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Indo-European Language and Culture

An Introduction

Benjamin W. Fortson IV



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Preface

In spite of its venerable status as one of the oldest and most successful disciplines in linguistics, the comparative study of the Indo-European family has hitherto lacked an introductory textbook, or an introductory book of any kind appropriate for classroom use or for an intelligent layperson with linguistic interests but without specialized training. The few introductory books on the market do have virtues, but in all cases known to me these virtues are compromised, sometimes severely, as by idiosyncratic or minority views masquerading as *communes opiniones*, by uneven coverage or omission of important topics, by out-of-date views or erroneous material, or by excessively technical information. None is a textbook.

Some of the features an Indo-European textbook should have are rather obvious. It should be up-to-date and, to the extent possible, present non-controversial views. It should not overwhelm the reader with detail, but also be comprehensive enough to satisfy the serious student at the beginning of his or her scholarly career. It should have copious exercises. Some other features an Indo-European textbook should have are less obvious (at least for some), but are in my view as essential as the preceding. It should not only cover phonology and morphology, but syntax as well, and incorporate relevant findings from generative linguistics where they are not limited to (or by) a particular (and quite likely evanescent) theoretical framework. Data should not be oversimplified or skewed by leaving out diacritics and other funny-looking symbols. There should be annotated text samples in all the ancient languages, and of a sufficient size to impart a real feel for the languages and to introduce readers to the practice and importance of philology. Basic information should be provided on the archaeological, cultural, and literary history of each branch. The modern languages should not be omitted from discussion. Finally, it should outline what we know about Proto-Indo-European culture and society.

These are the goals of the present work. If it falls short of any of them, hopefully it at least improves over other books currently available. It is designed for use with an instructor or for private consumption. It is assumed that the reader is interested in language and linguistic history, but no prior knowledge of linguistics or any older Indo-European language is necessary. Technical terminology is explained as needed, with a glossary appended for good measure.

Layout

Chapter 1 presents the tools of the trade and an overview of various basic issues that confront the researcher in the field. This is followed by a chapter on the

reconstructed culture and comprehensive index elsewhere. As interesting as this has been put toward the end.

Chapters 3–8 provide an introduction to Indo-European that serves as a solid basic reading. Here will be needed in-class instructors (and readers).

Each of the remaining chapters is proceeding in chronological order, concluding with a chart of language families. Indo-Iranian is treated as equally as possible. An effort was made to make each chapter a book of this kind, not just a series of developments discussed in sequence and important for each language. Proto-Indo-European is given a chapter to give an overview of the language, augmented at will by insertions that allows easy skipping of sections.

Importantly, no language of interest should be entirely omitted. Indo-European languages are useful for Indo-Europeanists, but books that only grammar is true, provide us with little information, but it does tell us something about the language. (or fascinatingly maddening) that Indo-European can be studied using Proto-Indo-European as the root of the family.

In addition to the regular chapters included that are intended to teach the student about the languages, or to interest the student in them. For example, has a section on the history of the language, off the beaten path and the like. Russian, while in the West, may have become common, the discussion of this in the West is not as common.

The Sample Texts

The text samples are intended to impress the student with the variety of texts that are outlined in chapter 1. It is to be hoped that exposure to these texts will inspire the student to continue their studies in the field.

reconstructed culture of the Proto-Indo-Europeans, which attempts an organized and comprehensive introductory synthesis of a kind that I do not believe I have seen elsewhere. As interest in the matters discussed here usually runs high, this chapter has been put toward the beginning of the book rather than at the end.

Chapters 3–8 provide a reasonably complete introduction to reconstructed Proto-Indo-European that serves not only as background for the subsequent chapters, but also as a solid basic reference grammar in its own right. Not all the material included here will be needed in an introductory class; it is modular enough that individual instructors (and readers) can choose to omit whatever sections they please.

Each of the remaining twelve chapters treats a particular branch of the family, proceeding in chronological order of attestation from oldest to most recent and concluding with a chapter on the fragmentarily attested languages of uncertain filiation. Indo-Iranian is split over two chapters. All the branches and languages are treated as equally as possible, and in essentially the same format; but no attempt was made to make each chapter slavishly conform to identical specifications. In a book of this kind, no branch's history can or should be treated exhaustively. The developments discussed are selective; the chapters are tailored to what is interesting and important for each branch or language. Unlike the chapters on reconstructed Proto-Indo-European grammar, these are intended more to get one's feet wet than to give an overview that covers everything equally. The material can be supplemented at will by instructors, and again the modular structure of these chapters allows easy skipping of unneeded information.

Importantly, no language was deemed too trivial for coverage. The reader's interest should be engaged, and his or her curiosity piqued, with regard to *all* the Indo-European languages. The notion that certain languages are not particularly useful for Indo-European linguistics is both counterproductive and sadly perpetuated by books that only grant passing mention to those languages. Albanian may not, it is true, provide us with as much information about the proto-language as Sanskrit, but it does tell us some useful things, and in any event has a maddeningly fascinating (or fascinatingly maddening) history that merits careful attention. It bears repeating that Indo-European comparative linguistics is not just concerned with reconstructing Proto-Indo-European; it also must account for the histories of all the languages of the family.

In addition to the requisite basic sound laws, etc., short discussions of topics are included that are intended to appeal to readers with some experience in the languages, or to interested readers without any such background. The Greek chapter, for example, has a section on Homeric philology. A few topics that might seem a bit off the beaten path are scattered throughout. For instance, a student of first-year Russian, while in the throes of wrestling with the syntax of the cardinal numerals, may have become curious about how this unusual system came to be; a short discussion of this in the section on Slavic is therefore included.

The Sample Texts and Other Features

The text samples are meant to give an idea of what the languages look like, and to impress the student with the importance of philology, whose methods and purpose are outlined in chapter 1. The texts are about a paragraph in length on average. It is to be hoped that exposure to good-sized text samples with philological commentary

will inspire an interest not only in the languages themselves, but also in close textual and etymological analysis. Where possible I have chosen texts having literary and cultural interest; many are connected to discussions in chapter 2. The commentary is geared especially to the reader interested in learning a bit more: it provides word histories and comparanda, points out examples of developments covered in the chapter, and also adds notes on developments not met with in the chapter. Unless indicated otherwise, all translations are my own.

I decided to eschew the usual interlinear word-by-word analytical glosses that are otherwise standard in the linguistic literature; the commentary stands partly in lieu of them. The reason for doing this is perhaps unorthodox, but I believe sound: interlinear glosses distort one's perception of the aesthetics of a written language, which is not a trivial concern for a book such as this. The look of a language should never be underestimated as a tool for engaging a student's interest. The commentary at any rate usually makes it possible for students who seriously want to match each word of the original up with its translation to do so. (For some longer passages, however, and in some longer chapters, commentary could only be given selectively, due to limitations of space.)

This leads to one further point. Some who have written introductory materials on Indo-European have left out phonetic details, such as long marks and accents. Such simplification of the data renders all students a great disservice by selling the languages short. Someone likely to pick up a book such as this or to take an introductory Indo-European course will not be put off by unusual marks and symbols. Quite the opposite – they are likely to be *intrigued* by the peculiar look of the strange forms, and will discover in them an inviting mystery and beauty. The decision to ignore “details” such as accents should at any rate be left to the reader's discretion.

Each chapter closes with several additional sections. The “For Further Reading” sections provide brief commentary on the most important or prominent secondary literature; the full references (together with a few extra that are not discussed) are listed in the Bibliography preceding the Index. Devoting space to such commentary rather than to long bibliographical lists is more useful for this kind of book. The “For Review” sections list the main terms and concepts, and the “Exercises” that follow are designed both for review and for going beyond the material discussed in each chapter. Finally, starting in chapter 9, a short list of reconstructed roots or words in Proto-Indo-European is given, arranged by semantic category. How instructors choose to integrate these in with their course is left up to them.

Since few of the localities mentioned in the text will be familiar to most readers, illustrative maps are provided in each chapter on the branches as well as chapters 1 and 2. These were deemed to be the most important visual component of the book. Chapter 1 also contains a diagram of the Indo-European family tree. Regrettably, cost and space limitations prohibited the inclusion of other planned illustrations, as of artifacts and ancient scripts; it is hoped that these can appear in a future edition.

Ann Arbor, May 2004

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Guide to the Reader

A. Abbreviations

abl.	ablative	Luv.	Luvian
accus., acc.	accusative	masc.	masculine
act.	active	ME	Middle English
adj.	adjective	Mod.	Modern
Alb.	Albanian	neut.	neuter
Anat.	Anatolian	nomin., nom.	nominative
aor.	aorist	OAv.	Old Avestan
Arm.	Armenian	OCS	Old Church Slavonic
Av.	Avestan	OE	Old English
B.-Sl.	Balto-Slavic	OHG	Old High German
Celt.	Celtic	OHitt.	Old Hittite
Class.	Classical	OIr.	Old Irish
Cz.	Czech	OLith.	Old Lithuanian
dat.	dative	ON	Old Norse
du.	dual	OPers.	Old Persian
Du.	Dutch	OPruss.	Old Prussian
Eng.	English	OS	Old Saxon
fem.	feminine	Osc.	Oscan
fut.	future	pass.	passive
Gaul.	Gaulish	PIE	Proto-Indo-European
genit., gen.	genitive	pl.	plural
Gk.	Greek	Pol.	Polish
Gmc.	Germanic	pres.	present
Goth.	Gothic	Russ.	Russian
Hitt.	Hittite	sing., sg.	singular
Icel.	Icelandic	Skt.	Sanskrit
IE	Indo-European	Slav.	Slavic
imperf.	imperfect	Toch.	Tocharian
Indo-Ir.	Indo-Iranian	Umbr.	Umbrian
instr.	instrumental	Ved.	Vedic
Lat.	Latin	voc.	vocative
Latv.	Latvian	W.	Welsh
Lith.	Lithuanian	YAv.	Younger Avestan
loc.	locative		

B. Symbols

- * denotes a reconstructed form, not preserved in any written documents
- < “comes from” or “is derived from”
- > “turns into” or “becomes”
- indicates morpheme boundary, or separates off that part of a word that the reader should focus on
- () encloses part of a word that is not relevant to the discussion, or that is an optional part
- ~ separates pairs of examples or forms

C. Spelling Conventions

All linguistic forms are written in *italics*. The only exceptions are inscriptional forms in Italic dialects (such as Oscan and Umbrian) that are not written in the Latin alphabet; these, following standard convention, are given in **boldface**. See chapter 13. For Latin, *i* and *u* are used for both the vowels and the glides (instead of *j* and *v*).

D. International Phonetic Alphabet (IPA)

Phonetic transcriptions using the IPA are enclosed in square brackets. The symbols used for American English sounds are:

Consonants				Vowels	
b	bell	p	pat	a	father
d	dim	r	roof	æ	hat
ð	this	s	silver	e	care
f	fail	ʃ	shelf	ɛ	pet
g	go	t	tin	ə	about
h	heal	θ	thin	i	beat
j	yarn	v	vat	ɪ	bit
k	coal	w	well	o	bore
l	light	z	zero	ɔ	bought
m	magic	ʒ	measure	u	boot
n	near			ʊ	book
ŋ	sing			ʌ	but

1 Introduction

Methodology

Family

The Study of Languages

Comparative Methodology

1.1. All languages are interesting and interesting that their ilk are fundamental contrast, identical or two or more languages can have several sources in order to investigate si

The first source for that the human vocal tract is limited. These facts cannot resemble one another words for ‘god’, *theós*, with one another.

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1 Introduction: The Comparative Method and the Indo-European Family

The Study of Language Relationships and the Comparative Method

1.1. All languages are similar in certain ways, but some similarities are more striking and interesting than others. Consonants, vowels, words, phrases, sentences, and their ilk are fundamental structural units common to all forms of human speech; by contrast, identical or near-identical words for the same concept are not, and when two or more languages share such words, it attracts notice. This kind of resemblance can have several sources, which must be clearly distinguished from one another in order to investigate similarities between languages scientifically.

The first source for such resemblance is **chance**. There are only so many sounds that the human vocal tract can produce, and their possible combinations are also limited. These facts conspire to create a certain number of words that coincidentally resemble one another in any two languages picked at random. The Greek and Latin words for ‘god’, *theós* and *deus*, are of this kind; they have no historical relationship with one another.

A second source of such similarity is **borrowing**. People speaking different languages are often in contact with one another, and this contact typically leads to mutual borrowing (adoption) of both cultural and linguistic material. English, for example, has borrowed the Inuit (Eskimo) word *iglu* ‘house’ for a type of shelter (*igloo*).

A third source of similarity is a sundry collection of **language universals**; these are basic characteristics of human linguistic creativity that are found the world over. Two common examples are onomatopoeia or sound-symbolism (whereby words sound like what they mean, such as English *cuckoo* and Germanic *Kuckuck*, names based on imitation of the bird’s cry), and nursery or baby-talk words for kinship terms, which typically contain syllables like *ma*, *ba*, *da*, and *ta* (compare English *Ma* with Mandarin Chinese *mā* ‘mother’).

1.2. Sometimes, however, languages present similarities in their vocabulary that cannot be attributed to any of these sources. To take a concrete example, consider the words for the numerals 1–10 in Spanish, Italian, French, and Portuguese:

	Spanish	Italian	French	Portuguese
1	uno	uno	un	um
2	dos	due	deux	dois
3	tres	tre	trois	três
4	cuatro	quattro	quatre	quatro
5	cinco	cinque	cinq	cinco
6	seis	sei	six	seis
7	siete	sette	sept	sete
8	ocho	otto	huit	oito
9	nueve	nove	neuf	nove
10	diez	dieci	dix	dez

The striking similarities in each row attract immediate attention and demand an explanation. Chance seems well-nigh impossible. There is also no connection between the sounds of these words and their meanings, which rules out onomatopoeia; nor are other linguistic universals such as baby-talk relevant. A third possibility is that one or more of the languages borrowed its numerals from one of the other languages, or that they all borrowed them from some outside source. It is true that there are languages that have borrowed the names of some or all numbers from other languages, as Japanese did from Chinese. But if we look a bit further afield, we notice that the numerals are not the only words evincing such strong mutual resemblance:

	Spanish	Italian	French	Portuguese
(1) 'two'	dos	due	deux	dois
'ten'	diez	dieci	dix	dez
'tooth'	diente	dente	dent	dente
'of'	de	di	de	de
'they sleep'	duermen	dormono	dorment	dormem
.				
(2) 'am'	soy	sono	suis	sou
'you (sing.) are'	eres	sei	es	és
'is'	es	è	est	é
'we are'	somos	siamo	sommes	somos
'you (pl.) are'	sois	siete	êtes	sois
'they are'	son	sono	sont	são

We see that not just the words for ‘two’ and ‘ten’, but all the other words in group (1) above agree in beginning with *d*- in each language. It is rather uncommon for basic terms like ‘tooth’, ‘of’, and ‘sleep’ to be borrowed, and even more uncommon for three languages to have borrowed them from a fourth, or for all four of them to have borrowed these words from a fifth language. The forms in (2) show that the whole present tense of the verb ‘to be’ is similar across all four languages, and in very specific ways. It is extremely unlikely that a language (to say nothing of four languages) would borrow wholesale a complete verbal paradigm from another language, especially one as basic as this one – and one that, as it happens, is highly irregular in nearly the same way in each language.

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Languages like these may be genetically related, but there are no claims about the people who may belong to one language family or another (the grounds of people speaking the same language in the same city.)

Comparative record

1.4. So far we have seen one sense our task – and Portuguese – is difficult to stop there; they are also was like – in other words, systematic comparison, content ourselves with the search for ‘tooth’ in our found

Spanish	Italian
diente	dente

All these words begin well. The four words moment the fact that French it was pronounced “skeleton” *d...nt...* consonant cluster, but the simplest thing (bars earlier *e* to *ie*, rather than if we were to look at change in the history having the word end with sounds are not added original final vowel has vowel loss of this kind.

Putting all this info 'tooth' had the shape *d*; this reconstruction (**a*) for a hypothetical form, but is thought to have uses in other branches of historical linguistic us

1.3. If two or more languages share similarities that are so numerous and systematic that they cannot be ascribed to chance, borrowing, or linguistic universals, then the only hypothesis that provides a satisfactory explanation for those similarities is that they are descended from the same parent language. This is the essential statement of what is known as the **comparative method**. And in the case of Spanish, Italian, French, and Portuguese this hypothesis would be right: we know from other evidence that these languages are all descended from a variety of Latin.

Languages like these that are descended from a common ancestor are said to be **genetically related**. This technical term has nothing to do with biology; it makes no claims about the race or ancestry of the *speakers* of the languages in question, who may belong to many ethnicities. (Just think of all the different ethnic backgrounds of people speaking English as their native language within any large English-speaking city.)

Comparative reconstruction

1.4. So far we have shown how genetic relationship can be demonstrated, and in one sense our task – of explaining the similarities between Spanish, Italian, French and Portuguese – is done. But historical and comparative linguists typically do not stop there; they are also interested in figuring out what a putative ancestral language was like – in other words, to reconstruct it. Reconstruction is accomplished through systematic comparison of the forms in the descendant languages. Here we must content ourselves with one brief illustration. Let us take another look at the words for ‘tooth’ in our four languages above:

Portuguese	Spanish	Italian	French	Portuguese
dois				
dez				
dente	diente	dente	dent	dente
de				
dormem				

All these words begin with *d*-, meaning their ancestor surely began with *d*- as well. The four words also agree in having the consonant cluster *nt* (ignore for the moment the fact that the *nt* in the French form is not pronounced as *nt*; in older French it was pronounced as written). The ancestral word thus probably had the “skeleton” *d...nt*... Italian, French, and Portuguese agree in having *e* before the consonant cluster, but Spanish has a diphthong *ie*. Since only Spanish is deviant here, the simplest thing (barring evidence to the contrary) is to suppose that it changed an earlier *e* to *ie*, rather than that the other three each changed an earlier *ie* to *e*. In fact, if we were to look at other examples, we would find that this was a regular sound change in the history of Spanish. Finally, all the languages except French agree in having the word end with the vowel *e*; since in the general course of language change sounds are not added to words willy-nilly, we may suppose that French lost an original final vowel here that is still preserved in the other three languages. Final-vowel loss of this kind is in fact extremely common cross-linguistically.

Putting all this information together, we may surmise that the ancestral word for ‘tooth’ had the shape *dente*. As a final but crucial touch we must add an asterisk before this reconstruction (**dente*), which is the conventional marker in historical linguistics for a hypothetical form – one that is not actually attested (preserved in documents) but is thought to have once existed. (As some readers may know, asterisks have other uses in other branches of linguistics, such as to denote ungrammatical sentences; the historical linguistic usage should not be confused with those.)

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own *dialects*; and given enough time these dialects can develop into what eventually may be labelled different *languages*. (These terms are not scientific, but useful for general descriptive purposes.)

1.8. Language change, whatever its precise mechanism, is an entirely natural phenomenon, part and parcel of every living language. A number of popularly held misconceptions may cloud appreciation of this point. It is often claimed that languages change to become easier or simpler. But as was said above, all human languages, past and present, exhibit the same level of complexity; they are also learned by children at the same rate, with equal ease, and in the same well-defined developmental stages. Linguistic difficulty is a purely subjective valuation, and has no basis in scientific fact. Another common belief is that languages change through laziness, ignorance, stupidity, or some benighted combination thereof. This view is typically taken by those for whom a particular linguistic stage or style is perfect and sublime, and all subsequent deviations from it are a product of decay. But this "sublime" form of the language is itself always a "decayed" development of an earlier stage. The changes happening today that are so often decried are in fact no different from the changes that languages have always undergone.

1.9. When the sounds of a language change, one speaks of *sound change*. Sound changes, importantly, are *regular* and *exceptionless* – that is, they affect all the relevant examples of the particular sound(s) in the language. This claim about sound change is called the **Neogrammarian hypothesis**, named after the Neogrammarians, an influential group of nineteenth-century linguists. A sound change in a language that turns a *p* between vowels into *b*, say, will change every intervocalic *p* in the language to *b*. The regularity of sound change accounts for the regularity of sound correspondences between related languages that we discussed above. Tracing sound change is often easier than tracing other kinds of change, and for this reason a listing of sound changes makes up a large and detailed portion of the historical sketches in this book. A fairly extensive terminology has been developed to label the various results of sound change; these and other technical terms will be defined as they arise and are also listed in the Glossary.

All other components of language change as well. The smallest linguistic units that have meaning are **morphemes** (whole words such as *foot*, *oyster*, *devil*, or prefixes and suffixes like *un-* or *-ing*); the rules for using and combining morphemes constitute the **morphology** of a language, and any change to these rules is called *morphological change*. A common type of this is change in the *productivity* of a morpheme – that is, in how freely it can be used to form new words or grammatical forms. The *-th* in words like *sloth*, *breadth*, and *filth* was once a productive suffix for forming nouns from adjectives (*slow*, *broad*, and *foul*, respectively), but is no longer (its function has been taken over by *-ness* and other suffixes); a reverse development is illustrated by the English plural suffix *-s*, now limitlessly productive but once used only with certain classes of nouns. Words and morphemes are stored in the **lexicon**, one's mental dictionary; changes to individual words (rather than to whole classes of words at once, as when a morphological rule has changed) constitute *lexical change*. The replacement of the old plural *kine* by *cows*, and of the old past tense *holp* by *helped*, are examples of a lexical change; in cases such as these, an old irregular form (containing morphemes or morphological processes that are no longer productive) is replaced by a regular form, by a process called *analogy*. The words stored in the lexicon are combined into larger units (phrases, clauses, sentences) by rules encoded in a language's **syntax**. Change to these rules is *syntactic change*, as

when a language that used to put verbs at the ends of clauses now puts them at the beginning. Finally, the meanings of words, also stored in the lexicon, constitute the words' semantics; changes to word meanings constitute *semantic change*. This is really a subtype of lexical change, since only individual words are affected; but sometimes there are far-reaching ramifications of semantic change, as when a noun like French *pas* 'step' gets specialized as a grammatical marker (in this case the negator, 'not'), by a process called *grammaticalization*.

Determining the pronunciation of dead languages

1.10. The ability to compare ancient languages rests upon knowledge of the sounds and grammatical structures of those languages. How does one figure out such facts about languages that are no longer spoken? The basic answer is that one uses everything that is at one's disposal: contemporary descriptions, the testimony of descendant languages, orthographic practice (including spelling errors), the rendering of loanwords from known source languages, and metrical evidence from poetry.

Sometimes, as in the case of Sanskrit, we are fortunate in having detailed descriptions of the language's pronunciation and structure by ancient grammarians. If a language has living descendants, as in the case of Latin, we can apply the comparative method to the descendants to establish the pronunciation of their ancestor. When we lack thorough contemporary descriptions or the testimony of living descendants, we must look to texts as they were written by speakers of the language.

Misspellings are valuable for revealing the effects of changes in pronunciation. We know, for example, that in the late pre-Christian era, the Latin diphthong spelled *ae* came to be pronounced as a monophthong (single vowel) *e*. A Roman in the first century AD who spelled the word *aetate* 'age' improperly as *etate* shows the effects of this change. Standard spelling conventions, not just misspellings, can also elucidate facts about pronunciation. In Hittite, like English, words were written with spaces between them; but various short function words like *ma* 'but' were joined to a preceding word without a space, indicating that they and the preceding word were pronounced together as a unit. (Compare the *-n't* of English *didn't* for a similar situation.) Such spelling conventions will be discussed further in §8.33.

We can glean further information from the way words are spelled when borrowed from another language. Educated Romans of the first century BC regularly rendered the Greek letter phi (Φ) as *ph* in words that they borrowed from that language (as in *philosophia* 'philosophy'). The sequence *ph* was not used in writing native Latin words, so the Romans must have been trying to represent a sound that they did not have in their own language – an aspirated stop consonant, as it happens, different from the native Latin unaspirated *p* and also from the native Latin fricative *f*. A few centuries later, however, we find the Gothic bishop Ulfilas using *f* (as in the name *Filippus*), showing that the pronunciation of the letter in Greek had changed.

Poetry is often a useful source of information on how a language is pronounced. Much ancient poetry is structured according to particular sequences of heavy and light syllables. In the Archaic Latin poetry of Plautus, a word like *patre* 'by the father' scans as two light syllables. Light syllables end by definition in a short vowel, so the word was pronounced *pa-tre* with the consonant cluster *tr* not split between the two syllables. Metrical practice has thus revealed a fact about Latin syllabification.

1.11. With regards syntax, and with regard original texts. Linguistics that has been neatly discipline with many texts by comparing grammatical facts by to relative ages of par term for what we no "comparative philology".

Both these and other history of a language and original source mentions inevitably creep with the language of different versions of the mission and to determine which ling

1.12. Using philology used has allowed country Dictionaries, being even language, much less it at face value. Two ex clear.

The first example etymologically consists verb *phēmī* 'I say', pro 'forth'. Does the word who speaks forth, one and so we might jump means 'one who speaks'. These words shows that attestations of *próphētē* not yet exist. Additional *pro-* reveals that the not appear until later 'prophet' was originally rather than one who

The second example word is clearly related is not a known prefix on the overall sense. occurs, in the Rig Veda form. Frequently, *náv* version of this phrase *bhūta* is the plural in a Vedic grammar-book form, namely *bhūtanā* second plural. We can

now puts them at the lexicon, constitute the *semantic change*. This is words are affected; but change, as when a noun marker (in this case the

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guage is pronounced. sequences of heavy and word like *patre* ‘by the nation in a short vowel, or *tr* not split between Latin syllabification.

1.11. With regards to larger levels of linguistic structure such as morphology and syntax, and with regards to word-usage and meaning, we must always look to the original texts. Linguistic analysis of texts is the domain of *philology* – an enterprise that has been neatly summarized as “the art of reading slowly.” It is a multifaceted discipline with many uses, including the determination of the original wording of texts by comparing and dating extant manuscripts, as well as the determination of grammatical facts by examining how forms are used in context and paying attention to relative ages of particular usages. (“Philology” is also a somewhat old-fashioned term for what we now call comparative historical linguistics, hence the phrase “comparative philology”.)

Both these and other aspects of philology are crucial for writing an accurate history of a language’s development. When texts are copied and recopied by hand and original source manuscripts (called *archetypes*) are lost, errors and modernizations inevitably creep in. If the language of the text is particularly archaic compared with the language of the copyist, errors can become legion. Careful comparison of different versions of the same text usually allows one to reconstruct chains of transmission and to determine the relative ages of manuscripts, which in turn helps us determine which linguistic forms are older and which more recent.

1.12. Using philology to figure out how words and grammatical forms are used has allowed countless puzzling details about ancient languages to be clarified. Dictionaries, being essentially lists of words, do not give a whole picture of a language, much less its history, and the forms they contain cannot always be taken at face value. Two examples from ancient Greek and Sanskrit will make this point clear.

The first example concerns the Greek word *prophētēs* ‘prophet’. This word etymologically consists of the combination form *-phētēs* ‘sayer’, derived from the verb *phēmi* ‘I say’, preceded by the prefix *pro-*, which can mean either ‘before’ or ‘forth’. Does the word mean ‘one who says beforehand, one who foretells’ or ‘one who speaks forth, one who announces’? There is a verb *próphēmi* ‘I speak before’, and so we might jump to the conclusion that *prophētēs* comes from this verb and means ‘one who speaks beforehand’. But a look at the actual textual occurrences of these words shows that *prophētēs* first appears a good 700 years *before* the earliest attestations of *próphēmi*. Clearly the noun cannot be derived from a verb that did not yet exist. Additionally, an investigation of the other compounds beginning with *pro-* reveals that the meaning ‘before’ is not the prefix’s oldest meaning, and does not appear until later than the first occurrences of *prophētēs*. We conclude that a ‘prophet’ was originally one who ‘spoke forth’ or ‘announced’ the will of the gods rather than one who foretold the future.

The second example concerns the Sanskrit word *náveda-* ‘knowledgeable’. This word is clearly related to the word *véda-* ‘knowledge’, but the first element, *na-*, is not a known prefix elsewhere in the language, and it seems to have little effect on the overall sense. An examination of the earliest passages in which the word occurs, in the Rig Veda (the oldest Sanskrit text), suggests an explanation for this form. Frequently, *náveda-* is part of a phrase meaning ‘be knowledgeable (of)’. One version of this phrase is *bhūta návedāḥ* ‘be ye knowledgeable’, where the word *bhūta* is the plural imperative of the second person of the verb ‘to be’. A glance at a Vedic grammar-book will show that there is a common alternate version of this form, namely *bhūtana*, with an element *-na* that can optionally be added to the second plural. We can thus reasonably surmise that someone, in the course of the

transmission of the text, misanalyzed this particle as a prefix on the following word, thereby creating the form *náveda-* which then spread to other versions of this phrase. (A similar sort of false division has happened many times in English, as when the older phrase *an ekename* ‘a supplementary name’ was reanalyzed as *a nekename*, the source of our word *nickname*.)

Indo-European Historical Linguistics

1.13. Already in classical antiquity, it was noticed that Greek and Latin bore some striking similarities to one another like those that we saw among the Romance languages. Ancient writers pointed out, for example, that Greek *héks* ‘six’ and *heptá* ‘seven’ bore a similarity to Latin *sex* and *septem*, even pointing out the regular correspondence of initial *h-* in Greek to initial *s-* in Latin. The ancients explained such facts by viewing Latin as a descendant of Greek. During and after the Renaissance, as the vernacular languages of Europe came to be known to scholars, it slowly became understood that certain groups of languages were related, such as Icelandic and English, and that the Romance languages were derived from Latin. But no consistent scientific approach to language relationships had been developed.

1.14. Following the British colonial expansion into India, a language came to the attention of Western scholars knowledgeable in Greek and Latin that ushered in a new way of thinking about such matters. An orientalist and jurist named Sir William Jones was the first to state this way of thinking, in a lecture to the Asiatick Society on February 2, 1786, and published two years later in *Asiatick Researches* 1:

The *Sanskrit* language, whatever be its antiquity, is of a wonderful structure; more perfect than the *Greek*, more copious than the *Latin*, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and in the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists: there is a similar reason, though not quite so forcible, for supposing that both the *Gothick* and the *Celtick*, though blended with a very different idiom, had the same origin with the *Sanskrit*; and the old *Persian* might be added to the same family, if this were the place for discussing any question concerning the antiquities of *Persia*.

This was a turning point in the history of science. For the first time the idea was put forth that Latin was not derived from Greek, but that they were both “sisters” (as we would now call them) of each other, derived from a common ancestor no longer spoken. The idea was inspired by the critical discovery of the third member of the comparison (the *tertium comparationis* in technical jargon), namely Sanskrit – a language geographically far removed from the other two. Also, this passage contains the first clear formulation of the central principle of the comparative method.

The IE family: branches, subgrouping, models

1.15. Jones’s insight marks the beginning of the scientific study of the language family now called **Indo-European**, or IE for short. The field is variously known as Indo-European historical linguistics, Indo-European comparative linguistics, or Indo-European comparative philology. Jones’s brief statement already enumerates fully

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and Latin bore some along the Romance language *héks* ‘six’ and *heptá* ‘seven’ out the regular correspondents explained such after the Renaissance, to scholars, it slowly mutated, such as Icelandic *l* from Latin. But no been developed.

language came to the Latin that ushered in a linguist named Sir William Jones to the Asiatick Society *Archæological Researches* 1:

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study of the language is variously known as comparative linguistics, or Indo-European; this last fully

half the branches now recognized for the family: **Indo-Iranian** (containing Sanskrit and the Iranian languages), **Greek**, **Italic** (containing Latin and related languages of Italy), **Celtic**, and **Germanic** (containing Jones’s “Gothick” and its relatives of northern Europe, including English).

After Jones’s pronouncement, nearly three decades passed before any activity that could be called Indo-European linguistics arrived on the scene. Once it did arise it came rather fast and furious, with three seminal works published within a half-dozen years in Denmark and Germany, including one by Jacob Grimm, one of the two Grimm brothers of fairy-tale-collecting fame. These pioneers and the scholars who followed them realized that not only the languages in Sir William’s account were “sprung from some common source,” but also the Baltic and Slavic languages (now grouped together as *Balto-Slavic*), **Armenian**, and **Albanian**. In the twentieth century two more branches, **Anatolian** and **Tocharian**, were added to the family, containing extinct languages only discovered in the early 1900s. Anatolian, it turned out, was the most ancient of them all, with texts in Hittite dating to the early or mid-second millennium BC. A few other languages with only meager remains are also clearly Indo-European, such as Phrygian, Thracian, and Messapic; whether they belong to any of the ten recognized branches, or constitute separate branches of their own, is not clear.

The nineteenth century also saw the creation of a name for the family, Indo-European or, in German-speaking lands, usually *Indogermanisch* ‘Indo-Germanic’. The ancestor of all the IE languages is called *Proto-Indo-European*, or PIE for short. During the course of the nineteenth century, the methods of comparative linguistics and linguistic reconstruction were developed; a prodigious number of important discoveries in the watershed decade of the 1870s was responsible for significant refinement of the method and for firmly establishing historical linguistics as a science unto its own. By the dawn of the twentieth century, a picture of reconstructed PIE had emerged that was quite similar to the one that is presented in this textbook.

All standard diagrams of the IE family tree, such as the one in figure 1.1, represent it as a starburst: PIE is placed at the top or center, with the ten branches radiating out therefrom. Implicit in the traditional diagrams is the notion of a more or less simultaneous “breakup” of the proto-language into ten or more dialect areas (the future branches). This notion has often come under attack. For one thing, the trees of most other language families tend to have a binary branching structure. In addition, it has been speculated for a long time that certain branches of IE are to be grouped together into what are known as *subgroups*. For example, it has been proposed that Indo-Iranian, Greek, and Armenian all descend from one common dialect area of late PIE; and the same has been forwarded for Italic and Celtic, for which an “Italo-Celtic” subgroup has been suggested.

1.16. The discovery of Anatolian and Tocharian in the twentieth century has further fueled the debate over the internal structure of the PIE family tree. Anatolian in particular is significantly different from the picture of PIE that scholars had developed by the close of the nineteenth century on the basis of the other branches, even though Anatolian is the oldest attested branch. In the 1930s, the American linguist Edgar Sturtevant proposed that PIE was not the ancestor of Anatolian, but a sister of it, and that both PIE and Anatolian were descended from a language he called **Indo-Hittite**. Sturtevant’s theory was not widely followed, and the term “Indo-Hittite” has largely been abandoned. But the hypothesis that Anatolian, and

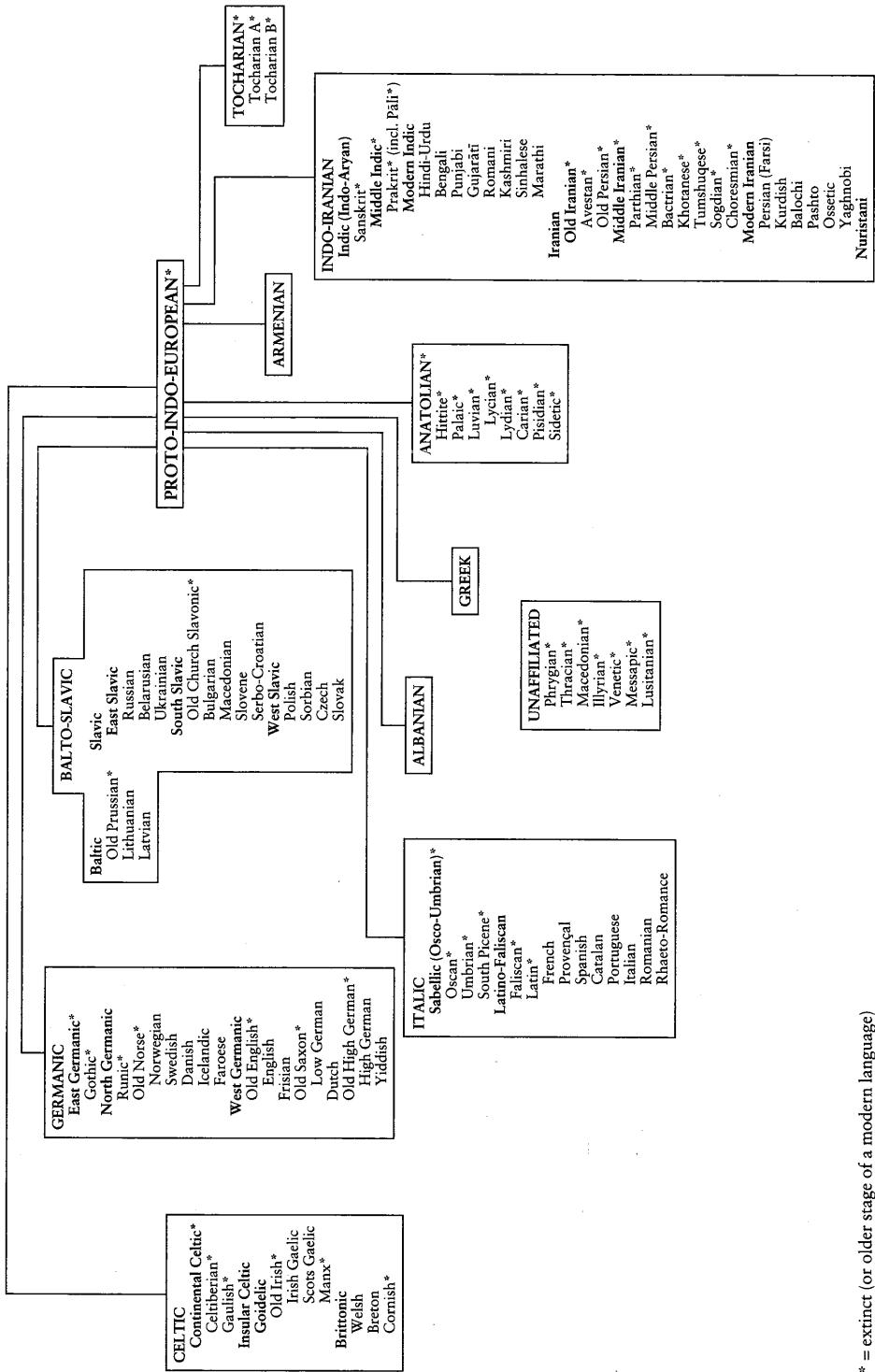
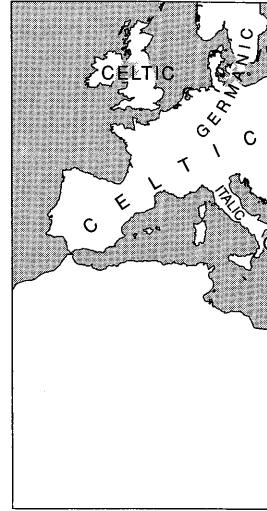


Figure 1.1 The Indo-European family tree, showing the approximate geographical distribution of the branches and the principal ancient, medieval, and modern languages of each. The names of branches and subbranches are in boldface. Not all languages or language stages are represented.



Map 1.1 Geographical

then Tocharian, split off earlier and went further common, increasing support in recent original claim. We will

The evidence that can be sparse. This is partly due to (from the mid-second millennium BC) later than the date of the language undergoing changes before developments that would have Anatolian and Indo-Iranian as Baltic and Albanian at a comparable stage.

In view of these difficulties, book as separate entities, the more prominent s

Indo-European and its subfamilies

1.17. Indo-European is not merely one of hundred language families; PIE is therefore not the only language of the world. A majority of them (and many other languages of any other language family) can give us solid results for estimates of the age of the language. The history of PIE will be treated in the following section, along with some notable linguistic changes.



Map 1.1 Geographical distribution of the major Indo-European peoples around 500 BC

then Tocharian, split off from the family first, and that the remainder of PIE underwent further common development before the other branches emerged has found increasing support in recent years and is in many ways little different from Sturtevant's original claim. We will discuss these matters further in chapter 9.

The evidence that can confidently be used to evaluate these claims is unfortunately sparse. This is partly due to the fact that the earliest documentation of IE languages (from the mid-second millennium BC) is, by current estimates, still over two millennia later than the date of PIE itself. The branches therefore had considerable time to undergo changes before their first attestation, changes that could have obscured earlier developments that would help identify any subgroups. Also, some branches (such as Anatolian and Indo-Iranian) enter into recorded history much earlier than others (such as Baltic and Albanian, nearly three thousand years later), meaning they are not all at a comparable stage of development when we get our first glimpses of them.

In view of these difficulties, the branches of Indo-European are presented in this book as separate entities, following the traditional model. However, we will discuss the more prominent subgrouping hypotheses in later chapters as needed.

Indo-European and other language families

1.17. Indo-European is merely one of hundreds of known language families, and PIE was merely one of hundreds of languages (or more) spoken during the late Neolithic. PIE is therefore not the primeval ancestor of all languages now spoken, nor even of a majority of them (although there are more speakers of IE languages than of the languages of any other family). At the present time, we do not know whether any other language families share a common ancestor with PIE. The comparative method can give us solid results for a time depth of perhaps eight thousand years; most estimates of the age of PIE are in the neighborhood of six thousand years. (The age of PIE will be treated in detail in the next chapter.) Sporadic, irregular, and unpredictable linguistic changes such as analogy, paradigm leveling, borrowing, and semantic

* = extinct (or older stage of a modern language)

Figure 1.1 The Indo-European family tree, showing the approximate geographical distribution of the branches and the principal ancient, medieval, and modern languages of each. The names of branches and subbranches are in boldface. Not all languages or language stages are represented.

change all make reconstruction more difficult the farther back in time one goes since they add “background noise”: borrowings become indistinguishable from native words, semantic changes make it difficult to reconstruct word meanings, and morphological analogies and leveling processes erase evidence of earlier inflectional patterns.

1.18. These problems have not prevented some adventurous souls from positing relationships between IE and other language families, or from coming up with classifications of huge numbers of language families into a handful of super-families. Chief among the former claims – the latter do not concern us – is the so-called *Nostratic* hypothesis (from Latin *nostrās* ‘one of us’, from *noster* ‘our’): this is the name of a putative language family that includes such groups as Indo-European, Uralic (Finnish, Estonian, Hungarian, etc.), Semitic (Arabic, Hebrew, Ethiopic, etc.), Dravidian (Tamil, Telugu, Kannada, and other languages of southern India), and Kartvelian (Georgian and its relatives in the Caucasus). Supporters of the Nostratic hypothesis claim that Proto-Nostratic reconstructions help to elucidate the pre-history of PIE. But most Indo-Europeanists are not persuaded by it, and find that the Nostratists’ methods lack the required rigor; at best the Nostratic hypothesis is premature.

This is not to say that the Nostratic hypothesis (or others like it) is necessarily wrong, or might not yield interesting results in the future if the methods are improved. One cannot disprove the claim that two languages or language families are related; but the more distant and obscure the relationship, the more vacuous the claim. Past a certain point, attempts at classification become uninteresting for scientific or historical purposes. The language relationships that have the most to tell us are those whose histories can be traced in some detail and with reasonable certainty. The comparative method seeks to explain why certain languages have systematic similarities too regular and too numerous to be due to chance. Indo-European does indeed share similarities with other language families, but to most eyes these similarities are too scattered and occasional to warrant application of the comparative method.

Conclusion

The limits of – and on – our knowledge

1.19. How complete is our picture of PIE? We know there are gaps in our knowledge that come not only from the inevitable loss and replacement of a percentage of words and grammatical forms over time, but also from the nature of our preserved texts. Both the representative genres and external features such as writing systems impose limits on what we can ascertain about the linguistic systems of both PIE and the ancient IE languages. As regards the first, our corpus of ancient IE texts is marked by a preponderance of poetic or literary works. These were often the ones that were deemed the most sacred or important, and were therefore carefully preserved. This means that specimens of ordinary language are rarer overall, which affects the nature and completeness of our picture of PIE in ways that we cannot always be aware of.

As regards the second point, the ancient (and of course also the modern) IE languages are written in a diverse assortment of writing systems, not all of which are

equally well-suited for the very serviceable ancient Greeks and Indo-European peoples used. Syllabaries are poorly suited for unanalyzed languages and do not always even work for them. This is the case with Linear B, as any modern researcher at all will tell you.

1.20. While these limitations are serious, they do not field outright. As of now, the history of Indo-European studies has only just crossed it), and our knowledge of the language family has constantly undergone revision. The picture will continue to change, and the prehistory given in this book is likely to change as well. The and long-held assumptions that have founded the field of Indo-European language and made a great deal of it possible. The marriage of the findings of general linguistics with the intractable problems of Indo-European history is likely to come.

Since no document can be found, the structure is controversial. Of necessity, it must await final resolution as described to by a major party, any views for which

In spite of all the books and journals, a great deal has been made since the earliest days of the study of comparative anatomy, and especially since the dawn of recorded history, to elucidate the comparative method that

The goals of Indo

1.21. Much of the pre-Indo-European, which one of the activities many ways is important means for elucidating. This includes the modern and altered forms of forms of. Regardless developing historical the exegesis of our importance, and must

equally well-suited for representing the finer details of pronunciation. Alongside the very serviceable alphabets and clear spelling systems used, for example, by the ancient Greeks and Romans are the syllabaries that the Hittites and some other peoples used. Syllabaries, as will be discussed further in chapters 9 and 12, are poorly suited for unambiguously representing certain combinations of speech sounds, and do not always encode all the sounds present in a language to begin with (as is the case with Linear B, used to write Mycenaean Greek). This often puts the modern researcher at a considerable disadvantage.

1.20. While these hindrances are very real, they do not impede progress in the field outright. As of this writing, we approach the threshold of the third century of Indo-European studies (or, dating from Sir William Jones, we have long since crossed it), and our picture of PIE and the histories of its daughters has constantly undergone revision since the field's inception. We can rest assured that that picture will continue to grow and change. For this reason, the account of linguistic prehistory given in this book is not an immutable truth. Some of the most basic and long-held assumptions about PIE grammar have been challenged and even overturned in recent decades. In the 1950s and 1960s, Noam Chomsky of MIT founded the field of generative linguistics, which has revolutionized the study of language and made a whole host of new insights and theoretical apparatus available. The marriage of the traditional methods of comparison and philology with the findings of generative linguistics has in some cases led to the solution of long-intractable problems in Indo-European, and will without doubt yield great advances to come.

Since no documents in reconstructed PIE are preserved or can reasonably hope to be found, the structure of this hypothesized language will always be somewhat controversial. Of necessity, then, this book contains views on problems that still await final resolution; but most of the historical accounts presented here are subscribed to by a majority of researchers in the field, and care has been taken to flag any views for which this is not the case.

In spite of all the scholarly disagreements that enliven the pages of technical books and journals, all specialists would concur that enormous progress has been made since the earliest pioneering work in this field, with consensus having been reached on many substantial issues. The Proto-Indo-Europeans lived before the dawn of recorded human history, and it is a testament to the power of the comparative method that we know as much about them as we do.

The goals of Indo-European linguistics

1.21. Much of the preceding discussion has focused on the reconstruction of Proto-Indo-European, which is often imagined to be the field's main goal. Yet this is only one of the activities in which Indo-Europeanists are engaged. Reconstruction in many ways is important not as an end in itself, but because it provides a necessary means for elucidating the histories and properties of the attested daughter languages. This includes the modern languages, which – it should not be forgotten – are later and altered forms of the same ancient tongue that Latin and Greek are altered forms of. Regardless whether one is more interested in reconstruction of PIE or in developing historical linguistic theories to explain post-PIE linguistic developments, the exegesis of our ancient texts using philological principles is of fundamental importance, and much research in IE studies has always been devoted to that

endeavor. In no other way can we refine our understanding of the primary evidence from the languages upon which we base our comparisons, reconstructions, and historical accounts.

A further goal of many Indo-Europeanists is not a linguistic one: the reconstruction of PIE culture, and tracking the cultural developments of the descendant IE lineages. Much can be said about these things purely on the basis of comparative linguistic evidence. As a prelude to outlining the structure of the language of the Proto-Indo-Europeans, in the next chapter we will explore what we know about their culture, and follow some of the attempts to locate them in time and space.

comparative method
genetically related
reconstruction
correspondence set

Exercises

- 1 Memorize the names of the language families of all the world's major language groups.
- 2 Below are given ten pairs of words from different Indo-European languages. Based on this information, can you determine which words are related? If not, what additional evidence for your answer can you find by looking under the letters.

	A	B
1	heis	ipün
2	dúō	lü
3	treís	čí
4	téttares	čpū
5	pénte	wuču
6	héks	wuṣu
7	heptá	sete
8	oktō	āstě
9	ennéa	nū
10	déka	lez

- 3 It is not infrequent to find words in one language that do not correspond to words in another language. For example, when comparing the Indo-European words for 'water' which have been reconstructed, it is found that they do not correspond to the great variety of different words for 'water' found in the world's languages. What is the explanation for the failure of the comparative method in this chapter?
- 4 Remains of a prehistoric language were found in a cave in Central Asia. How could one reconstruct its language?

For Further Reading

(The references are listed in the Bibliography, together with additional ones not commented on in this and the other “For Further Reading” sections.)

The classic treatment of the comparative method is Meillet 1925. A good introduction to historical linguistics for non-specialists is Sihler 2000; a bit more specialized is Campbell 1999. From the literature on the Nostratic hypothesis, a useful recent survey is Salmons and Joseph 1998; see therein the articles by Brent Vine and Lyle Campbell. A superb description of the evolution of historical linguistics and Indo-European studies into the beginning of the twentieth century is still Pedersen 1959, to which may also be added chapter 7 of Robins 1997.

As for general overviews of Indo-European linguistics, still the only complete treatments are the nearly century-old work of Brugmann 1897–1916 and the slightly later and smaller Hirt 1927–37, which in spite of their age have useful collections of data. Single-volume introductions to the field include Meillet 1937 (a celebrated classic), Beekes 1995 (readable but idiosyncratic), Szemerényi 1996 (quite idiosyncratic but filled with useful bibliographies after each section), and Meier-Brügger 2000 (whose translation [2003] is probably the best overview currently available in English and has an extensive bibliography, but is too difficult to use for the beginner). Bader 1997 and Ramat and Ramat 1998 are both collections of essays by different authors that treat the individual branches; many of the articles are excellent.

The most prominent scholarly journals devoted to Indo-European are generally published in Europe: *Bulletin de la Société de Linguistique de Paris*, Paris; *Historische Sprachforschung* (formerly *Zeitschrift für Vergleichende Sprachforschung* or *KZ* for short, since it was once *Kuhns Zeitschrift für Vergleichende Sprachforschung*), Göttingen; *Indogermanische Forschungen*, Berlin; *Journal of Indo-European Studies*, Washington; *Münchener Studien zur Sprachwissenschaft*, Munich; *Die Sprache*, Vienna. There is also a growing list of online resources. First is the TITUS project (short for Thesaurus Indogermanischer Text- und Sprachmaterialien, or Thesaurus of Indo-European Text and Language Materials) led by Jost Gippert at the University of Frankfurt (titus.uni-frankfurt.de), which will, if it is completed, have electronic versions of all the ancient and medieval Indo-European texts in searchable form; quite a few of them are already available, as well as other related information. The homepage of the Indo-European Institute at the Free University of Berlin (www.fu-berlin.de/indogermanistik) keeps up-to-date links to the major European and American research centers in Indo-European, and to announcements, bulletins, and many other sources of information.

For Review

Know the meaning or significance of the following:

comparative method	cognate	daughter language	Sir William
genetically related	regularity of sound	Neogrammarian	Jones
reconstruction	correspondences	hypothesis	Indo-Hittite
correspondence set	proto-language	philology	Nostratic

Exercises

- 1 Memorize the names of all the branches of the IE family, and the names and filiations of all the extinct languages in figure 1.1.
- 2 Below are given the names of the cardinal numerals 1–10 in nine languages. Based on this information only, do you think all the languages are genetically related? If not, which one(s) do you think is/are not related to the rest? Give evidence for your answer in a short paragraph. Ignore diacritic marks over and under the letters.

	A	B	C	D	E	F	G	H	I
1	heis	ipün	yksi	yek	un	ains	mi	sas	kahi
2	dúō	lü	kaksi	do	dau	twai	erku	wu	lua
3	trẽs	čī	kolme	se	tri	threis	erek̄	tre	kolu
4	téttares	čpū	neljä	cahār	pedwar	fidwōr	čork̄	śtwar	hā
5	pénte	wuču	viisi	panj	pump	fimf	hing	pāñ	lima
6	héks	wuṣu	kuusi	šeš	chwech	saihs	vec̄	şäk	ono
7	heptá	sete	seitsemän	haft	saith	sibun	evt̄n	şpät	hiku
8	októ	āstē	kahdeksan	hašt	wyth	ahtau	owt̄	okät	walu
9	ennéa	nū	yhdeksän	noh	naw	niun	inn	ňu	iwa
10	déka	lez	kymmenen	dah	deg	taihun	tasn	şäk	'umi

- 3 It is not infrequently claimed that the tools developed for comparative reconstruction of Proto-Indo-European do not work outside the Indo-European family – as, for example, when working with the indigenous languages of Papua New Guinea, which have been stated to be very different from one another and spoken by a great variety of different ethnicities. Based on the discussion of the comparative method in this chapter, analyze this claim critically. What might be another explanation for the failure of the comparative method as applied to these Papuan languages?
- 4 Remains of a previously unknown ancient language are unearthed in western Asia. How could one determine whether it is Indo-European?

2 Proto-Indo-European Culture and Archaeology

Introduction

2.1. In the previous chapter, we saw how the comparative method is used to reconstruct extinct languages, and in the next few chapters we will see specifically what it has accomplished in reconstructing the structure of Proto-Indo-European (PIE). But the comparative method has other applications, too. In its ability to reconstruct a prehistoric people's vocabulary, it opens up a valuable window onto their culture. A language does not exist apart from a people, and it always mirrors their culture to some extent. Furthermore, we can broaden the scope of comparison to include not only individual words but also their use in context, which reveals the semantic and cultural associations that attend different concepts. Thus comparative linguistic study allows us to reconstruct a *proto-culture* alongside the proto-language. (As with the term *proto-language*, there is nothing more "primitive" or "unformed" about a proto-culture; the term simply refers to a prehistoric culture which we know about by virtue of having reconstructed its language.)

Besides comparing linguistic forms, much effort has been devoted to the comparison of myths, laws, and all manner of social institutions. But if a set of related daughter cultures shares a particular myth, custom or the like, the attribution of that myth or custom to the proto-culture is more secure if it is accompanied also by a *linguistic* equation. This is not to say that linguistic comparison is indispensable for cultural reconstruction; but without it, it can be harder to dismiss the possibility of independent innovation or borrowing on the part of the daughter traditions. The comparative method remains the most powerful tool available for bringing the non-material culture of prehistoric peoples to light.

Below we will sketch what has been learned about PIE culture and society from the reconstructed vocabulary of PIE and the cognate cultural traditions of the daughter branches. We will follow this with a discussion of the great (and notorious) question of the location of the PIE homeland and the allied question of the date of the breakup of PIE. Because space is limited, and because we have not yet introduced the notational conventions used for spelling reconstructed PIE forms, specific reconstructions and lists of descendant forms will be almost entirely eschewed. Note also that in most cases, comparanda for any given cultural institution, myth, etc. are only given selectively; where an illustrative example of a particular item is given from only one or two branches of the family, it should not be assumed that that item is represented only in those branches.

2.2. Before embarking on this topic, however, we must address a question that is begged by the very concept of a proto-culture: was there ever a single culture that suddenly sprang into existence? The answer is no, and it is not true of any species. Social change is a gradual process. Since the messiness of the real world cannot be done here. The truth is that we can possibly reconstruct the speakers had in common. The study of comparative linguistics does not worry about it, for it is not important to any meaning. The words belong to which culture, except maybe in a few cases. That is, the words discussed by linguists, rather than just the words themselves (that is, the period of time in which they were used).

Society

Social stratification

CLASSES OF SOCIETY

2.3. It is universally agreed that there was a clear distinction between free men and slaves. Slaves were typically captives taken in war, meaning 'man, warrior'. There was also a free segment of society consisting of nobles and priests (and probably others). Common people on the other hand, for example, an injury to a slave was less serious than the same injury to a free man. Society was patriarchal, with the wife belonging to her husband and the family of their husband.

2.4. One of the most influential theories of social stratification that propounded by the German philologist Max Müller. In his view, PIE society was divided into three basic aspects or classes: the priestly class, the warrior class, and the common people. The first functioned as intermediaries between the common people and the gods, and the second as intermediaries between the common people and the state. The third functioned as producers of goods.

Some of the early IE societies in ancient India and Iran, for example, had a four-class system, with the fourth class being the common people. The first three classes were divided into priestly, warrior, and common people.

2.2. Before embarking on these discussions, it should be noted that an important question is begged by such endeavors as reconstructing PIE culture, locating the PIE homeland, and dating the end of PIE linguistic unity. These pursuits all assume that there was at one time a fully homogeneous and reifiable PIE language and culture that suddenly ceased to exist as such. In fact, we know quite well that this is not true of any speech community or culture, and that linguistic “breakups” are gradual processes. Science often finds it necessary, however, to distance itself from the messiness of the real world and to deal in idealizations; and that is what must be done here. The true heterogeneity of the PIE speech community is not something we can possibly recover; but what we can recover is a picture of what PIE speakers had in common, both linguistically and culturally. It is not the business of comparative linguistics to reconstruct a panoply of individual variation or even to worry about it, for that would strip the whole notion of a “common ancestor” of any meaning. The temporal side of all of this is that we cannot hope to know, except maybe in a few important cases to be discussed below, which reconstructed words belong to which chronological layer of the proto-language. Suffice it to say that the words discussed in this chapter are ascribed to PIE by a majority of specialists, rather than just to some later dialect area that postdated the common period (that is, the period of PIE linguistic unity).

Society

Social stratification and organization

CLASSES OF SOCIETY

2.3. It is universally agreed that PIE society was hierarchical. First, there was a general distinction between free persons and slaves; the latter, as in many non-IE societies, were typically captives taken in war or debtors unable to repay a debt. (Words meaning ‘man, warrior’ came secondarily to mean ‘slave’ in some traditions.) The free segment of society was further subdivided into an elite class of kings, warriors, and priests (and probably poets; cf. §§2.37–38) on the one hand, and into a class of common people on the other. These distinctions had legal repercussions: in Old Irish law, for example, an injury to a person of high rank demanded a greater penalty than the same injury to one of low rank. Additionally, men outranked women; the society was patriarchal, patrilineal, and patrilocal (with brides going to live with the family of their husbands, on which more in §2.6 below).

2.4. One of the most influential structural approaches to analyzing PIE society is that propounded by the twentieth-century French Indo-Europeanist Georges Dumézil. In his view, PIE society, especially in the form of its free males, was divided into three basic aspects or “functions.” The first function encompassed both sovereignty and religion, and was embodied in priests and kings that kept religious and legal order. The second function was that of martial force and was represented by the warrior class. The third function was that of fertility, embodied in pastoralists and in other producers of goods (artisans, for example).

Some of the early IE societies are indeed divided up along these lines, most famously in ancient India and Iran. The traditional caste system in India, which divides society into priestly, warrior, and herder-cultivator classes (plus a fourth into which were

originally relegated the subjugated non-Indic peoples), is already mentioned in the Rig Veda, the oldest Sanskrit (Old Indic) text, and in Dumézil's view is a direct continuation of the three functions. But elsewhere in the IE world such clear three-fold divisions are difficult to come by. The ancient Celtic society of the Gauls, as described by Julius Caesar, consisted of priests, knights, and a nearly slavelike commonfolk; and descriptions of certain Ionic and Doric Greek tribal divisions agree with the general model, but seem to have been rather marginal.

As Dumézil developed his theory, he grew to envision these functions less as actual divisions of society, and more as composing a (not always clearly defined) kind of cognitive framework, an "ideology" (*idéologie*), which he claimed was reflected in the structure of the pantheons of different IE religions, in myths, in religious practices, and in other cultural arenas across the Indo-European-speaking world. We will have occasion to examine and evaluate this application of his framework in §§2.35–36 below.

KINSHIP AND THE FAMILY

2.5. The kinship system of the Indo-Europeans is fairly well understood. The PIE words for father, mother, brother, sister, son, and daughter have descendants in almost every branch; also reconstructible are words for grandfather, mother's brother, and nephew and niece. The terms for 'nephew' and 'niece' also meant 'grandson' and 'granddaughter'; all of these are agnates at least a generation younger and two relations removed from the person of reference. Words for several more complex relationships can also be reconstructed, including daughter-in-law, husband's father, husband's mother, husband's brother, and brother's wife. A few others are a bit more uncertain: Indic and Slavic have cognate words for wife's brother, though a third cognate, in Armenian, means 'son-in-law'; and two languages, Old Norse and Greek, apparently preserve an inherited term for wife's sister's husband.

As the evidence above shows, more kinship terms for males or relatives of male kin can be reconstructed than for females. Anthropologists have classified the kinship systems of the world into several basic types; the PIE system fits none of these exactly (and they are ideal constructs anyway), but the closest match is the one known as the Omaha system. This system is found in patrilineal exogamous societies, that is, those where descent is reckoned through the father's line and spouses are taken from outside the kin group.

2.6. No single term for 'marriage' can be reconstructed; different legal kinds of marriage were recognized, including marriage by abduction. Specific procedures had to be followed for each of them. In the daughter languages, 'to marry' (a woman) is usually expressed by a verb meaning 'lead away' or 'take' (as Latin *uxorem ducere* 'lead a wife, marry'), and this can be confidently projected back onto the proto-language; the relevant roots are used also of cattle or water, and their use here indicates exogamous and virilocal marriage where the bride was 'taken' or 'led' from her father's family to her husband's. (For this reason, the PIE word for daughter-in-law came to mean 'bride' in Armenian and Albanian; from the husband's family's point of view, the daughter-in-law was the new bride in the family.) In PIE society the husband's family had to pay bridewealth (also called bride price), the word for which has descendants in several branches.

2.7. Fosterage was surely practiced in PIE times, just as it was in many of the daughter cultures. In several cases, the relationship to one's foster-father was closer

than to one's natural father' (*máthair, atha*) and more affectionate baby and -father. Foster-parental uncle was pa

SOCIAL UNITS

2.8. Aside from having been organized into larger or smaller units, the specifics, since about 1000 BC up can be reconstructed to have referred to any group. **teutā-*, meaning 'people' and Baltic, and is probably Messapic. But as this inheritance is uncertain, it was the central unit of the tribes, and those inside the tribe. McCone, certain adole

called, a *Männerbund*, (including raiding and wolves. Under this view, the continuation of warfare.

2.9. We can reconstruct what is usually translated as 'the head of the **teutā-*' of the Proto-Indo-European tribes; it was formerly thought that this was the continuation of accepted. We will discuss

Economics and resources

TYPES OF PROPERTY

2.10. The older IE language wealth, and in the form of stock, with humans being the 'movable wealth', which stock, movable wealth (cf. German *fihu*). But it remains in English *fee*.

Property was probably Ancient Roman law classed land in a separate category; these types of property land is at the top. This and is likely inherited.

eady mentioned in the Mézil's view is a direct world such clear three-society of the Gauls, and a nearly slavelike Greek tribal divisions marginal.

functions less as actual (clearly defined) kind of claimed was reflected in myths, in religious European-speaking world. tion of his framework

understood. The PIE brother have descendants in mother, mother's brother, also meant 'grandson' than younger and two several more complex -law, husband's father, A few others are a bit brother, though a languages, Old Norse and 's husband.

es or relatives of male ts have classified the IE system fits none of e closest match is the patrilineal exogamous the father's line and

different legal kinds of n. Specific procedures , 'to marry' (a woman) s Latin *uxorem ducere* back onto the protot er, and their use here e was 'taken' or 'led' PIE word for daughter-the husband's family's family.) In PIE society de price), the word for

it was in many of the oster-father was closer

than to one's natural father. Thus in Old Irish the inherited words for 'mother' and 'father' (*máthair, athair*) refer to one's biological mother and father, whereas the more affectionate baby-talk words *muimme* and *aite* refer to one's foster-mother and -father. Foster-parents were chosen preferentially from the mother's kin; the maternal uncle was particularly common in the role of foster-father.

SOCIAL UNITS

2.8. Aside from having class divisions, PIE society also consisted of small units organized into larger ones. Here, though, there is no agreement among scholars on the specifics, since about a half-dozen words for social units from the household on up can be reconstructed, but their precise meanings are uncertain. None seems to have referred to anything more extensive than the clan, except perhaps the word **teutā-*, meaning 'people, tribe', which has descendants in Italic, Celtic, Germanic, and Baltic, and is probably also found in personal names in Thracian, Illyrian, and Messapic. But as this word is confined to European languages, its status as a PIE inheritance is uncertain. Nonetheless, it has recently been proposed that the **teutā-* was the central unit of PIE social organization, with a division between those outside and those inside the tribe. According to this theory, proposed by the Celtist Kim McCone, certain adolescent males would join a warrior-band (or, as it is frequently called, a *Männerbund*, the German term) that engaged in various acts of violence (including raiding and pillaging), for which they were identified symbolically with wolves. Under this view, society was fundamentally structured around the organization of warfare.

2.9. We can reconstruct words for leaders of at least three ranks, up to what is usually translated as 'king' (the source of Latin *rēx* and Gaulish *rīx*), who was at the head of the **teutā* in those languages which knew the term. No self-designation of the Proto-Indo-Europeans has survived (there may have been no special term); it was formerly thought that the Indo-Iranian tribal self-designation, *ārya-* (Aryan), was the continuation of such a term in PIE, but this theory is no longer generally accepted. We will discuss this term in more detail in §10.28.

Economics and reciprocity

TYPES OF PROPERTY

2.10. The older IE languages typically distinguish between movable and immovable wealth, and in the former category between two-footed and four-footed chattels, with humans being the two-footed kind. We can reconstruct a general word for 'movable wealth', which in several languages became specifically the word for livestock, movable wealth *par excellence* in a pastoral society (e.g., Latin *pecū*, Old High German *fihu*). But it retained its general meaning of 'wealth' or 'money' ultimately in English *fee*.

Property was probably divided into hierarchical categories that had legal relevance. Ancient Roman law classifies small livestock, large livestock, men, and rights to land in a separate category from other types of property; and within this category these types of property form a hierarchy where small livestock is at the bottom and land is at the top. This exact same hierarchy occurs in Indo-Iranian legal tradition, and is likely inherited.

EXCHANGE AND RECIPROCITY

2.11. Various roots having to do with transaction, buying and selling, payment, and recompense have been reconstructed. They attest to a well-developed economic exchange system, one of the aspects of IE society that revolved around reciprocity. A gift always entailed a countergift, an exchange always involved a mutual transaction; this simple principle was manifest in the meanings of the central terms of exchange, which – it has been argued – did not mean simply ‘give’ or ‘take’ but referred to the whole act involving both parties of the exchange. For this reason, such roots have descendants that refer to one side of the exchange in one set of daughter languages and to the other side in other daughters: Greek *németai* ‘allots’ is cognate with German *nehmen* ‘take’; Tocharian B *ai-* ‘give’ is cognate with Greek *aínnumai* ‘I take’; and so forth.

Reciprocity was manifest in virtually every corner of PIE society – in the relationship between the two parties in a contractual agreement, between guest and host (see the next paragraph), poet and patron (§2.38 below), and gods and humans (§2.37 below). These may seem like fundamentally different interactions, but not from the PIE point of view: each party to these relationships was mutually bound to the other, and the relationship was cemented (and only made possible) by trust. Derivatives of the PIE root for ‘trust’ are widespread, and include words referring to that concept (such as Latin *fides*) as well as to particular types of mutual agreements bound by trust (everything from Latin *foedus* ‘treaty’ to Albanian *besë* ‘truce in a blood feud’). These trust-based institutions transcended the boundaries between economics, law, and religion.

2.12. The institution of hospitality, the guest–host relationship, is a case in point. As far as we can tell, PIE did not have words distinguishing ‘guest’ from ‘host’; rather, there was a single term meaning something like ‘a stranger with whom one has reciprocal duties of hospitality’. The giving and receiving of hospitality was accompanied by a set of ritual actions, including gift-giving, that indebted the guest to show hospitality to his host at any time in the future. The obligation was even heritable, making guest-friendship practically a kind of kinship. A famous passage in the *Iliad* describes an encounter between the Lycian warrior Glaukos (fighting for the Trojans) and the Greek warrior Diomedes that nicely illustrates this principle. In the encounter, Glaukos and Diomedes tell each other the story of their lineages, whereupon they discover that Glaukos’s grandfather had once been a guest at the house of Diomedes’s grandfather. Upon discovering this, the two decide not to fight each other, and instead exchange armor and renew the vow of guest-friendship inherited from their grandfathers. The exchange of armor repays the old debt: Glaukos’s armor is much more valuable than Diomedes’s. (The narrator of the tale, interestingly, seems not to understand the proceedings and claims that Glaukos’s wits were addled.)

Violations of the guest-host obligation were illegal, immoral, and unholy. In Irish law, refusing to give hospitality was a crime that demanded payment of the offended person's full honor-price, the same penalty exacted for serious injury and murder. The killing of a guest in IE societies was greeted with singular revulsion, and is the fertile subject of many legends. In the *Odyssey*, what made the killing and eating of some of Odysseus's men by the Cyclops so revolting was that they were the Cyclops's guests. Hospitality could be abused too; the Trojan prince Paris, by abducting Helen, the wife of his host Menelaos, was perhaps the ultimate bad guest, and the *Odyssey* spends considerable time developing the motif of the suitors,

"anti-guests" who can
the hand of his wife, P

Law

2.13. The study of legal language, or lexicography, concerns the archaic nature of traditional legal language. It is concerned with words that are often used in legal formulations that have changed over time. For example, the Roman jurist Gaius' Institutes formula in its legally binding context, as he tells us, is legally worthless.

Relatively little work on law and legal vocabulary includes (among other things) the *Mānavadharmaśāstra*, Tables of ancient Roman law (the Code of Lekē), codes. Rather, there appears to be that outside influence. Laws contain elements of societies. Another is that at least in part, legal rules

2.14. These problems arise from the comparative linguistic study of languages which have uncovered, inherited lexical items. In Hittite and Roman, for example, another party was achieved by attacking or surrendering the person. This is expressed in Latin by the suffixes *-ni* and *-nius*. The suffix *-ni* is not part of the verb, but it has semantic and linguistic content, as in *sarcire* and *šarnik-* had as their object the person who deserved recompense.

2.15. Future studies this kind; in the meant the PIE lexicon. We are A word probably mean ritual statement that m basis of Indo-Iranian a *justice*). The verb mean such derivatives as *dhá-* that were applied espec notion was that of som Old Norse, comes from it is possible that Latin cannot reconstruct a w which was both a relig Bible to tell the truth i

"anti-guests" who camped out in Odysseus's home in his absence while suing for the hand of his wife, Penelope.

Law

2.13. The study of legal vocabulary is important for IE linguistics because the archaic nature of traditional legal phraseology preserves old forms and meanings of words that are often not preserved elsewhere. As with religious formulations, legal formulations must be uttered precisely the same way each time to be binding; the Roman jurist Gaius (fl. second century AD) gives an example of a lengthy legal formula in its legally binding version and in a minimally different version that, he tells us, is legally worthless.

Relatively little work has been done on the comparative reconstruction of PIE law and legal vocabulary. This is not for want of material, which is abundant and includes (among other things) the Hittite Law Code, the law of Manu in Vedic India (the *Mānavadharmaśāstra*), the Gortynian Code from Crete, the Laws of the Twelve Tables of ancient Rome, numerous Old Irish legal texts, northern Albanian customary law (the Code of Lekë Dukagjini), and various medieval Germanic and Slavic law codes. Rather, there are certain problems inherent in the texts themselves. One is that outside influence must always be reckoned with; for example, the Hittite Laws contain elements that are common to other (and non-IE) ancient Near Eastern societies. Another is that laws that have been codified and written down represent, at least in part, legal reform rather than untouched ancient practice.

2.14. These problems can be easily overemphasized, however. Careful comparative linguistic study of legal phraseology in cognate traditions can uncover, and has uncovered, inherited legal vocabulary and idioms – and with it, PIE legal practice. In Hittite and Roman law, restitution for damages done by one's son or slave to another party was achieved by the father or master paying for the damages himself or surrendering the perpetrator to the offended party. This act of compensation is expressed in Latin by the verb *sarcire* and in Hittite by its cognate, *šarnik-* (the *-ni-* is not part of the root). Since the two traditions agree precisely in both legal and linguistic content, it is safe to assume that the PIE root **sark-* that underlay *sarcire* and *šarnik-* had a technical legal usage in referring to this particular type of recompense.

2.15. Future studies will surely uncover many more technical IE legal terms of this kind; in the meantime, there is not much that we can say about this corner of the PIE lexicon. We are not even sure what the general term or terms for 'law' were. A word probably meaning 'law' or 'religious law', originally in the sense of 'legal or ritual statement that must be pronounced' or the like, has been reconstructed on the basis of Indo-Iranian and Italic; it is the source of Latin *iūs* 'law' (whence English *justice*). The verb meaning 'place, put' apparently had legal overtones; it furnishes such derivatives as *dháma* 'law' in Vedic Sanskrit and *thémis* 'law' in Greek, words that were applied especially to laws at the level of the family or household. The notion was that of something 'placed' or established. English *law*, a borrowing from Old Norse, comes from a root meaning 'lay' and is therefore 'that which is laid down'; it is possible that Latin *lex* comes from the same root, though this is debated. We cannot reconstruct a word for the central concept of the 'oath', the swearing of which was both a religious and a legal act (as it is today when one swears by the Bible to tell the truth in a court of law); each branch has a different term.

2.16. In PIE society, there was no public enforcement of justice. In order for contractual obligations to be met, private individuals probably acted as sureties (that is, they pledged to be responsible for payments of debts incurred by someone else in case the latter defaulted). The fact that there were no higher officials that enforced justice meant that individuals had to take matters into their own hands sometimes; in Irish law and the Roman Laws of the Twelve Tables, one could formally bar someone from access to their property to compel payment. PIE society probably knew no formal court as we know it today, but suits could be brought by one party against another, and cases were argued before judges (perhaps kings) that featured witnesses. Irish and Gothic preserve what might be an inherited term for ‘witness’ that is a derivative of the verbal root meaning ‘see’ or ‘know’. Italic has famously innovated a term meaning ‘third person standing by’ (*testis*, from earlier **tri-stis*), for which there is a near-equivalent in Hittite: a compound verb meaning ‘stand over’ (*šēr ar-*) had an extended technical meaning ‘bear witness’.

Religion, Ritual, and Myth

Indo-European deities

2.17. All the older IE religions are polytheistic, as was that of the Proto-Indo-Europeans. Nothing like a complete picture of PIE religious beliefs and practices is possible; in what follows, we can only give a sampling of the major divine figures, myths, and a few elements of religious ritual. On the whole, few divine names can be confidently reconstructed. Most of the familiar Greek and Roman gods, for example, have names of unknown etymology, and some (like Aphrodite) are known to be of Semitic provenance. Others, like Venus and the Germanic god Woden, have names that derive from Indo-European roots, but there are no deities in other branches with cognate names. Clearly the daughter traditions have undergone considerable change and evolution.

2.18. Some idea of how the Proto-Indo-Europeans conceived of their relationship to the gods can be seen in the etymology of their term for ‘human being’, whose descendants include Latin *homō* and Old English *guma* (the latter preserved in altered form in the compound *bride-groom*): the PIE form was derived from the word for ‘earth’ or ‘land’, attesting to a conception of humans as ‘earthlings’ as contrasted with the divine residents of the heavens. Another paired contrast is evident in the widespread use of the word for ‘mortal’ as a synonym for ‘human’, as opposed to the immortal gods.

Given that gods were in the first instance celestial beings in the IE view of the cosmos, it is not surprising that the most securely reconstructible members of the PIE pantheon had to do with the sky and meteorological phenomena; they were also mostly male (but see below). The general word for ‘god’ is a derivative of a root meaning ‘shine’, as of the bright sky; its descendants include such words as Vedic *devás*, Latin *deus*, Old Irish *día*, and Lithuanian *diévas* (but not Greek *theós* ‘god’, which is from a different root).

2.19. The same root for ‘shine’ furnished the name of the head of the PIE pantheon, a god called **Father Sky**, whose name is securely reconstructible from the exact equation of Vedic Sanskrit *dyāus pítar* ‘(o) Father Sky’, Greek *Zeū páter* ‘(o) Father Zeus’, and Latin *Iū-piter* ‘Jupiter’ (literally ‘father Jove’, also originally a

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of the head of the PIE eely reconstructible from r Sky', Greek *Zeū páter* r Jove', also originally a

vocative or form of direct address like the previous two). Compare also Luvian *tatiš Tiwaz* 'father Tiwaz', where the deity has been transformed into a sun-god, and Old Irish *In Dagdae oll-athir* 'the Good God, super-father'. In Germanic, the head god became the god of war: Old Norse *Týr*, Old English *Tig*, whence our *Tues-day*. The appearance of the word for 'father' as part of the IE Sky-god's title probably referred to his hierarchical position at the head of the pantheon, and not necessarily to any role as progenitor. It would then be like the same use of Latin *pater* 'father' in the ancient phrase *pater familiās* 'head of the household'.

2.20. Alongside Father Sky was another male deity, the **Sun**. His daily course across the sky is envisioned in many IE traditions as a horse-drawn chariot ride; though probably inherited, this motif cannot be more ancient than the invention of wheeled vehicles, which were a late addition to PIE culture (see §2.58 below). In the western IE branches, the Sun and associated deities rested on an island in the western sea after their daily journey, an island frequently described as having an apple-orchard and sometimes associated with the realm of the dead. Whether this is an inherited motif is uncertain.

2.21. The Indo-Europeans had a **god of thunder and lightning**, probably represented as holding a hammer or similar weapon; this is how the Baltic thunder-god Perkunas and the Old Norse god Thor are depicted (the name of the latter's hammer, Mjollnir, is cognate with words in Celtic and Balto-Slavic for 'lightning'), and also in some representations the Anatolian Stormgod. Thunder and lightning have both destructive and regenerative associations; a lightning bolt can cleave stone and tree, but is accompanied by fructifying rain. This gives rise to the folk-motif of the lightning bolt that impregnates rocks and trees (especially the oak), and explains the strong associations between the Balto-Slavic god of thunder (Lithuanian *Perkūnas*, Old Russian *Perun*) and the oak. It is interesting to note in this connection that the PIE word for 'stone' secondarily refers to 'heaven' in Indo-Iranian and Germanic; while we are not entirely certain of the underlying association, it may rest on a conception of the heaven as a stony vault, from which fragments might fall in the form of meteorites; or it may be connected with the stony missiles thought to be hurled by the god of thunder.

2.22. Alongside these male sky and weather gods, we know of at least one goddess in PIE mythology, the **Dawn**, whose Indo-European name becomes *Uṣás* in Vedic myth, *Ēōs* in Greek, and *Aurōra* in Latin. In three traditions (Indic, Greek, and Baltic) she is also called the 'daughter of heaven', perhaps an inherited epithet; and in these three branches plus a fourth (Italic) there is a story of the reluctant dawn-goddess who is chased or beaten from the scene for tarrying. The Indo-Europeans oriented themselves by facing east, toward the dawn, as shown by the fact that 'south' in PIE was expressed by the word for 'right'. ('East' itself was expressed by the word for 'dawn' or a derivative of it, and similarly 'west' was expressed by the word for 'evening').

Other goddesses have been proposed for PIE as well, but they are less certain. Most daughter branches have a 'Mother Earth', a figure ubiquitous around the world and not specifically Indo-European, but within the IE family itself there is no reason why her name could not be inherited.

2.23. An important pair of figures in IE myth are the **divine twins** (their names cannot be recovered), whose most familiar representatives are Castor and Pollux in Greco-Roman myth (the Dioskouroi, 'sons of Zeus'). They are also continued by the Nāsatyas or Aśvins in Vedic India and as the Dieva dēli or 'sons of heaven' in Latvian folklore. From the considerable mass of often quite varied legends that surround these

figures, it appears that the PIE divine twins were offspring of Sky, were youthful, and were connected with (or even took the form of) horses, especially the horses that drew the chariot of the Sun. More distant echoes of the horse-twins are arguably found in the Irish legend of Macha, who gave birth to twins after winning a footrace against horses, and in the Germanic figures Hengist and Horsa, legendary or semi-legendary leaders of the Anglo-Saxon invaders of England and founders of the kingdom of Kent (their names mean ‘stallion’ and ‘horseman’, respectively).

2.24. The opposing elements of fire and water are intimately associated in the divine Indo-Iranian figure called the ‘grandson (or nephew) of the waters’ (Vedic *Apām Nápāt*, Avestan *Apām Napā*), depicted as a fiery god residing in the water, giving off light, and needing to be propitiated for the proper use of bodies of water. An Irish mythical figure, Nechtan, is the subject of a myth with similar elements; etymologically, his name can be reconstructed as **neptonos*, formed from **nept-*, one of the stems of the PIE word for ‘grandson’ or ‘nephew’ that gives *nápāt* in Indo-Iranian. This same stem **nept-* recurs in the name of the Roman god of waters, *Neptūnus* (Neptune); in Roman myth there is no longer any overt connection between him and fire, although there are tantalizing traces of an old Neptune cult with elements recalling those found in the cults of *Apām Nápāt* and Nechtan. The Armenian tale known as the Birth of Vahagn (see §16.42) is analogous to these in featuring fire born of a water-dwelling plant.

Ritual and cultic practice

FIRE-WORSHIP

2.25. An interesting fact of the reconstructed PIE lexicon is that ‘fire’ and ‘water’ could each be expressed by different terms, one of animate gender and one of inanimate gender; this has been taken to reflect two conceptions of fire and water, as animate beings and as substances. The most dramatic reflection of the former is in the deification of fire that is seen in various IE traditions. The evidence for fire-worship as part of PIE cultic practice is scanty, but compelling in its details. Vedic India worshiped the fire-god Agni (literally ‘Fire’), and the ancient Iranian Zoroastrians were famous fire-worshippers, though their fire-god had a different name, Ātar (also literally ‘Fire’). The Romans divinized the domestic hearth and its fire in the form of the goddess Vesta. Though the names of these deities are all different, the temple of Vesta that housed her sacred fire, uniquely among Roman temples, was circular rather than square; and the domestic fire in ancient India was accorded a round altar, rather than the square one used for public worship.

KINGSHIP RITUAL AND THE HORSE SACRIFICE

2.26. Indic, Roman, and Irish traditions, and indirectly also Anatolian, attest to an important ritual held to consecrate kingship whose central act was horse sacrifice. We know far more details about the Indic ritual, called the *ásvamedha*, than the others; its core elements were the sacrifice of a stallion (specifically, one that excels on the right-hand side of the yoke), ritual copulation with the dead stallion by the queen, and the cutting up and distributing of the horse's parts. We have traces of an ancient Roman ritual called the October Equus, which involved the sacrifice (to Mars) of the right-hand horse of the victorious team in a chariot race, the cutting

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On the basis of Europeans had a ritual king or queen with the other participants the Indic and Roman paired draft-horses c. millennium BC – a direct the breakup of PIE. It without horses; inter-punishable offense etc.

THE AFTERLIFE

2.27. Several daughters of a body of water to required prayers and for a period of time. that would be needed, pouring honey and oil, journey on land culminating to be ferried, probably. Styx is the most famous name in Celtic, Old Norse, and particular agreements were like (according to some, it is disputed). In Greek, underworld (the 'hell'). In several traditions, taking it away (as the well of wisdom (as the well of knowledge).

MAGIC

2.28. We know from doubt that it was practice and curses. The Hittite cult of dolls and other oblations was the utterance of oaths as, "Just as this wax tablet melts like the Soldier's Oath). The prayer and curse tablets of the ancient Near East

of Sky, were youthful, specially the horses that horse-twins are arguably after winning a footrace (Arsha, legendary or semi-mythical and founders of the 'n', respectively).

are associated in the ') of the waters' (Vedic *śāshvata* residing in the water, use of bodies of water. There are with similar elements; *Neptūnus*, formed from **nept-*, 'new' that gives *napāt* in the Roman god of waters, a clear connection between the Neptune cult with ele-Nechtan. The Armenian us to these in featuring

s that 'fire' and 'water' are gender and one of the functions of fire and water, the reflection of the former functions. The evidence for is compelling in its details. And the ancient Iranian fire-god had a different role domestic hearth and some of these deities are all uniquely among Roman fire in ancient India was public worship.

Anatolian, attest to an act was horse sacrifice. The *aśvamedha*, than the specifically, one that excels the dead stallion by the arts. We have traces of involved the sacrifice (to chariot race, the cutting

off of its head to be fought over by two groups of people, and the affixing of its tail to the wall of the Regia (the ancient royal palace from when Rome was ruled by kings). In the twelfth century, a Welshman named Giraldus Cambrensis described in his *Topography of Ireland* a ritual among the Irish that involved the copulation of a king with a mare that is then killed and boiled and cut into parts, which are subsequently distributed to everybody to eat.

On the basis of these comparanda, one can conjecture that the Proto-Indo-Europeans had a ritual for the renewal of kingship involving the ritual copulation of a king or queen with a horse, which was then sacrificed and cut up for distribution to the other participants in the ritual. Some details may be of a later date, such as the Indic and Roman specification that the horse excel on the right side of the yoke: paired draft-horses do not appear in the archaeological record before the mid-third millennium BC – a date that (as we will discuss in greater detail later) is well after the breakup of PIE. In Anatolia, we have some traces of ritual royal copulation, but without horses; interestingly, though, in Hittite law, copulation with animals was a punishable offense except copulation with horses or mules.

THE AFTERLIFE

2.27. Several daughter traditions believed that the soul journeyed after death across a body of water to an afterlife. The journey undertaken could be arduous, and required prayers and offerings of food on the part of the soul's living kin, at least for a period of time. (It also required burying various goods along with the deceased that would be needed on the journey; see §2.65 below.) A Hittite ritual calls for pouring honey and oil onto the ground to "smooth out" the path for the soul. The journey on land culminated in reaching a body of water across which the soul had to be ferried, probably by an old man; the Greek myth of Charon and the river Styx is the most familiar descendant of this, but comparable myths are found in Celtic, Old Norse, and – with some modification – Indic and Slavic. There is no particular agreement across the different daughter traditions on what the underworld was like (according to one theory, it was originally conceived as a meadow, but this is disputed). In Greek, Germanic, and Celtic myth, a dog guards the entrance to the underworld (the 'hellhound'), and dogs are choosers of the dead in Indic and Celtic. In several traditions, underworld bodies of water are associated with memory, either taking it away (as the river Lethe in the Greek underworld) or imparting great wisdom (as the wellspring of Mímir in Old Norse myth).

MAGIC

2.28. We know comparatively little about magic in PIE times, although there is no doubt that it was practiced. Several branches attest the use of magical charms, spells, and curses. The Hittites used sympathetic magic involving the ritual manipulation of dolls and other objects or substances representing various evils; of central importance was the utterance of a spell, typically consisting of an extended simile (such as, "Just as this wax melts, and just as the mutton fat dissolves, let whoever breaks these oaths melt like wax [and] dissolve like mutton fat," from a text known as the Soldier's Oath). The Greeks, Italic peoples, and ancient Gauls left behind many prayer and curse tablets; the practice of writing curse tablets probably diffused from the ancient Near East, but the verbal artistry found in some of these spells has an

Indo-European flavor and may continue an inherited tradition. Some charms, such as certain ones against worms, are woven out of the same verbal fabric used in the telling of the dragon-slaying myth described below.

The use of spells and incantations was one of three categories of medical treatment in the ancient IE world, the others being the use of a knife or surgical instrument and the use of herbs or drugs. Texts in Vedic, Greek, and Celtic agree on this threefold division of medicine, and the use of incantations, according to the Vedic poet, is the best – a testament to the power of the word, on which more presently.

Myths

2.29. Certain aspects of religion are remarkably resistant to change. Religious formulae used in ritual, like legal formulae, must be worded just right to have the desired effect, and fixed religious phrases usually preserve archaic language. Also, the basic wording of myth narration is often exceptionally stable, even in the face of significant changes to or substitutions in the characters and events portrayed. A number of recent studies have shown that the specific words used in telling the kernel of a mythic tale are part and parcel of the myth itself. These words constitute the *basic formula*, the verbal vehicle encapsulating the myth. Thus, when two Indo-European cultures share not only a particular story but also particular formulaic words and expressions in telling that story, it can be shown that the story is inherited. A prominent example is the dragon-slaying myth.

THE DRAGON-SLAYING MYTH

2.30. Dragon-slaying myths are told the world over; thanks to research by the American Indo-Europeanist Calvert Watkins, the verbal and cultural elements that are specific to the IE version have now been detailed. The IE myth is directly continued, for example, in the Vedic Indic story of the god Indra (the head of the ancient Hindu pantheon) smiting the serpent Vṛtra to free the waters that the latter has trapped in his mountain lair. The story is simple on its face, but has deep significance: the waters are necessary for the health of the community; by hoarding them, the serpent has upset the natural order whereby wealth and nourishment are allowed to circulate, and Indra must thus do battle to restore order. The serpent as hoarder finds a close analogue in the well-known portrayal of dragons in Germanic legend (and in Tolkiennesque derivatives thereof) as hoarders of treasure; their treasure-hoarding upsets the societal order by keeping wealth from circulating. In longer versions of the Hindu myth, Indra is in fact first defeated by the serpent; he must then get help from other deities who provide him with the intoxicating drink called soma to give him strength. This expansion is also an inherited motif: in the cognate Hittite legend, the storm-god Tarhunnaš is at first defeated by the serpent, and only succeeds the second time around after drinking an intoxicant.

2.31. In PIE, this myth was encapsulated in the alliterative formulaic phrase **(e-)gʷʰen-t ogʷʰim* ‘(he) killed the serpent’. (The sound *gʷʰ* will be explained in the next chapter.) The root **gʷʰen-* was one of several reconstructible roots for ‘smite, kill’, but a close study of the use of its descendants shows that it was reserved for acts of killing that involve a monstrous adversary, or acts of killing that are themselves monstrous and upset the natural order of things. (It was, in fact, quite comparable in usage to Modern English *slay*.) The formulaic language of the

dragon-slaying myth does not involve dragons but rather acts of heroic slayings such as the societal order such as the slaying of her husband (the snake). Furthermore, it is associated with another one that has a whole host of other serpent-slaying myths of cultural notions of the struggle of order against disorder.

CREATION AND FOUNDATION

2.32. At least three stories of creation and foundation are known. ‘Twin’ by a primeval couple make up the physico-mythic model. The carcass was carved into the world from the body parts of the first man figure is named ‘twins’ because the first man to die, and means ‘man’, and another tells of the creation of the three classes of society by the combination of the Yima and the Iran. The first is the upper class, the body parts of the upper castes, and the second, §10.51). The second, siring, had his triple classes, and was later

The legends of the cosmogonic myths; in the myth of the foundation, the latter's murder at the hands of a primordial sacrificer.

THEFT OF FIRE

2.33. PIE mythology includes the titan Prometheus, who steals fire from the gods just created. We usually consider this simply a folk etymology, but the true meaning of the word *prometeo* has an exact cognate in Greek *προμένειν* ‘to steal’ and is used in the details of the PIE myth at the core of telling the story.

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erative formulaic phrase *gʷʰ* will be explained in reconstructible roots for shows that it was reserved for acts of killing that are gods. (It was, in fact, quite formulaic language of the

dragon-slaying myth could thus be extended to a number of heroic exploits that did not involve dragons or serpents per se. In Greek literature, the same words are used of heroic slayings such as Bellerophon's of the Chimaera, and of slayings that upset the societal order such as Herakles's murder of his guest Iphitos, and Clytemnestra's slaying of her husband Agamemnon (where she in fact is overtly compared to a snake). Furthermore, Watkins was able to show that the formula was connected with another one that translates as 'overcome death' (compare §2.37 below), which has a whole host of other associations. Thus the words used as a vehicle for the serpent-slaying myth encapsulate not only that myth, but also a whole complex of cultural notions pertaining to the slaying of (or by) a monstrous opponent, the struggle of order against chaos, and rebirth.

CREATION AND FOUNDATION MYTHS

2.32. At least three traditions – Indic, Italic, and Germanic – have interrelated creation and foundation myths that involve the sacrifice of a primeval being named 'Twin' by a primeval man, and the carving up of a primeval man into the parts that make up the physical or social world. Norse myth tells of Ymir ('twin'), whose carcass was carved up by the gods to create the world. The motif of creating the world from the body of a primordial figure is quasi-universal, but the fact that the figure is named 'twin' is not. In Indic mythology, the primeval twin, Yama, was the first man to die, and his brother, Manu, was the founder of religious law. Manu means 'man', and another Germanic myth, reported by the Roman historian Tacitus, tells of the creation of three ancient Germanic tribes that represented the three classes of society by Mannus ('man') and his father Tuisto ('twin'). Resembling a combination of the Ymir and Mannus myths are two legends from ancient India and Iran. The first is the story of the creation of the four castes of Hindu society from the body parts of the primeval man Puruṣa (Purusha): his upper body parts became the upper castes, and his lower parts became the commoners (see the excerpt in §10.51). The second is the Iranian myth of Yama Xšāēta, who, as a consequence of sinning, had his triple halo taken away and distributed to the heads of the social classes, and was later cut in two by his brother.

The legends of the founding of cities or the origins of a people are often based on cosmogonic myths; if we turn to ancient Italy, we encounter another analogue, the myth of the founding of Rome by Romulus and his twin brother Remus and the latter's murder at the hands of the former (interpreted by some modern scholars as a primordial sacrifice that was necessary for the act of societal creation).

THEFT OF FIRE

2.33. PIE mythology evidently had a myth of the theft of fire. In Greek mythology, the titan Prometheus stole fire from the gods and gave it to the humans that he had just created. We usually read that the titan's name meant 'forethought', but that is simply a folk etymology on the part of the Greeks, who had long before forgotten the true meaning of his name. *Promētheús* originally meant 'the one who steals'; it has an exact cognate, including the prefix, in the Vedic verb *pra math-*, which means 'to steal' and is used in the Vedic myth of the theft of fire. We cannot reconstruct the details of the PIE myth, but can assume that this particular compound verb was at the core of telling it.

ANIMALS IN PIE MYTH AND FOLKLORE

2.34. Several animals had mythological and folkloric associations. Goats draw the chariot of the god Thor in Norse mythology and the chariot of the Indic god Pushan, and they are associated with the Baltic god Perkunas. The wolf's name underwent *taboo deformation* (as we would say *gosh* for *God*) in several branches, suggesting it was feared; we also know it was associated in PIE culture with outlaws (cp. §2.8 above). In Hittite law, calling a person a wolf was a speech-act that legally branded the person an outcast. The wolf was also a symbol of death; seeing a wolf was a metaphor for being struck dumb, itself metaphorical for losing vitality and dying. (This is found in non-IE folk beliefs in Europe, too.) Probably owing to a hunters' superstition whereby uttering the name of one's quarry was forbidden for fear the animal might hear his name and make himself scarce, the bear's name was taboo in the northern European branches and was replaced by circumlocutions like 'the brown one' (Germanic), 'honey-eater' (Slavic), 'licker' (of honey, Baltic; the inherited word may survive in a term meaning 'bear's den'), 'honey-desirer' or 'good calf' (Irish; the inherited word survives as the personal name *Art*). Several daughter branches preserve a legend, perhaps inherited, of a mythical crane that devours an enemy people. The crow and raven were associated with prophetic knowledge in IE legend; both the Celtic god Lug and the Norse god Odin had two ravens that supplied them with information.

Dumézilian trifunctionalism and the interpretation of PIE religion

2.35. As discussed earlier, the trifunctional ideology proposed by Georges Dumézil (cf. § 2.4 above) is said to be reflected in the structure of many aspects of IE religion. In early Roman religion, for example, a central trio of gods was formed by Jupiter the sovereign god (first function), Mars the god of war (second function), and Quirinus the patron of the common people (third function). In the second-millennium-BC Mitanni documents (see §§10.21ff.), which contain the first attested words in an Indic language, the names of the gods invoked at the signing of a treaty are Mitra and Varuna (sovereign and priestly first function), Indra (the warrior god, second function), and the divine twins the Nāsatyas (the third function). An Old Persian inscription of Darius the Great contains a prayer asking for protection from enemy onslaught (second function), poor crops (third function), and the Lie, the evil antithesis of religious Truth in the Persian Zoroastrian religion (first function). Similarly, an archaic Roman prayer (given in §13.53) contains an entreaty for warding off diseases (first function; medicine was part of the religious realm, since diseases were treated by spells, prayers, and the like), devastation caused by war (second function), and devastation caused by nature (third function).

2.36. The recognition of recurring structural similarities across such disparate material is arguably Dumézil's most notable achievement, and the tripartite ideology that he used to explain it has become standard doctrine among many specialists in comparative IE myth and culture. But there are good reasons to be cautious with it. In the first place, the ideology does not match very well much of the material that scholars try to apply it to. The deviations from expected trifunctionality have been explained away by the ad hoc postulation of various historical distorting influences. This introduces considerable interpretive flexibility that robs the theory of methodological rigor, and there is also a dangerous circularity in applying a theory to a set of

myths and analyzing Most of the divinities facets belonging to much understanding to a framework that real, it may turn out some non-IE cultures structural themes the

Poetics

Poets, patrons, &

2.37. The Indo-Europeanally trained in the art of inherited culture of heroes, kings, and that the gods would and singing kings' the memory of later central importance 'imperishable fame' between Sanskrit (see excerpt from the *Iliad* other branches. A way of immortality, a way reconstructed for Pāṇini drink that bestowed military aspects of this desire for achievement.

2.38. The value placed on the immortality of a poet was received from their patrons and patron was mutually dependent on his livelihood in a very strong way. His reputation as such a 'king without a poet' – the opposite of popular – for the one at whom he was brought up in a Medieval War of Words battle while carrying off his mine." (In his artistic career he was paralleled by the griot of Africa.)

2.39. IE poetic tradition

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Probably owing to a rry was forbidden for , the bear's name was y circumlocutions like (of honey, Baltic; the 'n'), 'honey-desirer' or al name *Art*). Several a mythical crane that ciated with prophetic rse god Odin had two

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d by Georges Dumézil aspects of IE religion. s formed by Jupiter the nction), and Quirinus second-millennium-BC attested words in an of a treaty are Mitra e warrior god, second tion). An Old Persian for protection from ion), and the Lie, the eligion (first function). n entreaty for warding s realm, since diseases caused by war (second

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myths and analyzing those myths in such a way as to make them fit the theory. Most of the divinities in the various daughter cultures are complex figures that have facets belonging to two or even all three of Dumézil's functions; it is unclear how much understanding, or interest, is gained by reducing such rich cultural material to a framework that is ultimately rather bare. Even if the trifunctionalism of PIE is real, it may turn out to be a cognitive quasi-universal, as it has been documented for some non-IE cultures as well. It therefore remains to be seen how the recurring structural themes that Dumézil observed are best interpreted.

Poetics

Poets, patrons, and fame

2.37. The Indo-European poet was the society's highest-paid professional, specially trained in the art of the word. Not only was he a repository and transmitter of inherited cultural knowledge, but was also entrusted with singing the praises of heroes, kings, and the gods. Composing hymns in praise of the gods ensured that the gods would in turn bestow wealth and beneficence on the community, and singing kings' or warriors' praises ensured that the kings would live on in the memory of later generations. Fame lives on after death, and the concept had central importance in PIE society, especially for the warrior class. A phrase for 'imperishable fame' can be reconstructed for PIE on the basis of an exact equation between Sanskrit (*śrāvas ákṣiti*) and Greek (*kléos áphthiton*, appearing in the excerpt from the *Iliad* in §12.65); in altered form the phrase appears also in several other branches. A warrior went into battle seeking fame because fame brought immortality, a way of overcoming death; a phrase for 'to overcome death' can be reconstructed for PIE, and survives ultimately in the Greek word *néktar*, the drink that bestowed immortality to the gods. (It is not inconceivable that the more militaristic aspects of the Indo-Europeans' successful spread owed something to this desire for achieving fame.)

2.38. The value placed on fame, and by extension on the poets that insured the immortality of a person's fame, is reflected in the generous largesse that poets received from their patrons in older IE societies. The relationship between poet and patron was mutually beneficial, one of reciprocal gift-giving: a king's or hero's livelihood in a very real sense depended on the preservation of his fame and on his reputation as surely as the poet's livelihood depended on being rewarded. A 'king without a poet' was proverbial in ancient Ireland for a poor king; and satire – the opposite of praise – was much feared and could have fatal consequences for the one at whom it was directed. The poet-patron relationship is neatly summed up in a Medieval Welsh account of a poet, Llywarch Hen, who, retreating from battle while carrying his slain patron's body, said, "I carry the head that carried mine." (In his artistic roles and his relationship to his patron, the IE poet is closely paralleled by the griots, poets and transmitters of traditional knowledge in western Africa.)

2.39. IE poetic tradition belongs to the type of poetry known as **oral-formulaic poetry**. Fundamental to this is the use of *formulaic* language, fixed words or groups of words that often had the function of filling out a verse-line. For example, in the *Iliad* Achilles is described as *pódas ókús* ('swift-footed'), a phrase that has a

convenient metrical shape; and the Homeric bards inserted it when the construction of a line needed a phrase of that shape, even in a passage where (for example) Achilles was sitting down. Having a storehouse of such formulae also makes it easier to compose and retell poems; although it is often stated that poems like the *Iliad* were memorized, in fact such poems are never the same each time they are retold because of on-the-spot improvisations and substitutions of one formula for another.

It is in the manipulation of formulae that IE poets showed their art, for IE poems are always a mixture of the old and the new; one hymn in the Rig Veda (3.31) has a passage that reads, “I make an anciently-born song new,” while another (8.40) says, “Thus a new (poem) was spoken for Indra and Agni in the manner of the ancestors.” Novelty was achieved first and foremost through the use of various grammatical, phonetic, and stylistic figures, some of which are described in the discussion to follow; in addition, an essential part of the aesthetic of much IE poetry was the use of obscure or difficult language. Skilled poets would often resist the temptation of using familiar formulae outright, but would distort them in certain ways, or allude to them obliquely with related notions or concepts. Examples of this are legion in the Rig Veda, the Old Avestan Gathas, the Homeric epics, and the odes of Pindar.

2.40. Formulae were more than just place-filters; they had considerable cultural weight attached to them. Essential to the poet's ability both to use obscure language and to be understood was the manipulation of knowledge shared by his audience. This knowledge consisted in the associative semantic networks by which words and concepts were interconnected. Many of the major themes of IE poetry – religious truth, combat, heroic deeds, immortality, fame, reciprocity, fertility – found expression in certain words that had complex cultural and linguistic links to other words and concepts. Thus a poet could use one highly charged word or phrase as an allusion to a whole semantic complex, and by combining it with another word that brought to mind a different semantic complex could generate a new and often profound connection or equation, a cultural truth. The technique is not unlike the quotation of part of the melody of another work during a jazz improvisation: the brief quotation brings to mind the other piece and whatever associations that piece might have, and gives it new meaning in the context of the improvisation. Since part of the study of IE poetics necessitates figuring out these associative semantic networks, comparative IE poetics is crucially important for uncovering this most subtle component of PIE culture and world-view.

In the hands of a skilled poet, the density of culturally loaded verbiage can be staggering. To illustrate, consider the following excerpt from one verse in the Rig Veda (1.152.2):

satyó mántrah kaviśastá ḍghāvān
“True (is) the powerful formula pronounced by the poet.” (trans. C. Watkins)

This snippet is only four words long, but each is packed with associations to important Vedic themes and formulas, many of IE antiquity, and their particular combination draws all those themes together in interesting ways. Let us begin with the final word, *ṛghāvān* ‘powerful’, literally ‘possessing reproductive power’. It is very similar to another word, *ṛtāvān* ‘possessing religious truth’, which normally occupies the same position in a line; in the world of IE poetry, by its metrical position and

phonetic similarity of religious truth (*ṛtā-*) is expression was the primary line), which was completely described in our excursion word *śastá-* ‘pronoun’ connections of its origin with the noun *śámsa-* ‘prince of men’, establishing a sort of equivalency that this connection phrase *mántram nám* ‘way’ (Rig Veda 7.7.1). *īghāvān*, whose literally identifies the poet as virile closely related forms from the Vedic pantheon, god being praised etc. The relationship was primarily

Metrics

2.41. A comparison of different practices to two distinct PIE poetic forms in the century, had verse-quantitative, that is, (Light syllables are typically in longer versions of longer lines had an types were fairly frequent (typical of many poems) long or short.

The following two
of long- and short-lined
a light; the caesura
indifferent to quantity;
cadence is boldfaced;
o is also a long vowel;
bb are single consonants.

índra
yáni
áhani
prá v

"I will now relate the history of the serpent, drilled through

it when the construction where (for example) formulae also makes it clear that poems like the same each time they are recited are variants of one formula for

their art, for IE poems in the Rig Veda (3.31) “are new,” while another Agni in the manner of through the use of various which are described in the rhetoric of much IE poetry would often resist the distort them in certain concepts. Examples of Homeric epics, and the

and considerable cultural to use obscure language shared by his audience. Works by which words and of IE poetry – religious fertility – found expressive links to other words and phrase as an allusion to another word that brought to mind often profound contrasts unlike the quotation of ion: the brief quotation that piece might have, . Since part of the study nantastic networks, com- most subtle component

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(trans. C. Watkins)

with associations to ty, and their particular ways. Let us begin with ‘luctive power’. It is very which normally occupies s metrical position and

phonetic similarity *íghāvān* calls *ṛtāvān* and the latter’s associations to mind. Religious truth (*ṛtā-*) is a central concept in Vedic India, and a primary vehicle of its expression was the poet’s ‘true formula’ (*satyó mántrah*, the first two words of our line), which was conceived as bringing order to the universe. This formula is further described in our excerpt as *kaviśastá* ‘pronounced (*śastá-*) by the poet (*kaví-*)’. The word *śastá-* ‘pronounced, solemnly stated’ is derived from a verb which has important connections of its own to the art of the poet. In particular, one of its derivatives, the noun *sáṁsa-* ‘praise’, occurs in the famous compound word *nárāśáṁsa-* ‘praise of men’, establishing an associative link between *kaviśastá-* and *nárāśáṁsa-* and a sort of equivalency of *kaví-* ‘poet’ and *nár-* ‘man, hero’. We know from elsewhere that this connection is real, and not a modern-day scholarly construct; compare the phrase *mántram náryā átakṣan* ‘(poets who) crafted the formula in a manly (*náryā*) way’ (Rig Veda 7.7.6; n.b. *mántra-* ‘formula’ here also!). And this brings us back to *íghāvān*, whose literal meaning ‘possessing reproductive power’ quite directly identifies the poet as virile; it, too, is a formulaic word in Vedic poetry and (together with closely related forms) is a traditional epithet of the warrior-god Indra, the head of the Vedic pantheon. Using *íghāvān* here to describe the praise-poem instead of the god being praised echoes the reciprocal relationship between gods and humans; this relationship was primarily expressed on the part of humans with a hymn of praise.

Metrics

2.41. A comparison of the metrics of the older IE poetic traditions reveals several different practices that, according to the most recent research, probably point to two distinct PIE poetic forms. The first, which has been recognized for a good century, had verse-lines of a fixed number of syllables and a rhythm that was quantitative, that is, based on a regular alternation of heavy and light syllables. (Light syllables are those ending in a short vowel; all others are heavy.) Lines came in longer versions of ten to twelve syllables and shorter versions of seven or eight syllables, and were grouped into strophes (stanzas) of three or four lines each. The longer lines had an obligatory caesura (break) neighboring the fifth syllable; both types were fairly free at the beginning but ended in a rhythmically fixed cadence (typical of many poetic systems around the world). The last syllable could be either long or short.

The following two strophes from the Rig Veda will illustrate these principles of long- and short-line construction. The symbol – represents a heavy syllable and – a light; the caesura is marked ||, and the last syllable is marked × because it was indifferent to quantity (could be filled with either a light or a heavy syllable). The cadence is boldfaced; note that it is unchanging. The macrons indicate long vowels; o is also a long vowel; ī is a long syllabic r that counts as a long vowel; and th and bh are single consonants.

índrasya nú vīrīyāñi prá vocam	– – – – – – – – – – – ×
yáni cakára prathamáni vajrí	– – – – – – – – – – – ×
áhann áhim ánu ápas tatarda	– – – – – – – – – – – ×
prá vakṣáñā abhinat párvatāñām	– – – – – – – – – – – × (1.32.1)

“I will now relate the manly deeds of Indra which he first did, wielding a cudgel: He slew the serpent, drilled through to the waters, (and) split the belly of the mountains.”

mó ū̄ varuṇa mṝnmáyam gṝhám̄ rājann ahám̄ gamam mīlā sukṣatra mīlāya	- · · · · - - x · - - - - - x - - - - - - x
	(7.89.1)

"Let me not go to the grave right soon, o Varuna, o king. Have mercy, o gracious ruler, have pity."

It should be kept in mind that these were composed orally, long before writing came to India.

2.42. A second, potentially more archaic, poetic form has been argued for by Calvert Watkins and is termed the *strophic style*. Poetry in this form consists of strophes of relatively short lines whose structure is determined by grammatical and phonetic parallelism; there is no fixed line length or syllable count. It has also been termed, a bit misleadingly, as "rhythmic prose" (it is neither rhythmic nor prose). The strophic style is especially characteristic of archaic liturgical and legal texts, and certain mythological narratives. Some examples from several traditions follow:

(Hittite, Soldier's Dirge)

Nešaš wašpeš Nešaš wašpeš
tiya-mmu tiya
nu-mu annaš-maš katta arnūt
tiya-mmu tiya
nu-mu uwaš-maš katta arnūt
tiya-mmu tiya

Shrouds of Nesa, shrouds of Nesa,
bind me, bind.
Bring me down for burial with my mother,
bind me, bind.
Bring me down for burial with my forefather,
bind me, bind.

(Avestan, Yasna Haptanhāiti 35.4)

rāmācā vāstrəmcā dazdiāi
surunuuatascā asurunuuatascā
xšaiiañtascā axšaiiañtascā

(...) peace and pasture to be provided (by)
those who hear and those who do not hear,
those who rule and those who do not rule.

(Umbrian, Iguvine Tables VIa)

nerf arsmo
ueiro pequo
castruo fri
salua seritu
futu fos pace pase tua

(...) magistrates (and) formulations,
men (and) cattle,
heads of grain (and) fruits,
keep safe.
Be favorable (and) propitious in your peace.

(Armenian, The Birth of Vahagn)

erknēr erkin
erknēr erkir
erknēr ew covn cirani

Heaven was in labor,
Earth was in labor,
the purple sea also was in labor.

(Old Irish, "Cauldron of Poesy" §16)

Fó topar tomseo
fó atrab n-insce
fó comar coimseo
con-utaing firse.

Good is the source of measuring
good is the acquisition of speech
good is the confluence of power
which builds up strength.

2.43. These examples exhibit most of the strophic style's characteristic features. Grammatical parallelism and repetition is very frequent ('bring me down for burial

with my mother' ~ 'bring me down for burial', 'bind me, bind' ~ 'bind me, bind', 'shrouds of Nesa, shrouds of Nesa' ~ 'shrouds of Nesa, shrouds of Nesa'). The strophic style is especially characteristic of archaic liturgical and legal texts, and certain mythological narratives. Some examples from several traditions follow:

2.44. Many IE poets used the strophic style (such as alliteration and some structural rigidity) to achieve a rhythmic effect at line-end (not throughout the whole line). This is perhaps best illustrated by the following example (see §13.73):

postin
tetis
esmen

It can be divided either into two seven-syllable lines with internal alliteration and a similar eight-syllable line, or into three seven-syllable lines with internal alliteration and a similar eight-syllable line. The first is characteristic of traditional Irish verse and of archaic Indo-European verse, a line is divided into two alliterate and that functionally some freedom in the number of syllables can be weighted toward the end of the line.

Repetition of sound (alliteration and rhyme) is characteristic of the strophic style. The following, from the Rgveda, is typical of the technique:

sī minus cum cī
"If your place is
(trans. P. Ni...)

We have the alliterative formula *sī minus cum cī* in *locus loquendi lectus* and *locus loquendi lectus*). The formula is used in the words *aut cautela sī* and *locus loquendi lectus*. In Pali it is found in the formula *sī minus cum cī*.

- v x
- v x
- v x
(7.89.1)

ve mercy, o gracious ruler,

long before writing came

has been argued for by
in this form consists of
ermined by grammatical
ylyable count. It has also
is neither rhythmic nor
archaic liturgical and legal
s from several traditions

hroods of Nesa,

burial with my mother,

burial with my forefather,

esture to be provided (by)
those who do not hear,
those who do not rule.

and) formulations,

) fruits,

propitious in your peace.

or,

was in labor.

of measuring
ion of speech
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ength.

s characteristic features.
ring me down for burial

with my mother' ~ 'bring me down for burial with my forefather'; 'those who hear and those who do not hear' ~ 'those who rule and those who do not rule'; 'Heaven was in labor' ~ 'Earth was in labor'; 'Good is the acquisition of speech' ~ 'good is the confluence of power'). Bipartite alliterative phrases are also common (*salua seritu, futu fos, erknēr erkir, covn cirani, topar tomseo, comar coimseo*). Also characteristic of the strophic style are bipartite phrases of various kinds that express a totality. One widespread type, called a **merism**, is represented by the Umbrian phrase *ueiro pequo* 'men (and) cattle', standing for the totality of movable wealth. The Avestan phrase *surunuuatasca asurunuuatasca* 'those who hear and those who do not hear' represents a second type; compare, from the Latin prayer in §13.53, *morbōs uīsōs inuīsōsque* 'diseases seen and unseen'. Yet other types are represented by Old Persian *hašiyam naiy duruxtam* 'true and not false' and Greek *litás t' epaoidás* 'prayers and incantations' (two synonyms or near-synonyms).

2.44. Many IE poetic forms seem to combine fundamental features of the strophic style (such as alliterating word-pairs and freedom in the number of syllables) with some structural rigidity reminiscent of the rhythmic/quantitative forms (a fixed rhythm at line-end preceded by a caesura, or a fixed number of syllables for the whole line). This is perhaps clearest in poetry like the following South Picene epitaph (see §13.73):

postin viam videtas
tetis tokam alies
esmen vepses vepeten

Along the road you see
the toga (?) of Titus Alius (?)
buried (?) in this tomb.

It can be divided either into bipartite alliterating phrases (excluding the first word) or into three seven-syllable units ending in a trisyllable. Such seven-syllable lines with internal alliteration and a final trisyllable are found also in Luvian and Irish, and a similar eight-syllable line ending in a trisyllabic cadence (but without alliteration) is characteristic of traditional Slavic historical ballads. Lines ending in a trisyllabic cadence and with a variable number of syllables before are characteristic of archaic Irish verse and of archaic Roman Saturnian verse. In traditional Germanic heroic verse, a line is divided into two half-lines, the first of which has two words that alliterate and that further alliterate with one word in the second half-line; there is some freedom in the number of syllables, but the first half-line in particular tends to be weighted toward the end (but without a fixed cadence).

Repetition of sounds (including alliteration, assonance, and, less frequently, end-rhyme) is characteristic of IE poetry even outside the strophic style. A line like the following, from the Roman comic playwright Plautus (*Miles Gloriosus* 603), is quite typical of the technique:

sī minus cum cūrā aut cautēlā locus loquendī lēctus est
"If your place of conference is chosen with insufficient care or caution . . ."
(trans. P. Nixon)

We have the alliterating *k* sounds (spelled *c*) of *cum cura aut cautela* followed by *l*'s in *locus loquendi lectus*, all of which also have *k* sounds in their interior (*locus loquendi lectus*). The two words *cum cura* both have *u*'s, and the following two words *aut cautela* share the sequence *aut*; and note the repeated *oc oc ec* of *locus loquendi lectus*. In Plautus, the repetition of these sounds is partly for comic effect;

in a line like the following, from a different tradition (*Iliad* 11.547), the phonetic figures underscore the sense and add gravity:

entropalizómenos olígon gónu gounòs ameíbōn
“continually turning his head (and) shifting one knee past the other a little”

At this moment in the story, the Greek warrior Ajax is being struck with fear, and the repeated *gon gon goun* is iconic of his jittery demeanor. (The earlier form of *gounos* was *gonwos*, which was probably the form used when the line was composed; so originally the line contained a perfectly repeating *gon gon gon!*)

BEHAGHEL'S LAW

2.45. Among the many other poetic techniques that IE poets availed themselves of, mention may be made of a tendency to give more verbal flair to the last thing enumerated in a series, a practice called Behaghel's Law of Increasing Members, after the Germanicist Otto Behaghel. Typical examples include, from Sanskrit, *Damam Dāntam Damanam ca suvarcasam* 'Dama, Dānta, and Damana having good life' (*Mahābhārata* III 50.9); from Old English, *Heorogār ond Hrōdgār ond Hālga til* 'Heorogar, Hrothgar, and Halga (the) good' (*Beowulf* 61); and a double example from Greek, from the Catalogue of Ships in the *Iliad* (2.532–3), *Bēssán te Skárphēn te kai Augeiàs erateinàs Tárphēn te Thrónion te Boagríou amphì rhéethra* '(who lived in) Bessa and Skarphe and beautiful Augeiai, and Tarphe and Thronion and along the waters of Boagros'.

Personal Names

2.46. In a society where the spoken word was of such importance, it is no surprise that bestowing a name upon a newborn was the subject of a ritual. We can reconstruct the phrase for the act itself, literally 'make a name', on the basis of such cognate phrases as Hittite *läman dāi-*, Vedic Sanskrit *náma dhā-*, Greek *ónoma tίthesthai*, Lat. *nōmen in-dere*, and Tocharian A *ñom tā-*. In Vedic India, the name is given as part of the *nāmadheyā-* ('name-placing') festival on the tenth day after the mother has left the childbed and been bathed; in Greece the name was given on the tenth day also. In Rome, the name was given nine days after the birth of a boy, eight days after the birth of a girl. Among Germanic peoples, according to Alemannic and Frankish legal texts the name was given on the ninth or tenth day after birth, accompanied by a ritual; here too the mother was first bathed. These facts would indicate that in PIE society, the mother recovered for nine (?) days after childbirth, rose, was bathed, and the child was then named.

2.47. The importance attached to names is due partly to the connection between one's name and one's reputation, especially among the ruling or warrior classes. In several IE traditions, the inherited words for 'name' and 'fame' are collocated (e.g., Greek *onomáklutοs* 'famous in name', Tocharian A *ñom-klyu* 'name-fame', Vedic Sanskrit *śrútyam náma* 'famous in name'). In Old Irish, an everlasting name was synonymous with everlasting fame.

2.48. We have a large dossier of ancient Indo-European names, many of which furnish information about naming practices in PIE times, especially (again) within

the warrior class. One can securely reconstruct compound members of European society, such as their character:

'fame'	Old Roman
	Illyrian
	Greek
'guest'	Lepontian
	Runic
'protection'	Luvian
	Old High German
	Gaulish
'god'	Vedic
	Czech
	Greek
	Germanic
'battle'	Gaulish
	Old Welsh
	Old High German
'people'	Greek
	Old High German
	Gothic
'man, hero'	Irish
	Old Persian
	Greek
animals	Vedic
	Old Norse
	Gaulish
	Ogam

2.49. In several IE traditions, names resemble the names of animals. One of the compound names of *Dīno-klēs* 'having broad claws' is *krátēs* 'having broad claws'. Such practices are found in names like Old High German *waldram* 'powerful horse', where one of the names means 'horse' and the other 'one's father without a father'.

Archaeology and Linguistics

2.50. No issue in Indo-European studies has been more interesting than determining the variety of different ways in which the same

liad 11.547), the phonetic

ast the other a little”

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poets availed themselves
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Increasing Members, after
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Damana having good life’
ud Hrōðgār ond Hālga til
(1); and a double example
32–3), *Bēssán te Skárphēn*
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fame’ are collocated (e.g.,
-*klyu* ‘name-fame’, Vedic
an everlasting name was

n names, many of which
especially (again) within

the warrior class. One very common type of name, found in most branches and securely reconstructible for PIE, is a bipartite compound X-Y where one or both compound members are concepts, virtues, or animals that were important in Indo-European society, such as fame, guest, god, and strength. A sampling will illustrate their character:

‘fame’	Old Russian <i>Bole-slavū</i> ‘having greater fame/glory’ Illyrian <i>Ves-cleves</i> ‘having good fame’ Greek <i>Themisto-klēs</i> ‘law-fame’
‘guest’	Lepontic <i>Uvamo-kozis</i> ‘having supreme guests’ Runic <i>Hlewa-gastiz</i> ‘fame-guest’
‘protection’	Luvian <i>Tarbunta-zalmaš</i> ‘having the Stormgod as protection’ Old High German <i>Ans-elm</i> ‘having god as helmet’
‘god’	Gaulish <i>Anextlo-mārus</i> ‘great in protection’ Vedic <i>Devá-śravās</i> ‘having divine fame’ Czech <i>Bohu-slav</i> ‘having the fame of god’ Greek <i>Dio-génēs</i> ‘born of god, born of Zeus’
‘battle’	German <i>Gott-fried</i> ‘having the peace of god’ Gaulish <i>Catu-rīx</i> ‘battle king’ Old Welsh <i>Cat-mōr</i> ‘great in battle’ Old High German <i>Hlūd-wīg</i> ‘loud in battle’ (<i>Ludwig</i>)
‘people’	Greek <i>Agé-lāos</i> ‘leader of the people’ Old High German <i>Liut-pold</i> ‘brave among the people’ (<i>Leopold</i>) Gothic (Latinized) <i>Theode-rīcus</i> ‘people’s king’
‘man, hero’	Irish <i>Fer-gus</i> ‘having a hero’s strength’ Old Persian <i>Xšay-āršā</i> ‘hero among kings’ (<i>Xerxes</i>) Greek <i>Aléks-andros</i> ‘warding off heroes’ (<i>Alexander</i>)
animals	Vedic <i>Rjí-svā</i> ‘having swift dogs’ Old Norse <i>Ráð-ulfr</i> ‘counsel wolf’ (<i>Ralph</i>) Gaulish <i>Mori-tasgus</i> ‘sea badger’ Ogam Irish <i>Cuno-rīx</i> ‘dog king’

2.49. In several IE societies, names of sons were picked (or created) so as to resemble the names of their fathers in specific ways. This was often done by recycling one of the compound members: Greek *Dīno-krátēs* ‘having fearful strength’, son of *Dīno-klēs* ‘having fearful fame’; *Eu-krátēs* ‘having good strength’, son of *Euru-krátēs* ‘having broad strength’; Old High German *Walt-bert* ‘bright in power’, son of *Wald-ram* ‘power raven’; *Hilti-brant* son of *Haðu-brant*, both meaning ‘battle sword’. Such practices are partly behind the appearance of nonsensical compound names like Old High German *Fridu-gundis* ‘peace-battle’ or Greek *Rhód-ippos* ‘rose-horse’, where one of the compound members was copied over from the name of one’s father without regard for what the new compound would mean.

Archaeology and the PIE Homeland Question

2.50. No issue in Indo-European studies has aroused more controversy or popular interest than determining the place the Proto-Indo-Europeans called home. The variety of different suggestions put forth – some of them quite outlandish – is

enormous. As J. P. Mallory writes in his book *In Search of the Indo-Europeans* (p. 143),

We begin our search for the homeland of the Indo-Europeans with the deceptively optimistic claim that it has already been located. For who would look further north than [C]jok[a]manya Tilak and Georg Biedenkapp who traced the earliest Aryans to the North Pole? Or who would venture a homeland further south than North Africa, further west than the Atlantic or further east than the shores of the Pacific, all of which have been seriously proposed as cradles of the Indo-Europeans? This quest for the origins of the Indo-Europeans has all the fascination of an electric light in the open air on a summer night: it tends to attract every species of scholar or would-be savant who can take pen to hand. It also shows a remarkable ability to mesmerize even scholars of outstanding ability to wander far beyond the realms of reasonable speculation to provide yet another example of academic lunacy.

Allied with the purely geographical question of where the Proto-Indo-Europeans lived is the temporal question of when they lived there. The insurmountable difficulty with answering both these questions is the simple fact that no material artifact of a preliterate people, nor their mortal remains, can tell us what language they spoke. Much of the time, we cannot even assuredly identify a type of artifact with a particular people: styles of pottery, for example, can diffuse from culture to culture, just as computer technology has spread globally today. While we can reconstruct a number of helpful terms relating to PIE material culture (see the next section), none of them is specific enough for matching particular archaeological finds with speakers of PIE. For example, we can reconstruct a word for ‘fortification’, but we are in the dark about whether there was an “IE type” or style of fortification that could be identified with particular prehistoric fortifications of Eurasia. As Mallory rather sardonically puts it (p. 126), “Indeed, it is bizarre recompense to the scholar struggling to determine whether the Proto-Indo-Europeans were acquainted with some extremely diagnostic item of material culture only to find that they were far more obliging in passing on to us no less than two words for ‘breaking wind’.”

Nevertheless, the situation is not entirely hopeless, and a careful consideration of the linguistic and the archaeological record does provide a number of important and tantalizing clues. Let us first consider the question of when PIE was spoken, for which we must review what we know about the Indo-Europeans' material culture and technology.

Material culture and technology

WHEELS AND TOOLS

2.51. The Proto-Indo-Europeans knew the wheel, for which they had at least two words, one of which (the family of Eng. *wheel*, Gk. *kúklos*, and Sanskrit *cakrám*) is found in most of the branches (see further §2.58 below). We can also reconstruct words for wheel hub (nave) and axle, and a specific verb referring to the act of conveyance in a vehicle; from this verb the noun for ‘wheeled vehicle, wagon’ was derived. The use of draft animals for pulling the wheeled vehicles required yokes and thills (yoke poles); terms for both in PIE have been reconstructed.

PASTORALISM

2.52. The Proto-Indo-European farming implements of the branches have similar names. We also know the sickle. Although we do not know which specific grains can be harvested with it, it is uncertain whether, such cultivation played a significant role in the mythology. It may have been projected back onto the past for their livelihood. The word *sickle* was a derivative of a word meaning to drive cattle, which the Greeks and Celts used to do. They engaged in shifting agriculture. In PIE, as it may also have been the case, the contiguous branches

2.53. As we have consisted in stockbreeding domesticated animals, ox, and bull. The Indians eat cows, goats, or maize and curds. Interestingly, we cannot reconstruct a language which are apparently related much from one another.

2.54. To these may be added horse, and dog, the swine were domesticated. The horse is often thought of as a symbol in myth and ritual (see below), and it played a role in the rapid expansion of the empire.

DWELLINGS

2.55. Some terms p
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'key', 'peg', or 'nail'
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the Proto-Indo-Europeans were. The insurmountable simple fact that no material can tell us what language identify a type of artifact can diffuse from culture to culture today. While we can material culture (see the hing particular archaeo reconstruct a word for was an "IE type" or style ehistoric fortifications of indeed, it is bizarre recom the Proto-Indo-Europeans material culture only to o less than two words for

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ich they had at least two os, and Sanskrit *cakram*). We can also reconstruct b referring to the act of eled vehicle, wagon' was l vehicles required yokes reconstructed.

PASTORALISM

2.52. The Proto-Indo-Europeans practiced agriculture and made use of various farming implements. A verb meaning 'to plow' is securely reconstructed, and several branches have similar words for 'plow' (the implement) that are probably inherited. We also know the words for some other farming tools, such as the harrow and sickle. Although words for grain, for threshing and grinding grain, and for some specific grains can be reconstructed (wheat, barley, and probably emmer and spelt), it is uncertain whether grains were cultivated by the Proto-Indo-Europeans; however, such cultivation is strongly suggested by the fact that grains have a prominent role in the mythology, folklore, and ritual practices of many IE traditions that can be projected back onto the proto-culture and that point to the importance of cereals for their livelihood. The PIE word for 'field' has descendants in most branches, and was a derivative of an equally widely represented verbal root referring to leading or driving cattle, which points to the use of draft-oxen in plowing. Slavic, Germanic, and Celtic have cognate words for 'fallow', indicating that their ancestors may have engaged in shifting cultivation; but we do not know if this is an inheritance from PIE, as it may also be a later, locally innovated term of these three geographically contiguous branches.

2.53. As we have seen, an important part of the Indo-Europeans' material culture consisted in stockbreeding, and we are well informed about the IE words for various domesticated animals. Among bovines, the PIE lexicon distinguished cow, steer, ox, and bull. The Indo-Europeans were familiar with dairy products (whether from cows, goats, or mares): we know their words for coagulated or sour milk, butter, and curds. Interestingly, while we can reconstruct a verb for the act of milking, we cannot reconstruct a word for the liquid itself: the terms in the daughter languages are apparently related (e.g. Gk. *gálatk-*, *glak-*, Lat. *lact-*, Eng. *milk*), but differ too much from one another to allow precise reconstruction.

2.54. To these may be added words for sheep (and its wool), ram, lamb, goat, horse, and dog, the last of these domesticated earlier than any of the others. We do not know if ducks and geese were domesticated, but we can reconstruct the words for them. There were separate roots for piglet and fully-grown pig, suggesting that swine were domesticated (the two are treated differently in animal husbandry). The horse is often thought of as the IE animal par excellence; it was important in PIE myth and ritual (see §§2.23 and 2.26 above), and is thought to have played a critical role in the rapid expansion of the early IE tribes, on which more presently.

DWELLINGS

2.55. Some terms pertaining to houses and house-construction have survived. The general PIE word for house has descendants in most branches, as does the word for door (usually attested in the dual or plural; presumably doors came in pairs). We can also reconstruct a word for doorjamb. Doors were probably kept shut with pegs of some kind, referred to by a word whose descendants variously mean 'key', 'peg', or 'nail' and that is derived from the verb meaning 'to close'. Roofs were thatched; words for 'roof' in some IE languages are cognate with words for 'thatch' in others, all of them derived from a verbal root meaning 'to cover'. Inside a dwelling was the hearth, which had great symbolic and even religious significance (recall §2.25 above) and for which a PIE word can be reconstructed.

FOOD PREPARATION

2.56. At least four branches – Indo-Iranian, Greek, Italic, and Germanic – have cognate words for oven. Cooking, baking, and boiling are all terms we can reconstruct, as is a term for broth. Grinding grain could be done in a hand-mill or *quern* (the direct descendant of the PIE term for this implement). Also part of the PIE culinary dossier was fermentation: the Indo-Europeans drank mead, their word for which has descendants in most of the daughter branches. Whether wine was known is a contentious issue. Viticulture is at least as old as the sixth millennium BC in the Caucasus, and the word for ‘wine’ is the same in the IE family (Eng. *wine*, Lat. *uīnum*, Gk. *(w)oīnos*, Russ. *vino*, etc.), Semitic (**wayn-*), and the Kartvelian languages of the Caucasus (e.g. Georgian *ghvino*). Though some believe the word is native PIE, the arguments for this are speculative, and most researchers believe rather that it diffused into the IE languages at a post-PIE date.

TEXTILES AND CLOTHING

2.57. The well-represented word for sheep’s wool stood alongside a word for linen (or flax); these, together with reconstructed roots for sewing, spinning, weaving, and plaiting, and nouns for needle and thread, show that the Proto-Indo-Europeans produced textiles. A verbal root meaning to clothe has descendants in most of the branches; we can also reconstruct the verb for girding, which formed a derivative noun for belt. The Proto-Indo-Europeans were also familiar with combs, and with ointments or salves. Aside from this, though, we know little about their dress or bodily adornments.

2.58. This represents the bulk of the linguistic evidence for the Indo-Europeans’ material culture. There are various additional terms, of course, as for other tools and weapons, but the latter are archaeologically widespread and go back much further than most dates entertained for PIE. A prehistoric society somewhere in Eurasia that practiced agriculture and stockbreeding, had the plow and other specialized agricultural implements, and had developed secondary products from milk and wool would most likely have belonged to the late Neolithic (fifth and fourth millennia BC). Based on the available archaeological evidence, the addition of wheeled vehicles to this picture allows us to narrow the range to the mid- or late fourth millennium: the earliest wheeled vehicles yet found are from c. 3300–3200 BC. If one adds a century or two to that figure (on the assumption that the actual invention of wheeled vehicles predates the earliest extant remains), that means the latest stage of common PIE (the stage directly reachable by reconstruction and before any of the future branches separated) cannot have been earlier than around 3400 BC. The wheel- and wagon-related terms are particularly telling linguistically: all of them save ‘thill’ are transparently secondary, that is, derived from known roots. One of the words for wheel, the ancestor of Sanskrit *cakrám*, Gk. *kúklos*, and Eng. *wheel*, is derived from the verb ‘to turn’ and has the look of a colloquial neologism, as we will discuss in §6.63. The other word, represented e.g. by Latin *rota*, is from the verb ‘to run’. ‘Nave’ is identical to, or related to, the word for ‘navel’, and ‘axle’ is also the word for ‘shoulder joint’. ‘Yoke’ is derived from the verb ‘to join’. Thus the whole complex of terms looks like a set of new metaphorical extensions of already existing terms to denote novel technologies. (Compare the extension of *mouse* to denote a computer input device.)

2.59. We may add that copper does not appear in the archaeological record until the second millennium. Aside from the word for copper, which have referred to copper objects of common PIE date, there is also Gaulish *arganto*, meaning ‘shiny, white’, which has an unusual morphology. Its etymology is consistent with a PIE root **arg-*.

Linguists would normally consent to a later date for the appearance of copper, but to diverge as much as this from the accepted date in the early and middle Bronze Age is not an accepted method for linguistics. We must be assured that such radical changes in technology were not broken up by the end of the Bronze Age.

Location of the Indo-Europeans

2.60. Several methods can be used to reconstruct the location of the Proto-Indo-Europeans in the natural world – the plants, animals, and geological features that these terms would refer to. The reconstructed terms for mountain, river, lake or sea, forest, and home for the Indo-European tribes are discussed below, along with terms for animals and plants.

FAUNA

2.61. We can reconstruct terms for deer, bear, boar, and elk (or deer), as well as for quail, thrush, crane, heron, pheasant, stork, and kite. (The last three are not attested in PIE, but are found in the daughter branches.) As for reptiles, we have words for snake and lizard, plus two others, the monitor lizard and the cobra, especially the trout and salmon. (The trout is not attested in PIE, but is found in the daughter branches.) The Indo-European tribes also knew about fish, and some large fish, such as salmon and sturgeon, are mentioned in the Rigveda. Iranian have words for trout, salmon, and sturgeon, while the Indo-European tribes for worm are widely distributed, and are often found together with words for fly, ant, and hornet. The Indo-European tribes also knew about the horse, the dog, and the cat, as well as the wolf, fox, and badger, which were companions of humans in the past (as they are now); reconstructions of the names of these animals are given below.

2.62. Almost all the terms for animals mentioned above are found in the steppes of Asia, with the possible exception of the horse, which is found in Anatolia, locations to the west of the steppes.

c, and Germanic – have all terms we can reconstruct in a hand-mill or *quern* (t). Also part of the PIE frank mead, their word fishes. Whether wine was in the sixth millennium BC the IE family (Eng. *wine*, *vn-*), and the Kartvelian some believe the word is most researchers believe late.

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for the Indo-Europeans' course, as for other tools lead and go back much earlier society somewhere had the plow and other secondary products from late Neolithic (fifth and all evidence, the addition the range to the mid- or found are from c. 3300– on the assumption that extant remains), that likely reachable by reconstruction cannot have been earlier. These are particularly telling secondary, that is, derived from Sanskrit *cakrám*, 'turn' and has the look of other word, represented as 'belonging to, or related to, the joint'. 'Yoke' is derived from looks like a set of note novel technologies. (put device.)

2.59. We may add to this the IE lexical facts concerning metals. Iron and tin do not appear in the archaeological record until after the fourth millennium, while copper is found already by the early sixth millennium, and silver in the late fourth millennium. Aside from a general word for 'metal' (which may, for all we know, have referred to copper), the only specific metal term that has any chance of being of common PIE date is 'silver' (represented e.g. in Avestan *ərəzatām*, Latin *argentum*, and Gaulish *arganto-*). Although it is a transparent derivative of an adjectival root meaning 'shiny, white', in five of the six branches where it appears it has the same unusual morphology, making common descent from PIE more likely than not. This is consistent with a breakup of PIE in the late fourth millennium.

Linguists would not be comfortable with a date much later than this; by common consent a later date would have left insufficient time for Anatolian and Indo-Iranian to diverge as much as they had diverged by the time their first written traces appear in the early and mid-second millennium. Note, though, that there is no generally accepted method for determining average rates of language change, and it is far from assured that such rates even exist. But there are other reasons to think that PIE had broken up by the end of the fourth millennium, which we will look at shortly.

Location of the homeland

2.60. Several methods of approach have been used for locating the homeland of the Proto-Indo-Europeans. Most famously, perhaps, are investigations of IE words for the natural world – the physical environment, fauna, and flora, in the hope that one of these terms would refer to something with a very limited geographical distribution. The reconstructed terms for topographic features are too basic to be helpful: mountain, river, lake or sea, and marshy land. These do no more than rule out a desert home for the Indo-Europeans (as does the reconstructed word for 'boat'!). The terms for animals and plants, however, are more varied and have aroused greater interest.

FAUNA

2.61. We can reconstruct the names for the bear, fox, wolf, beaver, otter, hedgehog, and elk (or deer), as well as words for quite a few birds, including the sparrow, quail, thrush, crane, vulture, blackbird, crow, raven, eagle, falcon (or hawk), jay, kite, pheasant, stork, and probably owl. (Some specialists dispute one or another of these.) As for reptiles and aquatic animals, we only know terms for the turtle, frog, and snake, plus two general words for fish and terms for a few specific fish species, especially the trout and salmon or a related species (see further below), and a word for some large fish that later came to be applied to cetaceans. Celtic and Indo-Iranian have words for leech that are probably cognate, and two rhyming words for worm are widely represented. As for insects, we know the name of the bee, together with words for its honey and wax, as well as the PIE words for wasp and hornet. The Indo-Europeans were also well acquainted with those perennial unwanted companions of humans and their dwellings, the mouse and louse (a rhyming pair then as now); reconstructible alongside the latter is the word for its egg, the nit, and a word for flea.

2.62. Almost all these animals are ubiquitous throughout Europe and large parts of Asia, with the possible exception of the beaver, which is not found in Greece or Anatolia, locations that are doubtful for the PIE homeland for many other reasons

(though see §2.71 below). But these terms do suggest that the Indo-Europeans lived in regions that were at least partly forested. The bear and elk are forest-dwelling animals, as are honeybees, and the otter and beaver dwell specifically in riverine forests. Some excitement was generated at one point by a theory that one of the reconstructed fish-names, **lōksos* (the ancestor of English *lox*), referred specifically to the Atlantic salmon (*Salmo salar*), whose distribution in Eurasia is limited to rivers flowing into the Baltic. But it is now believed that the word referred to the salmon trout (*Salmo trutta*), which is found over a much wider area. (Whatever the **lōksos* was, it seems to have been viewed as pre-eminent, to judge by the fact that it became the general word for ‘fish’ for the Tocharians. On the other hand, this may not mean anything, given that the PIE word for ‘louse’ became the general Tocharian word for ‘animal’!)

FLORA

2.63. The reconstruction of names for plants is more problematic than for animals. Very few plant names in the western IE languages have cognates in the eastern languages, a fact that has occasioned much debate over how many terms to reconstruct for PIE. The most clear-cut is the birch, whose name is found in six branches; after it come the willow and ash (the latter the preferential wood for making spears), and it is possible though more controversial to include the pine and yew. The oak was known, since the word for ‘acorn’ is securely reconstructible for PIE (though the most widespread word for ‘oak’ is only found in the European branches). These trees occur pretty much all over Europe and Asia. Hittite and Irish preserve a cognate word for ‘hawthorn’, and also attest to magical uses of it that may be inherited from PIE. Five branches attest a word that sometimes means ‘beech’ (e.g. *beech* in English), sometimes ‘elder’ (e.g. Russian *buzina*), and ‘oak’ in Greek *phēgós*. For a while, attempts were made to show that the word meant ‘beech’ originally, because it used to be thought that the beech was found only west of Russia. However, we now know the range of the beech extended much farther east in the recent past, so the whole issue is moot for determining the location of the PIE homeland.

2.64. The European languages allow the reconstruction of words for such trees as the oak, elm, juniper, alder, apple, hazel, and cherry. These may have been PIE, or specifically European terms that arose later; complicating our analysis is the fact that several of these words, such as ‘apple’ (**abel-*), have an un-Indo-European look to them that suggests borrowing (although the borrowing could itself be of PIE date). See further §4.11 on this. Greek, Latin, Germanic, and Slavic share a word variously referring to mistletoe, black cherry, or birdlime; birdlime can be obtained from both mistletoe and black cherries, but which plant was designated by the term in PIE is uncertain. We also know the PIE words for berry and bean. All of these flora are quite widespread, but some of them are not found very far south, suggesting (together with the presence of a PIE word for ‘snow’) a temperate rather than a tropical or subtropical region.

BURIALS AND THE KURGAN CULTURES

2.65. Bridging the gap between material and non-material culture, and of particular importance in archaeology, are burials. While a culture might well adopt technological innovations from other cultures, burial practices are considerably more

resistant to outside influence. Burials, or warriors, are known to have been exchanged between one another in every culture. The earliest evidence of PIE burial practices comes from the Balkans, where it was like a mortuary culture. The corpse was sometimes buried in a grave, and a special honor was given to the dead. There were various grave goods, often wheeled vehicles, and these were needed in the afterlife.

2.66. Various Co-PIE burial customs are known from across Europe. In Russia, around the Black Sea, there were tumuli called kurgans. These contain evidence of the earliest Lithuanian archaeological culture, which were in fact early Indo-European. The tumuli, when viewed from above, indicate that they had a circular structure, patriarchal organization, horse, wheeled vehicle, and other cultural characteristics.

Gimbutas emphasized the “Old European” burial customs. The “Old European” culture, with its grave goods seen in graves as matrifocal (that is, female-centered), goddess-worshiping, and horse-worshiping, is the earliest known Indo-European culture. In the controversy, it is fair to say that most archaeologists believe that the kurgan cultures were the earliest Indo-European culture.

2.67. The term “kurgan” is derived from the Turkic word for mound. Let us now look at some more specific examples. The Caspian steppes (the area between the Black and Caspian Seas) provide the best evidence for the historical picture emerging from the kurgans. The evidence suggests that a date of c. 3500 BC is the earliest possible date for the first kurgans, which corresponds with the appearance of the people known as the Yamnaya culture in the borderland between the Donets River basin and the Dnieper River basin. This culture can be taken as archaic Indo-European. The date of the first kurgans is based on two to three centuries of archaeological evidence, which is very controversial. The evidence includes the form of microscopically small bits of metal, which are evidence of bit microwear analysis. The Botai culture, as we have seen, is the earliest known Indo-European culture. Archaeologists David Anthony and others believe that if the Botai culture is correct, it pushes the date of the first kurgans back to c. 3500 BC. This would make the Botai culture the oldest pictorial representation of the Indo-European culture.

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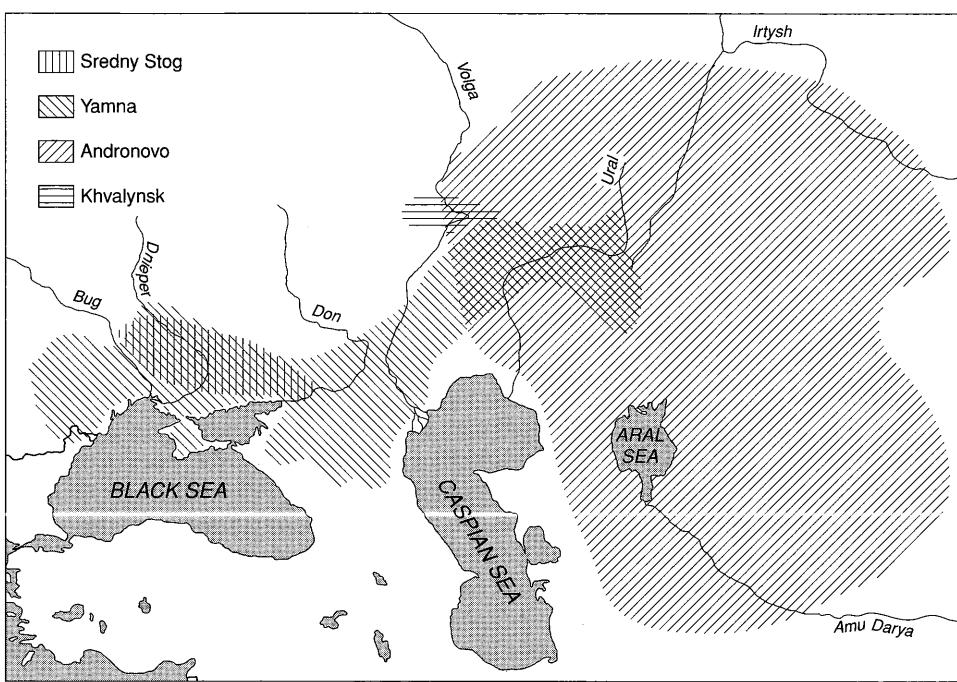
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resistant to outside influence. Ancient IE texts describing burials, especially of kings or warriors, are known from several branches, and although they do not agree with one another in every detail, they allow us to piece together a reasonably good picture of PIE burial practices. A dead person was buried in his own individual tomb that was like a mortuary house and heaped over with earth (a tumulus or burial mound). The corpse was sometimes cremated; this was the norm in the Indo-Iranian world and a special honor for heroes in ancient Scandinavia. Buried with the deceased were various grave goods, including ornaments, food, clothing, weapons, tools, and often wheeled vehicles, sacrificed animals, and even people. All these things would be needed in the afterlife.

2.66. Various Copper and Bronze Age cultures in the steppeland of southern Russia, around the Black Sea and middle Volga, are associated with characteristic tumuli called *kurgans* (from the Russian term). The kurgans and the burials they contain are consistent with the early IE burial practices outlined above, and the late Lithuanian archaeologist Marija Gimbutas proposed that the kurgan peoples were in fact early Indo-Europeans. The archaeological excavations, in Gimbutas's view, indicate that the kurgan cultures had a pastoral economy, hierarchical social structure, patriarchy, aggressive warfare, animal sacrifice, worship and/or use of the horse, wheeled vehicles, and worship of a solar deity. All these are Indo-European cultural characteristics.

Gimbutas emphasized the differences between kurgan burials and the indigenous “Old European” burials that predate the intrusion of the Indo-Europeans into Europe. The “Old European” burials were in oval or egg-shaped tombs, without the sorts of grave goods seen in kurgan burials. Gimbutas viewed this “Old European” culture as matrifocal (that is, having a ritual focus on women and goddesses), peaceful, and goddess-worshiping – strongly contrasting with the patriarchal, aggressive, skygod-worshiping Indo-Europeans. While her views have engendered considerable controversy, it is fair to say that one or another version of the kurgan theory is accepted by most archaeologists and Indo-Europeanists today, and the differences between the kurgan cultures and the “Old European” cultures are quite plain.

2.67. The term “kurgan culture” has been criticized as too vague; but if we start to look at some more specific cultural entities within the general area of the Pontic-Caspian steppes (the vast grasslands north of the Black and Caspian Seas), a coherent historical picture emerges of considerable interest. Recall from the previous discussion that a date of c. 3300–3400 BC – the invention of wheeled vehicles – was the earliest possible date for the breakup of common PIE. A date of about 3500 BC corresponds with the first large-scale occupation of the Pontic-Caspian steppes, by a people known as the *Yamna culture* (or Yamnaya culture). This culture originated in the borderland between the Pontic-Caspian steppes and the neighboring forest regions between the Dnieper and Volga Rivers. (These dates – 3500 and 3300–3400 BC – can be taken as archaeologically equivalent, for carbon-14 dating has a range of error of two to three centuries.) From as early as 3500 BC comes the first possible (though very controversial) evidence of horseback riding in the archaeological record, in the form of microscopic abrasions on horses' teeth from clamping down on a bit. This evidence of bit microwear, as it is called, is primarily associated with the related *Botai culture*, as well as probably with the Yamna. The discovery was made by the archaeologists David Anthony and Dorcas Brown, and if their interpretation is correct, it pushes horseback riding much further back than previously thought. (The oldest pictorial representations of horseback riding date only to about 2000 BC.)



Map 2.1 Selected Late Neolithic and Chalcolithic (Bronze Age) cultures north of the Black and Caspian Seas

2.68. This has enormous consequences for the whole question of the IE homeland and expansions. Anthony and his colleagues have emphasized that the advantages lent by horseback riding are far more than just military, especially for a people who had previously been confined to riverine forested regions for their livelihood. Horseback riding would have allowed the population to scout far and wide for new pastures, transport goods quickly, undertake large-scale livestock breeding and herding, sustain a mobile and flexible pastoral economy, and engage efficiently in long-distance trading (as well as raiding and warfare). There is archaeological evidence for all of these activities on the part of the Yamna, and they were the first people in the Pontic-Caspian area to spread into the deep steppe and exploit it.

2.69. Importantly, the Yamna can be linked rather clearly with a later cultural complex that we are reasonably sure was Indo-European – specifically, Indo-Iranian: the **Andronovo culture**, the earliest archaeological complex that can be identified with a particular IE linguistic group. The Andronovo culture evinces numerous features specifically described in early Indo-Iranian texts, especially aspects of tomb-construction and burial ritual. Their kurgan burials, some of them spectacular, contain wheeled vehicles, livestock (horses, sheep, goats, cattle), weapons, ornaments (including cheek-pieces for horses), and scatterings of sacred straw (called *barbis* in the Rig Veda). The Andronovo appeared around 2200 BC in northern Kazakhstan between the Ural and Irtysh Rivers, and is generally agreed to have ultimately developed from an early third-millennium eastern outgrowth of the Yamna.

2.70. We can therefore follow a direct line back from early Indo-Iranians to a cultural complex of the Pontic-Caspian steppes of the mid-fourth millennium BC.

Does this mean the Yamna as merely established a date of c. 2500 BC seems quite unlikely that pre-Indo-Iranian was c. 2800 BC certainly fits the bill of an original area that c. 2500 BC of wheel technologies including in ritual.

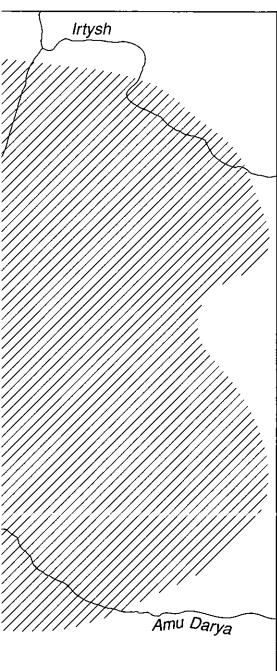
2.71. However controversial nature of the debate on the date of the domestication of the horse was at least written texts to prove the case for Pontic-Caspian steppes, thus ample room for

Probably the most recent theory in Anatolia (eastern Turkey) recently propounded what different versions of this view has not been widely accepted. of archaeological evidence from Anatolia; by all indications, rather late. Renfrew's theory concerning the development of the sees as gradual and piecemeal, but here in detail, but it is clear that it requires a few millennia before the developments attained by willfully ignoring this chapter.

2.72. By contrast, the Yamna independently to the Andronovo culture, partly out of the Sredny Stog culture, with the Yamna culture by the Sredny Stog had spread westwards. The Sredny Stog flourished c. 4500–3500 BC, mainly used for hunting and nomadic.

EUROPE AND THE MEDITERRANEAN

2.73. It is more difficult to trace the history of the Yamna in the Caspian; in fact, the situation there is quite murky. But in t



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position of the IE homeland indicated that the advantages especially for a people sons for their livelihood. scout far and wide for the livestock breeding and engage efficiently in there is archaeological evince they were the first people and exploit it. with a later cultural specifically, Indo-Iranian: ex that can be identified culture evinces numerous especially aspects of tomb one of them spectacular, (bole), weapons, ornaments d straw (called *barhis* in in northern Kazakhstan need to have ultimately of the Yamna. early Indo-Iranians to a d-fourth millennium BC.

Does this mean the Yamna culture was in fact the early Indo-Europeans? Some see the Yamna as merely ancestral to the Indo-Iranians. But given that we have already established a date of c. 3400 BC as the earliest possible end of PIE linguistic unity, it seems quite unlikely that anything specific enough to be identified as Indo-Iranian or pre-Indo-Iranian was already on the scene at that time. The Yamna culture, in fact, certainly fits the bill of being the late Proto-Indo-Europeans: rapid expansion from an original area that comprised a temperate forest; the recent adoption (or invention) of wheel technologies; widespread stockbreeding; and use of the domesticated horse, including in ritual.

2.71. However convincing this scenario just outlined may be, its tentative and controversial nature cannot be too strongly emphasized. Part of it hinges crucially on the date of the domestication of the horse, and of horseback riding in particular. Both of these are hotly debated issues, although more and more scholars agree that the horse was at least domesticated by the time of the Yamna. We do not have any written texts to prove or disprove the late fifth- and early fourth-millennium-BC Pontic-Caspian steppes as the IE homeland, and will likely never have any. There is thus ample room for other views.

Probably the most prominent alternative hypothesis is that the homeland was in Anatolia (eastern Turkey) and neighboring regions in the Caucasus, as most recently propounded by Colin Renfrew of Cambridge University and, in a somewhat different version, by Tamaz V. Gamkrelidze and Vyacheslav V. Ivanov. This view has not been widely accepted within IE studies. Opponents point to the lack of archaeological evidence for an Anatolian homeland or for early dispersal from Anatolia; by all indications, Indo-European-speaking peoples only came into Anatolia rather late. Renfrew places the IE homeland in Anatolia as part of a much broader theory concerning the nature of the expansion of the Indo-Europeans, which he sees as gradual and peaceful rather than aggressive. This theory cannot be treated here in detail, but it is beset with a whole host of problems, not the least of which is that it requires a fantastically early date for the breakup of PIE – a full three millennia before the earliest known wheeled vehicles. This date can only be maintained by willfully ignoring the comparative linguistic evidence discussed earlier in this chapter.

2.72. By contrast, several considerations, both archaeological and linguistic, point independently to the Yamna of the Pontic-Caspian steppe as the Indo-Europeans in their early expansionist phase. The Yamna itself is usually agreed to have developed partly out of the *Sredny Stog culture*, which stretched over an area north of the Black Sea with a western boundary around the Dnieper River, and out of the *Khvalynsk culture*, which was located east of the Sredny Stog. The area inhabited by the Sredny Stog has been seen by some as the “real” PIE homeland. The Sredny Stog flourished c. 4500–3500 BC, until the appearance of the Yamna. There is no conclusive evidence for horseback riding from this period; horses were apparently mainly used for hunting and for food, and settlements were permanent rather than nomadic.

EUROPE AND THE INDO-EUROPEANS

2.73. It is more difficult to connect the various European cultures with the Pontic-Caspian; in fact, the archaeological prehistory of all the European IE groups is quite murky. But in the period 3100–2900 BC came a clear and dramatic infusion

of Yamna cultural practice, including burials, into eastern Hungary and along the lower Danube. With this we seem able to witness the beginnings of the Indo-Europeanization of Europe. By this point, the members of the Yamna culture had spread out over a very large area and their speech had surely become dialectically strongly differentiated; a common PIE must no longer have existed. Though their initial spread by around 3500 BC may have predated the introduction of wheeled vehicles (or it may not, given the range of error in carbon-14 dating mentioned above), they had apparently not dispersed far and wide enough, or become dialectally differentiated enough, to prevent the spread of a unified wheel-related vocabulary from one part of the speech community to the rest of it.

So the search for the Indo-Europeans goes on. Whether we are closer to finding them now, or whether we are just as far from the truth as ever, is perhaps not knowable. As with the reconstruction of the Indo-European proto-language that will occupy our attention in the next several chapters, and as is true in the sciences in general, we can only deal in probabilities – what explanations have the best and most convincing evidence and arguments to back them up. Yet this is no mere academic exercise. The Indo-Europeans have been a uniquely successful people, whose impact on human history has been as great as, if not greater than, that of any other. We will not be able to understand the historical fact of their spread and success without first illuminating their origins.

For Further Reading

The classic ethnolinguistic investigation of PIE vocabulary is Benveniste 1969, a collection of over fifty studies covering livestock and wealth, economic obligations, kinship, social status, law, and religion. It is a unique work, summing up a lifetime of research into IE culture by one of the twentieth century's foremost Indo-Europeanists. The standard dictionary of PIE is Pokorny 1959–69, in German; the only English work of similar scope is Mann 1984–7, which however is substandard. Smaller but very useful, especially for English-speaking non-specialists, is Watkins 2000, which contains all the Indo-European roots (over 1300) that have descendants in English, with entries detailing the intermediate prehistoric stages. The volume begins with an excellent overview of PIE culture and vocabulary. Also of high usefulness is Buck 1949, which lists groups of terms in most IE branches by category, with etymological commentary on each group.

A recent reference work on IE vocabulary, culture, and archaeology is Mallory and Adams 1997, which contains hundreds of articles, some fairly extensive, by numerous contributors. The quality and coverage of the articles are uneven, but it is still a welcome volume and particularly useful for the archaeological information it provides. Also recommended are the technical articles contained in the second volume of Watkins 1994 and the second volume of Gamkrelidze and Ivanov 1984; the latter contains an extensive collection and discussion of cultural and folkloric material.

Good introductions to the theories of Georges Dumézil are Dumézil 1958 and the slightly earlier Dumézil 1952. Contemporary studies in the Dumézilian mold frequently grace the pages of the semiannual *Journal of Indo-European Studies*, which also publishes many articles on IE archaeology and mythology. Puhvel 1987 is a lively and useful comparative collection of various IE myths.

For IE poetics, global reference may be made to Watkins 1995, which is an exhaustive study of the IE dragon-slaying myth and of IE poetic practice. Readers of German and Italian should also consult Schmitt 1967 and the writings of Enrico Campanile, such as Campanile 1977.

The best recent overview and reconstruct PIE culture and reconstruct PIE culture accessible to a general reader and most archaeologists'. A good introduction to the subjects is her collection of essays presented in Renfrew 1992.

For Review

Georges Dumézil
trifunctionalism
Omaha kinship system
Männerbund

Exercises

- 1 Write a sentence of PIE culture:
 - a social stratification
 - b patrilineal exogamy
 - c movable wealth
 - d gift and counter-gift
 - e guest-friendship
- 2 Briefly explain the concept of the homeland of the Indo-Europeans.
 - a salmon
 - b horseback riding
- 3 Briefly explain the approximate date of the Indo-European invasion of Europe.
 - a wheeled vehicles
 - b bronze
 - c iron
 - d the Iron Age
- 4 Briefly describe one of the following concepts and its significance:
 - a the PIE phrase 'to lead away'
 - b the journey of the Indo-Europeans
 - c the relationship between Indo-European and Semitic
 - d to 'lead away'
 - e assonance
 - f name and family
 - g horseback riding

Hungary and along the beginnings of the Indo-Iranian culture had surely become dialectically separate. Though their introduction of wheeled vehicles around 1400 BC mentioned enough, or become dialectally separated by wheel-related vocabulary

we are closer to finding the truth as ever, is perhaps not the European proto-language that well as is true in the sciences of nations have the best and up. Yet this is no mere uniquely successful people, but greater than, that of any fact of their spread and

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'95, which is an exhaustive reader of German and Italian Campanile, such as Campanile

The best recent overview of IE archaeology and the attempts to locate the PIE homeland and reconstruct PIE culture is Mallory 1989, with copious maps and illustrations; it is very accessible to a general audience. Mallory's command of the linguistic issues is better than most archaeologists'. A useful collection of articles by Marija Gimbutas on these and related subjects is her collection Gimbutas 1997. Renfrew's alternate theory discussed in §2.71 is presented in Renfrew 1987.

For Review

Georges Dumézil	hospitality	'imperishable fame'	strophic style
trifunctionalism	Father Sky	oral-formulaic poetry	merism
Omaha kinship system	divine twins	formula	Behaghel's Law
<i>Männerbund</i>	aśvamedha	quantitative verse	kurgan
	taboo deformation		Marija Gimbutas

Exercises

- 1 Write a sentence or two describing or exemplifying each of the following aspects of PIE culture:

- | | | | | | |
|----------|-----------------------|----------|--------------------------|----------|----------------|
| a | social stratification | f | enforcement of justice | k | outlaws |
| b | patrilineal exogamy | g | gods and humans | l | poets |
| c | movable wealth | h | consecration of kingship | m | fame |
| d | gift and counter-gift | i | medical treatment | n | burial customs |
| e | guest-friendship | j | dragon-slaying myth | | |

- 2 Briefly explain the significance of each of the following items for attempts to locate the homeland of the Proto-Indo-Europeans:

- a** salmon **b** burial customs **c** beaver **d** beech

- 3 Briefly explain the significance of each of the following items for establishing the approximate date that PIE was spoken:

- a** wheeled vehicles **b** milk products **c** silver **d** plow

- 4 Briefly describe or explain the following and, where relevant, comment on their significance:

- a** the PIE phrase *(e-)gʷʰen-t ogʷʰim
b the journey of the soul to the afterlife
c the relationship between poet and patron
d to 'lead away' a woman in marriage
e assonance
f name and fame
g horseback riding

- 5 Below is an excerpt from Homer's *Odyssey* (19.106–118). Odysseus has made it home to Ithaca but has not revealed himself to his wife Penelope yet. Here is his first encounter with her, while he is still in disguise as a beggar. The Greek (slightly simplified) is given first, followed by an English translation; the various boldfacings, italicizings, etc. are designed to help you match the Greek words with the words in the translation.

Tēn d' **apameibomenos** prospēhē polumētis Odusseus:

"ō gunai, ouk *an tis* se **brotōn** ep' apeirona gaiān
neikeoi; ē gar seu kleos ouranon eurun hikānei,
hōs te **teu** ē **basilēos amūmonos**, *hos* te theoudēs
andrasin en **polloisi** kai iphthīmoisin **anassōn**
eudikiās **anekhēisi**, pherēsi de gaia melaina
pūrous kai krīthas, **brithēisi** de dendrea karpōi,
tiktēi d' empeda **mēla**, thalassa de **parekhēi** ikhthūs
ex **euēgesiēs**, **aretōsi** de **lāoi** hup' autou.
tōi eme nūn ta men **alla metalla** sōi **eni** oikōi,
mēd' emon exereine genos kai **patrida gaian**,
mē moi mallon **thūmon** eniplēsēis **odunāōn**
mnēsamēnōi: . . .

110

115

Answering her, wily Odysseus said:

"O lady, **no mortal** on the boundless **earth** would reproach
you, for indeed **your fame reaches wide heaven**,
like that of **some blameless king** who, reverencing the gods,
reigning among men **great in number** and powerful,
upholds good justice, so that the black earth bears
wheat and barley, and the trees **are heavy** with fruit,
and the **flocks** produce young without cease, and the sea provides fish
due to his **good rule**, and the **people prosper** under him.

110

Now **ask** me **other things in your house**

115

– **don't inquire** of my race and native land.

lest you fill my heart even more with sufferings

as I am reminded: . . .

- a Discuss the poetic artistry of this passage (concentrating on the Greek, not the English translation!). You do not need to know Greek to do this. Give examples of phonetic repetition, merisms, or anything else worth noting. For example, the beginning of line 109 (*hōs te teu*) is phonetically mirrored by *hos te theou(dēs)* at the end. The vowel letters *a e i o u* are pronounced as in most European languages (Italian, Spanish, German, Latin, etc.); *ā, ē, etc.* are long *a, e, etc.*; the sequences *ai, ei, oi, au, eu, ou, āi, ēi* are diphthongs and count as single syllables; all other vowel combinations (e.g. *oo, ee*) make up two separate syllables; *x* represents *ks*; and the combinations *ph, th, kh* represent *p, t, k* with a puff of breath after them (as in the first sound of Eng. *pit, tip, kit*).
- b A common feature of IE poetry is *ring composition*, in which a poet uses a word or words toward the beginning of a section and repeats them or phonetically similar words toward the end, forming a "ring" that binds the section together. This section has a double ring that begins with the words *Odusseus* and *gaian* ('land') at the end of lines 106 and 107. Identify the two forms, and their location, that close this ring. One of these may not be immediately obvious.

- 6 Write a paragraph about the *Odyssey*, where it comes from, and what it means for princes (§§17–18). It is through the justice of the gods that wood are tasted. It is every high, tall coniferous tree that swim in streams. It is the begotten . . ."

3). Odysseus has made it
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him.

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- 6 Write a paragraph comparing the content of the middle of the above excerpt from the *Odyssey*, where Odysseus talks about a just ruler, with the following excerpt from the Old Irish *Audacht Morainn* (*Testament of Morann*), a set of instructions for princes (§§17–21, translated by Fergus Kelly; for the original, see §14.50): “It is through the justice of the ruler that abundances of great tree-fruit of the great wood are tasted. It is through the justice of the ruler that milk-yields of great cattle are maintained. It is through the justice of the ruler that there is abundance of every high, tall corn. It is through the justice of the ruler that abundance of fish swim in streams. It is through the justice of the ruler that fair children are well begotten . . .”

trating on the Greek, not
v Greek to do this. Give
ng else worth noting. For
onetically mirrored by *hos*
re pronounced as in most
(*i*, etc.); *ā, ē*, etc. are long
are diphthongs and count
(e.g. *oo*, *ee*) make up two
tions *ph*, *th*, *kh* represent
sound of Eng. *pit*, *tip*, *kit*).
, in which a poet uses a
d repeats them or phonet-
g” that binds the section
with the words *Odusseus*
identify the two forms, and
ot be immediately obvious.