (e.g. Hittite *wezz-* 'strike, urge'), Indo-Iranian (e.g. Sanskrit *vadh-* 'strikes, pushes, slays'), Tocharian (e.g. TocharianB *wät-* 'fight'); it has a derivative which indicates 'castration'. Proto-Indo-European **per-* is another root associated, occasionally, with battle (e.g. Lithuanian *periù* 'beat with brushwood, flog', Russian *pru* 'press, oppress', Albanian *pres* 'cut down, cut off, split', Armenian *hari* 'struck', Avestan *pərət-* 'battle, strife', Sanskrit *pṛt-* 'battle, strife'). Another word crossing 'strike' with 'fight' is Proto-Indo-European **pyek-* which generally means 'strikes' (e.g. Albanian *për-pjek* 'strike', TocharianB *pyāk-* 'strike [downward], batter, beat [of a drum], penetrate [as the result of a downward blow]' but this also gives us our New English *fight*. Proto-Indo-European **bheih_a-* uniformly supplies meanings of 'strike' (e.g. Old Irish *benaid* 'strikes' [where it is the most frequently employed verb to indicate the action of a sword or the beheading of an individual; Mallory 1981], Latin *perfinō* 'break through, shatter', Old Church Slavonic *bijǫ* 'strike', Avestan *byente* 'they struggle, strike'). Proto-Indo-European **pleh_ak/g-* can suggest combat of some sort (e.g., Middle Irish *lén* 'defeat, injury') but it can also indicate being struck emotionally or striking the breast in lamentation.

There are also a series of regional terms, some of which are associated with activities commensurate with combat. For example, from the North-West comes **bheud-* 'strike, beat' which gives us New English *beat* and Old Irish *bibdu* 'guilty; enemy'; a possible **slak-* 'strike' gives us both New English *slay* and Middle Irish *slacc* 'sword'. From the West Central region comes **g^wel-* 'strike, stab' that returns meanings such as 'torture' in Lithuanian and Armenian, 'death' in New Welsh *ballu* and underlies New English *kill*; also **kelh_1-* 'strike' which includes Old Church Slavonic *koljǫ* 'slaughter' and Latin *calamitās* 'injury, damage'. Unquestionably associated with death is the Graeco-Aryan isogloss **tken-* 'strike' with Greek *kteínō* 'kill' and *andro-ktasíā* 'manslaughter' and Sanskrit *kṣanóti* 'injures, wounds'.

Combat

For words for 'fight' (when not covered by 'strike') we have an extended use of Proto-Indo-European **h_aeĝ-* 'drive', e.g., Greek *agṓn* 'athletic contest', Sanskrit *ájman-* 'career, passage, battle', *ājí-* 'race, fight', Old Irish *tāin* [< **to-ag-no-*] 'raid'; the verbal root also serves as the basis of a construction 'to drive cattle' in the sense of 'driving off, raiding' which survives in Celtic, Italic and Indo-Iranian. Since a number of these examples, e.g. Greek, may be later formations or involve late semantic extensions to an earlier meaning 'drive' (in the New English sense of 'demonstrating activity'), it is difficult to know to what extent we can project the meaning 'fight' into Proto-Indo-European antiquity. This, however, is not the case with Proto-Indo-European **yeudh-*

which is also closely associated with combat in Graeco-Aryan (e.g. Greek *husmīnḗ* 'battle', Avestan *yūiδyeiti* 'fights', Sanskrit *yúdhyati* 'fights') but may have a vaguer meaning in some of the other groups, e.g. Latin *iubeō* 'order, command', TocharianA *yutk-* 'be anxious'.

The North-West offers a solid semantic reconstruction in **katu-* 'fight' which gives us Old Irish *cath* 'battle', Old English *heaðu* 'fight', and Old Church Slavonic *kotora* 'fight'; this word also was employed in both Celtic and Germanic personal names, e.g. Gaul *Catu-rīx*, Germ *Hadu-brant*. Similarly, we have **weik-* 'fight' with Old Irish *fichid* 'fights', Latin *vincō* 'defeat', Old English *gewegan* 'fight', Lithuanian *apveikù* 'defeat', and Russian *vek* 'force'. Again from the North-West, we have the noun **nant-* 'combat, fight' seen in Old Irish *néit* 'battle, combat' and Old Norse *nenna* 'strive'.

Destroy

Verbs associated with destruction may obviously denote other activities than those caused by warfare but the terms collected here all have at least some relationship to physical combat. Proto-Indo-European **dhg^whei-* is most secure with its Greek and Indo-Iranian cognates (Greek *phthínō* 'destroy', Sanskrit *kṣiṇā́ti* 'destroys') while potential cognates in Celtic (OIr *tinaid* 'vanishes') and Italic (Latin *situs* 'abandonment') are a bit removed semantically. The verb **h₃elh₁-* 'destroy' is attested in Latin *ab-oleō* 'destroys', Greek *óllūmi* 'destroy', and Hittite *hullā(i)-* 'combat, fight'. Proto-Indo-European **h₂erk-* fits well within the field of combat with cognates in Celtic (Old Irish *oirgid* 'slays') and Hittite *harkzi* 'is destroyed'. Proto-Indo-European **h₂erh_χ-* also tends to indicate destruction in the daughter languages, e.g. Old Church Slavonic *oriti* 'destroy', Hittite *harra-* 'destroy'. Finally, we have a possible Proto-Indo-European **bhreh_xi-* 'destroy, cut to pieces' seen in Latin *friō* 'tear apart', Russian *britŭ* 'shave' and Indo-Iranian (e.g. Sanskrit *bhrīṇánti* 'injure, hurt').

Conquer, Capture, Spoils and Protect

Although many of the words might have a plausible non-combative context, it is difficult to ascribe anything other than a military meaning to Proto-Indo-European **seĝh-* where we find New High German *Sieg* 'victory', Hittite *sakkuriya-* 'overcome', Sanskrit *sáhas-* 'victory', *sáhuri-* 'victorious' and 'hold fast' (it supplies the basic Greek verb *ékhō* 'hold'). Both the early Celts and the Germans employed this word in the formation of personal names for their leaders, e.g. Gaulish *Sego-marus* and Old Norse *Sigurðr*. Although Proto-Indo-European **g^wyeh_a-* can render 'physical force' in both Greek (Greek *bíā* 'physical force, violence') and Indic (Sanskrit *jyā́* 'force, violence') it also conveys

the concept of overcoming an enemy, seen, for example, in Old Norse *kveita* 'make an end to, kill', and Sanskrit *jināti* 'overpowers, suppresses'. From the NW region we have **kaptos* 'captive' seen in Celtic (e.g. Old Irish *cacht* 'captive, female slave'), Latin *captus* 'captive', and Germanic (e.g. Old English *hæft* 'captive, slave'), all transparently from the verbal root **kap-* 'seize, take'.

There is one clear word for 'booty', **soru*, that is preserved as a noun in Hittite *saru* 'booty (particularly captured men, cattle and sheep)' and in Celtic (Middle Irish *serb* 'theft', New Welsh *herw* 'raid (usually cattle))' and just possibly Latin *servus* 'slave' (i.e. one captured as booty).

There is little evidence for the concept of 'protect'. It can be seen in Proto-Indo-European **ser-* 'protect' which is found in Latin *servō* 'guard', Lydian *sarēta* 'protector' and Avestan *haraiti* 'defends'. Other terms are not so clearly associated with potential military activity. There is Proto-Indo-European **h_alek-* which yields the meaning 'protect' in Germanic (Old English *ealgian* 'protect'), Greek *aléksō* 'defend', and Sanskrit *rákṣati* 'protect', but in both Germanic and Baltic this root is also associated with sacred areas, e.g. Old English *ealh* 'temple', Lithuanian *al̃kas* 'sacred grove', which might suggest a specifically religious connotation.

Strength and bravery

Although there are words enough to indicate a healthy physical state, there are some words associated with 'strength' that may take on a specifically military colour. Proto-Indo-European **h_aeuges-* 'physical strength' returns a religious context in Latin *augustus* 'sacred', but in Indo-Iranian (Avestan *aojah-* 'strength', Sanskrit *ójas-* 'strength'), the 'strength' specified is generally associated with the type of (potential rather than kinetic) energy needed by a warrior; it has been defined as 'the fullness of muscular strength that enables the warrior or hero to perform his deeds' (Polomé 1997a: 209). Proto-Indo-European **wei-h_xs* 'strength' (Latin *vīs*, Greek *ïs* both 'strength', Sanskrit *váyas-* 'force') indicates a gendered 'vital force', as this underlies one of the commonest words for 'man', **wih_xrós*, e.g., Latin *vir*, which, as anyone who has ever read Vergil knows, indicates a 'real man' (Aeneas). The other primary word for 'man' in Proto-Indo-European, **h_aḗnr* (e.g., Greek *anḗr*, Sanskrit *nár-*) derives from **h_aénr̥*, which again seems to have indicated 'manly strength' and is seen in derived form as Hittite *innara* 'violently' and *innarahh-* 'make strong'. We also have a Proto-Indo-European **dhers-* 'brave' with cognates in Germanic (e.g. New English *dare*), Baltic (e.g. Lithuanian *dręsù* 'dare'), Greek *thérsos* 'bravery', and Indo-Iranian (e.g. Sanskrit *dhr̥ṣṇóti* 'is bold, dares').

Trauma

There is a fairly extensive vocabulary associated with health and disease in Proto-Indo-European; however, the vocabulary that most likely comprises the types of trauma that could be induced through armed combat is very limited.

The most widely attested word for 'wound' is Proto-Indo-European *wol/rno/eh$_a$- which is found in Latin *volnus* 'wound, injury', Russian *rána* 'wound', Albanian *varrë* 'wound, injury, sore', Greek *oulḗ* 'scar', and Sanskrit *vraṇá-* 'wound'. Proto-Indo-European *h$_a$éru(s)-* depends on a comparison between Germanic and Sanskrit, i.e. Old Norse *ørr* 'scar', Sanskrit *áruṣ-* 'wound' while *peles-* involves Greek *ápelos* '[unhealed] wound', and TocharianB *pīle* 'wound'. Proto-Indo-European *sweros* 'wound' is widely found (e.g. New Welsh *chwarren* 'ulcer', Old High German *sweren* 'fester', Russian *khvóryj* 'sick', Avestan *x^{v}ara-* 'wound'), but the Celtic and Germanic meanings suggest that we may be dealing with a suppurating wound rather than a laceration; the same could be said of the regional isogloss (Lithuanian *votìs* 'ulcer, abscess, boil', Greek *ōteilḗ* 'wound') that derives from *weh$_a$t-* '(suppurating) wound'.

Military organization and leadership

A Proto-Indo-European word for 'army' remains illusive with the best candidate being *leh$_2$wós* from a root *leh$_2$-* 'military action'. It is attested in Greek *lā(w)ós* 'people', [pl.] 'army', Doric *lāgétās* 'leader of the people' and Phrygian *lawagtei* 'military leader' in terms of a military leader or his unit; only Hittite *lahha-* 'campaign' increases the number of cognates but the Hittite word does not actually indicate a military unit, but rather a military action. A second and similar word *koros* appears as OPers *kāra-* 'people, army' and Lithuanian *kãras* 'war' and in derived form, *koryos* 'army, war-band, unit of warriors', it gives us cognates in Celtic (MIr *cuire* 'troop, host'), Germanic (e.g. Old English *here* 'army'), Baltic (Lithuanian *kãrias* 'army'), and Greek *koíranos* 'army leader'. A possible word for 'warrior' would be *yeudhmós*, which can be found in Old Church Slavonic *o-jĭminŭ* and Sanskrit *yudhmá-*, both 'warrior', and from the verbal root *yeudh-* 'fight'. We also have *tagós* 'leader', which is found in Greek *tāgós* 'leader' and TocharianA (pl.) *täśśi* 'leaders'; it is derived from the verbal root *tag-* 'put in order, arrange'. Semantically, both Greek and Indo-Aryan agree on a *h$_a$eĝós* 'leader' (Greek *agós* 'leader', Sanskrit *ajá-* 'driver') from the verbal root *h$_a$eĝ-* 'drive'.

There are also some social and age terms that have been discussed within the context of Proto-Indo-European military structure that will be discussed further below. These include the word for 'king' (generally regarded as a

sacral rather than a military role) which appears as Proto-Indo-European *$h_3r\acute{e}\hat{g}s$ with cognates in Celtic (Gaul *rix*, Old Irish *rí*), Latin *rex*, and Sanskrit *rā́j-*, all 'king'. We also have a regionally-attested word for 'tribe, people (under arms?)', *$teut\acute{e}h_a$- seen in Celtic (e.g. Old Irish *túath*), Germanic (e.g. Old English *þēod* 'folk'), Baltic (e.g. Lithuanian *tautà* 'people'), and as a personal name element in various Balkan languages (e.g. Thracian *Tautomedes*). A Slavic form has been suggested as the source of Hungarian *tót* 'Slovak' (Zimmer 2004: 214). This word may be of greater antiquity if we can also accept a possible Iranian cognate (New Persian *toda* 'heap, pile') and, more importantly, Hittite *tuzzi-* 'army'.

Poetic diction

The longest formulations that we generally recover from Proto-Indo-European are frozen expressions of poetic diction, generally combinations of two elements and largely confined to the evidence of Greek and Sanskrit but, occasionally, also recoverable from other language groups (Schmitt 1967, 1973). It has long been recognized that one of the central concerns of Indo-European poetics is the acquisition of *$\hat{k}lewos\ \d{n}dhg^whitom$* 'fame-undying' (Greek *kléos ámphthiton*, Sanskrit *śrávas ákṣitam*), and here we are largely, if not exclusively, dealing with the *$\hat{k}lewos\ h_a n r\acute{o}m$* 'fame of [real=warrior] men' (Greek *kléa andrōn*, Sanskrit *śrávo . . . n̥n̄ā́m*). The task of the Indo-European poet was to preserve forever the famous deeds of the hero. We have already encountered the frozen expression concerning the hero's slaying of a mythic serpent. Within the context of martial violence, we also have as a frozen expression *$h_a n\d{r}-g^when-$* 'man-killer' which is not only an epithet of the Trojan Hektor (*androphónos*) but also appears as a personal name in the Linear B tablets (*A-no-qo-ta*); in Sanskrit, the cognate form *n̥r-hán-* is an epithet of the war-like god Rudra. The evidence of poetic diction helps confirm the view that the Proto-Indo-Europeans not only had a vocabulary relating to physical aggression but contextualized it within the framework of heroic oral narrative.

Comparative Ethnology

Generally, the use of comparative ethnology would not be regarded as a secure route to the past because the evidential basis of what often appears as purely anthropological speculation would seem to be beyond any form of 'testing'. It should be emphasized that we are not talking about the use or misuse of ethnographic analogy to evaluate the archaeological record but rather the reconstruction of the belief and behavioural system of a language family

on the basis of extra-linguistic evidence. In the field of Indo-European stud-
ies, there is a long tradition of research that presupposes that we not only
can reconstruct the proto-language of a language family from its constituent
language groups, but we can also say something about its social or religious
institutions on the basis of the earliest traditions found in the various Indo-
European groups. However, the logic of such an approach poses real prob-
lems of epistemology.

Consider the following proposition: as head-hunting is well known in the
ethnographic literature (and archaeologically) for both the early Celts and also
the Scythians (linguistically Iranian-speakers), then we should be able to recon-
struct the practice (though not the word) of 'head-hunting' to the Proto-Indo-
European community in the same way that we might reconstruct a lexical
item if it shared cognates in a Celtic and Iranian language. However, these
are, of course, not analogous situations as a linguistic correspondence relies
on the arbitrary nature of language (the unlikelihood that two languages would
share the same word phonetically and semantically purely by chance), while
our ethnographic comparison is in no way confined to Celtic and Iranian; it
could easily be augmented by a series of other head-hunting examples from,
say, Southeast Asia (e.g. the Iban) and the Americas (e.g. the Jihvaro) that
can have no bearing on establishing the situation among the Proto-Indo-
Europeans, i.e. they point to behavioural patterns that might well be generic
or sporadic but are not demonstrably genetic. While most would dismiss an
attempt to reconstruct a cultural behaviour on the basis of only two distant
groups, many would accept comparisons established either on the basis of a
much wider set of comparisons or one whose detail is so precise across a
number of traditions that some form of historic (e.g. diffusion) or genetic con-
nection seems probable. A good example of this entire problem can be seen
in recent discussions of the Indo-European 'war-band', where the behaviour
described below does at least occasionally intersect with the lexical evidence
of the *koros ~ *koryos 'war-band'.

Gerhard Meiser (2002) has summarized a number of the basic character-
istics of the (Proto-)Indo-European war-band proposed on the basis of ethno-
graphic evidence:

1. The (Proto-)Indo-European war-band consisted of young males associ-
ated into age-class cohorts (e.g. McCone 1987: 107–108 cites evidence in Irish
Law for recognizing a stage of unmarried males between 14 and 20, which
he compares with age-sets among the Masai).

2. Composition usually includes prominent youths (McCone 2002: 45).

3. The bands are organized primarily for military duties: they live outside
the usual social world both in terms of location (often 'in the wild') and in

terms of behaviour (e.g., theft is not regarded as anti-social behaviour as long as it is not directed at the host society; see McCone 1987 for numerous examples). McCone (1987: 114) has argued that the *koryos* was composed of young unmarried males without possessions, before their participation in the *teuteh$_a$-* 'tribe' which consisted of adult married males with possessions, who were fully incorporated into society.

4. Dress is characterized by elements of either nudity (Germans, Celts) or the wearing of animal hides, in particular an association with the appearance of wolves (Germans, Indians, Iranians, Romans; McCone 1987, 2002). Colour symbolism is generally black or at least dark (Greeks, Indians).

5. Adoption of wolf-like behaviour, names employing the wolf element, etc. (Celts, Germans, Greeks, Indians).

6. A particular association with death (linked to the role of wolves or other canines in religious belief and to the status of lying outside of society). This can also be regarded as a liminal status. McCone (2002: 47–49) has followed others in interpreting the famous scene on the Gundestrup Cauldron depicting a group of foot-soldiers being dipped into a vat as members of the warband undergoing an initiation ritual (a symbolic death and rebirth) and emerging in the upper frame as horsemen; this has also been compared with Cú Chulainn's immersion in three vats of water after his first raid.

The widespread correspondences suggest to Gerhard Meiser that

> *Die Beziehung von Elementen bündischer Organizationstruktur in nahezu der gesamten antiken Indogermania macht jedoch die Existenz von Männerbunden und speziell von Jugendbünden in hohem Masse wahrscheinlich* (2002: 8).

> The appearance of elements of a federated organisational structure in almost the whole of ancient Indogermania makes the existence in large numbers of war bands, and particularly of youth bands, probable.

Critics such as Stefan Zimmer (2004) are, however, sceptical of attempts to reconstruct a system from various sources derived from various dates that describe, so far as one can tell, a variety of different institutions that hover generally around the general concept of the 'war band'. What we have here is an edifice erected on the basis of material ranging from ca. 1000 B.C. to the 13th c. A.D. that describes a variety of forms of warrior sodalities from which we back project a proto-institution to about 4000–2500 B.C. To what extent (and why?) should we expect a prehistoric institution to resemble that of 1st century A.D. Germans or 8th century A.D. Irish warbands? Does this type of reconstruction implicitly assume about four thousand years of social stasis in the area of warfare? This would be more than remarkable, especially when we find that other elements of the social system, at least in terms of

language, seem to be so unstable. Schlerath undertook an interesting experiment comparing the German *Heliand* with the Old English *Beowulf* to find that, of the 27 words or compounds concerning social organization that were common to both, only two have survived in each of their respective languages a thousand years later (Schlerath 1987). On the other hand, is such criticism too swingeing when we do have at hand a wide range of seemingly comparable material that does point to some form of military institution? Zimmer concludes his highly critical review of a volume of papers devoted to the study of Indo-European war-bands with a precariously balanced observation:

> In spite of the fact that the testimonies of various bands display wide variation, such groups are assumed to have existed because of anthropological parallels and motives. This is hardly compelling. Such groups may well have been part of PIE social life, and may be postulated with good reason, but this assumption can in no way be considered probable, as the sources simply are insufficient to bear the weight of argument needed (Zimmer 2004: 213–14).

So what are we to do with an extensive system of correspondences that could certainly fuel any post-processual evaluation of the archaeological data of Eurasia but prove logically frustrating to anyone who believes that we can actually test the archaeological record with such ethnographic evidence? To take an archaeologically obvious example, consider the volume of literature that associates the Indo-European war-band with wolves (or sometimes bears: compare Old Norse *berserk* possibly 'bear-shirt' which underlies the wild behaviour of a Norse warrior *berserksganger* 'gone beserk'). Do we find a proliferation of wolf emblems or wolf remains (teeth, bones) in Bronze or Iron Age burials in Europe that we might associate with our reconstructed Indo-European war-bands? If we do not find such evidence (and here we are talking of periods in which it is very difficult to assume an identity other than Indo-European), can we seriously conclude that we are not dealing with the burials of Indo-European warriors? Or, do we reverse the logic and suggest the presence of tabu restrictions on killing or representing wolves among early Indo-Europeans (cf the tabu on the Irish archetypal warrior Cú Chulainn, 'the hound of Culainn', who was forbidden to taste the flesh of dog) and hence we should expect no association between warriors and wolves? Does any of this exercise get us any closer to Proto-Indo-European warfare? Perhaps not, but it does raise an interesting issue in that much of the archaeological discussion of the organization of warfare in the Bronze Age concentrates on the concept of 'warrior aristocracies' or 'elites' (e.g. Kristiansen 1999), while much of the ethnographic discussion has centred on the actual composition and behaviour of the sodality itself rather than its assumed social prestige.

Comparative Mythology

There is only one potential lexical candidate for a Proto-Indo-European 'war-god' (*māwort-*) which some have argued underlies both the Latin war-god *Mars*, and the Sanskrit *Marutás*, a group of storm-gods who accompany the Indic war-god, Indra. Neither the lexical comparison nor the semantic link between the two is regarded as secure by most linguists and hence Indo-Europeanists generally find no primary evidence on which to reconstruct the name of a Proto-Indo-European 'war-god' (Polomé 1997b: 630–31).

Just as the case with comparative ethnology, many who are occupied with reconstructing the Indo-European pantheon and mythic structure employ the techniques of comparative mythology that do not require specific linguistic correspondences to uncover what are presumed to be underlying themes and belief structures (see Puhvel 1987). When mythic structures are examined, similarities may be found across the various Indo-European war-gods, e.g. both the Norse Thor and the Indic Indra are specifically associated with a vehicle pulled by a goat, but also as many differences. Within the ideological constructs most frequently ascribed to the Indo-Europeans (Miller 1997), we find the following motifs: an association of warriors and priests on one side of a cosmic battle with the food producers of society which results in the latter's incorporation into the society as a whole (e.g. the Norse Aesir and Vanir, the Romans and Sabines); the participation of warriors in cattle-raiding as a sacred activity (cf. Lincoln 1981); the motif of the archetypal warrior committing three 'sins' against his class (cf. Dumézil 1970: 1983); and the dual representation of the warrior as a defender of society and, on the other hand, as an anti-social and capricious wreaker of violence, whose behaviour is inimical to society. The scepticism that one applies to the use of ethnographic evidence can, of course, also be applied here, although there is one difference: much of what we reconstruct from comparative mythology, while it may be pertinent to interpreting putative remains of Proto-Indo-European art, it is far more removed from most of the primary evidence that an archaeologist would encounter.

Conclusions

The archaeological evidence of warfare during the Bronze Age and Iron Age in Europe is fairly well rehearsed (e.g. Carman & Harding 1999, Osgood, Monks & Toms 2000) and it is likely that by the Late Bronze Age at least, many if not the majority of populations that have been archaeologically investigated spoke some form of Indo-European language. Analysis of the reconstructed vocabulary of the Indo-Europeans indicates at least some names for

weapons and defensive architecture and a series of terms to express the vary-
ing degrees of hostility that range from 'anger' and 'dispute' all the way to
physical aggression, including homicide. We also have names for some of the
positions of authority within some form of military sodalities and the names
of some of the institutions of warfare, including the vocabulary of conquest,
raiding and the taking of booty. There is also some evidence from the lan-
guage of poetic diction that indicates that the deeds of a warrior were some-
thing to be celebrated and esteemed in the earliest Indo-European society. In
short, irrespective of where one might want to locate the earliest Indo-Europeans
speakers in time or space, there is certainly evidence that we are dealing with
a society that routinely engaged in warfare and had social institutions specifi-
cally associated with armed aggression and defence. In addition, we have
other lines of evidence drawn from the world of comparative ethnology and
mythology that directly bears on the theme of warfare and the warrior but
poses enormous epistemological problems in terms of its utility, at least to an
archaeologist.

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