

THE DE-INDO-EUROPEANISING OF ENGLISH (I)

PAUL E. DAVENPORT

English is not an isolated language but, to use a harmless anthropological metaphor, a close relative of Frisian, Dutch, German, and the Scandinavian languages, and thus a member of the Germanic group. The languages of this and nine other groups constitute the modern Indo-European language family. All the members of this family shared, in the earliest stages of which we have records, a great many characteristics as a result of their common origin in an unrecorded language we call Proto-Indo-European (PIE¹). In their subsequent histories they have shared in a drift away from their inherited structure, which was synthetic and inflecting, permitting a largely pragmatically determined word order, towards a more analytic structure that has reduced to varying degrees the morphological encoding of grammatical categories and syntactic roles, which have come increasingly to be carried by lexical items and a more rigid, syntactically determined ordering of constituents. The history of the English language over the last fifteen hundred years, since its introduction into Britain in the fifth century AD by migrants from the coastlands of north-west Europe, is thus but one example of this movement, though in numerous ways it is also an outstanding example among the major members of the family. Although many of the developments in the language may be independent of the movement, there is a common factor underlying many of the morphological and syntactic changes and innovations in the nature of a shift from one typology towards another, and our ultimate purpose here is to examine how and why English came so radically to abandon the Indo-European structural characteristics that were still so apparent, though already in a somewhat attenuated form, in its earliest stages.

Before we look at English itself, however, we shall, in order to illustrate the kind of material that all the descendent languages of PIE were working with and the broader drift just mentioned, provide in Part I a selective structural sketch of PIE as reflected in Vedic and Classical Sanskrit, Greek, and Latin, focussing|on the ways in which grammatical categories and syntactic roles were encoded, and in Part II consider some of the factors involved in typological change, what some of the other Indo-European languages have made of their inherited material, and what characterises the Germanic group. Only then

¹ Other abbreviations: abl(ative), acc(usative), act(ive), adj(ective), adp(osition), aor(ist), cons(onant), dat(ive), fem(inine), fut(ure), gen(itive), Gk=Greek, Hung(arian), imp(erative), imperf(ect), ind(icative), inf(initive), ins(trumental), interrog(ative), Lat(in), loc(ative), masc(uline), mid(dle), neut(er), nom(inative), n(oun), obl(ique), opt(ative), pass(ive), perf(ect), ple=participle, pl(ural), pres(ent), rel(ative), sg=singular, Skt=Sanskrit, subj(unctive), Turk(ish), voc(ative).

will we be in a position to appreciate how far English has gone in the process of what we shall call de-Indo-Europeanising.

It is widely accepted today that PIE was the speech of pastoralists inhabiting the lands to the north of the Black Sea in the fourth millennium BC. During this millennium and the next, migrants carried their culture, which has come to be called Kurgan (a Russian (ultimately Turkic) word meaning 'tumulus,' from the custom of disposing of the dead by inhumation in tumuli), into central Europe in the west and beyond the Caspian Sea in the east. In the course of time Indo-European dialects diffused over most of Europe and over an area stretching from central Asia to modern Iran, Afghanistan, and northern and central India. By the end of the pre-Christian era there were at least six dialect groups in Europe:

i. Baltic in the north-east, the antecedent of the modern Baltic languages Lithuanian and Latvian. Though not recorded until the sixteenth century, the linguistic structure is remarkably conservative.

ii. Slavonic, also in the north-east, the antecedent of the modern Slavonic languages such as Russian, Czech, Bulgarian, and Serbo-Croatian. The language of this group is recorded from the ninth century in the antecedent of Bulgarian, known as Old Church Slavonic.

iii. Germanic in modern Holland, Germany, Poland, and southern Scandinavia, the antecedent of English, Frisian, Dutch, German, and the Scandinavian languages Danish, Swedish, Norwegian, and Icelandic. The earliest records are inscriptional material from the third century AD. Gothic, a representative of old East Germanic, was recorded briefly in the fourth century. English and German are recorded continuously from the eighth century. Continuous manuscript evidence of the Scandinavian dialects starts in the twelfth century.

iv. Celtic, which had been carried out of upper Danubian Europe over modern France, Spain, Britain, and Ireland, the antecedent of Welsh, Irish, and Scottish Gaelic. Manuscript records in the form of Insular Celtic, the language of the Celts as it developed in Ireland and Britain, begin in the seventh and eighth centuries.

v. Italic in the Italian peninsula, the major dialect being Latin, which followed the expansion of Roman power over many parts of Europe and eventually gave rise to the Romance languages: Italian, Spanish, Portuguese, French, and Rumanian. Latin is recorded inscriptionally from the sixth century BC, and plentiful manuscript evidence begins in the third. Classical Latin generally refers to the language of the first centuries BC and AD.

vi. Hellenic, or Greek, in Greece. Mycenaean, an early form of Greek, is recorded from about 1400 to 1200 BC, while Homeric Greek is probably to be dated at about 800, from which time on several major dialects are extensively recorded. Classical Greek refers particularly to the language of the fifth and fourth centuries BC.

Beside the Indo-European dialects or dialect groups that eventually became established as major languages with rich stores of records, it is clear that there were many others which eventually disappeared under the domination of other languages, Indo-European or non-Indo-European, leaving traces, if at all, only in references, or in inscriptions or names. Such a dialect is Illyrian, but it may be that it has a modern descendant in:

vii. Albanian, not recorded until the fifteenth century, a single language of no obvious

affiliation with any other surviving group.

To the east of Europe we distinguish four more groups:

viii. Armenian, a single language in Asia Minor, recorded from the fifth century AD, and the antecedent of the two main dialects of modern Armenian. Its affiliations with other Indo-European groups are obscure; it may be a descendant of Thraco-Phrygian, which was probably spoken originally in eastern Europe.

ix. Indo-Iranian, the antecedent of the languages of Iran and Afghanistan (Iranian branch) and of Pakistan, northern and central India, and Bangladesh (Indo-Aryan branch). The earliest records of Indo-Aryan are the Vedas (hence the name Vedic Sanskrit), four groups of religious texts, the earliest of which probably dates from before 1000 BC. Classical Sanskrit (*samskrta* 'well-wrought, polished') is an educated, literary dialect codified in the fourth century BC. Some of the many representatives of the modern Indo-Aryan group are Hindi, Panjabi, Bengali, and Gujarati. The oldest records of the Iranian branch are Avestan, the language of sacred texts from about 600 BC, and Old Persian, recorded from much the same date. Modern Persian and Pashto (in Afghanistan) are descendants of this branch, forming, with many minor languages, the modern Iranian group.

x. Anatolian, in modern Turkey, an extinct group. Of the several recorded dialects Hittite is the most important, with records from the seventeenth to the thirteenth century BC.

xi. Tocharian, also extinct, recorded in two very distinct dialects from the sixth to the eighth centuries AD in east-central Asia.

The modern groupings are thus Baltic, Slavonic, Germanic, Celtic, Romance, Greek, Albanian, Armenian, Indo-Aryan, and Iranian.

The evidence of the earliest records enables us to infer a good deal about the nature of PIE, though it is better that we do not talk of reconstructing this language as such. We can reconstruct no more than earlier lexical and morphological forms, and this only on the basis of available evidence, which is incomplete and of widely differing dates; the total of such reconstructions represents not so much a uniform language at a particular date as a *mélange* of forms from different members of the dialect-cluster that PIE must have been and from different time-depths. We can thus gain only a partial picture of late PIE, a term used with reference to the latest stage at which there was still sufficient contact among the original dialects for major innovations to spread to the majority of members, which was probably not later than the close of the fourth millennium. The reason we have often to speak of 'late' PIE below is that it is possible to some extent to use the set of forms reconstructed from the evidence of the ancient languages in order to reconstruct more remote forms from early PIE or even pre-PIE; such earlier forms suggest that PIE itself underwent extensive development out of a much less synthetic-inflecting structure.

Sanskrit and Greek in particular, and Latin also, have long been the languages on which to base the reconstruction of PIE morphology because of their great age. Many of the other languages show a somewhat less richly elaborated morphology than these three, and it could be (and has been) argued that Sanskrit, Greek, and Latin innovated much of their linguistic structure in the period between late PIE and the earliest records, rather than that the other languages collapsed much of their inherited material (even though they are, with the exception of Anatolian, recorded later). Hittite, the most anciently recorded lan-

guage, is indeed less rich in morphology, and grammatical categories, than the Classical languages, but it is just as likely that Anatolian broke away from the main dialect-cluster somewhat early and so reflects an earlier stage of PIE. Much of the less complex morphology of other languages can be seen to be composed of bits and pieces, so to speak, of the material reflected in the Classical languages, and we accept here the traditional view that all the other descendent groups except Anatolian inherited, and reworked, a linguistic structure that at least approximated that reconstructible from Sanskrit, Greek, and Latin; that these three languages did innovate in certain ways, language-independently, is obvious, as in the verbal system, pp. 45, 47.

Inflections and Categories

Roots and suffixes. In PIE a word typically consisted of a root, which was a lexical base, one or more medial suffixes, which had a variety of morphological or derivational functions, and a terminal suffix, which we may call an ending and which encoded certain grammatical categories:

PIE root *werg-* ‘turn’ + present system verbal suffix *-e-* + verbal ending *-ti* (explained below), reflected in:

Skt *várjati* ‘twists,’ Lat *vergit* ‘inclines’

PIE root [*ed-/]ōd-* ‘eat’ + causative suffix *-eyo-* + verbal ending *-ti*:

Skt [*atti* (<PIE *ed-e-ti*) ‘eats’], *ādayati* ‘feeds’

PIE root *dō-* ‘give’ + suffix *-no-* forming abstract action nouns + nominal ending *-m*:

Lat *dōnum*, Skt *dānam* (‘act of giving’ >) ‘gift’

PIE root [*kleu-/]klu-* ‘hear’ + suffix *-to-* forming deverbative adjectives of state + nominal ending *-s*:

Skt *śrutah*,² Gk *klutós*, Lat *inclutus* (‘heard (of)’ >) ‘famous’

PIE root *swād-* ‘sweet’ + suffix *-isto-* forming superlatives + ending *-s*:

Skt *svādiṣṭhaḥ*, Gk *hédistos* ‘sweetest’

In a phenomenon known as gradation, the vocalism of a root (and also of a suffix) could vary in certain ways. Typically, the vowel *e* (conventionally regarded as the normal grade) might appear in the lengthened form *ē* (lengthened *e*-grade) or might disappear (zero grade)—these alternations are described as quantitative gradation—or *e* and *ē* might, in alternations known as qualitative gradation, be replaced by *o* (*o*-grade) and *ō* (lengthened *o*-grade). The following examples show various combinations of grades, including mixtures of qualitative and quantitative, in different morphological and derivational forms. (\emptyset =zero grade).

² Some graphs and diacritics in Sanskrit: *c* [tʃ], *j* [dʒ]; *ḍ*, *n̄*, *s̄*, *t̄*, a retroflex *d*, *n*, *s*, *t*; *h* after a voiced cons = a voiced aspirate, elsewhere = a voiceless aspirate; *h̄*, a word-final post-vocalic voiceless aspirate; *m̄* indicates nasalisation of the preceding vowel; *ñ*, *ś*, a palatal *n*, *s*; *r̄*, a syllabic *r*; the acute accent, indicating pitch, occurs only on Vedic forms, Classical Sanskrit having a different system of expiratory accent.

	e	ē	o	ō	ø
Gk	páter (voc) 'father'	patér (nom)			patrós (gen)
			apátora (acc) 'fatherless'	apátōr (nom)	
	léipō 'I leave'		léloipa 'I have left'		élipōn 'I left'
	pétomai 'I fly'		poté 'flight'		pterón 'wing'
	phérete 'you carry'		phéromen 'we carry'		
	légō 'I speak'		lógos 'word'		
		éthēka 'I placed'		thōmós 'heap'	
Lat	tegō 'I cover'	tégula 'tile'	toga 'garment'		
	sedeō 'I sit'	sēdi 'I sat'			
	pedis (gen) 'foot'		Gk podós (gen)		

Similarly, the roots *ōd-* and *klu-* (zero grade) in the forms *ōd-eyo-ti* and *klu-to-s* cited above have regular present system forms with *e*: *ed-* and *kleu-*. Gradation, or at least the quantitative type, may have been in origin no more than a phonological response to variations in accent position within a word (the PIE accent being mobile), but both types evidently came to function together with accentuation as part of the morphological and derivational system. The alternations are reflected in a large number of morphological, derivational, and interlanguage variants of the same root in all the Indo-European languages; we shall see in Part II that in the Germanic languages in particular, gradation came anew to have great functional importance as the tense marking mechanism of the strong verbs (i.e. verbs that undergo root vowel change such as *drive-drove-driven*, *bear-bore-borne*). Of gradation in suffixes *patér*, *páter*, *patrós* and *phérete*, *phéromen* above are examples; most of the fifty or so derivational suffixes (not all of whose original functions are apparent) show gradation variants.

The root with its suffix or suffixes is known as the stem. The endings added to the stem encoded features of not one but (and this is a point of the greatest importance) two or more of the grammatical categories that we shall examine shortly:

- PIE -s on nouns and adjectives with the category features:
 - singular (number)
 - nominative (case)
 - masculine (gender)

PIE *klu-to-s*, Skt *śrutah*, Gk *klutós*, Lat *inclutus*, above

PIE -m on nouns and adjectives with the category features:

singular (number)
nominative (case)
neuter (gender)

PIE *dō-no-m*, Lat *dōnum*, Skt *dānam*, above

PIE -ti on verbs with the category features:

active (voice)
indicative (mood)
imperfective (aspect)
present (tense)
singular (number)
third (person)

PIE *werg-e-ti*, Skt *várjati*, Lat *vergit*, above

Later developments, especially phonological changes involving the coalescence or loss of vowels, obscured the transparency of this system, so that it is usually impossible consistently to segment root and suffix, and stem and ending in the ancient languages. This lack of transparency and, in particular, the fact that one irreducible ending simultaneously encodes more than one grammatical category sharply distinguish the Indo-European type of synthetic morphology, which is known as inflecting (or fusional), from the agglutinative type seen, for instance, in the Altaic family, which we shall illustrate from Turkish, and the Uralic family, which we shall illustrate from Hungarian. In the agglutinative type also suffixes attach serially to a word (rather than a root, which never occurs as a free form), but, in contrast to inflecting languages, each suffix is an easily segmented, in principle invariable, and unique marker of one feature of one grammatical category:

(Turk)	ada ‘island’			
	adada	=	ada-da	‘in the island’
			island in	
	adalarda	=	ada-lar-da	‘in the islands’
			PL	
	adalardan	=	ada-lar-dan	‘from the islands’
			from	
(Hung)	ház ³ ‘house’			
	házból	=	ház-ból	‘from the house’
			house from	
	házakból	=	ház-ak-ból	‘from the houses’
			PL	
	házakban	=	ház-ak-ban	‘in the houses’
			in	

This complete isomorphism, or one-to-one correspondence, between a form and a feature of a grammatical category does not occur in:

(Lat) *insulis* ‘from the islands’

³ In Hungarian the acute indicates a long vowel.

where the ending *-īs* encodes both plural number and ablative case; this *-īs* is not analysable into two markers *-ī-* and *-s*, as neither element is common to the whole plural (or to that of any other noun), the other case forms of which are nominative and vocative *īnsulae*, accusative *īnsulās*, genitive *īnsulārum*, and dative *īnsulis*, or to every instance of the ablative case, which has other markers *-ā*, *-ō*, *-e*, *-ī*, or *-ū* when a noun is singular and *-ibus* or *-ēbus* when plural, depending on the class of noun:

(Lat) *rēgiā* (nom *rēgia*) 'from the palace'
humō (*humus*) 'from the ground'
urbe (*urbs*) 'from the city'
amnī (*amnis*) 'from the river'
manū (*manus*) 'from the hand'
manibus (nom pl *manūs*) 'from the hands'

(The principles of classification will be explained shortly). Similarly, and more obviously, the two-phoneme *-um* of *dōnum* 'gift' quoted above cannot be analysed into three separate markers; nor is it in Latin the sole ending of nouns that are neuter, singular, and in the nominative case. (Note that when we here talk of endings, we are now referring to something rather different from those of PIE: *īnsulae*, *īnsulās*, *īnsulārum*, and the singular forms nominative and vocative *īnsula*, accusative *īnsulam*, genitive and dative *īnsulae*, and ablative *īnsulā*, have the element *īnsul-* in common; the remaining elements, while referred to as endings or inflections, mostly represent a fusion of a medial vocalic suffix with terminal suffixes, or endings in the sense used earlier for PIE). Inflecting languages such as the ancient Indo-European ones are thus characterised by the use of endings each of which encodes more than one grammatical category (thus the *-īs* of *īnsulis* as marker of case and number) and by the frequent use of more than one ending to realise the same set of category features (*rēgiā*, *humō*, etc.); for good measure, also common is the use of the same ending (same, that is, in phonological shape) as the realisation of more than one set of category features (the *-īs* of *īnsulis* as marker of both dative plural and ablative plural, and, cutting across declension classes, as the marker also of the accusative plural of a number of nouns both masculine and feminine, as well as, in a different word class, the second person singular present tense marker of one conjugation class of verbs, thus *audīs* 'you hear (sg)'; similarly, and just within the word class of nouns, the ending *-um* encodes seven different sets of features, and the ending *-ēs* no less than ten).

Cumulative exponence, i.e. the realisation of more than one category feature by a single ending, is in itself a concise and economical way of packaging grammatical information, but the extraordinary mixture in these languages of a high degree of polysemy among category feature realisations (which involved verbs to some degree as well as nominals, and was complicated further by often totally unpredictable stem form variation due in part to the effects of gradation) and frequent, irregular patches of homonymy among functionally different sets of features was probably one of the factors that led to instability in, and the subsequent partial collapse of, the inflectional system in later periods of the Indo-European languages.

The grammatical categories encoded in late PIE by the use of medial and terminal suffixes were number, person, case, gender, aspect and tense, mood, and voice. Of these case and gender were categories of nouns, pronouns, and adjectives, aspect/tense, mood,

and voice of verbs, person of verbs and pronouns, and number of all these word classes. The categories were well maintained by most of the ancient languages, though not without some degree of change, innovation, and realignment of members. In order to avoid much repetition of illustrative forms we shall sketch the morphology of late PIE as reflected in Sanskrit, Greek, and Latin according to word class, and say something about the various categories at appropriate points.

Nouns. The various forms of a noun in the ancient languages fit into a grid of case and number features known as a declension. The functions of the cases we shall look at in a later section; they marked the syntactic role of a word in a sentence, in particular its role relative to a verb, and most of them also indexed a variety of semantic roles. Three numbers were distinguished: singular, dual, and plural; with a few exceptions their use had a natural semantic basis.

The maximum differentiation of cases is found in Sanskrit, with eight in the singular of one declension (the largest), and it is usually assumed that late PIE distinguished the same number of cases in the singular of at least this declension; the dual and the plural never show more than three forms in the former and six in the latter. Greek and Latin distinguish fewer cases than Sanskrit, but there are clear traces in these languages of earlier forms (see below), and we shall assume that they collapsed their PIE inheritance, rather than that Sanskrit innovated its system. Analysis of reflexes and of the patterns of overlap of semantic functions among the cases (p. 49) do suggest a more compact system for earlier stages of PIE; the dative, for instance, is probably a morphological variant of the locative with all its major semantic functions stemming from locative goal functions specialised for animate participants, while the genitive and ablative also probably share a common origin. Classical Latin has no more than five separate forms in the singular and four in the plural of any declension, but in order to account for the total of functional distinctions made by the different members of all its declension classes it is necessary to assume the existence of six cases, and consequently to regard such a form as *īnsulīs*, quoted above, as representing both dative and ablative cases. As we saw above, this multifunctional aspect of many of the case forms is characteristic of the Indo-European languages and, as we shall see later, so too is a multifunctional syntactic and semantic aspect of many of the formally distinct cases. The patterns of morphological homonymy among cases vary considerably from declension class to declension class.

Although many different declensions are found in the ancient languages they can, from the diachronic viewpoint, be reduced to a number of major classes on the basis of the phonological nature of the PIE medial suffix. The most fundamental distinction must perhaps be that between vocalic and consonantal suffixes; nouns with consonantal suffixes, however, are much less numerous (though much more varied) than those with vocalic ones and, practically, the most important distinctions are those within the vocalic group. The largest class of nouns is that in which the medial vocalic suffix, known as the stem vowel or thematic vowel, is PIE *o*, as reflected in Skt *vṛkas*, Gk *lúkos* 'wolf,' from PIE *włk^wos⁴* (i.e. *włk^w-o-s*), and Skt *yugám*, Gk *zugón* 'yoke,' from PIE *yugom* (*yug-o-m*). As these two examples here

⁴ *l*, a syllabic *l*; *k^w*, a labio-velar voiceless stop.

and below show, *o*-stem nouns are of two types: those with PIE terminal suffix *-s* in the nominative singular and *-es*, *-ns* in the nominative, accusative plural, and those which make no distinction between nominative and accusative, having *-m* for both in the singular and *-ā* in the plural. Another large class is that of *ā*-stem nouns, as represented by Skt *áśvā*, Lat *equa* 'mare,' from PIE *ek^wā* (i.e. *ek^w-ā-ø*, without a terminal suffix; *ø* represents zero inflection). Other vocalic classes are the *i*-stems (for example, Skt *áviṣ*, Lat *ovis* 'sheep,' from PIE *ow-i-s*) and the *u*-stems (Skt *sūnúṣ* 'son,' from PIE *sūn-u-s*). These simple vocalic suffixes show no obvious functional differences, either morphological or semantic, though it is possible that at an earlier stage the *ā*-stems were a group of collective nouns. The PIE medial suffix of the class of consonant stems, whose suffixes often had derivational functions, consisted of or contained one or more consonants (Skt *śvā*, Gk *kúōn* 'dog,' from PIE *k^wō-n-ø*; Skt *dhūmās*, Gk *thumós*, Lat *fūmus* 'smoke,' from PIE *dhū-mo-s*). We should mention also the root nouns, in which terminal suffixes were attached directly to the root without any intervening suffix (Skt *vak*, Lat *vōx* 'voice, from PIE *wōk^w-s*). The case forms of *o*-stems (both types) and *ā*-stems are shown in the following examples (in which we omit the dual, which was of restricted use and had already been lost in Classical Latin).

o-stems I: PIE *włk^wos* 'wolf':

			Skt	Gk	Lat
Sg	Nom	<i>włk^w-o-s</i>	<i>vłkas</i>	<i>lúkos</i>	<i>lupus</i>
	Voc	<i>włk^w-e</i>	<i>vłka</i>	<i>lúke</i>	<i>lupe</i>
	Acc	<i>włk^w-o-m</i>	<i>vłkam</i>	<i>lúkon</i>	<i>lupum</i>
	Gen	<i>włk^w-o-syo</i>	<i>vłkasya</i>	<i>lúkoio</i>	<i>lupi</i>
	Dat	<i>włk^w-o-ai > włk^wōi</i>	<i>vłkāya</i>	<i>lúkōi</i>	<i>lupō</i>
	Abl	<i>włk^w-o-od > włk^wōd</i>	<i>vłkād</i>		<i>lupō</i>
	Ins	<i>włk^w-o-o > włk^wō</i>	<i>vłkā</i>		
	Loc	<i>włk^w-o-i, włk^w-e-i</i>	<i>vłkē</i>		
Pl	Nom	<i>włk^w-o-es > włk^wōs</i>	<i>vłkās</i>	<i>lúkoi</i>	<i>lupi</i>
	Voc	<i>włk^w-o-es > włk^wōs</i>	<i>vłkās</i>	<i>lúkoi</i>	<i>lupi</i>
	Acc	<i>włk^w-o-ns</i>	<i>vłkān</i>	<i>lúkous</i>	<i>lupōs</i>
	Gen	<i>włk^w-o-om > włk^wōm</i>	<i>vłkāṇām</i>	<i>lúkōn</i>	<i>lupōrum</i>
	Dat	<i>włk^w-o-ibhyos</i>	<i>vłkēbhyaś</i>	<i>lúkois</i>	<i>lupis</i>
	Abl	<i>włk^w-o-ibhyos</i>	<i>vłkēbhyaś</i>		<i>lupis</i>
	Ins	<i>włk^w-o-ois > włk^wōis</i>	<i>vłkāiṣ</i>		
	Loc	<i>włk^w-o-su</i>	<i>vłkēṣu</i>		

o-stems II: PIE *yugom* 'yoke':

Sg	Nom	<i>yug-o-m</i>	<i>yugám</i>	<i>zugón</i>	<i>iugum</i>
	Voc	<i>yug-e</i>	<i>yúga</i>	<i>zugón</i>	<i>iugum</i>
	Acc	<i>yug-o-m</i>	<i>yugám</i>	<i>zugón</i>	<i>iugum</i>
Pl	Nom	<i>yug-ā</i>	<i>yugá</i>	<i>zugá</i>	<i>iuga</i>
	Voc	<i>yug-ā</i>	<i>yugá</i>	<i>zugá</i>	<i>iuga</i>
	Acc	<i>yug-ā</i>	<i>yugá</i>	<i>zugá</i>	<i>iuga</i>

[other cases as type I]

ā-stems: PIE ek^wā ‘mare’:

Sg	Nom	ek ^w -ā	ásvā	[khórá	equa
	Voc	ek ^w -?	ásve	khórá	equa
	Acc	ek ^w -ā-m	ásvām	khórán	equam
	Gen	ek ^w -ā-es > ek ^w ōs	ásvāyās	khórás	equae
	Dat	ek ^w -ā-ai > ek ^w āi	ásvāyāi	khórai	equae
	Abl	ek ^w -ā-es > ek ^w ōs	ásvāyās		equā
	Ins	ek ^w -ā	ásvā		
	Loc	ek ^w -ā-i	ásvāyām		
Pl	Nom	ek ^w -ā-es > ek ^w ōs	ásvās	[khōrai	equae
	Voc	ek ^w -ā-es > ek ^w ōs	ásvās	khōrai	equae
	Acc	ek ^w -ā-ns	ásvās	khórás	equās
	Gen	ek ^w -ā-om > ek ^w ōm	ásvānām	khōrōn	equārum
	Dat	ek ^w -ā-(i)bhyos	ásvābhyas	khōrais	equis, equābus
	Abl	ek ^w -ā-(i)bhyos	ásvābhyas		equis, equābus
	Ins	ek ^w -ā-(i)bhis	ásvābhiṣ		
	Loc	ek ^w -ā-su	ásvāsu		

(We show Gk *khōrā* ‘land’ because Greek has a reflex of only the PIE *o*-stem *ek^wos* (in the form *hippos*) which it uses for ‘horse,’ ‘stallion,’ and ‘mare,’ the latter meaning being distinguished by the feminine form of adjectives or the definite article; Sanskrit and Latin use the *o*-stem (*ásvas*, *equus*) only for ‘horse’ and ‘stallion’). The PIE nominative singulars *-o-s*, *-o-m*, and *-ā* may at one stage have been parallel as *-o-s*, *-o-m*, and *-o-H* (where *H* represents a member of a class of consonants known as laryngeals, which later disappeared); the presence and later loss of the laryngeal produced *-ā*, and when the PIE case system developed in full the lengthened vowel was treated as thematic and terminal suffixes were attached to it. The point made earlier about the need to assume the existence of six cases in Latin can be understood by a comparison of the singular forms of *lupus* and *equa* presented here. The formal syncretism of the Classical Latin dative and ablative singular results from phonological reduction (Old Latin dative *-ōi*, ablative *-ōd*), while the dative and ablative plural *-īs* is based on the old instrumental. Both Greek and Latin show remnants of cases generally lost by their Classical periods, when the functions of the ablative, locative, and instrumental were normally performed by the genitive and dative in Greek and those of the locative and instrumental by the ablative in Latin, with or without the help of prepositions (see further p. 54); traces of the old locative in *-i* are seen, for example, in Lat *Rōmae* ‘at Rome,’ from Old Lat *Rōmāi*, and in *domi* (Gk *oikoi*) ‘at home,’ from an unrecorded *domoi* or *domei*.

Adjectives and gender. The members of a noun phrase in the ancient languages inflect for the same case and number as the head of the phrase: (Lat) *ducēs haec magna praemia fortibus militibus dabunt* [generals-NOM-PL⁵ these-ACC-PL big-ACC-PL rewards-ACC-PL brave-DAT-PL soldiers-DAT-PL they-will-give] ‘the generals will give these great rewards to

⁵ Recall that the category features thus indicated are not marked sequentially but cumulatively; we indicate only those features relevant to the discussion.

brave soldiers,' (Skt) *ramaṇīyāni vanāni śobhanaṃ jalāṃ ca paśyāmi* [pleasant-ACC-PL forests-ACC-PL shining-ACC-SG water-ACC-SG and I-see] 'I see pleasant forests and shining water.' Adjectives used predicatively also show such concord: (Lat) *vērae amicitiae sempiternae sunt* [true-NOM-PL friendships-NOM-PL everlasting-NOM-PL are] 'true friendships are everlasting.' As these examples will suggest, there is no unique declension for adjectives: they have the case endings of nouns and, what is more, the majority appear sometimes as *o*-stem I, sometimes as *ā*-stem, and at other times as *o*-stem II. But beside such agreements as:

Lat	bonus annus (<i>o</i> -stems I) 'a good year'	bona puella (<i>ā</i> -stems) 'a good girl'	bonum argentum (<i>o</i> -stems II) 'good silver'
-----	--	--	--

we find also:

Lat	bonus pater (<i>o</i> -stem I) 'a good father'	pater (cons-stem)	bona humus (<i>ā</i> -stem) 'good ground'	humus (<i>o</i> -stem I)	bonum cubile (<i>o</i> -stem II) 'a good couch'	cubile (<i>i</i> -stem)
-----	---	----------------------	--	------------------------------	--	-----------------------------

which show that the selection of the declension of the adjective does not in fact depend upon correspondence of phonological type. In principle, each noun in the ancient languages has the inherent property of membership of one of three classes conventionally called masculine, feminine, and neuter (and the class membership of cognates is fairly consistent among the different languages). An adjective modifying a noun that has the feature 'masculine' usually takes its ending from the *o*-stem I declension; modifying a 'feminine' noun it follows the *ā*-stem declension, and the *o*-stem II declension when modifying a 'neuter' noun. It happens that the great majority of *o*-stem I nouns are masculine in this grammatical sense, and most *ā*-stems feminine, but not all are so, and the class membership of nouns belonging to other phonological groupings is not so predictable: *i*-stem, *u*-stem, and root nouns, for example, show no phonological distinctions between masculine and feminine members. The following examples from Latin illustrate these points:

Masc (with <i>o</i> -stem I adj)	Fem (<i>ā</i> -stem adj)	Neut (<i>o</i> -stem adj)
bonus deus (<i>o</i> -I noun) 'a good god'	bona amicitia (<i>ā</i>) 'good friendship'	bonum argentum (<i>o</i> -II) 'good silver'
bonus agricola (<i>ā</i>) 'a good farmer'	bona humus (<i>o</i> -I) 'good ground'	lātum mare (<i>i</i>) 'wide sea'
parvus piscis (<i>i</i>) 'a small fish'	bona vestis (<i>i</i>) 'good clothes'	magnum cornū (<i>u</i>) 'a large horn'
bonus exercitus (<i>u</i>) 'a good army'	parva manus (<i>u</i>) 'a small hand'	album ebur (cons) 'white ivory'
bonus nōmen (cons) 'a good name'	bona māter (cons) 'a good mother'	
magnus pēs (root) 'a large foot'	bona rēs (root) 'a good thing'	

Adjectives, then, agree with the noun they modify not only in case and number but also in grammatical gender. Having the same word structure as nouns, some of them be-

long to other phonological classes than *o*- and *ā*-stems and so do not necessarily show three gender distinctions: *i*-stem adjectives, for example, are, like *i*-stem nouns, of two types only, and one type serves for both masculine and feminine genders: Latin masculine, feminine *tristis*, neuter *triste* 'sad.'

We have just seen that the distribution of nouns among the three classes is not properly based on phonological types, which predate the development of the category of grammatical gender in PIE. Nor does it have a thoroughgoing semantic basis, despite the terms masculine, feminine, and neuter. These misleading names were attached to the three classes (as long ago as the fifth century BC, by the ancient Greeks) because the majority of nouns with male animate referents are modified by *o*-stem I forms of the adjective and a great many such nouns themselves follow this declension, and almost all nouns with female referents are modified by *ā*-stem forms with a great many such nouns following the *ā*-stem declension, while few nouns with animate referents are modified by *o*-stem II forms or follow this declension themselves. However, less than one third of the members of the word class of nouns have animate referents, so that correspondence between the three gender classes and the sex or lack of animacy of the referents of their members is quite imperfect and accounts for only a small proportion of nouns. Again, although most abstract nouns in the ancient languages are feminine, mass nouns neuter, and tree names feminine, while the names of rivers are feminine in Greek and masculine in Latin, such nouns constitute only a fraction of the total. It is in fact impossible to account for the distribution of nouns among the three classes on any consistent semantic basis.

In practice, then, grammatical gender is no more than a concord category, only partly connected with or predictable from phonological types and semantic considerations, and as it is an essentially covert category uncoded on the noun controlling the concord it is visible only in modifier and predicative adjective agreement and in anaphoric reference by demonstrative pronouns (and, later, third person pronouns, see below). The evolution of the category is a controversial topic and an adequate discussion would require too much space. Suffice it to say that the three-way distinction probably developed out of an earlier distinction between nouns with animate referents and ones with inanimate referents, and that the grammatical usefulness of this kind of system was doubtless one of the principal motivations of its systematic development: not only did it clarify modifier-modified relationships (though in attributive adjective use somewhat redundantly) but it gave much greater precision to anaphoric reference.

Pronouns personal and demonstrative. PIE possessed a number of lexical items with deictic force to enable the speaker to refer to himself or himself plus people associated with him, to one or more people addressed, and to one or more people other than all these. The very archaic nature of the first two sets (pronouns of the first and second persons) as reflected in the ancient languages is indicated by the use of different roots for the nominative and the non-nominative forms in the first person, and for the singular and the plural in both sets (there was also a dual number, which we shall ignore in the tables below):

First person:		PIE	Skt	Gk	Lat	
	Sg Nom	egō	ahám	egō	ego	'I'
	Acc	mē	mám	(e)mé	mē	'me'

Pl	Nom	wei	vayám	hēmeís	nōs	'we'
	Acc	nēs, nōs	asmán	hēmas	nōs	'us'

Second person:

Sg	Nom	t(w)e, tu	tvám	sú	tū	'thou'
	Acc	t(w)ē	tvám	sé	tē	'thee'
Pl	Nom	yūs	yūyám	hūmeís	vōs	'ye'
	Acc	yās	yuṣmán	hūmâs	vōs	'you'

It is likely that at an earlier stage of PIE the roots of the first person that were to become the nominative forms were used for the subject of a sentence and the accusative for other sentence functions; when the case and number systems developed, appropriate endings were attached to the non-subject roots.

To refer to people other than the speaker or those addressed PIE made use of roots of deictic force that differed from the above in that they could refer also to objects or abstractions, and, for the most part, indicated the proximity or remoteness (physical or figurative) of the referent with respect at least to the speaker. Another point of difference is that, like adjectives, they became morphologically differentiated for gender. The semantic development of these demonstrative pronouns came to differ greatly from dialect to dialect. Probably the most common PIE root was *so-*, which was replaced by *to-* in non-subject functions; into Sanskrit it carried the meaning 'that' in a weakly deictic and essentially anaphoric function, and so also in Greek where, neutralised for the distinction of proximity and remoteness and functioning within the noun phrase, it became, during the recorded history of ancient Greek, the definite article:

	PIE	Masc	Fem	Neut	Skt			Gk				
Sg	Nom	so	sā	tod	sás	sá	tád	'that'	ho	hē	tó	'the'
	Acc	tom	tām	tod	tám	tám	tád		tón	tén	tó	
Pl	Nom	toi	tās	tā	té	tás	tá	'those'	hoi	hai	tá	'the'
	Acc	tons	tās	tā	tán	tás	tá		toús	tás	tá	

Another common root was *ko-*, *ke-*, reflected in Lat *hic* 'this' and Gk *ekeĩnos* 'that.' As these examples show, the meanings of the PIE roots came to differ so much in the ancient languages that we can do no more than list the various systems. Whereas Sanskrit and Greek have a two-term system of opposition, Skt *ayám*, *iyám*, *idám*, Gk *hoũtos*, *hautē*, *toũto* 'this (near or associated with the speaker),' Skt *asáu*, *asáu*, *adás*; *ekeĩnos*, *ekeĩnē*, *ekeĩno* 'that (remote from the speaker),' Latin has a three-term system, *hic*, *haec*, *hoc* 'this (near or associated with the speaker),' *iste*, *ista*, *istud* 'that (near or associated with the hearer),' and *ille*, *illa*, *illud* 'that (remote from both speaker and hearer).' The descendants of the ancient languages normally developed one or another of their remote demonstrative pronouns (in the case of the Romance languages, for instance, Latin *ille*) for use as a third person pronoun neutral for proximity/remoteness and almost exclusively anaphoric. The demonstrative pronouns functioned also as determiners, and many of the languages eventually, like Greek anciently, developed one such form neutral for proximity/remoteness as a definite article.

In the ancient languages first and second person pronouns are in fact of limited occurrence in the nominative case, because the inclusion of person markers in verbal inflection

(see below) obviated the need for their realisation as sentence elements; they usually have an emphatic or contrastive sense when they do appear (p. 55).

Verbs. The categories of number and person in the verb, as in the noun, usually followed in application a natural semantic basis; functionally they served as concord categories, helping to clarify nominal relationships with the verb. In late PIE one of the three features of the category of number (singular, dual, and plural) and one of the three features of the category of person (first, second, and third) of the grammatical subject were encoded simultaneously by a terminal suffix from one of the following five sets. The variants shown account for some of the many regional developments or developments belonging to individual languages reflected in early records (we omit the dual, many of whose forms are uncertain).

	Sg	Pl
i. Primary endings:	1 -mi, -ō	-mes(i), -mos (i)
	2 -si	-te
	3 -ti	-(e)nti, -(o)nti
ii. Secondary:	1 -m	-me(s), -mo(s)
	2 -s	-te
	3 -t	-(e)nt, -(o)nt
iii. Perfect:	1 -a	-m-
	2 -tha	?
	3 -e	-r-
iv. Primary middle:	1 -ai	-medh-
	2 -sai	-dhwai
	3 -tai	-ntai
v. Secondary middle:	1 -ām	-medh-
	2 -so	-dhwai
	3 -to	-nto

Genetically, the endings given in ii and iii are the oldest (and may well reflect an earlier two-term distinction between imperfective and perfective aspect, see below); those in i, iv, and v can be seen to be enlargements of those in ii. Selection among these sets was determined by the category of voice (with two features, active and middle), mood (three features: indicative, subjunctive, and optative; we omit the imperative, which originally used only the verb stem), and tense/aspect (four features: present, imperfect, aorist, and perfect). Verbs of active voice would select from i, ii, and iii, those of middle voice from iv and v. Active verbs of subjunctive mood would select i and those of optative mood ii, regardless of tense, while those of indicative mood would select i if of present tense, ii if of imperfect or aorist tense, and iii if of perfect tense; verbs of middle voice selected between iv and v on parallel principles.

- i. active
 subjunctive *or* {indicative
 present
- ii. active
 optative *or* {indicative
 present

- iii. active
indicative
perfect
- iv. middle
subjunctive or {indicative
present
- v. middle
optative or {indicative
imperfect or aorist

We shall return to these sets presently.

The category of voice had two features in late PIE: active and middle. As it appears in the ancient languages the active voice is that in which, most typically, the subject is the agent of an activity: (Gk) *hoi Athēnaiōi paseskeuāzon tās nauās* [the-NOM Athenians-NOM they-prepared the-ACC ships-ACC] 'the Athenians prepared the ships.' The middle, as reflected in Sanskrit and Greek, has a number of related functions, the most common of which, known as indirect reflexive, is to indicate that an agent does something for his own advantage, i.e. that he is the beneficiary of the action (as the Sanskrit names for the active and middle suggest: *parasmai-pada* 'a word for the benefit of another,' *ātmane-pada* 'a word for the benefit of oneself'), thus Gk active *lúō* 'I set free,' middle *lúomai* 'I set free for my own advantage, i.e. I ransom' (as in (Gk) *ēlthe lusómenos thúgatra* [he-came ransoming-FUT-MID-PLE daughter-ACC] 'he came to ransom his daughter') and Skt active *pacati* 'he cooks (a meal for another),' middle *pacate* 'he cooks (a meal for himself)'; active *yajati* '[a priest] makes a sacrifice (on another's behalf),' middle *yajate* '[someone] makes a sacrifice (for himself, by hiring a priest).'

We must briefly mention two other functions. In a small number of verbs denoting activities that one normally does to or by oneself, such as bathing and dressing, the middle indicates that agent and patient are coreferential, i.e. that the agent-subject acts directly on himself: Gk active *louō* 'I wash (something or someone),' middle *loumai* 'I wash myself, i.e. I bathe.' This direct reflexive use is regarded as prototypical of the middle, though outside this small group coreferentiality between agent and patient is almost always expressed by the active voice and an object reflexive pronoun (as in (Gk) *rhíptei hautòn eis tèn thálattan* [he-throws-ACT himself-ACC into the-ACC sea-ACC] 'he threw himself into the sea'). In a related sense we have also: (Skt) *dato dhāvate* [teeth-ACC he-cleans-MID] 'he cleans his teeth,' (Gk) *loumai touś pódas* [I-wash-MID the-ACC feet-ACC] 'I wash my feet' (the latter beside (Gk) *louō touś pódas* [I-wash-ACT the-ACC feet-ACC] 'I wash the feet (of another)'). Another function was lexical derivation, to form agentive intransitive verbs from transitive verbs of a causative nature and non-agentive inchoative verbs from causative-inchoatives: (agentive:) Skt transitive active *vahati* 'carries,' intransitive middle *vahate* 'rides'; *drśyati* 'shows,' *drśyate* 'appears'; Gk *phainō* 'I show,' *phainomai* 'I appear'; *paúō* 'I stop,' *paúomai* 'I cease'; *stéllō* 'I dispatch,' *stéllomai* 'I set out'; (non-agentive:) Skt *pacyati* 'ripens,' *pacyate* 'becomes ripe'; *vardhati* 'makes larger,' *vardhate* 'grows larger'; Gk *egeíró* 'I awaken,' *egeíromai* 'I wake up'; *phobō* 'I frighten,' *phoboúmai* 'I feel fear.'

The kind of non-agentive meanings just illustrated, and the strong involvement of the

subject in the results of activity, particularly as patient, implied by the middle probably were the sources of the passive function that the voice acquired prehistorically, beside its original functions, in both Sanskrit and Greek, both of which formally distinguish the passive from the middle in a number of tenses. Latin has only a passive voice, whose forms only partly derive from the PIE middle, though it sometimes reflects the earlier voice (as in *armor* [I-arm-PASS] ‘I arm myself,’ *lavor* [I-wash-PASS] ‘I wash myself’). We might mention here that as the descendants of the ancient languages abandoned their middle voices, middle meaning came generally to be expressed by the active voice and an object reflexive pronoun.

In the passive voice the subject is the patient or result of an activity or process, without being its agent or cause, and the voice serves pragmatically to organise the sentence from the viewpoint of this entity, enabling it to be treated as the topic of the sentence or as given information, or to remove from the patient or result the focus that it would normally have as subject, or to suppress the agent, which is generally the case. As we shall see later, the ancient languages were able also to use word order for the first two purposes, so the passive is relatively uncommon (except in Classical Sanskrit where, with the agent expressed, it is a popular stylistic device)—and it remains so in not a few of the modern descendants that have retained case systems, or that have developed other topicalisation techniques. Some examples: (Skt) *jitaḥ rākṣasaḥ cāṇakyaena* [is-conquered Rakṣasa-NOM Caṇakya-INS] ‘Rakṣasa is conquered by Caṇakya,’ (Gk) *hai nēes pareskeuázonto hupò tôn Athēnaiōn* [the-NOM ships-NOM they-were-prepared by the-GEN Athenians-GEN] ‘the ships were prepared by the Athenians,’ (Gk) *ho páis (hupò tou patròs) phileítai* [the-NOM child-NOM (by the-GEN father-GEN) is-loved] ‘the child is loved (by its father),’ (Lat) *urbs (ā militibus) obsidēbātur* [city-NOM (by soldiers-ABL) was-besieged] ‘the city was besieged (by soldiers).’

The agent, when it is realised as an overt constituent, appears alone in the instrumental case in Sanskrit, and usually in a prepositional phrase in Greek and Latin. When an inanimate cause affects an animate patient the latter is usually brought into subject function by the use of the passive, and the cause is expressed: (Gk) *hup’ anēmōn apenechtheís* [by winds-GEN carry-away-AOR-PASS-PLE] ‘[he] having been carried away by the wind,’ (Lat) *mulierēs famē ac morbō interficiēbantur* [women-NOM hunger-ABL and disease-ABL they-were-killed] ‘the women were being killed by hunger and disease.’

The grammatical category of mood usually has a maximum of four synthetically encoded features in the ancient Indo-European languages: indicative, imperative, subjunctive, and optative. These moods actually cover the semantic category of modality only partially, and the ancient languages used also a variety of lexical items, which we must ignore here, to supply the wants of the morphological system. The indicative, moreover, was not formally marked in PIE as a mood (unlike the subjunctive and the optative), though it has to be regarded, as in the descendent languages, ancient and modern, as the general exponent of declarative modality.

The imperative, which was originally the bare stem of the verb and later acquired endings from various sources, was used in the second and third persons for the expression of commands and, with negative particles, prohibitions: (Lat) *liberā rem publicam metū* [you-free-SG-IMP republic-ACC fear-ABL] ‘free the republic from fear,’ (Gk) *mè phéugete*

[NEG you-flee-PL-IMP] ‘do not flee,’ (Skt) *atrabhavaty asmadgrhe tiṣṭhatu* [this-lady-NOM our-house-LOC remains-IMP] ‘this lady shall remain in our house.’ That it was broadly volitive, rather than narrowly jussive, is shown by its use also in wishes, requests, entreaties, and prayers, where the speaker had no power to initiate action.

The subjunctive and the optative were formed in PIE by inserting a medial suffix between the thematic vowel (or root in athematic verbs) of the indicative and the terminal suffix (see below). In main clauses in Vedic Sanskrit and Greek (the optative assumed the functions of the subjunctive in Classical Sanskrit, while the two moods were formally and functionally collapsed into the subjunctive in Latin), they are primarily exponents of certain elements of deontic modality, and only to a limited extent of epistemic. They display considerable variety and overlap of function, on both the intra- and interlanguage levels, and here we can do no more than note the main points. The tenses and voices in which these and the other moods appear can be seen in the table below (p. 45).

The subjunctive marks a statement as volitive: (Skt) *prá nú sutēṣu vām* [aloud now I-praise-SUBJ you-DUAL] ‘I will now praise you two aloud’; in the second and third persons it generally has a clearly jussive force: (Skt) *śatām jīvāti śaradaḥ* [hundred he-lives-SUBJ autumns] ‘he shall live a hundred autumns,’ though quite often it seems rather to be hortative, advisory, or objectively obligative: (Lat) *tū dictis manērēs* [you-NOM-SG sayings-DAT you-abide-by-SG-IMPERF-SUBJ] ‘you should have kept your word.’ Greek uses the second and third persons almost exclusively for prohibitions: (Gk) *mè epì douleíān hekòn élthēis* [NEG into slavery-ACC willing-NOM you-go-SG-AOR-SUBJ] ‘do not go willingly into servitude.’ In the first person plural the speaker commands or exhorts the audience to share in an action with him: (Gk) *phágōmen kai píōmen aúrion gar apothnēiskomen* [we-eat-SUBJ and we-drink-SUBJ tomorrow for we-die-PRES] ‘let us eat and drink, for tomorrow we die,’ (Lat) *amēmus patriam, pāreāmus senātūi* [we-love-SUBJ country-ACC, we-obey-SUBJ senate-DAT] ‘let us love our country, let us obey the senate.’ The subjunctive appears also in deliberative questions, where the speaker requests direction about the course he should pursue: (Gk) *poí phugō metròs chéras* [whither I-flee-SUBJ mother-GEN hands-ACC] ‘where am I to escape my mother’s hands?’ (Lat) *ēloquar an sileam* [I-speak-SUBJ or I-keep-silence-SUBJ] ‘am I to speak or be silent?’

The realisation of what the speaker wills, commands, exhorts, or prohibits lies in the future, and not only do both Vedic and pre-Classical Greek frequently use the subjunctive in a secondary prospective function in place of the future tense, as in: (Skt) *uśā ucchác ca nú* [dawn-NOM shines-SUBJ and now] ‘and dawn will shine forth now,’ (Gk) *ou gár pō toíous ídon anéras oudè ídōmai* [not for yet such I-saw-AOR men nor I-see-SUBJ] ‘for I never saw such men, nor shall I ever see such,’ but the PIE subjunctive was also one of the formal sources of the future tense in several of the ancient languages that developed it prehistorically.

The semantic function of the optative is chiefly what its name suggests: the expression of wishes (for the future only), where, unlike in the subjunctive, fulfilment is beyond the control of the speaker: (Skt) *mīdhvām asmakām babhūyāt* [bountiful us-GEN he-is-OPT] ‘may he be bountiful to us,’ (Skt) *ná riṣyema kadācaná* [NEG we-are-hurt-OPT and-not-ever] ‘may we never suffer harm,’ (Gk) *hūmín theò doien ekpérsai Priámou pólin* [you-DAT gods-NOM they-give-OPT to-sack-AOR Priam-GEN city-ACC] ‘may the gods grant you the sack of the city of Priam.’

A wish for the future may yet be fulfilled, and the optative has a secondary potential function, representing a future action as possible dependent on circumstances: (Gk) *éti gár ken alúksaimen kakôn êmar* [still for PARTICLE we-escape-OPT bad day] ‘for we might still escape the evil day.’

Outside simple sentences, the prospective and potential functions of the subjunctive and optative are evident in non-counterfactual conditionals in Greek: (Gk) *ei toûto prâk-seías, hamârtois ân* [if this-ACC you-do-OPT, you-err-OPT PARTICLE] ‘if you were to do that, you would be wrong,’ while Vedic and Latin use non-indicative forms also for present and past counterfactual conditionals: (Lat) *sî foret in terris, ridêret Dêmocritus* [if he-was-IMPERF-SUBJ in earth-ABL, he-laughed-IMPERF-SUBJ Democritus-NOM] ‘if he were on earth, Democritus would be laughing.’ Similarly in final and other subordinate clauses when the purpose of an action is unrealised at the time referred to in the main clause: (Gk) *egð ápeimi, mê katopteuthô parôn* [I-NOM I-depart-IND that-not I-am-observed-SUBJ being-present-NOM-PLE] ‘I shall go away lest I be seen here,’ (Lat) *expectâte dum cõsul fiat Caesõ* [you-wait-PL-IMP until consul-NOM he-becomes-SUBJ Caeso-NOM] ‘wait until Caeso becomes consul’; and also in noun clauses dependent on verbs of commanding, exhorting, wishing, imagining, doubting, and fearing, where the objects are as yet unrealised and most of the simple sentences would anyway have non-indicative forms: (Lat) *cupiõ ut impetret* [I-wish-IND that he-obtains-SUBJ] ‘I wish him to obtain it,’ (Lat) *timeõ nê tibi nihil praeter lacrimãs queam reddere* [I-fear-IND that-not you-SG-DAT nothing beyond tears-ACC I-can-SUBJ return-INF] ‘I fear that I can give you nothing but tears in return.’

The so-called tense system that the ancient languages inherited from PIE is evidently concerned not only with the location of an event in time, which is the typical function of a tense, but also with its distribution over time. The situation is best seen in Greek, where both the present tense and the imperfect convey process or durativity, that is, the continuation of an event over a period of time (for example, present indicative *leípõ* ‘I am (in the process of) leaving,’ imperfect *éleipon* ‘I was leaving’), and can be said to express imperfective, or durative, aspect. The aorist, on the other hand, represents an event as simply occurring (in past time only: *élipon* ‘I left’), and can be said to express a momentary aspect. The perfect expresses the state of the subject resulting from a completed event (in present time only: *léloipa* ‘I have left’; *oída* ‘I know,’ literally ‘I have seen’), and this we might call a stative aspect. (The term perfective is variously applied to momentary and stative aspects). In the subjunctive and optative moods the present, aorist, and perfect lack temporal reference altogether (the imperfect does not occur), and we may suppose that it was in the later stages of PIE that the category of tense came to be superimposed, in the indicative mood, on the kind of aspectual system just described in order to relate the occurrence of an event or process or the existence of a state to the time of the utterance.

The coexistence of aspect and tense in the Greek verb is well illustrated in: (Gk) *emá-chonto méchri hoi Athēnaioi apépleusan* [they-fought-IMPERF until the Athenians they-sailed-away-AOR] ‘they fought (went on fighting) until the Athenians sailed away,’ and in: (Gk) *ou bouleúesthai hõra, alla bebouleústhai* [not to-deliberate-PRES time but to-deliberate-PERF] ‘it is not a time for deliberation, but for decision,’ where the perfect infinitive middle *bebouleústhai* implies ‘to have finished deliberating and to have reached a decision.’

The state of the subject at a point in past time (*eleloipē* 'I had left') came in the post-PIE period to be conveyed by a pluperfect tense. Latin collapsed the functions of the aorist and the perfect in a single tense, the perfect, called the historic perfect when functioning as aorist and the present perfect when functioning as the old perfect. Like Greek, Latin developed a synthetic pluperfect.

	Present	Imperfect	Aorist	Perfect	Pluperfect
Gk	gráphō	égraphon	égrapsa	gégrapha	egegráphē
Lat	scribō	scribēbam		scripsi	scripseram
	'I am writing'	'I was writing'	'I wrote'	'I have written'	'I had written'

In Vedic Sanskrit the aorist had come to have much the same meaning as the perfect, and the imperfect is simply a past narrative tense; in Classical Sanskrit all three are past narrative tenses with few differences. Greek, Latin, and Sanskrit developed also a synthetic future tense (indifferent to aspectual distinctions; Gk *grápsō*, Lat *scribam*), and the first two a synthetic future perfect tense (Lat *scriberō* 'I shall have written'; Greek has passive only). (Latin thus provided itself with a new imperfective and perfective (stative) aspectual system, each with present, future, and past tenses: present, future, and imperfect in the former, and (present) perfect, future perfect, and pluperfect in the latter). In all of these languages the present tense serves also to describe habitual activity, and to assert general truths: (Lat) *fortēs fortuna adiuvat* [brave-ACC-PL fortune-NOM helps] 'fortune helps the brave.'

The full range of tenses is found only in the indicative mood, as the accompanying table shows. In Greek, reflecting the earlier PIE situation, the aorist subjunctive and optative lack temporal reference, as noted above, and convey only momentary aspect: *lúōmen doúlous* [we-free-SUBJ slaves] 'let us set free slaves' (as a general principle), but: *lúsōmen toús doúlous* [we-free-AOR-SUBJ the slaves] 'let us set free the slaves' (on a particular occasion).

ACTIVE

	Present			Imperf			Future			Aorist			Perfect			Pluperf			Fut Perf		
	S	G	L	S	G	L	S	G	L	S	G	L	S	G	L	S	G	L	S	G	L
Indicative	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇		◇	◇	◇	◇	◇	◇			◇
Subjunctive	◇	◇	◇			◇	◇			◇	◇		◇	◇	◇			◇			
Optative	◇	◇						◇		◇	◇		◇	◇							
Imperative	◇	◇	◇							◇	◇		◇	◇							

MIDDLE

Indicative	◇	◇		◇	◇		◇	◇		◇	◇		◇	◇		◇	◇				
Subjunctive	◇	◇				◇			◇	◇	◇		◇	◆							
Optative	◇	◇						◇		◇	◇		◇	◆							
Imperative	◇	◇								◇	◇		◇	◇							

PASSIVE

Indicative	◇		◇	◇		◇		◇	◇		◇				◆			◆		◇	◆
Subjunctive	◇		◇			◇					◇				◆			◆			
Optative								◇			◇									◇	
Imperative	◇		◇								◇										

◆=analytic structure.

The permissible combinations of category features were typically realised as follows (in the order of the sets of endings presented earlier):

i. If to the verb stem (like nouns either athematic, or thematic with *e-* or *o-*grade) were attached primary endings alone, the form was present indicative active:

Athematic: PIE *es-ti* 'is': Skt *ásti*, Gk *ésti*

Thematic: *bher-e-ti* 'carries': Skt *bhárati*, cf. Gk *phérei*

If the suffix *-e-* or *-o-* was added to the root of otherwise athematic verbs or inserted in the stem, the form was present subjunctive active:

es-e-ti: Skt *ásati*

(*bher-e-e-ti* >) *bher-ē-ti*: Skt *bhárati*

ii. If secondary endings were added to the stem and, optionally, the particle *e-*, known as an augment, was prefixed to the stem, the form was imperfect indicative active:

(*e-es-t* >) *ēs-t*: cf. Skt *ás*, Gk *ês*

e-bher-e-t: Skt *ábharat*, cf. Gk *éphere*

If the suffix *-s-* was added to the root (the vowel of which was probably lengthened) and optionally *e-* was prefixed, the form was aorist indicative active:

e-bhēr-s-t: cf. Skt *ábhār*

e-lūs-s-t: cf. Gk *élūse* (pres *lúei* 'loosens')

(Forms containing *-s-* are known as sigmatic aorists; many other aorists were formally undifferentiated from imperfects, and were aorist by meaning and by being unable to take primary endings in the indicative. Aorist subjunctives took the suffix *-e-/-o-* and primary endings as above, thus PIE *e-lūs-e-ti*, while aorist optatives took the following suffix and secondary endings). If to the stem was added the suffix *-yē-* or *-ī-*, or *-i-* with thematic stems (thematic vowel *-o-*), the form was present optative active:

(root *es-* >) *s-yē-t*: Skt *syāt*

bher-o-i-t: cf. Skt *bháret*, Gk *phéroi*

leik^w-o-i-t: cf. Gk *leípoi* (pres *leípei* 'leaves')

(Note that both the subjunctive and the optative are formed by the addition of suffixes to the stem without deletion of the thematic vowel, which it is hardly necessary to consider as a formal marker of indicative mood).

iii. To form the perfect indicative active the root was typically reduplicated, its vo-

calism might be altered by gradation, and perfect endings were added:

gē-grbh-e: Gk gégraphe (pres grápheí 'writes')
le-loik^w-e: Gk léloipe

iv, v. The formation of tenses and moods in the middle voice followed essentially the same principles with the substitution of the appropriate middle endings, for example:

Present: bher-e-tai: Skt bháratē, Gk phéretai
Imperfect: e-bher-e-to: Skt ábharata, Gk ephéreto

While it shows the working of the system, the necessarily simplified and tidy presentation here gives a misleading impression of regularity. Sanskrit and Greek, reflecting the PIE situation, show great variety in stem formation, and the structure of one stem can rarely be surely predicted from the structure of another, thus the Greek future *lépsomai* is not predictable from the present *lambánō* 'I seize,' nor the Latin perfect *frēgī* from the present *frangō* 'I break.' Indeed, the existence of one stem does not even guarantee the existence of another made from the same root; for instance, the root in *phérei* 'carries' quoted above does not occur in aorist or perfect formations in Greek, where the unrelated root *enek-* is used suppletively, thus aorist indicative active *énegke*. A few other instances from Greek with differing present and aorist forms: *légō* 'I speak,' *eípon*; *hairéō* 'I capture,' *heilón*; *horáō* 'I see,' *eídon*; and one or two from Sanskrit: root *han* 'slay,' aorist root *vadh*; *i* 'go,' *gā*. A good example of such suppletion in English is the verb *to be*, which makes use of four Indo-European roots: *bheu-* in *be*; *es-* in *is*, *am*; *er-* in *are*; and *wes-* in *was*, *were*.

In order to emphasise the enormous synthetic-inflecting complexity of the verb in most of the ancient languages, we note that a full conjugation may contain over three hundred different forms in Vedic Sanskrit and Greek, and about a hundred and forty including partly analytic passive structures in Latin, which, incidentally, extensively remodelled and regularised its PIE inheritance, giving itself for instance a new imperfective marker in *-b-* and a new perfective marker in *-v-* (see the examples below). The first two languages thus show a considerable quantitative rise in verbal synthesis over late PIE, which probably had a maximum of about one hundred and sixty forms.

The following illustrate more fully the forms as seen in some essentially regular verbs in Vedic Sanskrit (for *bhāvāmi* 'I am') and Classical Greek (*lúō* 'I loosen') and Latin (*amō* 'I love'). We ignore the dual.

			Present Indicative Active						
Sg	1	bhāvāmi	lúō	amō	Pl	1	bhāvāmasi	lúomen	amāmus
	2	bhāvasi	lúeis	amās		2	bhāvatha	lúete	amātis
	3	bhāvati	lúei	amat		3	bhāvanti	lúosi	amant
			Present Subjunctive Active						
Sg	1	bhāvāni	lúō	amem	Pl	1	bhāvāma	lúōmen	amēmus
	2	bhāvāsi	lúēis	amēs		2	bhāvātha	lúēte	amētis
	3	bhāvāti	lúēi	amet		3	bhāvān	lúōsi	ament
			Imperfect Indicative Active						
Sg	1	ábhavam	élūon	amābam	Pl	1	ábhavāma	elúomen	amābāmus
	2	ábhavas	élūes	amābās		2	ábhavata	elúete	amābātis
	3	ábhavat	élūe	amābat		3	ábhavan	élūon	amābant

		Aorist Indicative Active							
Sg	1	ábhuvam	élūsa.		PI	1	ábhūma	elūsamen	
	2	ábhūs	élūsas			2	ábhūta	elūsate	
	3	ábhūt	élūse			3	ábhūvan	elūsan	
		Perfect Indicative Active							
Sg	1	babhūva	léluka	amāvi	PI	1	babhūvimá	lelúkamen	amāvimus
	2	babhūtha	lélukas	amāvisti		2	babhūvá	lelúkate	amāvistis
	3	babhūva	léluke	amāvit		3	babhūvúr	lelúkāsi	amāvērunt
		Present Indicative Middle							
Sg	1	bhāve	lūomai		PI	1	bhāvāmahe	lūómetha	
	2	bhāvase	lūci			2	bhāvadhve	lūesthe	
	3	bhāvate	lūetai			3	bhāvante	lūontai	

The so-called non-finite parts of the verb consist of the participles (in Sanskrit, present, future, aorist, and perfect active, and present, future, and perfect middle and passive; in Greek, present, future, aorist, and perfect active, middle, and passive; in Latin, present and future active, and passive perfect—all synthetic, and widely used in constructions that substituted for dependent clauses, such as the ablative absolute in Latin: *eō imperium tenente, eventum timeō* [him-ABL power-ACC holding-ABL, outcome-ACC I-fear] ‘with him holding power (=as/when/since/if/although he holds power), I fear the outcome’), gerunds (verbal nouns of active meaning, capable of governing case, in Sanskrit and Latin), gerundives (the future passive participles in Sanskrit and Latin, expressing necessity: (Lat) *hōc est faciendum mihi* [this-NOM is do-GERUNDIVE-NOM me-DAT] ‘this is to be done by me=I must do this’), and infinitives. We should perhaps mention with reference to the last that they were in origin deverbative abstract nouns that came to be reanalysed in the descendent languages as part of the verbal system, and so to acquire tense and voice (essentially a present active form only in Sanskrit; present, future, aorist, and perfect active and middle, future and aorist passive in Greek; present and perfect active and present passive in Latin with an analytic future also) and the ability to govern objects while retaining their nominal ability to function as subject or object. In Classical Sanskrit, Greek, and Latin they are petrified case forms of the nouns from which they derive (accusative, dative, and an old locative, respectively), and commonly function prolatively as verbal complements (as in (Lat) *cupiō haec cognōscere* [I-desire these-NEUT-PL know-INF] ‘I desire to know these things,’ (Lat) *iussit eōs venire* [he-ordered them-ACC come-INF] ‘he ordered them to come’). An important related use in Greek and Latin is in the accusative-and-infinitive construction for indirect statement: (Lat) *dicunt eum iūvisse eam* [they-say him-ACC help-PERF-INF her-ACC] ‘they say that he helped her.’

Case Functions

The cases are markers of the syntactic and semantic roles in a sentence of the nominals on which they appear, with some degree of overlap and considerable multiplicity of function: a single role may be encoded by more than one case, while one case may encode entirely different roles, syntactic or semantic or both. This is especially true in Greek and

Latin because of the functional merging of the late PIE ablative, instrumental, and locative with the genitive and dative in Greek, and of the instrumental and locative with the ablative in Latin, probably due to the pressures of the semantic and syntactic overlaps that had developed among these cases; in Sanskrit, which retained the earlier cases, there is in general a clearer, though still imperfect, relationship between a case and the roles it encodes. Most of the cases can appear on nominals functioning as various kinds of verbal adjuncts and (mainly locative and goal) complements, generally equivalent to the prepositional adjuncts and prepositional complements of English; here we shall not distinguish optional and obligatory items, simply labelling all such uses 'oblique.' We shall also largely ignore the use of the cases in noun and adjective complementation. The following table (in which we indicate some semantic roles for obliques and non-accusative first objects) is based on Sanskrit, and in the text Greek and Latin examples are given only for usages conforming to Sanskrit.

Case:	Roles encoded:
Nominative	Subject
Accusative	1st Object Oblique: Goal, direction 'towards'; range in time and space
Genitive	Adnominal 1st Object: Partitive; source
Dative	1st Object: Recipient 2nd Object: Animate recipient Oblique: Beneficiary; purpose
Ablative	1st Object: Source Oblique: Source, direction 'from'; cause; time 'after which'
Instrumental	1st Object: Cause (Agent) Oblique: Instrument; comitative; time 'within which'
Locative	1st Object: Goal Oblique: Location in time and space; goal

Although it is possible that the formative of the nominative case developed in early PIE as a semantic marker of the agent, in the ancient languages the case itself is a case of grammatical function, marking the subject, whose semantic roles are various as reflected in the following examples (but see also below). The subject controls person and number marking on the verb. (Gk) *hai kórai choreúosi* [the-NOM girls-NOM they-dance] 'the girls dance,' (Skt) *ápo yánti* [waters-NOM they-move] 'the waters move,' (Lat) *Brütus Caesarem necávit* [Brutus-NOM Caesar-ACC he-killed] 'Brutus murdered Caesar,' (Lat) *Brütus ab Antóniō interfectus est* [Brutus-NOM by Anthony-ABL was-killed] 'Brutus was put to death by Anthony,' (Skt) *vīśaḥ kṣatríyāya balīm haranti* [villagers-NOM prince-DAT tribute-ACC they-pay] 'the villagers pay tribute to the prince,' (Skt) *ācāryaḥ śiṣyaṃ paśyati* [teacher-NOM pupil-ACC sees] 'the teacher sees the pupil,' (Lat) *haec studia adulēscēntiam alunt* [these-NOM studies-NOM youth-ACC they-nourish] 'these studies nurture youth,' (Skt) *tvám ratnadhā ási* [you-NOM-SG treasure-giver-NOM you-are-SG] 'you are a bestower of treasure.'

Although these examples show a variety of semantic roles of the subject, such as agent, patient, experiencer, and even instrument, we should nevertheless note that none of the

ancient languages (and few of the modern ones) show the extreme freedom of modern English with respect to such roles; in Vedic Sanskrit in particular, although nominals with inanimate referents, both concrete and abstract, occur freely as subjects with most intransitive verbs, inanimates are still very rare in this function when the verb is transitive. Further evidence of the restricted semantic roles of subjects is provided by the subjectless (impersonal) verbs of certain kinds of process or state with oblique arguments denoting an experiencer in the dative in Greek or the accusative in Latin, and the source of the experience in the genitive: (Gk) *metamélei moi toutou* [repents me-DAT this-GEN] 'I repent (doing) that,' (Lat) *miseret mē tuī* [pities me-ACC you-GEN] 'I pity you,' (Gk) *dei moi toutou* [needs me-DAT this-GEN] 'I need this'; in English and many other, but by no means all, of the (largely western) Indo-European languages having such constructions these oblique experiencers eventually acquired subjecthood, both syntactic and morphological, or the verbs were provided with dummy subjects.

The examples earlier also show that the subject of an intransitive verb and that of a transitive verb are both marked by the nominative: the ancient-Indo-European languages, like the modern ones, have a nominative-accusative and not an ergative structure, though internal reconstruction based on late PIE itself possibly suggests that PIE may at one stage have been an ergative language, in which a transitive subject is marked differently from an intransitive one, the latter having the same case marking as a regular transitive object (though pronouns in such languages frequently have nominative-accusative marking).

The accusative case marks the grammatical object, and typically appears in a syntactic opposition to the nominative, as in several of the sentences above and in: (Skt) *devā havīḥ pibānti* [gods-NOM libation-ACC they-drink] 'the gods drink the libation,' (Lat) *civēs meum cāsum luctumque doluerunt* [citizens-NOM my-ACC mischance-ACC grief-ACC-and they-grieved] 'the citizens mourned my mischance and grief.' The case also appears often in the following type of sentence, in which there is one nominal argument and a verb but no concord between the two: (Skt) *dadhati ratnaṃ* [they-give treasure-ACC] 'they bestow treasure,' (Lat) *epistolam scripsi* [letter-ACC I-have-written] 'I have written the letter.' In such instances the subject of a transitive verb is represented solely by the person and number marking on the verb: overt subjects, as we shall see again later, were not obligatory in the ancient languages when the identity of the referent was recoverable from the context.

As seen in the examples presented so far, the accusative object typically has the semantic roles of patient, result, and percept. The syntactic usefulness of this case and the nominative in clarifying subject-object relations can easily be understood when both arguments of a transitive verb have animate referents, as in Skt *ācāryaḥ śiṣyaṃ paśyati* and *Brūtus Caesarem necāvit* above. (In this connection it should be recalled that neuter nouns, which rarely have animate referents, make no inflectional distinction between nominative and accusative). Although the accusative tends to be regarded as the case *par excellence* of the grammatical object, we shall see below that a fair number of verbs in the ancient Indo-European languages (and still in some of the modern ones) take genitive or dative, and in Sanskrit also ablative, instrumental, and locative objects instead of accusative, reflecting a more autonomous status of the cases in PIE; in Greek such objects could become the subjects of passive sentences, while in Latin impersonal passives were usual (thus *tibi par-citur* [you-DAT pardons-PASS] 'you are pardoned'). The original semantic motivation of these non-accusative arguments is generally apparent (see below).

In what we are calling oblique function, the accusative is used without adpositions to specify the goal or direction of motion on a nominal in the same syntactic position as an object, as in: (Skt) *naḡaram gaççhati* [city-ACC goes] 'he goes to the city,' (Skt) *indram stómās caranti* [Indra-ACC hymns-NOM they-go] 'to Indra fare the songs of praise,' (Lat) *nunc domum properō* [now home-ACC I-hurry] 'now I'm hurrying home'; also in the specification of temporal and spatial extension, that is, to indicate the time during which the actions or states specified by the verb took place or lasted: (Gk) *émeinen hēméras pénte* [he-stayed days-ACC five] 'he remained five days,' and the areas or distances involved: (Lat) *milia passuum tria iter fēcit* [thousands-ACC paces-GEN three-ACC he-marched] 'he marched for three miles.' Just as the referent of the grammatical object is, in a broad sense, the goal of the activity denoted by the verb, so too in these uses we can see that the accusative nominals ultimately indicate the terminus of an activity or state.

The genitive is primarily adnominal, marking relationships between nominals: a 'possessive' relationship, seen in (Skt) *devānām dūtīs* [gods-GEN messenger-NOM] 'the messenger of the gods,' (Lat) *rēgis cōpiae* [king-GEN forces-NOM] 'the king's forces'; a subjective relationship, as in (Lat) *patientia animī* [patience-NOM spirit-GEN] 'patience of spirit,' which derives from *animus* (nom) *patitur* 'the spirit endures/is patient'; and an objective relationship, seen in (Lat) *patientia dolōris* [endurance-NOM suffering-GEN] 'endurance of suffering,' which derives from *dolōrem* (acc) *patitur* '[he] endures suffering.' It has a partitive semantic function reflected in its use with superlatives: (Lat) *omnium flūminum māximus* [all-GEN-PL rivers-GEN-PL largest] 'the largest of all rivers.' The case also marks the grammatical object of certain verbs: of some verbs meaning eat or drink, where, again, there is a partitive semantic function: (Gk) *ártou éphage* [loaf-GEN he-ate] 'he ate some bread/a piece of bread' (which contrasts with (Gk) *ártōn éphage* [loaf-ACC he-ate] 'he ate a loaf'), and of a variety of sensory and mental state verbs, such as taste, smell, hear, know about, remember, forget, remind, care for, pity, or rejoice in, where the object is uniformly the source of the relevant mental experience: (Lat) *animus praeteritōrum meminīt* [mind-NOM past-things-GEN remembers] 'the mind remembers past things.'

The dative encodes the second object of certain verbs in the semantic role of recipient; the referent is almost always animate (and is far less likely than in English to become the subject of a passive sentence): (Skt) *vīsaḡ kṣatriyāya balim haranti* [villagers-NOM prince-DAT tribute-ACC they-pay] 'the villagers pay tribute to the prince,' (Gk) *hē mōria didōsin anthrōpois kaká* [the-NOM folly-NOM gives men-DAT bad-things-ACC] 'folly gives men troubles,' (Lat) *saepe tibi meum somnium nārrāvī* [often you-DAT my-ACC dream-ACC I-have-told] 'I have often told you my dream.' In instances where the nominal is the lone grammatical object of a large variety of verbs with such meanings as please, help, trust, serve, benefit, we see again a semantic function of the dative as marking the recipient of whatever is denoted by the verb: (Gk) *épisteuon autōi hai póleis* [they-trusted him-DAT the-NOM cities-NOM] 'the cities trusted him,' (Lat) *imperat aut servit pecūnia cuique* [rules or serves money-NOM each-DAT] 'money rules or serves every man.' So also when it is used with various adjectives: (Skt) *śivā sākhibhya utá máhyam āsīt* [kind-FEM-NOM friends-DAT and me-DAT was] 'she was kind to friends and to me.' Two more related uses of the case are the dative of advantage or disadvantage, where the person in the dative is the beneficiary, or the victim, of the action, as in: (Gk) *pās anēr hautōi ponei* [every-NOM man-NOM himself-DAT he-works] 'every man works for himself,' and, by extension, the

dative of purpose, indicating the purpose for which an action is done: (Skt) *phalebhyo gacchati* [fruits-DAT he-does] 'he goes out in search of fruits,' (Lat) *hōs tibi mūneri mīsit* [these-ACC you-DAT-SG gift-DAT he-sent] 'he sent these to you as a gift.'

The ablative is primarily a case of oblique function, encoding the semantic role of source: the origin, point of separation, or starting point from which something (usually the action of the verb) proceeds: (Skt) *lobhāt krodhaḥ prabhavati* [greed-ABL anger-NOM arises] 'from greed arises anger,' (Lat) *populus Athēniēnsis Phōciōnem patriā pepulit* [people-NOM Athenian-NOM Phocion-ACC country-ABL it-drove] 'the Athenian people drove Phocion from his country,' and, in a more metaphorical sense, with such verbs as deprive, rescue, protect, guard, free from (with a personal object in the accusative or dative): (Skt) *nās trāsate dūrītāt* [us-ACC he-protects-SUBJ misfortune-ABL] 'he shall protect us from misfortune'; also, by a ready extension, cause: (Lat) *aegrōtābat vulneribus* [he-was-sick wounds-ABL] 'he was sick on account of his wounds.' It is the case of the standard (i.e. the 'starting point') in comparison: (Skt) *ghṛtāt svādīyaḥ* [butter-ABL sweeter] 'sweeter than butter,' (Lat) *nihil est virtūte amābilius* [nothing is virtue-ABL more-lovely] 'nothing is more lovely than virtue.' It is used also to specify the time after which something happened: (Skt) *tribhyaḥ divasebhyaḥ prāptāḥ* [three-ABL days-ABL they-arrived] 'they arrived after three days.' The case is governed by a handful of verbs of diverse meaning, including to fear, where the object is the source of the fear: (Skt) *indrasya vājṛād abibhet* [Indra-GEN bolt-ABL she-feared] 'she was afraid of Indra's bolt.'

The instrumental also is used mainly in oblique function, its broad sense being that of concomitance. It is used comitatively to indicate the accompaniment (usually a person) in an activity: (Skt) *ahaṃ tvayā gamiṣyāmi vanam* [I-NOM you-INS-SG I-go-FUT forest-ACC] 'I shall go with you to the forest.' It indicates the instrument with which something is done: (Skt) *āhan vṛtrām indro vājreṇa* [he-struck Vṛta-ACC Indra-NOM bolt-INS] 'Indra struck Vṛta with his thunderbolt,' and as the prehistoric languages developed passive functions in their middle voices it came to be used to encode the agent: (Skt) *jitaḥ rākṣasaḥ caṇakyaena* [is-conquered Rakṣasa-NOM Caṇakya-INS] 'Rakṣasa is conquered by Caṇakya.' The case is governed by a number of verbs with such meanings as enjoy, delight in, be satisfied with, be replete with, where the object is the cause (or source) of the experience. It is used also to indicate the time within which something happened: (Skt) *tribhiḥ divasaiḥ prāptāḥ* [three-INS days-INS they-arrived] 'they arrived in three days.'

The locative, as its name suggests, indicates place at which: (Skt) *carati vane kiṃ-cit* [moves forest-LOC something] 'something is moving in the forest,' and time at which: (Skt) *trītiye divase nagaram prāptāḥ* [three-LOC days-LOC city-ACC they-arrived] 'they reached the city on the third day,' and has also the extended sense of attendant circumstance, which gave rise to the locative absolute construction (the ablative absolute of Latin, illustrated earlier): (Skt) *kāle śubhe prāpte* [occasion-LOC auspicious-LOC arrive-PERF-PLE-LOC] 'an auspicious time having arrived.' It also governs a handful of verbs of diverse meaning, though it has a clear semantic role of the goal or object of feelings with a group of verbs, nouns, and adjectives having such meanings as desire, hope, fondness for, dear to: *cārur mitrē* [dear Mitra-LOC] 'dear to Mitra.' The same role of goal is observable in the use of the locative on the second argument of a verb of motion, where it differs from the accusative in stressing not so much direction towards a goal as the place reached: *yajñā devēsu gacchati* [offering-NOM gods-LOC it-goes] 'the offering goes to (be among) the gods.'

The vocative we have left until last because it is rather different from the other cases: its function is disjunctive, marking its nominal as being structurally independent of the rest of the sentence. It is used in address: (Skt) *vayasya, kiṃ śocasi* [friend-VOC, why you-grieve-SG] 'friend, why do you grieve?,' (Lat) *ō sōl pulcher, ō laudande* [o sun-VOC beautiful-VOC, o praise-worthy-VOC] 'o beautiful sun, worthy of praise!'

The above by no means exhausts the semantic functions of the cases in the ancient languages: we have made no mention of such things as, for example, the ablative or accusative of respect or specification (as in (Lat) *tremet artūs* [he-trembles limbs-ACC] 'he trembles in his limbs'), the genitive or ablative of price, or the ethic dative. Although the common uses that we did illustrate reflect, in many instances, a clear focus of meaning for most of the individual cases, around which a host of uses may be assumed to have accreted by processes of association, analogy, and metaphor, some of those we mentioned, and a number of minor ones, are quite inexplicable in terms of semantic motivation. Even in Sanskrit, moreover, there are instances of one semantic function being indexed by more than one case: cause, for example, is signalled not only by the ablative, as we mentioned, but also by the instrumental, and purpose not only by the dative but also by the locative. Because of the prehistoric syncretism of cases in Greek and Latin which we mentioned earlier, the functional range of most of the surviving cases was greatly increased in these languages; as a result they display a bewildering variety of semantic functions, and the overall impression is that case selection in these languages has become arbitrary and semantically vacuous. Also because of the syncretism, many of the functions described in this section are distributed somewhat differently among the cases of Greek and Latin than among those of Vedic and Classical Sanskrit, which have formed the basis of the presentation (an overview will be found in the table below).

Even with extensive syncretism the functions, both syntactic and semantic, of a cased word will usually be clarified by the word's environment; nevertheless, functional overload of the cases, especially of those used chiefly in identical syntactic roles (such as the ablative-instrumental-locative complex in Latin which was used mainly on obliques, resulting in a decrease in the semantic transparency of the case), may well have been a factor in the growth of adpositions, which served to respecify opacified functions, and which we must now look at briefly.

A number of uninflectable words could originally accompany the verb when appropriate to specify its meaning with respect, mainly, to temporal or spatial relations. Many of these words, as well as perhaps coming to function as verbal prefixes, might come to be associated, through frequent co-occurrence, with one or more of the cases on nominals in oblique function, and eventually to govern them. Such adpositions (mainly postpositions in Sanskrit, and prepositions in Greek and Latin) are not remarkably frequent in Vedic Sanskrit, but when they do occur they clearly reinforce focal meanings of the cases: goal for the accusative, source for the ablative, comitative for the instrumental, and locative for the case of that name. They in fact suffered a notable decline in Classical Sanskrit, but in Classical Greek and Latin, cases in oblique function are very often accompanied by an adposition; Greek has about twenty, and Latin about forty. Their use made it possible to specify semantic function with a degree of precision and transparency unobtainable—or no longer obtainable—by the use of the cases alone. Many of them may govern more

than one case, with a difference in meaning that in Latin may reflect a focal meaning of the case (thus *in* with the accusative, 'into,' with the ablative from the PIE locative, 'in,' and cf. *sub* below); but in Greek there is already considerable homonymy, with several very different, and contextually determined meanings occurring with the same case. Some examples from Latin: *ad urbem ire* [to city-ACC to-go] 'to go to the city,' *mōns est inter duās gentēs* [mountain-NOM is between two-ACC peoples-ACC] 'a mountain lies between the two peoples,' *dē hāc rē dēliberābant* [about this-ABL thing-ABL they-were-deliberating] 'they were deliberating about this matter,' *ex Hispāniā rediit* [out-of Spain-ABL he-returned] 'he returned from Spain,' *sub montem venire* [up-to mountain-ACC to-come] 'to approach the mountain,' *sub pellibus hiemāvērunt* [under tents-ABL they-were-wintering] 'they passed the winter in tents.'

The following table illustrates the distribution of the cases in Sanskrit, Greek, and Latin for most of the functions shown in the table at the beginning of this section. (We omit first objects other than accusative, as the verbs involved are too scattered to fit neatly into the table; parentheses are used when the case may also appear without an adposition).

Roles:	Sanskrit	Greek	Latin
Subject	Nom	Nom	Nom
1st Object	Acc	Acc	Acc
Oblique: Goal, direction 'towards'	Acc(+adp)	(adp+)Acc	(adp+)Acc, Dat
Range in time and space	Acc	(adp+)Acc	(adp+)Acc
Adnominal	Gen	Gen	Gen
2nd Object	Dat	Dat	Dat
Oblique: Beneficiary	Dat	Dat	Dat
Purpose	Dat	(adp+)Dat, adp+Acc/Gen	Dat
Oblique: Source, direction 'from'	Abl(+adp)	(adp+)Gen	(adp+)Abl
Cause	Abl	(adp+)Dat, adp+Acc/Gen	Abl, adp+Acc
Time 'after which'	Abl(+adp)	adp+Acc	adp+Abl
(Agent)	Ins	adp+Gen, Dat	adp+Abl
Oblique: Instrument	Ins	(adp+)Dat	(adp+)Abl
Comitative	Ins(+adp)	(adp+)Dat, adp+Gen	adp+Abl
Time 'within which'	Ins	Gen	Abl
Oblique: Location in time	Loc	(adp+)Dat	Abl
Location in space	Loc(+adp)	(adp+)Gen, (adp+)Dat	adp+Abl
Goal of motion	Loc	(adp+)Acc	(adp+)Acc

Word Order

Here we shall be chiefly concerned with the ordering of the major sentence constituents S, O, and V, that is, the grammatical subject and object and the verb. In fact, the most 'primitive' sentence we find consists of a zero-argument verb with a dummy person marker:

Skt *varṣati* 'it is raining,' Gk *neiphei* 'it is snowing,' Lat *lucēscit* 'it is dawning.' Person marking was obligatory in the ancient languages (just as an overt subject almost always is in the modern descendants, hence English *it is raining* with a dummy subject), and we assume that this was true also of late PIE. Overt subjects were not obligatory, and are thus frequently absent in sentences where the identity of the subject is recoverable from the broader context, or directly from the verbal person marker; first and second person pronouns typically served for contrast or emphasis: (Lat) *ego rēgēs ēiēcī, vōs tyrannōs intrō-dūcītis* [I-NOM kings-ACC I-expelled, you-NOM-PL tyrants-ACC you-bring-in-PL] 'I expelled kings, you are bringing in tyrants.' A common sentence type, then, is one in which subject function is carried by the verbal person marker, or by a preposed nominal in the nominative case, thus (S)V: (Gk) *choreúomen* [we-dance] 'we dance,' (Lat) *Brūtus flēvit* [Brutus-NOM he-wept] 'Brutus wept.'

As we have seen, a nominal could accompany many verbs as a first object in the accusative case, or in another case depending on lexical properties of the verb; in unmarked order in Vedic and Classical Sanskrit and pre-Classical and Classical Latin such objects strongly tended to precede their verbs, and overt subjects to precede other major constituents, thus (S)OV: (Lat) *victōriam sperāmus* [victory-ACC we-hope] 'we hope for victory,' (Lat) *parentibus nostrīs pārēmus* [parents-DAT our-DAT we-obey] 'we obey our parents,' (Lat) *haec studia senectūtem oblēctant* [these-NOM studies-NOM old-age-ACC they-delight] 'these studies delight old age'; Greek is much less consistent in the relative placement of verb and object, with OV and VO being about equally common.

As we noted earlier, certain verbs might be accompanied by a second object in the dative case denoting a usually animate recipient, typically giving the order (S)O₂O₁V: (Skt) *brāhmaṇebhyaḥ draviṇam dadāmi* [Brahmins-DAT wealth-ACC I-give] 'I give wealth to the Brahmins,' (Gk) *hoi agathoi paides tēi mētri tērpsin phérousi* [the-NOM good-NOM children-NOM the-DAT mother-DAT gladness-ACC they-bring] 'good children bring delight to their mother.'

Sentences were freely expanded by cased nominals in oblique function, generally equivalent to the prepositional phrases of modern languages, as described above: (Skt) *nagarāt kṣetrāṇi gacchati* [city-ABL fields-ACC goes] 'he goes from the city to the fields,' (Skt) *jalena aśvān siñcati* [water-INS horses-ACC sprinkles] 'he sprinkles the horses with water.'

An unmarked (and non-fragmentary) sentence in the majority of the ancient Indo-European languages, then, might take any of the forms derivable from the schema (S)(Obl)((O₂)O₁)V, where the verb is the only obligatory constituent and the occurrence or non-occurrence of an object is determined by lexical properties of the verb.

Questions were signalled either by interrogative pronouns, usually clause-initial, or, in open questions, by interrogative particles, for example the enclitic *-ne* in Latin: *librumne tulistī* [book-ACC-INTERROG you-brought-PERF-SG] 'have you brought the book?' Negation was signalled by negative particles placed somewhere before the verb, typically either directly before it or clause-initially, as illustrated in several of the example sentences so far. Interrogative and negative particles had no systematic effects on word order.

Since grammatical relations were largely recoverable from the morphology, the word order could usually be varied without disturbing the basic meaning of the sentence or causing ambiguity. The example *Brūtus Caesarem necāvit* quoted earlier, for instance, might be reordered as *Caesarem Brūtus necāvit*, without in any way altering the subject-object (agent-

patient) relationship, in order to topicalise the object or focus the subject; and we do find enormous variety in the ordering of constituents according to the demands of rhythm and euphony, or, as just illustrated, in order to topicalise or focus certain elements, or to mark the whole sentence (usually by fronting the verb), since the ancient languages lacked morphological markers for such pragmatic functions. While in an unmarked sentence many of the inflections might actually be redundant, they, along with meaning, would have to be largely relied upon in the following: (Skt) *durlabham abhilaṣati manorathaḥ* [hard-to-obtain-ACC craves desire-NOM] ‘desire craves the inaccessible,’ (Skt) *paśyati tvām ācāryaḥ* [sees you-ACC teacher-NOM] ‘the teacher is watching you,’ (Gk) *kakòn phérousi karpòn hoi kakoi philoi* [bad-ACC they-bear fruit-ACC the-NOM bad-NOM friends-NOM] ‘bad friends bear bad fruit.’

Just as the ancient languages we are considering here are not rigidly verb-final, they also, except in their possession of a case system and almost exclusive use of suffixing as a morphological device, show very varying degrees of correlation with other typological tendencies of verb-final languages, which chiefly involve placing modifiers before heads, thus:

i. Nominals precede adpositions (and this is a strong correlate of verb-final order): mainly so in Sanskrit, but Greek and Latin have prepositions, as we have seen. Latin has several fixed expressions such as *mēcum* [me-ABL-with] ‘with me,’ and other early formulaic expressions, which perhaps point back to a postpositional period; the same may be true of the occasional anastrophe of prepositions in Greek.

ii. Adjectives precede nouns (though the reverse is also true in many verb-final languages): although this is generally the case in Sanskrit, the order is more variable, but predominantly adjective+noun, in Greek, while Latin has predominantly noun+adjective order; in all three languages certain kinds of adjective tend to precede, and others to follow, the noun.

iii. Dependent genitives precede nouns: usually so in Sanskrit, and in early Latin, but Classical Latin and Greek are not consistent.

iv. Standards precede comparatives: again, this is usually the case in Sanskrit, and in Greek and Latin too, as illustrated earlier, but the latter also have analytic constructions that reverse this order: (Lat) *maior quam tū* ‘greater than you (sg).’

v. Relative clauses precede their head nouns or ‘antecedents,’ often without relative markers: in Classical Latin and Greek the relative clause normally follows the antecedent (though not always directly—it may be outside the main clause, as in the second Latin example below), and has a clause-initial relative pronoun which agrees with the antecedent in number and gender and takes case from its role in the relative clause: (Lat) *civēs ea perīcula quae imminēt nōn vident* [citizens-NOM those-NEUT-ACC dangers-NEUT-ACC which-NEUT-NOM-PL they-impend NEG they-see] ‘the citizens are unaware of the dangers which threaten,’ (Lat) *imperātor urbem delēvit ex quā civēs fūgerant* [general-NOM city-FEM-ACC he-destroyed out-of which-FEM-ABL-SG citizens-NOM they-had-fled] ‘the general destroyed the city from which the citizens had fled.’ In Sanskrit the relative clause is normally outside the main clause, more commonly before it than after it, and the relative pronoun, which follows the same rules of concord and case as in Latin and Greek, does not have to be clause-initial. When the relative clause precedes the main clause the head noun often appears inside the relative clause after the relative pronoun, with the relative/

head being picked up by an anaphoric demonstrative in the appropriate syntactic role in the main clause: *ágne, yám yajñám paribhûr ási, sá devéṣu gachati* [Agni-VOC, which-ACC offering-ACC encompassing you-are-SG, that-NOM gods-LOC goes] 'o Agni, the offering which you protect[, that] goes to the gods'; as can be seen in the example, the head noun in the relative clause has the same case as the relative pronoun. In a somewhat similar way, Latin sometimes repeats the antecedent in the relative clause: *erant itinera duo, quibus itineribus exire possent* [were roads-NOM two-NOM, which-ABL-PL roads-ABL-PL go-forth-INF they-could] 'there were two roads by which they might go forth,' and this phenomenon has been interpreted as representing a transitional stage between the preposing of relative clauses seen frequently in early Latin and the postposing normal in the Classical language. The use of two different roots as a relative pronoun among the ancient dialects may possibly be evidence of a lack of a relative marker in PIE.

Although, for reasons we indicated earlier, it is not unreasonable to regard the richly elaborated morphology of Sanskrit, Greek, and Latin as representative of late PIE, it is less easy to do this with the syntax of these languages. Admittedly, the general impression gained from the relatively consistent patterns of Sanskrit and early Latin, as well as from the very archaic evidence of Hittite with its consistent verb-final typology, including a much looser concord system than in the later languages, is that the ancient dialects represent the progress of a drift away from a more typologically consistent verb-final proto-structure (though there is no independent reason why late PIE should have been consistent). We cannot, however, exclude the possibility that the greater typological consistency of Sanskrit and Hittite, notwithstanding the age of these languages, represents innovation rather than the preservation of inherited material. It is particularly difficult to reconcile an earlier verb-final typology with the overwhelming frequency of prepositions seen in the table below (and of postposed relative clauses also, except that they correlate well with prepositions) and with the elaborate concord system in most of the ancient languages, despite their predominant OV structure; the table gives most of the typological parameters mentioned earlier for representatives of the language groups on page 28f. (inconsistency is common, especially with adjective and genitive orders, but we note only the predominant patterns; OCS=Old Church Slavonic).

	SOV/SVO	Adj+N/N+Adj	Gen+N/N+Gen	Rel+N/N+Rel	N+Adp/Adp+N
Old Irish	VSO	◇	◇	◇	◇
OCS	VSO	◇	◇	◇	◇
Lithuanian	SVO	◇	◇	◇	◇
Albanian	◇	◇	◇	◇	◇
Armenian	◇	◇	◇	◇	◇
Greek	◇	◇	◇	◇	◇
Latin	◇	◇	◇	◇	◇
Gothic	◇	◇	◇	◇	◇
Avestan	◇	◇	◇	◇	◇
Old Persian	◇	◇	◇	◇	◇
Sanskrit	◇	◇	◇	◇	◇
Hittite	◇	◇	◇	◇	◇
Tocharian	◇	◇	◇	◇	◇

The detailed evidence of the earliest records of the Indo-European languages as a whole is in fact open to a variety of interpretations, and the problem of the characteristic syntax of late PIE is far from settled.

As the table shows, in addition to Sanskrit, Latin, and Hittite, verb-final order is found in Avestan and Old Persian, Tocharian, and Germanic as reflected in Gothic, while Lithuanian, Albanian, and Armenian are verb-medial (SVO) and Celtic and Slavonic are verb-initial (VSO). In later periods the Slavonic, Germanic, and Romance languages, as well as Greek, became predominantly SVO, while the descendants of Sanskrit and other old Indo-Aryan dialects became more rigidly and consistently verb-final, perhaps as a result of areal contact with neighbouring Dravidian languages. The shift to SVO structure in the European languages, and the vexed question of its connection with change in morphological typology, are matter for Part II.

HITOTSUBASHI UNIVERSITY