

The Cognates of the Vedic \bar{i} -stems

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The cognates of the Vedic \bar{i} -stems are examined as one step in verification of previous proposals that the \bar{i} - and $\bar{i}/y\bar{a}$ -stems arose from cognates of the Hittite $ai-$ stems and became involved in motion when they and i -stem variants which they possessed as variants themselves of $\bar{e}(i)$ - or $\bar{o}(i)$ - stems were interpreted as referring to the female and non-female of the same species. Evidence that motivated feminines in \bar{i} -, $\bar{i}/y\bar{a}$ - and \bar{e} - varied with one another but not with the \bar{a} -stems suggested that the first three types were of common origin. Since the Baltic \bar{e} -stems had previously been seen apparently to have stemmed from diphthongal forms, the evidence thus supported the proposed origin of the \bar{i} - and $\bar{i}/y\bar{a}$ -stems. Concerning the origin of motion it was less conclusive but appeared consistent with that proposal as well.

A number of years ago I suggested that inheritance of the cognates of the Hittite $ai-$ and $au-$ stems provides the basis for explaining the first arbitrary athematic feminines, the Latin \bar{i} -stems with nom. sg. $-\bar{e}s$, the derived nouns of the Latin fifth declension, the Baltic \bar{e} -stems and the Greek nouns in $-\epsilon\upsilon s$, $-\omega s$ and $-\omega$ (Brosman 1984). A subsequent proposal (Brosman 1994) held that the \bar{i} -, \bar{u} - and $\bar{i}/y\bar{a}$ -stems were of the same origin and offered an explanation for participation in motion by those forms and the Baltic \bar{e} -stems. According to these views Anatolian and Indo-European inherited eight types of diphthongal noun consisting of $\bar{e}i$ -, $\bar{e}u$ -, $\bar{o}i$ - and $\bar{o}u$ -stems of each original gender. In Hittite phonological mergers within the long diphthongs reduced this number to four, the common and neuter ai - and au -stems. In Indo-European identical forms of the nominative singular produced by the loss of the second element of long diphthongs created confusion between the \bar{i} - and u -stems, while identical forms among the oblique cases caused confusion between the \bar{e} - and \bar{o} -types and between the diphthongal nouns and the zero-grade i - and u -stems. Presumably because of the long vowel of their nominative singular the diphthongal nouns were transferred to the newly arisen third gender which later became the feminine, a

development which required the inherited neuters to adopt animate forms of the accusative singular and the nominative and accusative plural, and thus resulted in confusion between the originally animate and neuter nouns.

Subsequently the diphthongal forms were lost throughout most of Indo-European. Four principal methods were originally proposed for their elimination: conversion to zero-grade *i*- and *u*-stems, transfer to the distinctively feminine *ā*-stems, thematicization and levelling of the long vowel within the paradigm. To them was later added a fifth, which was considered to have been the first step in the development of the *ī*-, *ī* / *yā*- and *ū*-stems: the replacement of the nominatives in *-ē(s)* and *-ō(s)*, each of which occurred among both the *i*- and *u*-stems, by distinctive forms in *-ī (s)* among the *i*-stems and *-ū (s)* among the *u*-stems.

When the first proposals cited above were made, one method suggested for their verification was taking each of the nominal classes held to have preserved traces of an inherited diphthongal type and examining the cognates of every member throughout Indo-European. In the cases of the nominal types confined to Greek and Latin this has since been done. The results indicated that each of the types examined was indeed diphthongal in origin, that the proposed change of gender took place and that confusion of every possible sort occurred among the diphthongal forms. A combined total of seventy-two potential cognates¹ contained fifty-five which appeared consistent with diphthongal origin, including thirteen or fourteen *i*-stems, nine *u*-stems, ten *ā*-stems, six or seven *yo*-stems, four Baltic *ē*-stems, two *wo*-stems, two *ū*-stems and single representatives of the *wā*-, *yā*-, *ī* / *yā*- and feminine *s*-stems, the Iranian diphthongal nouns and the Hittite common *a*-stems, as well as two instances in which a Greek noun in *-εϋς* or *-ω* corresponded to a Latin *i*-stem or fifth-declension form in *-ēs* (Brosman 1992: 335; 2004: 5-7, 12-16). This evidence appeared to confirm three of the four principal methods originally proposed for the elimination of the diphthongal nouns, conversion to zero-grade forms, transfer to the *ā*-stems and, since the total number of Baltic cognates was twelve, the spread of the long vowel of the nominative within the paradigm.

¹Words were considered potential cognates if they were semantically suitable and corresponded precisely in form apart from inflection and perhaps gradation.

Concerning the fourth, thematicization, it seemed less conclusive, especially since in this case one cannot be certain whether the form actually thematicized was the original diphthongal noun or a zero-grade *i-* or *u-*stem arising from it. Although each of the proposals made later must also be considered unverified, the clearest failure of the expected results to occur was the complete absence from the cognates of *ī* - stems. It therefore was decided that the next type of proposed diphthongal origin to be examined should be the *ī* - stems, which were largely confined to Vedic.

A collection of the *ī* -stems in the Rig Veda which was intended to be complete was provided long ago by Lanman (1880: 368-369). Although subsequent philological study has resulted in revision of Lanman's views concerning other aspects of some of these forms, there is little reason to question his identification of them as *ī* -stems. Exclusive of duplication in compounds the forms assembled by Lanman included fifty-one nouns, consisting of forty-nine feminines, twenty-five referring to females and twenty-four with inanimate or unknown referents, and two masculines possessing male referents. Nineteen of the words for females served as motivated feminines to attested masculines, which except for a single consonant stem belonged exclusively to the *a*-stems. Although Lanman considered a second consonant stem to have been included in an additional pair of participants in motion, for reasons which will be given when such pairs are discussed later, his view is regarded as unlikely.

When attention is turned to the question of cognates, it becomes clear that the immediate explanation for the failure of the *ī* - stems to be represented among the cognates of the Greek and Latin forms examined previously is simply that virtually no *ī*-stems had cognates of any sort, in Iranian as well as elsewhere. Albright (1927: 22) and Wackernagel-Debrunner (1896-1957: 3.170-171) held that only three Vedic *ī* - stems had apparent cognates in other branches of Indo-European. To these forms it appears possible to add no more than two. Of the five *ī* - stems, one had an inanimate referent. The four others, all of which referred to females, included three which served as motivated feminines and one whose status in that regard is not clear. Although sparse, the evidence of the cognates appeared consistent with the proposals concerning the *ī* - stems mentioned at the outset, both that of their diphthongal origin

and the explanation of their involvement in motion which depended upon it.

The latter proposal held that prior to the extension of the feminine to include athematic nouns referring to females the diphthongal nouns and their variants in *-ī*, *-ū*, *-ī / yā* and *-ē* belonged to the pre-feminine, later the feminine, gender on the basis of their form, since at that stage gender remained linked to form as it was in Hittite. When the extension introduced semantics as a second factor in the determination of gender, confusion arose concerning the gender of these forms possessing non-female animate referents, as it did also in the other cases of conflict between form and semantics, the *ā*-stems with similar referents and the few *o*-stems referring to females. However, since variation between diphthongal and zero-grade *i*- and *u*-stems had begun at least as early as the loss of the second element of long diphthongs, at the time that the confusion arose a number of the nouns of diphthongal origin subject to it already possessed zero-grade *i*- or *u*-stem doublets formally suitable to denote their referents of male or unspecified sex. Moreover, as products of the period prior to the extension of the feminine, the zero-grade doublets were also appropriately masculine, since at that time all zero-grade *i*- or *u*-stems of animate form belonged to the animate or pre-masculine gender. It therefore is plausible that the distinctively feminine doublets and the masculine zero-grade doublets would have been interpreted as referring respectively to the female and non-female of the same species and that the diphthongal nouns and their distinctively feminine variants would thus have come to participate in motion.

When motion then was extended to the nouns without inherited zero-grade doublets, *o*- as well as *i*- or *u*-stems were used to supply the analogical non-female forms. A probable reason was that, though they had originally been paired only with *ā*-stems, the *o*-stems were more numerous as participants in motion than the *i*- and *u*-stems. Another factor encouraging their use was that they alone possessed an association with males or non-females apart from their participation in motion. At any rate, there is evidence both that the diphthongal nouns served as motivated feminines and that *o*-stems could be used as the corresponding non-female forms, for it has previously been noted (Brosman 1992: 322) that occurrences of the Greek nouns in *-ω*, *ἀνθρωπῶ* and *τροφῶ*, were confined to their use to

replace *ἄνθρωπος* 'human' and *τροφός* 'rearer, tutor' when the latter referred to females.

Finally, as *o*-, *i*- and *u*-stems referring to non-females came to possess motivated feminines, members of the other declensions began to be provided with them. In this most recent phase in the development of motion the distinctively feminine stem, which belonged principally, but not exclusively, to the *ī* / *yā*-stems, was appended to that of the non-female form rather than employed interchangeably with it.

As has been noted, four of the five *ī*-stems with apparent cognates outside Indo-Iranian referred to females. The one form with an inanimate referent, *sūrmī* - 'pipe', may be treated briefly, for it had a single apparent correspondence in Lith. *surmà* 'flute', which as an *ā*-stem was consistent with diphthongal origin (Pokorny 1959: 1049-1050). The others were *vykī* 'she-wolf' and *mešī* 'ewe, sheepskin', which occurred beside *a*-stem masculines, *napṭī* - 'granddaughter', the lone form certainly paired with a consonant stem, and *starī* 'sterile cow', which was without an attested masculine counterpart.

Although it has long been held that *vykī* - had a precise correspondence in ON *ylgr* 'she-wolf' (Pokorny 1959: 1178; Walde-Hofmann 1938-54: 1.836; Wackernagel-Debrunner 1896-1957: 3.170), this view encounters phonological questions which prevent its acceptance with complete confidence (Mayrhofer 1980: 131-132; 1992-2001: 2.571; Feist 1939: 576; Lehmann 1986: 412). It is also possible that *ylgr* stemmed from an inherited *ī*-stem but that analogy played a part in its production. However, if one accepts the possible involvement of analogy, an *ī* / *yā*-stem cannot be ruled out as its source. Moreover, that such a form occurred in Germanic is indicated by the *jō*-stems OE *wylf* and OHG *wulpa* > MHG *wülpe* in the same meaning (Kluge-Sütterlin-Ochs 1926: 21). It thus appears that in Proto-Germanic the feminine of 'wolf' was an *ī* / *yā*-stem which may well have possessed an *ī*-stem variant. In Lithuanian the *ē*-stem *vilké* occurred. Elsewhere are found the obvious innovation Gk. *λύκαινα* and the *ā*-stems Lat. *lupa* and Av. *vāhrka*. The corresponding masculine was an *o*-stem in Av. *vāhrka*-, Gk. *λύκος*, Lat. *lupus*, Got. *wulfs*, ON *ulfr*, OE, OS *wulf*, OHG *wolf* and Lith. *vilkas* as well as in Indic, but was an *i*-stem in OPr *wilkis* (Pokorny 1178; Mayrhofer 1992-2001: 2.570-571).

It seems clear that *mešī*-, attested as both 'sheepskin' and 'ewe', and masculine *mešā* 'ram', stemmed from a pair of

participants in motion originally meaning ‘ewe’ and ‘sheep, ram’, each of which acquired the extended meaning of ‘sheepskin’, which in its turn was extended further to refer to bags, sacks, and similar objects made from such material. The earlier extension must already have occurred during the period of unity, for the original meaning, which appears also in Avestan in *maēša-* ‘sheep, ram’ and the *ī / yā-* stem *maēšī* ‘ewe’, did not survive outside Indo-Iranian. In Baltic both of the original participants in motion are represented, though in the most recent meaning, by the synonymous pair Lith. *máišė, máišas* ‘sack’, in which an *ē* stem again serves as the feminine, while in Old Prussian another masculine *i-* stem appears in *moasis* ‘bellows’. In Germanic there occurred a masculine *a-* stem in ON *meiss* ‘basket’ and in OHG *meissa* ‘baggage’, a *jô (n)-* stem, which presumably stemmed from an *ī / yā-* stem via a *yā > jô-* stem (Pokorny 1959: 747; Mayrhofer 1992-2001: 2.380).

It appears that, as held by Pokorny (1959: 764), Walde-Hofmann (1938-54: 2.161) and Wackernagel-Debrunner (1896-1957: 3.171), *napťī-* ‘granddaughter’ corresponded to an inherited *ī-* stem in Lat. *neptis* ‘granddaughter, niece’. Attested sporadically in Latin in the same meaning are *nepōtia* and *neptia*, which have been thought by some to point to an *ī / yā-* stem corresponding to Av. *napťī* as the source of all of the Latin forms (Sihler 1995: 277-278). However, it seems more likely that the relatively rare Latin variants resulted from analogy with *avia* ‘grandmother’. In any event, as was true of the Germanic cognates of *vŕkĕ-*, it seems safe to say that any Latin forms actually corresponding to *napťī-* were of an *ī-* type of some sort. The same applies to all other such forms attested outside Baltic, which included OHG *nift(a)*, OE *nift*, ON *nipt*, and OIr. *necht*. The only exception was in Lithuanian, where as before an *ē* stem occurred in OLith. *neptė* ‘granddaughter’ (Pokorny 1959: 764; Mayrhofer 1992-2001: 2.11-12).

That *napťī-*, which stood next to *nápāt* ‘grandson’, is noteworthy as apparently the only *ī-* stem serving as the feminine of a consonant stem has already been mentioned. The masculine occurred also in Av., OP *napāt*, Lat. *nepōs* and MĪr. *nīae* (gen. *nīath*). Although in Germanic one finds a uniform *n-* stem in OHG *nevo*, OE *nefa* and ON *nefi*, it has been seen that the *-t-* of the original form is preserved in the feminine derivatives. The only masculine not a consonant stem was the extended form *nepotis, nepuotis* of Old Lithuanian.

Whether *starĕ-* ‘sterile cow’ also stemmed from a motivated

feminine cannot be said. In addition to two apparent cognates, the *ī* / *yā*-stem Gk. *στειρα* 'sterile cow or woman' and the *n*-stem Got. *stairō*, employed to translate *στειρα* in the Bible, the nouns corresponding to it formally apart from inflection were Alb. *štjere* 'calf, lamb' and OHG *stero* 'ram' (Pokorny 1959: 1031; Mayrhofer 1992-2001: 2.757). Although the meanings of these forms cannot readily be reconciled, it is noteworthy that a similar group of forms containing an extension of the same root is found confined to Germanic, where OE *stierc* 'calf', MLG *sterke* 'cow which has not given birth' and NHG *sterch* 'stud-boar' indicate that production of the set containing *stari-* was not unique and thus suggests that it was due to more than a chance combination of developments involving forms originally distinct (Kluge-Seebold 2002: 852). It appears possible that two participants in motion referring originally to the young diverged semantically, the feminine shifting from 'one too young to have offspring' to 'adult unable to have offspring', while the masculine changed to denote an adult male rather than one which was immature. A partial parallel is provided by the history of another High German term for 'ram', OHG *widar*, which occurred beside Got. *wiprus* 'lamb', since in this instance numerous forms attested outside Germanic show that the Gothic meaning was the earlier (Kluge-Seebold 2002: 987; Feist 1939: 571; Lehmann 1986: 508). Although the developments suggested here apparently cannot be ruled out, they are too uncertain for acceptance.²

The uncertainty concerning *stari-* is of little import from the present point of view. The explanation for participation in motion by the *ī*-stems through confusion concerning the gender of such forms with inherited non-female referents does not exclude the likelihood that a few *ī*-stems would have referred to females prior to the origin of motion. It is probable that as motion spread among the other forms with animate referents, those originally referring to females would have tended to conform to the same pattern if they already possessed inherited zero-grade doublets and semantics permitted. However, since they created no problem, there is no reason to

²Mayrhofer (1980: 150) reports that in *Sprache* 20, 1974, 38 Eichner proposed a means of accounting for *stari-* as a motivated feminine which apparently differs from that suggested here. However, the loss of access to library facilities resulting from hurricane Katrina prevented obtaining Eichner's article either directly or through interlibrary loan.

believe that such forms without doublets would all have acquired corresponding masculines even when semantics presented no obstacle. Moreover, in some cases the meaning of the forms with female referents should have prevented their interpretation as motivated feminines. Since it thus would not be unexpected to find a few distinctively feminine forms of diphthongal origin which referred to females apart from participation in motion, *star̥-* could have stemmed from a diphthongal form regardless of how one resolves the uncertainty concerning it. For example, in addition to the motivated feminines *ἀνθρωπῶ* and *τροφῶ*, the Greek nouns in *-ω* included forms such as *θηλῶ* ‘wet nurse’ and *ληχῶ* ‘woman in childbed’, which could hardly have been involved in motion (Brosman 1992: 321). It should also be mentioned that of the *ī*-stems with female referents but no corresponding masculines, *star̥-* would not be the most difficult to rationalize as a motivated feminine. A greater problem would be presented by *ahī* - ‘pregnant cow’, which has not yet been discussed, since it had no cognate outside Indo-Iranian. However, as suggested by *θηλῶ* and *ληχῶ*, it appears that no such rationalization is required.

As has been indicated, *ī*-stems with cognates in Indo-Iranian were also remarkably few. It will have been observed that of the five forms apparently possessing cognates elsewhere, only three had Iranian cognates. Only two other *ī*-stems corresponded to an Iranian form in any manner. One was *ahē-*, which occurred beside the *ī* / *yā*-stem adjective Av. *azī* ‘pregnant’ and the other *rathī* - ‘charioteer’, one of the two masculines with male referents, which in the *ī*-stem Av. *raithī-* was alone in having a precise Iranian cognate (Mayrhofer 1992-2001: 1.156; 2.429; Wackernagel-Debrunner 1896-1957: 2.2.408).

Concerning the lone cognates of forms with inanimate or male referents there is little to be said other than that *rathē-* was presumably a relic of the period prior to the association of its form with females. However, the evidence of the cognates of the forms with female referents seemed sufficient to be considered significant. Although only four such forms possessed apparent cognates, each had multiple correspondences. Since at least three of the *ī*-stems were original motivated feminines, it was to be expected that most of their cognates would be distinctively feminine forms of some

sort. Therefore, although such forms could ordinarily be regarded as indicative of diphthongal origin, in the present case they cannot be cited to support the view that the *i*-stems stemmed from diphthongal nouns. For this reason it had been anticipated that only the cognates of forms with inanimate referents would be capable of providing reliable evidence of their origin. That those of the forms referring to females would have implications concerning the further proposal regarding motion had not been expected, for it was assumed that they would include enough *ā*-stems resulting from relatively recent analogy to render their evidence inconclusive. However, in the case of the *i*-stems, this turned out not to be true. Although none of the distinctively feminine cognates unquestionably preserves an original *i*-stem, no more than three occurred as *ā*-stems. In two cases the *ā*-stem is attested in Lat. *lupa* and Av. *vāhrka* and in the third its earlier existence is suggested by the feminine *n*-stem Got. *stairō*.

A somewhat closer look at the evidence shows that in those dialects in which the *i*-, *ī* / *yā*-, *ū*- or *ē*-stems could occur as motivated feminines, all of the cognates were distinctively feminine forms which wherever possible (corresponding masculines were not attested in two cases) conformed to established patterns of motion. Only one, Av. *vāhrka*, was an *ā*-stem. The others included three Avestan *i* / *yā*-stems, *maēšī*, *naptī* and *azi*, a fourth such form in Gk. *στειρα* and three Lithuanian *ē*-stems, *vilkė*, *māišė* and *neptė*. In Greek it is generally agreed that analogy with forms such as *λέαινα* 'lioness' caused the original feminine of *λύκος* to be replaced by *λύκαινα*, in which the productive Greek composite suffix *-αινα* occurs. It has been held by some that the earlier form was an additional *i* / *yā*-stem which served as the source of *λύσσα* 'rage, rabies' (Feist 1939: 576; Lehmann 1986: 412). The latter proposal appears plausible, for if it was not an *i* / *yā*- (or *i*-) stem, it is difficult to see what the unattested feminine of *λύκος* could have been. That it was an *ā*-stem is improbable, for it is unlikely that an *ā*-stem serving as motivated feminine of an *o*-stem would have been eliminated analogically. However, in the case of an *i* / *yā*-stem phonological change would have caused its formal deviation from *λύκος* to have become great enough that it would no longer have been readily recognizable as associated with the masculine form and thus would have set the stage for

its replacement by *λύκαινα*, following which it would have become free to follow an independent path of semantic development. Although the explanation of *λύσσα* is perhaps too uncertain for unreserved acceptance, it remains true that as far as can be told, with one exception the *ī*-stems in question were replaced by *ī* / *yā*-stems outside Lithuanian, where they were consistently converted to *ē*-stems. Whatever the precise explanation of the exception, Av. *vāhrka*, there need be little doubt that, as held by Pokorny (1959: 1178), it was an Iranian innovation. If *ā*- and *ī*-stem variants had occurred for any reason as the feminine of an *o*-stem in Proto-Indo-Iranian, the *ā*-stem would surely have left traces in Sanskrit if it did not, as is more likely, eliminate the *ī*-stem *vīkī* altogether. If they had occurred there through inheritance, one would expect to find at least a few *ā*-stems elsewhere other than the isolated Lat. *lupa*, which will shortly be seen not to have been inherited.

In the remaining dialects, where the *ā*-stems were the only inherited feminines involved in motion, most of the cognates were not motivated feminines, or at least were not conventional ones, though with one possible exception each of the forms deviating from the customary patterns of motion denoted a female corresponding to a male for which a word was attested. The only two forms which did not conflict with the usual rules of motion were Lat. *lupa*, eventually the feminine of *lupus*, and Got *stairô*, which as an *n*-stem was suitable to participate in the newly arisen Germanic form of motion involving the alternation of masculine and feminine *n*-stems. Otherwise, in Latin, Celtic, and apparently in three instances in Germanic, instead of being transferred to a distinctively feminine type occurring as a motivated feminine, inherited *ī*-stems or their *ī* / *yā*-stem variants were converted to *ī*- or *yā*-stems through analogy based on form. The three instances in Germanic included one involving a *yā*- > *jô*-stem which is not attested but was presumed to have resulted in the *jô* (*n*)-stem OHG *meissa* in keeping with frequent Germanic practice. The same form is the one which had possibly not designated a female. Although 'ewe', the original meaning of its etymon, was inherited by the separate dialects, whether it still existed in Germanic at the time of the conversion there of the *ī* / *yā*-stem to a *yā*-stem is uncertain. Concerning all of the *yā*-stems it should be noted that, though they could participate in motion, they did so only as the feminines of masculine *yō*-stems, none of which is

attested as denoting a male corresponding to a referent of a feminine discussed here.

That *lupa*, the lone attested \bar{a} -stem, arose independently in Latin seems clear, since the earlier attestation there of the phrase *lupus femina* indicates that it originated during the historical period (Walde-Hofmann 1938-54: 1.836). The periphrastic designation of the female wolf in Latin has been cited in support of the improbable proposition that motion in general and indeed the feminine gender were not fully developed during the period of unity (Puhvel 1994: 259). An adequate discussion of this view would require a separate study much longer than the present one. It should be sufficient here to note that since Skt. vṛkṣ- and the related Germanic forms show that the word for 'wolf' possessed a motivated feminine in the parent speech, the history of *lupa* is at best irrelevant concerning this question. A more plausible explanation for the late origin of *lupa* is that when, as is widely believed, the generic term *lupus* was borrowed from a rural Italic dialect, the corresponding feminine was not acquired with it. Two reasons may be found for the failure to borrow the motivated feminine of *lupus*. One is that, as was to be expected from what has been seen here, it was an \bar{i} -, i - or $(i)/y\bar{a}$ -stem and thus did not fit the Latin system of motion. In addition, since the borrowing of *lupus* suggests that the Romans were relatively unfamiliar with wolves, it is likely that they seldom discussed them in such detail that the sex of a particular individual would be pertinent.

In the case of Got. *stairô*, on the other hand, it appears that because of its female referent an inherited \bar{i} -stem first became an \bar{a} > \hat{o} -stem through transfer to the only surviving distinctively feminine type, following which the \hat{o} -stem was altered further to a feminine n -stem, as were almost all other Germanic \hat{o} -stems referring to females. Whether or not the source of *stairô* functioned as a motivated feminine earlier, that it did so in Proto-Germanic is unlikely. It thus is curious that it is the only member of the current set of forms which seems to have been transferred to the \bar{a} -stems. However, the only apparent alternative is the possibility that after transfers from the \hat{o} -stems had begun to establish the feminine n -stems as a new distinctively feminine type in Proto-Germanic, the \bar{i} -stem was treated similarly and transferred directly to the n -stems.

By indicating that among motivated feminines the \bar{i} -, i / $y\bar{a}$ - and \bar{e} -stems varied with one another but not with the \bar{a} -stems,

the evidence seen here supports the view that the forms mentioned first were of common diphthongal origin. Although almost all the evidence was consistent with this view, it was not all equally significant. That with the exception of a single \bar{a} -stem apparently resulting from Avestan innovation, all correspondences of the \bar{i} -stems in Iranian and Greek were $\bar{i}/y\bar{a}$ -stems confirmed that, as has long been known, confusion between the \bar{i} - and $\bar{i}/y\bar{a}$ -stems existed on a large scale. Although such confusion is consistent with the proposal that the \bar{i} - and $\bar{i}/y\bar{a}$ -stems arose from a common source, it is consistent as well with previous suggestions that the $\bar{i}/y\bar{a}$ -stems stemmed from the \bar{i} -stems through the influence of the \bar{a} -stems. If the \bar{i} -stems had already participated in motion for some reason, explaining the $\bar{i}/y\bar{a}$ -stems in this manner would also account for their use as motivated feminines. However, the uniform correspondence of the \bar{i} -stems to \bar{e} -stems in Lithuanian indicates with equal clarity that variation between the \bar{i} - and \bar{e} -stems occurred. In this case the evidence is also consistent with common origin but no alternative explanation appears to be available. Confirmation of the conclusion that the replacement of the \bar{i} -stems by \bar{e} rather than \bar{a} -stems in Lithuanian, despite the greater frequency of the latter there as participants in motion, involved more than the analogical substitution of one type of motivated feminine for another is apparently provided by the forms of the remaining dialects. In these cases, in which the \bar{a} -stems were the only available replacement inherited, the motivated feminines were for the most part not replaced but converted instead into forms which, though they continued to denote their original female referents, no longer participated in motion. It thus appears that the \bar{e} -stems, like the $\bar{i}/y\bar{a}$ -stems, possessed a connection to the \bar{i} -stems which the \bar{a} -stems lacked or that the \bar{i} -, $\bar{i}/y\bar{a}$ - and \bar{e} -stems were probably all of common origin. If these appearances are to be believed, the indications of the Greek and Latin forms examined previously that the \bar{e} -stems were of diphthongal origin supports the view that the same was true of the \bar{i} - and $\bar{i}/y\bar{a}$ -stems. Since the diphthongal nouns have been seen to have participated in motion, diphthongal origin would account for the occurrence as motivated feminines of the types apparently stemming from them.

In addition to the cognates of the feminine forms it is pertinent to consider those of the masculines paired with them. It was seen that three of the five \bar{i} -stems referring to females

which possessed cognates occurred beside masculines denoting the corresponding male. Two were *a*-stems and the third was a consonant stem. Almost all of the cognates of the *a*-stems, *vṛka-* and *meṣá-*, were also original *o*-stems. However, in both instances an *i*-stem occurred in Old Prussian. That each of the two *a*-stems possessed an *i*-stem cognate provides a measure of support for the proposal that the *i*-stems began to participate in motion through the interpretation of *i*-stem variants as the corresponding masculine forms. Although the *i*-stem cognates were greatly outnumbered by *o*-stems, it is plausible that during the spread of motion among the *i*-stems competition between the *o*- and *i*-stems for the role of the masculine participant resulted in variation between the two in the forms for 'wolf' and 'sheep' in the parent speech, which not surprisingly was eliminated in favor of the *o*-stems in almost all of the separate dialects.

Apparently the only consonant-stem masculine with or without a cognate was *nápāt*. Although Lanman (1880:368) proposed that *atharvī-* served as the feminine of *ātharvan* 'fire priest', Walde-Pokorny (1930: 45) and Wackernagel-Debrunner (1896-1957: 2.2.373) state that the meaning of *atharvī-* is obscure. An additional reason for rejecting the pairing is that *-n-* was retained in the motivated feminines of *n*-stems. Because of its isolation the corresponding feminine *naptī-* has been held by some not to have been an inherited *i*-stem but to have been transferred from the *ī* / *yā*-stems in Proto-Indo-Iranian or Indic (Mayrhofer 1980: 149). However, the proposed transfer seems implausible. If the *ī* / *yā*-stems were the only forms employed as the feminines of consonant stems in the parent speech, it is improbable that in a single instance such an *ī* / *yā*-stem feminine would later have been transferred to the *i*-stems in the absence of special motivation, the source of which has not been suggested. It seems more likely that when motion began to spread to include the consonant stems, there was at first some degree of hesitation as to the type of feminine to be used, which was soon resolved in favor of the *ī* / *yā*-stems, and that *naptī-* is a relic of that stage. It thus is probable that there once were a few other *i*-stem feminines of consonant stems which did not survive in the face of the ultimately overwhelming dominance of the *ī* / *yā*-stems.

Although the rarity of *ī*-stems with cognates anywhere accounts for the absence of the *ī*-stems from the cognates of

the forms examined previously, the extremely small number of *ī*-stems possessing cognates seems itself to call for an explanation. Apparently the reason for the lack of such forms is that a large proportion of the attested *ī*-stems was produced during a period of moderate productivity in Indic. Although the suggestion that the *ī*-stems were productive to a relatively appreciable degree at any time might at first seem odd, there are various indications that such was the case. One is that a majority of the *ī*-stems was without a certain Indo-European connection of any kind. That the *ī*-stems were productive to at least some extent is shown by forms such as *gandharvī́* (beside *gandharvá-*) 'female Gandharva', and *gaurī́* (beside *gaurá-*) 'female gaur', which because of their referents presumably originated in Indic (Mayrhofer 1992-2001: 1.462, 503). Confirmation both of the occurrence of the productivity and of its confinement to Indic is apparently provided by the previously noted rarity of cognates of the Vedic *ī*-stems in Iranian. Since the *ī*-stems presumably were being converted into *ī* / *yā*-stems independently in Vedic and Iranian, it is not especially remarkable that *rathī́* was the only Vedic *ī*-stem with a precise Iranian correspondence. However, if *ī*-stems had originally been approximately as common in Iranian as they were later in Vedic, a considerable number of the Vedic *ī*-stems should have corresponded to Iranian *ī* / *yā*-stems or at any rate to Iranian forms of some sort. In fact, only four such imprecise correspondences were found, the same number as in Lithuanian and Germanic. Moreover, three of the four Vedic forms corresponding to Iranian *ī* / *yā*- or *ā*-stems belonged to the small handful of *ī*-stems shown to have been inherited by their possession of cognates outside Indo-Iranian. It thus appears that the *ī*-stems, which have been reported by Mayrhofer (1980: 152) to have been virtually eliminated in Iranian, were relatively rare there from the outset.

In Indic, on the other hand, the modest number of inherited *ī*-stems apparently was increased to some extent. That a majority of the *ī*-stem feminines referred to females suggests that as part of the steady expansion of the *a*-stems a considerable number of such forms with non-female animate referents was added to the language. Although most of them presumably were provided with *ā*-stem feminines, *ī*-stems such as *gandharvī́* and *gaurī́* must have been employed in some instances, perhaps through a variety of individually motivated analogies. Productivity of this sort could explain why, aside

from a single consonant stem, the Vedic masculines with \bar{i} -stem feminines were a -stems to the complete exclusion of \bar{i} -stems. Since the newly introduced masculines receiving \bar{i} -stem feminines presumably were almost entirely a - rather than \bar{i} -stems, their addition would have caused the a -stems to become dominant among the masculines paired with \bar{i} -stems, whatever the distribution between a - and \bar{i} -stems had been among the apparent minority of such forms which had been inherited. Once the dominance of the a -stems had been established in this way, it could have been rendered complete by analogy.

If this explanation is correct, the limited productivity of the \bar{i} -stems was presumably responsible, at least in large part, for the contrast between them and the \bar{u} -stems with respect to their roles as motivated feminines, since the \bar{u} -stems are known to have provided the feminines for a much smaller number of masculines which consisted of u -stems except for the single a -stem *śvāsura* 'father-in-law' (Wackernagel-Debrunner 1896-1957: 2.2.494-495).

To varying degrees the evidence seen here appeared to support the proposals made previously concerning the diphthongal origin of the \bar{i} - (and $\bar{i}/y\bar{a}$) stems and the manner in which they and the \bar{e} -stems came to participate in motion. It was found that the \bar{i} -stems had apparently been productive in Indic to an appreciable degree relative to their overall number and that for that reason few attested \bar{i} -stems possessed correspondences anywhere. The rarity of \bar{i} -stems corresponding to forms of any type outside Indic thus provided an adequate explanation for their absence from the cognates of the forms of apparent diphthongal origin examined previously. It also meant that the evidence of their cognates was insufficient to permit conclusions concerning their origin based directly on the forms of their correspondences as had previously been done in the cases of the other types proposed to have stemmed from diphthongal nouns. However, the cognates of the forms possessing female referents appeared despite their small number to supply indirect support for the diphthongal origin of both the \bar{i} - and $\bar{i}/y\bar{a}$ -stems by pointing almost unequivocally to the conclusion that they and the Baltic \bar{e} -stems varied with one another but not with the \bar{a} -stems and thus were probably of common origin. Since previous evidence had indicated that the \bar{e} -stems were diphthongal in origin, the same was apparently true of the \bar{i} - and $\bar{i}/y\bar{a}$ -stems. Support for the explanation of

participation in motion by the forms of diphthongal origin was less substantial. However, as far as could be told, the evidence of the cognates of the masculines participating in motion with the \bar{i} -stems seemed consistent with the view that the \bar{i} -stems began to be involved in motion through interpretation of their i -stem variants as the masculine forms corresponding to them, since among the forms with cognates each of the two a -stems with \bar{i} -stem feminines possessed an i -stem correspondence. That among the Vedic forms themselves, the large majority of which had no cognates, almost all of the masculines were a -stems and none was an i -stem could apparently be explained as resulting from the later productivity of the \bar{i} -stems in Indic. Since the a -stems, but not the i -stem, were being expanded on a large scale at that time, the bulk of newly introduced masculines which were provided with \bar{i} -stem feminines as a part of the productivity would presumably have been a -stems and thus would have made the a -stems dominant among the masculines paired with \bar{i} -stems. That such was indeed the case is suggested by the contrast with the much rarer \bar{u} -stems, which apparently were not productive and, though they have yet to be examined in the same fashion, are known to have been paired with a few u -stem masculines but only one a -stem. Although the evidence originating among the \bar{i} -stems thus appears on the whole to be favorable, as indicated by the last point and the \bar{i} -stem evidence pertaining to the $\bar{i}/y\bar{a}$ -stems, both the \bar{u} - and the $\bar{i}/y\bar{a}$ -stems must also be examined in the same manner as the \bar{i} -stems before the acceptability of the proposals concerning all three types can be judged.

References

- Albright, Ruth
 1927 *The Vedic Declension of the Type vr̥kis*. Philadelphia: Linguistic Society of America.
- Brosman, Paul
 1984 The IE cognates of the Hittite *ai* and *au*-stems. *Journal of Indo-European Studies* 12: 345-365.
 1992 The Greek nouns in $-\omega$. *Journal of Indo-European Studies* 20: 317-338.
 1994 The PIE \bar{i}/iy -, \bar{u}/uw - and $\bar{i}/y\bar{a}$ -stems. *Folia Linguistica Historica* 15: 3-19.
 2004 The Greek nouns in $-\bar{o}s$ and $-eus$. *Folia Linguistica Historica* 25: 1-19.
- Feist, Sigmund
 1939 *Vergleichendes Wörterbuch der gotischen Sprache*. 3rd ed. Leiden: Brill.

- Kluge, Friedrich and Elmar Seebold
 2002 *Etymologisches Wörterbuch der deutschen Sprache*. 24th ed. Berlin and New York: de Gruyter.
- Kluge, Friedrich, Ludwig Sütterlin and Ernst Ochs
 1926 *Nominale Stammbildungslehre der altgermanischen Dialekte*. 3rd ed. Halle: Niemeyer.
- Lanman, Charles
 1880 A statistical account of noun-inflection in the Veda. *Journal of the American Oriental Society* 10: 325-601.
- Lehmann, Winfred
 1986 *A Gothic Etymological Dictionary*. Leiden: Brill.
- Mayrhofer, Manfred
 1980 Zu iranischen Reflexen des *vṛkī*-Typus. In: Bingen, Jean, André Coupez and Francine Mawet (eds.) *Recherches de linguistique*, 130-152. Brussels: l'Université de Bruxelles.
 1992-2001 *Etymologisches Wörterbuch des Altindoarischen*. 3 vol. Heidelberg: Winter.
- Pokorny, Julius
 1959 *Indogermanisches etymologisches Wörterbuch*. vol. I. Bern: Francke.
- Puhvel, Jaan.
 1994 Anatolian: autochthon or interloper? *Journal of Indo-European Studies* 22: 251-263.
- Sihler, Andrew
 1995 *New Comparative Grammar of Greek and Latin*. Oxford: Oxford University Press.
- Wackernagel, Jacob and Albert Debrunner
 1896-1957 *Altindische Grammatik*. 3 vol. Göttingen: Vandenhoeck and Ruprecht.
- Walde, Alois and J. B. Hofmann
 1938-54 *Lateinisches etymologisches Wörterbuch*. 3rd ed. 2 vol. Heidelberg: Winter.
- Walde, Alois and Julius Pokorny
 1930 *Vergleichendes Wörterbuch des indogermanischen Sprachen*. vol. I. Berlin and Leipzig: de Gruyter.