4   Nominal morphology

4.1   Introduction

Many handbooks on PIE give handy overviews of the nominal declensions of the parent language. The reader is presented with neat tables, with eight nominal cases running down the side, three numbers (singular, dual and plural) and an array of nominal declensions, partly corresponding to the three grammatical genders of masculine, feminine and neuter. There may be discussion about which of the competing morphs was the original exponent of a particular category, such as the genitive singular of the masculine and neuter o-stem, but there is in general little explanation of how these categories are the ones which must be reconstructed, and even less discussion of what these categories actually represent.

The primacy of Sanskrit in the early days of research into PIE has had lasting effects on the reconstruction of the nominal system. The reconstructed categories of the PIE noun are exactly the same as those of the Sanskrit noun. Sanskrit has eight cases: nominative, vocative, accusative, genitive, dative, ablative, locative and instrumental; three numbers: singular, dual and plural; and three genders: masculine, feminine and neuter. The only languages to have a wider array of nominal cases are some Baltic variants and Tocharian, but the additional case markers are easily discernible as postpositions or adverbial elements added to more basic case forms, and it is clear that these cases have arisen secondarily, probably through contact with languages with well-developed systems for expressing local cases. The other old IE languages known in the nineteenth century show a more reduced nominal system, with fewer cases: Gothic, Greek and Old Irish have only a nominative, vocative, accusative, genitive and dative; Latin has these cases and an ablative case, with some vestiges of a locative too; Old Church Slavonic has all the cases of Sanskrit except the ablative; Armenian has all the cases except the dative. Furthermore, within the languages with fewer cases than Sanskrit it is often clear that a single case can correspond to more than one Sanskrit case, both in form and in function. For example, the Greek dative singular marker of one noun class in the fifth century BC was *-i*, which corresponds to a Sanskrit locative singular marker *-i*. However, the Sanskrit dative singular ending *-e* (which derives from **-ei*) is also attested in Mycenaean Greek as a dative singular marker *-ei*. The Greek 'dative' represents both the case of the indirect object, which

corresponds to the Sanskrit dative, and the case denoting position in space or time (both independently and with the support of a preposition), exactly equivalent to the Sanskrit locative. It is thus straightforward to assume that in Classical Greek the original locative and dative cases in the singular have coalesced (in Mycenaean Greek the process of merger of the two cases may still be taking place). The standard grammatical term for the merger of two nominal categories into one is *syncretism*, and the causes and processes of case syncretism have been well studied and documented across the IE languages. Case syncretism and the concomitant decline in the number of cases is the norm in the diachronic history of most IE languages: in Modern Greek there is no longer a separate dative case, its grammatical functions having been subsumed by the genitive and its local functions largely by the accusative; in the Western Romance languages there is no longer any grammatical case at all.

The other nominal categories of number and gender have undergone similar reductions in the history of the IE languages. The dual is lost prehistorically in Germanic (in nouns), Latin, Albanian and Armenian, and although attested in Classical Greek, Old Irish and Old Church Slavonic, it only fully survives today in some Slavic languages. The three separate nominal genders found in Sanskrit, Greek and Latin have been merged in many different branches. Several languages have 'lost' one gender: in Romance, Modern Celtic and Modern Baltic, the neuter has been assimilated into the other two declensions; in Dutch and Scandinavian the distinction between masculine and feminine is lost, the surviving distinction being between common and neuter nouns. Some languages have lost the nominal category of gender completely: in Armenian, gender was lost from both nouns and pronouns before the language is attested in written form in the first millennium of the Christian era, and English retains gender only in pronouns (although vehicles such as boats, cars and motorbikes may still be referred to by feminine pronouns).

It is no surprise, then, that with so much erosion of the nominal system, Indo-Europeanists have in general wanted to restore the maximal system of case, number and gender differentiation for PIE. Of course, there are examples from among the IE languages of the creation of new nominal categories. For example, in Russian animate masculine and feminine nouns are distinguished from inanimate nouns in the formation of the accusative. In Modern Breton, a new number system has developed in which a singulative can be formed from a noun generally used in the plural (such as 'fish'), and a new plural can be formed from this singulative. But such developments are on the whole language-specific and stand as isolated phenomena in a general tendency towards loss of nominal categories.

However, as with so much else in IE linguistics, the decipherment of Hittite and the greater understanding of Anatolian languages have challenged scholars to rethink some of the assumptions that were encoded in the nineteenth-century model of the nominal system. Indeed, one does not need to have the Anatolian languages to see that there are some inherent problems with the traditional model. Firstly, if syncretism is widespread across the IE languages, why is it assumed that

there has been no earlier syncretism, and that the Sanskrit noun has not collapsed different categories together from a richer system? Secondly, can one be so sure that the slots which are reconstructed for PIE are as impermeable as this model assumes, and that the categories did not run into each other? The comparison of the nominal paradigms of the Anatolian languages with the rest of the IE language family brings both of these issues to light and will be illustrated by two related studies, on the reconstructed categories of number and gender. In order to simplify the ensuing discussion, it will be useful to have here an overview of the principle reconstructed paradigms of PIE.

4.2   Overview of nominal declensions

In broad outline, there are three separate classes which can be reconstructed for PIE nouns showing different systems of case-marking:

a)   Nouns formed with the thematic vowel *e/o before the case-endings (see section 3.2 for the thematic vowel; the term *thematic* is a convenient way of labelling the vowel without specifying whether it is *e or *o). Since in most IE languages this declension uses *o almost to the complete exclusion of *e, this class is frequently referred to as the *o-stem declension*.

b)   Feminine nouns formed with a suffix *$-eh_2$ or *$-ih_2$. In most daughter languages these nouns have the stem-final vowels *$-\bar{a}$ and *$-\bar{\imath}$, and the nominal declensions are consequently sometimes termed the *ā-stems* and *ī-stems*.

c)   The third class has no characteristic theme vowel or suffix and is accordingly labelled the *athematic* class. It comprises a number of separate sub-classes, including nouns which show no suffix before the derivational endings (*root-nouns*), nouns formed with suffixes involving the semi-vowels *i and *u, and several sub-classes of neuter nouns.

In respect of the reconstructed case-endings, the class of feminine nouns in b) shows clear affinities with the athematic class c), and the o-stem declension diverges more radically from both. In the daughter languages, however, there is a general tendency for the o-stem class and the feminine ā-stems to become more closely associated, almost certainly through the combination of the two classes in a number of pronominal and adjectival declensions as masculine and feminine alternatives. For example, one widespread demonstrative pronoun is formed on a base *t-, with a masculine stem *to- and feminine stem *teh_2- (*$t\bar{a}$-).

For ease of explanation, the endings of the athematic nouns will be described first. In Greek and Sanskrit, many athematic noun paradigms still show accent shift and associated changes of ablaut which were discussed in section 3.4, and which will not be considered in detail here. Any overview of this nominal class

Table 4.1 *The singular paradigm for 'father' in PIE.*

	PIE	Sanskrit	Greek	Latin	Gothic	Old Church Slavonic	Armenian
nominative	*$ph_2t\bar{e}r$ < *$ph_2t\acute{e}r$-**s**	pitā́	patḗr	pater	fadar	mati	hayr
vocative	*ph_2ter	pítar	páter	pater	fadar	mati	
accusative	*$ph_2t\acute{e}r$-**m**	pitáram	patéra	patrem		materĭ	hayr
genitive / ablative	*ph_2tr-**és**	pitúr	patrós	patris	fadrs	matere	hawr
dative	*ph_2tr-**éi**	pitré	patrí	patrī		materi	hawr
locative	*$ph_2t\acute{e}r$-**i**	pitári		patre		materi	hawr
instrumental	*ph_2tr-**eh₁**	pitrā́				materija	harb

is initially confusing, largely because of the effects of the different reconstructed ablaut patterns. Furthermore, the daughter languages have all regularised these patterns in different ways. This has the effect that two nouns reconstructed to this class may have very different outcomes and belong to completely different declension classes in Sanskrit, Greek or Latin. Two well-understood nominal paradigms are the words for 'father' and 'sky / god', which share the same shift of ablaut between the nominative, vocative, accusative and locative on the one hand (the so-called *strong* cases) and a different ablaut pattern in the rest of the paradigm (the *weak* cases). In table 4.1, the declension of words meaning 'father' in a number of different IE languages is given (in Old Church Slavonic, the inherited word for 'father' does not survive and so the word for 'mother' is given in the paradigm).

In table 4.2, only words from the oldest languages have been given. The paradigms given for Latin and Greek appear strange, since these forms are gathered from scattered relic forms which accord better with the earliest Sanskrit evidence. The Latin paradigm given includes words taken from different paradigms: *diēs* 'day' and *Iupiter* the name of the god Juppiter, who is indeed called *Dies-piter* 'Father Sky' in some early Latin texts. The word can mean both 'sky' and 'sky-god' in Latin and Sanskrit but has been restricted to refer to a single important god in Greek and Hittite. Note also that in Hittite the cases outside the nominative have been transferred into a different declension class.

Tables 4.1 and 4.2 taken together should make clear that the exponents of the cases are the same in the different paradigms, particularly after the plausible internal reconstruction of the nominative singular of the word for 'father' *$ph_2t\bar{e}r$ < *ph_2ter-*s* is taken into account (see section 3.4). In table 4.2, two alternative reconstructions for the nominative are given, since it is not clear whether the length of the vowel *$\bar{e}$, which is guaranteed by the Sanskrit outcome, is in fact original or analogical to lengthened ē-grade in words such as *$ph_2t\bar{e}r$. Masculine and feminine nouns in the athematic class share exactly the same endings, but neuter

Table 4.2 *The singular paradigm for 'sky / god' in PIE.*

	PIE	Hittite	Sanskrit	Greek	Latin
nominative	*$dyéw$-**s** or *$dyéw$-**s**	*sius*	*dyáuṣ*	*Zdeús*	*diēs*
vocative	*$dyéw$			*Zdeû*	*Iū-*
accusative	*$dyḗm$ < *$dyéw$-**m**	*siunan*	*dyā́m*	*Zdén*	*diem*
genitive / ablative	*diw-**és**	*siunas/siunaz*	*divás*	*Di(w)ós*	*Iouis*
dative	*diw-**éi**	*siuni*	*divé*	*di-we*	*Iouī*
locative	*$dyéw$-**i**	*siuni*	*dyávi*	*Di(w)í*	*Ioue*
instrumental	*diw-**éh₁**	*siunit*	*divā́*		

nouns do not mark any difference between the nominative and accusative. In the singular, most neuters show no overt ending for the nominative / accusative; in the plural, there is a special ending *-h_2- which will be discussed in more detail in section 4.3. Table 4.3 provides an example of a reconstructed neuter paradigm. The word given in the table means 'cloud' or 'heaven' in Hittite, Sanskrit, Avestan, Greek and Old Church Slavonic. Note also that the genitive singular in the reconstruction given is *-*os*, an ablaut variant of *-*és* seen above (see section 3.4 for discussion of the origins of this alternation in the genitive endings).

Table 4.3 *The paradigm for 'cloud' in PIE.*

	PIE	Hittite	Sanskrit	Avestan	Greek	Old Church Slavonic
nominative / accusative singular	*$néb^hos$	*nepis*	*nábhas*	*nabas-*	*néphos*	*nebo*
genitive singular	*$neb^hés-os$	*nepisas*	*nábhasas*	*nabaṇhas-*	*népheos*	*nebese*
nominative / accusative plural	*$neb^hés-h_2$		*nábhāṁsi*	*nabā̊s-*	*néphea*	*nebesa*

An example of a sub-class of neuter nouns in the athematic class is given in table 4.4. It is included here since this class shows a curious allomorphy between a stem with final *-*r* in the nominative-accusative singular, sometimes extended to *-*rt*, and a stem formed with *-*n*- in all other cases. This declension type (usually termed the *r/n-stem* declension) has only limited productivity in the oldest branches of IE and is generally replaced by other, more regular, paradigms in most languages. The word given in table 4.4 means 'liver', and the PIE reconstruction given assumes that the word was originally declined in the acrostatic 1 paradigm (discussed in section 3.4) with an ablaut alternation between ē-grade of the root in the strong

Table 4.4 *The paradigm for 'liver' in PIE.*

	PIE	Sanskrit	Greek	Latin	Hittite
nominative / accusative	*$*yék^w$-r(t)*	*yák$r̥$t*	*hễpar*	*iecur*	*(sakkar)*
genitive	*$*yék^w$-n-s*	*yáknas*	*hḗpatos*	*iocineris*	*(saknas)*

cases and e-grade in the weak cases. The table also includes a Hittite example of an r/n-stem neuter, *sakkar*, meaning 'dung'.

Exercise 4.1

The Greek and Sanskrit words for 'dog' were introduced in section 2.2. Fuller paradigms are given below. Reconstruct the PIE paradigm, using the case-endings already given as a guide.

	Hittite	Sanskrit	Greek
nominative	*kuwas*	*śvā́*	*kúōn*
accusative	*kuwanan*	*śvā́nam*	*kúna*
genitive	*kunas*	*śúnas*	*kunós*
dative	*kuni*	*śúne*	*kuní*

Exercise 4.2

The following table gives the paradigm of the word for 'winter' (the Greek word means 'snow'). The paradigm can be reconstructed as a kinetic paradigm from a root $*g^{‘h}yem$-. Give the original paradigm, and work out what changes have taken place in each language. (Hint: in Avestan word-final $*ēn$ and $*ōn$ develop to $å$, and word-final $*es$ and $*os$ develop to $-ō$; in Greek word-final $*-m$ becomes $*-n$.)

	Avestan	Greek	Latin
nominative	*ziiā̊*	*khiṓn*	*hiēms*
accusative	*ziiąm*	*khióna*	*hiemem*
genitive	*zimō*	*khiónos*	*hiemis*

Exercise 4.3

Paradigms of the word for 'cow' in IE languages (with some selection of archaic forms) are given in the table below. The original paradigm has been reconstructed by some scholars as a kinetic paradigm, by others as acrostatic 2 (see table 3.7 for these terms). Can you reconstruct the root? (Hint: the root begins with $*g^w$-, and a special change has taken place in the accusative singular which also affects the word

for 'sky / god'.) Which reconstruction of the paradigm do you think is more likely, and why?

	Sanskrit	Greek	Latin
nominative	*gáuṣ*	*bous*	*bōs*
accusative	*gā́m*	*bõ̂n*	*bouem*
genitive	*góṣ*	*bo(w)ós*	*bouis*
locative	*gávi*		

Many of the same endings that we have met in the athematic nouns reoccur in the paradigm of the feminine noun class formed with *-h_2 as shown in table 4.5. The representative noun of this paradigm is the word for 'mare' which occurs in Sanskrit, Latin and Lithuanian. We cannot be sure that this word can be securely reconstructed for PIE (see further section 4.4), but it is given as a representative of the type. The Greek word given means 'goddess' and the Gothic 'gift'. Table 4.5 gives two alternative reconstructions for this paradigm type, one using the reconstructed laryngeal *h_2, the other giving the sound which resulted after the loss of the laryngeal. This declension type does not occur in Hittite.

There are two important differences between the feminine nouns in *-eh_2 and the athematic class. Firstly, the nominative singular is not marked by a final *s. As we have seen, in other declensions masculine and feminine nouns always mark the nominative singular, and where *s is not preserved, as in the word for 'father' reconstructed in table 4.1, it is possible to reconstruct it at an earlier stage in the language. Secondly, the ablaut patterns of the *-eh_2 nouns appear to have been unique among athematic nouns, in that they show no alternation between the ablaut of the strong and weak case, but instead retain the full-grade of the suffix *-eh_2- throughout the paradigm. The other exponent of this declension type, feminine nouns formed with the suffix *-ih_2-, lack any trace of *s in the nominative singular in the best-attested paradigm type. But they do show better evidence for an original paradigm with ablaut alternations of the type we have seen for athematic words. The affix *-ih_2- of the strong cases alternates with *-yeh_2- in the weak cases.

For one word, given in table 4.6, some scholars have reconstructed a complete proterokinetic paradigm, with a change in ablaut in the root syllable and in the affix between the strong and weak cases. The Sanskrit word, which means 'female god', preserves the vocalism of the strong cases in the root; the Greek word, which is synchronically the feminine of an adjective meaning 'divine', preserves the ablaut grade of the weak cases. The reader will note that the root is the same as that which gives the athematic noun denoting the 'sky-god' in table 4.2 above; it should be noted that the word is semantically closer to the term for 'god',

Table 4.5 *PIE feminine stems in* *-eh₂*.

	PIE	Sanskrit	Greek	Latin	Gothic	Lithuanian
nominative	*ek´w-eh₂ (*ek´w-ā)	áśvā́	the-ā́	equa	giba	ašvà
vocative	?	áśve	the-ā́	equa		ašvà
accusative	*ek´w-eh₂-m (*ek´w-ām)	áśvām	the-ā́n	equam	giba	ašvą̀
genitive / ablative	*ek´w-eh₂-es (*ek´w-ās)	áśvāyās	the-ā̂s	equae	gibos	ašvõs
dative	*ek´w-eh₂-ei (*ek´w-āi)	áśvāyai	the-ā̂i	equae	gibai	ãšvai
locative	*ek´w-eh₂-i (*ek´w-āi)	áśvāyām				ãšvoje
instrumental	*ek´w-eh₂-eh₁ (*ek´w-ā)	áśvā				ašvà

Table 4.6 *PIE feminine stems in* *-ih₂*.

	PIE	Sanskrit	Greek	Gothic
nominative	*déiw-ih₂ / *déiw-ī	dev-ī́	dī̂-a <*diw-ya	(*mawi*)
genitive / ablative	*diw-yéh₂-s / *diw-yā́s	dev-yā́s	dī̂-ās <*diw-yās	(*maujos*)

déiw-os, reconstructed from the correspondence given below, and is usually seen as a derivative of that word:

   déiw-os 'god': Sanskrit *devá-*, Latin *deus*, Old Norse *tívar* 'gods', Lithuanian *diẽvas*.

   The Gothic word for 'girl' is included in table 4.6 as an example of the morphological type and does not derive from the same root.

   The third major class of nouns, the o-stem or thematic class, stands apart from the other two classes, as can be seen in table 4.7. The example used in this table is the widespread word for 'wolf'. The Hittite paradigm is taken from another word, meaning 'father', and the example of a locative in Latin is taken from the place-name meaning 'Delos'.

   Uniquely for the thematic class, there is a separate ablative singular case form, reconstructed with the ending *-ōd* in the table. In the other nominal classes the ablative singular is expressed by the same case markers as express the genitive case, and the ablative plural is syncretic with the dative plural. The form of the genitive singular case shows considerable variation across different languages. In Indo-Iranian, Greek, Armenian and one early Latin inscription the

Table 4.7 *The paradigm for 'wolf' in PIE.*

	PIE	Hittite	Sanskrit	Greek	Latin	Gothic	Lithuanian
nom.	$*wlk^w$-**os**	(attas)	vŕkas	lúkos	lupus	wulfs	vil̃kas
voc.	$*wlk^w$-**e**	(atta)	vŕka	lúke	lupe	wulf	vilkè
acc.	$*wlk^w$-**om**	(attan)	vŕkam	lúkon	lupum	wulf	vil̃ką
gen.	$*wlk^w$-**os**	(attas)	vŕkasya	lúkoio	lupī	wulfis	vil̃ko
abl.	$*wlk^w$-**ōd**	(attaz)	vŕkād		lupō(d)		vil̃ko
dat.	$*wlk^w$-**ōi**	(atti)	vŕkāya	lúkōi	lupī	wulfa	vil̃kui
loc.	$*wlk^w$-**oi**	(atti)	vŕke		Deloi		vilkè
inst.	$*wlk^w$-**oh₁**	(-it)	vŕkā				vilkù

ending *-*osyo* is found; in Latin and Celtic the productive morph is *-*ī*; and in Germanic, Baltic and Slavic other endings are used, including the ablative singular marker. However, in Hittite the genitive singular in this declension looks the same as the nominative singular. If Hittite has retained the original status, this may explain the other genitive singular endings as attempts to create a new case marker to disambiguate the genitive and nominative.

As the above table shows, in the thematic declension there is no clear evidence for an ablaut difference between the strong and the weak cases. Some nouns, it is true, show a variety of different vocalisms in different IE languages, but these normally do not need to be explained through generalisation of paradigm variants. Table 4.8 shows the possible original ablaut grades for the widespread word for 'sleep, dream' in various daughter languages. In some cases, a word appears in two different columns in the table, since it is not possible to tell what the original vowel in the root was, owing to later phonological mergers.

Table 4.8 *Possible ablaut grades for PIE 'sleep, dream'.*

e-grade *swep-no-* (or *sep-no-*)	o-grade *swop-no-* (or *sop-no-*)	zero-grade *sup-no-
Sanskrit *svápna-*	Sanskrit *svápna-*	Greek *húpnos*
Avestan *xᵛafna-*	Avestan *xᵛafna-*	Old Church Slavonic
Latin *somnus*	Latin *somnus*	*sŭnŭ*
Old Norse *svefn*	Lithuanian *sãpnas*	Albanian *gjumë*
Tocharian A *ṣpäṁ*	Armenian *kʻun*	
	Old Irish *súan*	

Although one way to explain this allomorphy would be to presume an original paradigm with *swep-no-* or *swop-no-* in some cases, *sup-no* in others, there seems to be no ablaut alternation in the suffix. Furthermore, there are no archaic forms which favour this explanation, as was the case with the reconstruction of ablaut alternations in the athematic stems. Another explanation for the variation

is therefore currently favoured: the words for 'sleep' which follow the thematic declension are all replacements of an older word, which followed the r/n-stem neuter declension. The old PIE neuter nouns of this type are gradually replaced by more 'regular' declension classes in the daughter languages, and the assumption of an early replacement of an athematic noun by a thematic noun is not controversial. Furthermore, there is good evidence for an original word meaning 'sleep' with nominative *swép-or and genitive *sup-nés. This is the explanation for the Latin noun *sopor* (which can derive from *swepor) 'sleep' and Greek *húpar* 'dream', and it explains the Hittite verb meaning 'sleep' *suppariya-*, which can represent a derivative of an unattested nominal stem *suppar*. It appears that the explanation for the variation in the ablaut of the thematic noun in this case is that each language generalised a different ablaut grade of the original paradigm in the new formation.

Table 4.9 *The paradigm for 'yoke' in PIE.*

	PIE	Hittite	Sanskrit	Greek	Latin	Old Church Slavonic
nominative / accusative singular	*yug-óm	iukan	yugám	zdugón	iugum	igo
genitive singular	*yug-ós	iukas	yugásya	zdugoîo	iugī	iga
nominative / accusative plural	*yug-éh$_2$	iuka	yugấ	zdugá	iuga	iga

The thematic declension, like the athematics, has a separate paradigm for neuter nouns. The nominative-accusative plural ending of the neuters shows the same ending as the athematics, but the nominative-accusative singular shows not just the bare stem, as in the athematic nouns, but a case-ending *-m, which immediately recalls the accusative singular of the masculine thematic paradigm. The example for the neuter paradigm given in table 4.9 is the widespread word for 'yoke'.

Exercise 4.4

In the athematic declension, the reconstructed plural endings of non-neuter nouns are as follows (see also table 1.2 and the discussion there of the dative, ablative and instrumental plural endings).

nominative / vocative	*-es
accusative	*-ns
genitive	*-om
dative / ablative	*-mos
locative	*-su
instrumental	*-b^{h}i

The table below gives comparative evidence for the plural of the IE thematic non-neuter nouns. Which of these endings are the same as the athematic endings and which are different? Which endings can you reconstruct?

	Sanskrit	Greek	Latin	Gothic	Lithuanian
nominative / vocative	vŕ̥kās	lúkoi	lupī	wulfos	vilkaĩ
accusative	vŕ̥kān	lúkous	lupōs	wulfans	vilkus
genitive	vŕ̥kānām	lúkōn	lupōrum	wulfe	vilkų̇
dative / ablative	vŕ̥kebhyas	lúkois	lupīs	wulfam	vilkáms
locative	vŕ̥keṣu				vilkuosè
instrumental	vŕ̥kais				vilkaĩs

Exercise 4.5

The following table gives the reconstructed paradigm for the plural declension of the non-neuter (masculine) stem of the PIE demonstrative pronoun *to- (the dative-ablative plural cannot be reconstructed with certainty). Use this paradigm to help explain some of the thematic endings in exercise 4.4 which do not agree with the athematic endings. Why do you think this thematic declension has 'borrowed' endings from the declension of *to-?

nominative / vocative	*toy
accusative	*tons
genitive	*toisom
locative	*toisu
instrumental	*tōis

4.3   Reconstructing number: the collective

It is possible to reconstruct a singular, dual and plural number for the PIE noun. The dual and plural show the same categories of case as found in the singular, but with a greater degree of syncretism. In every plural declension the ablative is marked with the same ending as the dative, and the vocative is marked the same as the nominative; in every dual declension the nominative, vocative and accusative all share the same marker. The same dimensions of the category of number are found in the reconstructed PIE verbal conjugations, with separate singular, plural and dual endings. However, closer inspection of the older IE languages alone is enough to reveal that the category of number is not as straightforward as it might at first appear. Even the marginal category of the dual has unexpected distribution and uses. The dual does not just denote

that there are two of something: it can also be used as an associative marker, in a construction standardly referred to as the *elliptical dual* in grammars and handbooks. Vedic Sanskrit provides the best examples of this use of the dual. When the name of the god *Mitrá* appears in the dual, *Mitrā́*, it refers to Mitra and his companion Varuna. Other languages show the same construction: the Greek dual *Aíante* in the text of Homer was once thought to refer to two separate heroes, Ajax the Greater and Ajax the Lesser, until Wackernagel showed by a combination of comparative linguistics and textual analysis that it was more likely to refer to Ajax and his brother and fighting companion Teucer. Languages which have lost the dual can use the plural as an associative to denote pairs: in Latin *Castorēs*, the plural of the name 'Castor', is used to denote the semi-god Castor and his twin Pollux. The dual is reconstructed for pronouns, animate nouns and inanimate nouns, but it is likely that its usage was optional at least with words denoting inanimates (that is, the lower end of the 'animacy hierarchy'). Note that in the two early IE languages with a paradigmatic dual, Greek and Sanskrit, pairs of body parts, such as hands, eyes, legs, knees etc., may be denoted either by the plural or by the dual, and the plural is in fact more common for body-part terms in Homeric Greek (for example, in the frequent Homeric formula to describe Achilles 'swift of foot', the plural 'feet', not the dual 'two feet', is used).

The agreement patterns of plural nouns are even more complex. All reconstructed neuter nouns have a special marker, $*h_2$, for the nominative and accusative plural. In Greek and the Anatolian languages (and in the ancient Iranian language Avestan, although the picture here is clouded by a partial collapse of number agreement in the verb), plurals of neuter nouns do not collocate with plural forms of the verb, but with the singular, as in examples (1) and (2).

(1)   Homer *Iliad* 5:428
           oú toi   téknon emòn   dédotai   polemḗia   érga
           not you-DAT,   child my,   is-given-3 RD.SG   violent-NEUTER.PL   deeds-NEUTER.PL
           'My child, violent acts are not in your nature'

(2)   Anatolian example (from Palaic)
           tilila   hāri
           tilila-NEUTER.PL   is-warm-3RD.SG
           'The *tilila* foodstuffs are warm'

(Note that in Palaic, as in the other Anatolian languages, the laryngeal $*h_2$, although preserved word-initially and word-internally, seems to have been lost when it stood in final position.) This peculiar agreement pattern is found only for nouns which are grammatically neuter. The set of PIE neuter nouns is not the same as the set of nouns denoting inanimate or unsexed referents: the words for 'liver' and 'yoke' are neuter, but 'foot' and 'snow' are not neuter. Verbs in Greek and Anatolian which are collocated with plural forms of non-neuter inanimate

Table 4.10 *Nouns with two plurals.*

Nominative singular	Nominative plural	$*h_2$ plural
Greek		
kúklos 'wheel, circle'	*kúkloi* 'circles'	*kúkla* 'set of wheels' (of a chariot, a robot, etc.)
mērós 'thigh'	*mēroí* 'thigh-pieces'	*mêra* 'agglomeration of thigh-meat'
Hittite		
alpas 'cloud'	*alpes* 'clouds'	*alpa* 'cloud-mass'
	gulses 'the fates'	*gulassa* 'fate'
Latin		
locus 'place'	*locī* 'places'	*loca* 'places'
Latin / Umbrian		
Latin *uir* 'man'	Latin *uirī* 'men'	Umbrian *uiro* 'people'

nouns regularly show plural endings. The marking of verbs as plural is therefore not semantically conditioned, but relies solely on the grammatical gender of the noun. In order to account for this discrepancy in number-marking of the verb, it has been suggested that what is now known as the neuter plural was earlier a separate morphological category, a *collective* or *comprehensive*. This theory is supported by the fact that, in some early IE languages, 'plural' cases formed with the marker $*h_2$ can be used with non-neuter nouns alongside their regular plurals, giving these nouns an apparent distinction between two different plurals. Examples from Greek, Hittite, Latin and the Sabellian language Umbrian are shown in table 4.10 (the text containing the Umbrian word will be discussed in section 6.5).

The examples in table 4.10 are mostly restricted in occurrence, and interpretation of the significance of the original distribution is not always possible. But as far as our understanding allows, it appears that what we have called the $*h_2$ *plural* has more of a collective meaning, and the regular plural has a more distributive meaning; the glosses given in the table are supposed to reflect the most appropriate meanings in context. However, it should be noted that the contrast between these two formations is lexically restricted. Furthermore, it is not difficult to fit a distributive or collective meaning to a certain form according to context, particularly in the case of languages where we only have a restricted corpus, and we should be careful to extrapolate a semantic distinction from only a few attestations. Unfortunately, in the one case where we do have the forms attested in significant numbers, Latin *locī* and *loca*, it is impossible to disentangle separate meanings in the Classical language, and in any author or text where it is possible to find an instance of, for example, *loca* with a collective sense, it is also possible to find the same form used as a distributive plural.

Table 4.11 *Number in PIE nouns.*

non-neuters	singular	dual	distributive	? collective?
neuters	singular	dual	? distributive?	collective

Taken together, the agreement-marking of verbs when collocated with neuter nouns with the $*h_2$ ending, and the existence of these formations alongside regular plural formations for non-neuter nouns, does offer support to the hypothesis that the $*h_2$ plural was in fact a collective, and this has profound implications for our reconstruction of the whole category of number in the PIE noun. Unfortunately, there are no clear answers to most of the outstanding questions. Should the collective be considered a subdivision of the plural, a separate category, or a subdivision of the singular? Verbs do not have a separate category of collective, and the agreement of neuter plurals with singular verb-forms suggests that at one time the collective may have been grammatically singular, a possible derived form of a noun just as exists in modern languages such as German (for example, *Gebirge* 'mountains' alongside *Berg* 'mountain'). However, the evidence of the case-marking argues the other way. In neuter 'plurals', the genitive, dative and other cases share the same markers as those found in the non-neuter plurals. In the same way, the collective formations given in table 4.10 are distinguished from the regular plurals only in the nominative and accusative: the Latin genitive plural *locōrum* 'of places' serves both the nominatives *loca* and *locī*; the Greek genitive plural *kúklōn* 'of wheels' serves both *kúkloi* and *kúkla*.

Table 4.11 sets out one possible categorisation of number for PIE. The shaded parts of the table indicate areas of uncertainty in the reconstruction. We have seen that for non-neuters there are some collectives which can be reconstructed, but these are limited in their occurrence. Most of the examples are nouns denoting inanimates, such as clouds, thighs, wheels and places. Umbrian *uiro*, supposedly the collective of the word for 'man', stands out as the only example of a collective of an animate noun. It is not clear whether this is a relic of a wider pattern or an extension of the collective: the word always occurs in a formula alongside other neuter plural nouns and it is possible that it has gained the ending by analogy to them. It certainly is strange that there are no other reflexes of collectives of animate nouns if they were more prevalent in the parent language; flock animals, such as sheep and cattle, form a semantic class which would lend itself well to a collective formation. Note also that there is no clear evidence for separate collective or distributive forms in the pronominal declensions. Table 4.11 also raises the possibility that a neuter noun could have a distributive plural. We know that some neuters had a separate category of the dual, from comparisons such as the word for 'eyes':

*h_3k^w-ih_1 'eyes': Greek *ósse*, Avestan *aši*, Armenian *ač'k'*, Old Church Slavonic *oči*, Lithuanian *akì*, Tocharian B *eśane*

If neuters did have duals, but not distributive plurals, we would be left with a curious situation in PIE. Neuters could be marked for a dual, but not a distributive plural; a PIE speaker would be able to count 'two yokes' but not 'three yokes'. This runs counter to the typological universal that the existence of a dual presupposes the existence of a plural.

4.4   Reconstructing gender: the feminine

Our increasing understanding of the Anatolian languages has led to substantial revisions in all areas of the reconstruction of PIE, and nominal morphology is no exception. The area of greatest current controversy is the status of the PIE feminine stems in *-h_2. Hittite, the first Anatolian language to be deciphered and still the best understood, has no gender distinction between masculine and feminine, but shows just two genders, termed *common* and *neuter*. As we have seen above, the neuter stems in Hittite correspond closely to those in other IE languages: reconstructed neuter nouns such as PIE *$néb^h$-os* 'cloud' and *yug-$óm$* 'yoke' are continued by neuter stems in Hittite with paradigms which can be easily derived from the reconstructed declensions. Masculine nouns in other IE languages appear as nouns of the common gender in Hittite, but Hittite has no nominal declension corresponding to the feminine stems in *-eh_2 or *-ih_2. The lack of a feminine gender in Hittite has led scholars to ask whether the feminine ever existed in the Anatolian branch. In general, scholars have explained the absence of the feminine in Hittite in two ways. The first possibility is that the Anatolian branch did inherit a separate feminine gender, but that it was lost as a separate category. Such a scenario is not *a priori* implausible: in other IE languages the distinction between three genders has progressively been eroded. Indeed, in the IE branch in closest geographical proximity to Hittite, Armenian, all gender distinctions, including a separate neuter category, have been lost without trace by the time of the first recorded texts in the middle of the first millennium of the Christian era.

An alternative model to explain the lack of a separate feminine gender in Hittite is that there had never been a separate feminine gender in Hittite or Proto-Anatolian, and that the language branch diverged from PIE at a stage before the feminine had developed in the parent language. By this theory, the creation of a separate feminine gender was an innovation of late PIE. Even before the decipherment of Hittite, there were good grounds for thinking that the distinction between three genders rather than two may have been relatively recent in the history of PIE. The distinction between neuter and non-neuter stems appears to have been more fundamental than the tripartite division between masculine, feminine and

neuter. For some morphological forms there is no separate feminine exponent. For example, the PIE question word is $*k^wis$ 'who?' for both masculine and feminine, with a separate form $*k^wid$ 'what?' for the neuter (compare Greek *tís* 'who', neuter *tí* 'what'; in the Latin paradigm *quis* (masculine), *quae* (feminine), *quid* (neuter) a new feminine form has been introduced on the analogy of other declensions). Similar patterns are found in some adjective declensions in the daughter languages; in Greek, for example, compound adjectives, such as *rhododáktulos* 'rosy-fingered', have no form distinguishing the feminine from the masculine, although they do have a separate neuter form (in this case *rhododáktulon*). Furthermore, the neuter is distinguished from the other two genders by its case-marking, since it shows merger between the nominative and accusative cases in all numbers.

The correlation between gender and declension class is also skewed. Nouns of all genders can occur in the athematic declension. Non-neuter animate nouns are usually assigned gender through correspondence with the natural sex of the referent, non-neuter inanimate nouns are assigned gender by convention. Hence $*ph_2ter$- 'father' is masculine, and $*d^hugh_2ter$- 'daughter' is feminine, since fathers are male and daughters are female, but the inanimate noun $*pod$- 'foot' is assigned masculine gender and $*sneig^{wh}$- 'snow' is assigned feminine. In Sanskrit and other languages, there is a restriction of the thematic declension to masculine and neuter nouns, but in Greek and Latin the thematic declension can also include feminine nouns. It is usually reckoned that Greek and Latin have retained the original situation, since it is possible to reconstruct the word for 'daughter-in-law' as an o-stem noun $*snusó$-:

$*snusó$- 'daughter-in-law': Sanskrit *snuṣā́*-, Greek *nuós*, Latin *nurus*, Armenian *nu*

In Sanskrit, the word has transferred to the feminine declension in -$\bar{a}$, in line with the restriction of the thematic stems to non-feminine words. In Greek and Armenian the word is an o-stem; in Classical Latin *nurus* is a u-stem by analogy to the kinship term *socrus* 'mother-in-law', but the transfer in declension class is easiest to explain if the Latin word was earlier an o-stem. Therefore the only one of the three major declension classes to show a restriction to a single gender is the class of feminine nouns formed with the suffix $*$-eh_2 or $*$-ih_2. Where IE languages show masculine nouns in this declension class, such as Latin *agricola* 'farmer' or Greek *neānías* 'young man', they can be explained as post-PIE developments. The feminine is only therefore distinguished in one declension type, and it is this same declension that is absent in Hittite. It appears that the category of feminine gender is to be closely associated with the declension class in $*$-h_2.

As we saw in constructing tables 4.5 and 4.6, there is no good single example of a feminine $*$-eh_2 or $*$-ih_2 noun preserved across the IE languages. However, the languages outside the Anatolian branch show the same derivational processes by

Table 4.12 *Feminine abstract nouns derived from verbal stems.*

	Verbal stem *Ce(R)C-*	Abstract noun *Co(R)C-eh₂-*	Abstract noun *C(R̥)C-eh₂-*
Sanskrit	*árcati* 'praises'	*arcā́* 'praise'	
	ī́ṣṭe 'is master of'		*īśā́* 'mastery'
Greek	*phérō* 'I carry'	*phorā́* 'tribute'	
	pheúgō 'I flee'		*phugḗ* 'flight'
Latin	*tegō* 'I cover'	*toga* 'covering, toga'	
	fugiō 'I flee'		*fuga* 'flight'
Gothic	*wilwan* 'rob'		*wulwa* 'robbery'
Old Church Slavonic	*tek-* 'run, flow'	*pa-toka* 'flowing'	

which feminine nouns are formed. The suffix *-eh₂-* is used in two main functions: to form feminine nouns and adjectives besides masculine nouns and adjectives; and to form abstract nouns derived from verbs. A good example of the first process of derivation is the word used in table 4.5, the word for the female counterpart to *ek̑wos* 'horse', *ek̑weh₂* 'mare'. The word is reconstructed on the basis of the correspondence between Sanskrit *áśvā*, Latin *equa* and (Old) Lithuanian *ašvà*. However, it is fairly certain that this word is not in fact inherited from PIE, but a separate individual creation of these three different language groups. We can be sure of this because in Greek the cognate word for 'horse', *híppos*, designates both male and female horses. There seems to have been no good reason for Greek to have lost the distinction between a word for stallion and mare if it once had had it, since the category of feminine is not lost in Greek. Indeed, we can see in the diachronic development of Greek a process whereby the distinction between masculine and feminine in adjectival declensions is extended to some nouns. For example, the word *theós* originally meant either 'god' or 'goddess', but in some Greek dialects a new word *theā́* 'goddess' was created alongside *theós*, which was accordingly restricted in meaning to just 'god'. We can account for the presence for a word for 'mare' in Sanskrit, Latin and Baltic by assuming that in these languages there were prehistoric independent creations of a new feminine alongside the inherited word *ek̑wos*, and we cannot reconstruct *ek̑weh₂* 'mare' for PIE with confidence.

The second derivational process which leads to feminine nouns in IE languages is the formation of abstract nouns through addition of the suffix *-eh₂-* to a verbal root, either in the o-grade, or in the zero-grade. This is a very productive means of word-formation in Greek and is also found in other languages, as shown in table 4.12 (note that in the Greek dialect from which these forms are taken the outcome of *-eh₂* is *-ā* when it follows *r* (and *i* and *e*), but otherwise *-ē*). But here again, although the process appears to be shared, there is no single word-equation which holds good across several languages.

The lack of good word-equations for the $*h_2$ declension class, and its absence in Hittite, offers support to the hypothesis that this declension class, and with it the creation of a separate feminine gender, is a late development within PIE, taking place after Hittite and the Anatolian languages have branched off from the parent. It leaves open the question of why and how a new declension class arose. To answer this, we should consider again the category of 'collective' considered in section 4.3. We saw there that it might be possible to reconstruct a category of a collective number, which was marked in the nominative by the morph $*-h_2$. The collective is a good candidate from a morphological point of view for the origin of the feminine declension in $*-h_2$. As the reconstruction given in table 4.5 shows, the feminine nouns in $*-eh_2$ do not mark the nominative singular with $*-s$, a marker found with all other non-neuter nouns. The absence of a nominative $*-s$ therefore links the feminine nouns with the collective. It is true that the other paradigmatic cases outside the nominative show no similarity to the neuter plural declension, but these could be explained as analogical creations based upon the model of the athematic declension. There is also an area of possible semantic overlap between collective formations and the abstract nouns formed with suffix $*-eh_2$. In many languages, the derivational means of expressing abstracts and collectives are linked. Indeed, the history of the Romance and Slavic languages provides neat parallels for a close relationship between collective nouns and feminine abstracts. In the Romance languages, some inherited neuter plurals develop to feminine singular nouns: for example, French *joie* (feminine) 'joy' derives from Latin *gaudia* 'joys', originally a plural of the neuter noun *gaudium* 'joy'. In Slavic, some plurals derive from earlier feminine collective forms, for example Russian *brat'ya*, the plural of *brat* 'brother', derives originally from a collective noun 'brotherhood'. A more striking example of the interaction is found in Classical Armenian, where the affix *-an-*, which is regularly used to derive abstract nouns from verbs, is a borrowing from Middle Iranian, where it functioned as a plural marker *-ān*.

Some scholars have accordingly reconstructed an earlier stage of PIE when there was no separate feminine gender, but rather just two genders, 'common' and neuter. Hittite and the rest of the Anatolian branch is explained as reflecting this stage of PIE. Then, in a period after the Anatolian languages had split from the rest of PIE, the feminine gender arose through reanalysis of neuter plural 'collective' formations and is accordingly found in the other IE language branches. A major problem with this theory is finding an explanation for why the formations in $*-h_2$, which originally had a 'collective' or 'abstract' meaning, became associated in particular with the nouns denoting people and animals of female sex. One view is that the crucial pivot was the noun which denoted 'woman' $*g^wenh_2$. It is proposed that since this noun ends in the laryngeal $*h_2$, it became associated with the new class of abstracts and collectives, which also ended in $*h_2$. Speakers then began to think of the whole class of nouns in $*h_2$ as 'feminine', since $*g^wenh_2$ denoted the human female. However, as can be seen from table 4.13, the noun $*g^wenh_2$

Table 4.13 *The paradigm for 'woman' in PIE.*

	PIE	Vedic Sanskrit	Old Irish	Armenian
nominative	*$g^w enh_2$	*jáni*	*ben*	*kin*
genitive	*$g^w neh_2s$	*gnā́s*	*mná*	*knoǰ*

does not decline like the other feminine nouns in *-eh_2, but instead it shows an ablaut variation between nominative and genitive. Note, however, that it does lack a final *-*s* in the nominative singular.

Even if we accept that the association of the noun meaning 'woman' with collective and abstract formations with final *h_2 led to the rise of the feminine gender, there are still problems with the theory that a new declension class arose after the separation of the speakers of Anatolian languages from the rest of the PIE speech community. Firstly, it is not clear how the collective ending *-h_2 could at once become the marker of a new declension class, but retain its old function as the marker of neuter plurals. In the parallel case in Romance, some neuter plurals were reinterpreted as feminine singular nouns, but this reinterpretation could only happen because the neuter was lost as a category altogether. Under the scenario sketched out above, forms in *-h_2 appear both to retain their collective function and take on a new life as markers of the new feminine gender. It may also be significant that while we have seen that there is some evidence for the retention of old collectives in forms such as Greek *kúkla* 'set of wheels' and Latin *loca* 'places', these survivals function synchronically as neuter plurals, not as feminine singulars. Indeed, there is no good example of a well-attested IE feminine noun which can be derived from a neuter in the way French *joie* is related to Latin *gaudium*.

Recent work on Anatolian languages other than Hittite has also brought back into vogue the hypothesis that there was once a gender distinction between masculine, feminine and neuter even in the Anatolian branch. Although we have the most extensive textual remains of Hittite, the last thirty years have seen increasing advances in our knowledge of other Anatolian languages, in particular Luwian and Lycian. We are still hampered in both these languages by a relative paucity of textual remains, but it is becoming clear that we are now no longer able to state with such certainty that there is no equivalent to the *-eh_2 and *-ih_2 declensions in Anatolian. The new findings may be dealt with under two separate heads: apparent survivals of the *-eh_2 and *-ih_2 declensions, and a morphological process know as *i-motion*. Before discussing these phenomena in detail, it is worth reminding the reader that in all Anatolian languages word-final *h_2 is lost.

There are several scraps of evidence from different Anatolian languages to suggest that the *-eh_2 and *-ih_2 declensions did continue into this language branch. The best evidence comes from Lycian, a language attested over a thousand years later than our earliest Hittite texts. We have enough Lycian surviving

to be able to isolate several different nominal declensions which, broadly speaking, can be grouped into *a*-stems, *i*-stems, *e*-stems and consonant stems. Some lexical correspondences imply that the Lycian *e*-stems continue the IE thematic or o-stem declension, including the following:

*pedom 'place, ground': Lycian *pddẽ*, Hittite *pedan*, Greek *pédon*, Umbrian *perso*
*ek̑wos 'horse': Lycian *esbe*, Skt *áśva-*, Greek *híppos*, Latin *equus*, Old Irish
   ech, Old English *eoh*, Tocharian A *yuk*

Note that in the word for 'place', the Hittite word *pedan* has an ending *-an* from **-om*, showing the regular Hittite development of *a* from **o*. In Hittite, and the other Anatolian languages except Luwian, PIE **a* and **o* have merged as *a*, but in Lycian this merger does not seem to have taken place. Consequently, the Lycian *a*-declension cannot derive from the PIE thematic declension, but could continue the **-eh₂* stems. The word for 'altar' gives a possible equation of a Lycian *a*-stem with a Latin *a*-stem in support of this, although unfortunately the Lycian word shows a further suffix *-di-*:

*h₂eh₁s-eh₂ 'altar, hearth': Lycian *xaha-di-* 'altar', Hittite *hassas* 'hearth', Latin
   āra 'altar', Oscan *aasa-* 'altar'

In this equation, the Hittite word *hassas* has fallen into the class of the thematic stems (originally with ending **-os*) after the merger of **a* and **o*. If this equation is correct, then we may have been too hasty in assuming that the **-eh₂* declension is a development of Post-Anatolian PIE. The Lycian *a*-declension is not, it is true, specifically feminine: nouns denoting males, such as *kumaza* 'priest', belong to the class. However, this could be seen as a later development in the language, just as we saw that in Greek and Latin masculine nouns are incorporated into the *ā*-declension. Unfortunately, this explanation of the Lycian *a*-stems is still contentious, since the behaviour of vowels in Lycian is far from straightforward; there is good evidence for widespread umlaut in the prehistory of the language, and we are not yet certain of the rules by which it operated.

The second important recent discovery is a morphological phenomenon called *i-motion*, which can be exemplified by the declension of adjectives in Luwian. In this language, some adjective paradigms show a different stem in agreement with common nouns from the stem used with neuter nouns. Table 4.14 gives an example, the partial paradigm of the suffix *-mma-*, which is used to form participles from verbs (such as *piiamma-* 'given' from the verbal stem *piia-* 'to give').

In this paradigm, the suffix *-mma-* (which derives from Proto-Anatolian **-mo-*) is replaced by a suffix *-mmi-* (derived from Proto-Anatolian **-mi-*) in the nominative and accusative singular and plural of the common gender. In the other cases, the same suffix *-mma-* is used for both genders. The evidence for i-motion is clearest in Luwian, but in all the other Anatolian languages, including Hittite, similar phenomena can now be identified. For example, in Lydian the adjective meaning 'of Sardis' alternates between a stem *sfardeti-*, used in the

Table 4.14 *i-motion in Luwian participles.*

	Common	Neuter
nominative singular	*-mmis*	*-mman*
accusative singular	*-mmin*	*-mman*
nominative plural	*-mminzi*	*-mma*
accusative plural	*-mminz*	*-mma*
dative plural	*-mmanz*	*-mmanz*

non-neuter nominative-accusative, and *sfardeta-* in the oblique cases. In Hittite, i-motion is not used within adjectival paradigms, but there is evidence to suggest that Hittite did inherit two distinct adjectival stems. For example, the Hittite adjective meaning 'pure' has the stem *parkui-*, although a stem without *-i-*, *parku-*, appears in the factative verb-form *parku-numi* 'I make pure'. The comparative evidence therefore suggests that i-motion is an inherited morphological process within Anatolian.

One theory to account for Anatolian i-motion relates the process to the formation of PIE feminine stems with a suffix $*-ih_2$. We have already seen that the feminine $*deiw-ih_2$, 'goddess', discussed in section 4.2, is derived from $*deiw-os$ 'god'. This seems analogous to i-motion, since the thematic vowel $*o$ of $*deiw-os$ is replaced by $*i$ in $*deiw-ih_2$, just as *-mmi-* (earlier $*-mi-$) replaces *-mma-* (earlier $*-mo-$) in the paradigm given in table 4.14. Indeed, the suffix $*-ih_2$ is regularly used to form the feminine stem to athematic adjectives in other IE languages. For example, the adjective $*sweh_2du-$ 'sweet' forms a feminine with a suffix $*-ih_2$:

$*sweh_2du-$ 'sweet': Sanskrit *svādú-*, feminine *svādvī́*; Greek *hēdús*, feminine *hēdeîa*

Note, however, that the suffix $*-eh_2$, not $*-ih_2$, is usually deployed to form the feminine of adjectives which follow the thematic declension, as, for example, the adjective meaning 'new':

$*newo-$ 'new': Sanskrit *náva-*, feminine *návā-*; Latin *nouus*, feminine *noua*, etc.

We could therefore explain i-motion in Anatolian if we envisage that at an earlier stage of this language branch there was a separate feminine form marked in adjectives by a suffix $*-ih_2$. By this theory, when the distinction between masculine and feminine was lost in the prehistory of the Anatolian branch, the suffix $*-ih_2$ was redeployed as a more distinctive marker of the common stem to oppose the neuter stem in adjectives. Note that, in thematic adjectives, the accusative singular masculine ending $*-om$ is not differentiated against the accusative singular neuter ending $*-om$. An original feminine accusative singular $*-ih_2m$, which would have developed to $*-im$ in Anatolian, was therefore chosen to distinguish the common stem from the neuter.

The *a*-stems of Lycian and the existence of i-motion in Anatolian could therefore be taken as two pieces of evidence in support of the theory that Anatolian did originally have a distinction between the masculine and feminine gender. The evidence is not yet conclusive, however. As we saw, the development of the Lycian vowels is still not yet fully explained, and until it is, some scholars remain sceptical that Lycian does preserve a distinction between *a and *o lost in all other Anatolian languages. The link between i-motion and the formation of feminine adjectives in PIE is rendered uncertain by the fact that o-stem adjectives elsewhere in IE do not form feminine stems with the suffix *ih_2 (although some o-stem nouns do). Moreover, the arguments put forward to suggest that the feminine stems were a recent creation in PIE are still valid, even if we believe that their genesis did occur before the Anatolian languages split off from the parent.

The Anatolian evidence suggests another way to look at the rise of the feminine gender in PIE. It is possible that processes such as i-motion do directly continue PIE morphological processes, but that these had not yet been specifically associated with the feminine gender, or that the feminine gender was not yet fully differentiated throughout the nominal system. It may be indicative that one of the few words for which an Anatolian cognate to a feminine in other IE languages is proposed is the word for 'altar' PIE *h_2eh_1s-eh_2 discussed above. This is a completely uncharacteristic feminine eh_2-stem noun. It is neither derived as an abstract from a verbal root, nor as a feminine counterpart to a masculine noun or adjective. Indeed, it is one of a very few such eh_2-stem nouns attested across the IE languages. If it is correctly reconstructed, it may indicate that at an earlier stage of PIE the eh_2-stem nouns were not specifically feminine at all. However, this still leaves the question of how we are to account for all the diverse formations using a marker *h_2: nouns denoting females formed with suffixes *-eh_2 and *-ih_2; collective or neuter plural formations in *-h_2; and verbal abstracts formed in *-eh_2. Most Indo-Europeanists believe, at some level, that there is a connection between the collective or neuter plurals and the feminine. But reconstructing a plausible pathway and a chronology of change for the attested situation in the IE languages still remains to be done.

Exercise 4.6

The Sanskrit and Greek paradigms of the adjective meaning 'sweet', PIE *$sweh_2du$-, are as follows (the neuter form declines like the masculine in both languages, but has nominative-accusative *svādú* in Sanskrit and *hēdú* in Greek).

	Masculine		Feminine	
	Sanskrit	Greek	Sanskrit	Greek
nominative	*svādús*	*hēdús*	*svādvī́*	*hēdeîa*
genitive	*svādós*	*hēdé(w)os*	*svādvyā́s*	*hēdeíās*

The masculine / neuter stem is generally thought to have been a proterokinetic paradigm (see table 3.7). What changes have taken place in the Sanskrit and Greek masculine paradigm? How should the feminine paradigm be reconstructed? (Hint: compare table 4.6.)

Exercise 4.7

The Latin adjective meaning 'sweet' is *suāuis* and is from the same root as Greek and Sanskrit. The masculine and the feminine have the same form throughout the paradigm. How can you explain the form of the adjective in Latin, using the data from exercise 4.6?

Further reading

On the process of syncretism and some case studies in IE languages, see Meiser (1992). Tremblay (2003) gives comprehensive evidence for the paradigm of the word for 'father' in PIE and the daughter languages. Table 4.6 follows Meier-Brügger (2003: 286), and table 4.8 and the discussion of the word for 'sleep' are based on Schindler (1966).

There is much written on the category of the 'collective'. Eichner (1985) and Harðarson (1987b) are the starting-points for much recent research. For some of the many attempts to explain the link between the collective and the feminine in a viable relative chronology, see Nussbaum (1986: 118–36), Euler, (1991), Tichy (1993) and Matasovic (2004). Matasovic (2004) also gives a recent overview of theories on the origin of the distinction between masculine and feminine stems, and he examines in some detail the principles on which gender is assigned to nouns in attested IE languages. However, he does not include a discussion of the Lycian a-stems or Anatolian i-motion, for which the most accessible discussions are Starke (1990), Melchert (1994b) and Rieken (1999). The category of the dual has also received attention in recent years, with three articles devoted to it in the same volume of papers: Fritz (2000), Lühr (2000) and Malzahn (2000), and a recent unpublished habilitation by Fritz (Fritz (2003), cited in Meier-Brügger (2003: 190–1)). For discussions of the word for 'altar', see Harðarson (1994: 35–9) and Rieken (1999: 247–8). See also Harðarson (1987b) for more information and on the word for 'woman' (table 4.13), and Jasanoff (1989) for its idiosyncratic development in Old Irish, where it is of neuter gender.

Discussion points

1.   Discuss the case syncretisms which have taken place in any branch of IE with which you are familiar. What have been the motivating factors for these case syncretisms?

2.   Some scholars have attempted to reconstruct the origins of the PIE
          inflectional endings, noting, for example, that the dative singular end-
          ing *-*ei* is an ablaut variant of the locative singular ending *-*i*. Do you
          think this is a valid exercise?
3.   Assess the arguments for considering formations such as the collective
          as a derivational, rather than inflectional, category.