

GENDER IN PROTO-INDO-EUROPEAN AND THE FEMININE MORPHEMES

by

NICOLE E. DREIER

(Under the Direction of Jared S. Klein)

ABSTRACT

The three-gender system seen in the core Indo-European languages is not the oldest gender system in Proto-Indo-European (PIE). There is evidence of an earlier animacy-based, two-gender system in PIE, which raises the question of how the third gender (i.e. the feminine) came to be. Its origins are made even more uncertain by the feminizing suffixes $*(e)h_2-$, $*-ih_2-$, and $*-i-h_x-$, as they show older functions, such as deriving collective and abstract nouns. This thesis outlines some of the many explanations scholars have offered for these questions over the last two centuries and ultimately argues that a combination of these and other factors may have been involved in this change to the PIE gender system.

INDEX WORDS: Abstract nouns, Collective, Feminine, Gender, Animacy, Morphology, Indo-European, Historical linguistics, Derivational suffixes

GENDER IN PROTO-INDO-EUROPEAN AND THE FEMININE MORPHEMES

by

NICOLE E. DREIER

B.A., Georgetown University, 2014

A Thesis Submitted to the Graduate Faculty of The University of Georgia in Partial Fulfillment
of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2018

© 2018

Nicole E. Dreier

All Rights Reserved

GENDER IN PROTO-INDO-EUROPEAN AND THE FEMININE MORPHEMES

by

NICOLE E. DREIER

Major Professor: Jared S. Klein
Committee: Keith Langston
Mark Wenthe

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
May 2018

DEDICATION

To Papa, who was never wrong. He thought he was once, but he was mistaken.

ACKNOWLEDGMENTS

I would like to offer my sincerest thanks to everyone who helped and supported me as I worked on this thesis. I must first thank my major professor, Dr. Jared Klein, who provided invaluable guidance and feedback as I wrote and revised this thesis. Thank you, also, to my committee members, Dr. Keith Langston and Dr. Mark Wenthe, who reviewed my work and offered feedback to help guide my revisions. I would also like to thank the Linguistics Department faculty, whose instruction helped make this thesis possible.

I must also offer my thanks to my friends and classmates at UGA, especially Nakita Barakadyn and Melissa Gomes. Their support and encouragement truly allowed me to complete this thesis with my sanity intact.

Finally, I'd like to thank my family, whose love and support helped me get here in the first place, and my dog, Ella, who provided me with some much-needed emotional support during the writing process.

TABLE OF CONTENTS

| | Page |
|---------------------------------------------------------------------------------------------|------|
| ACKNOWLEDGMENTS | v |
| LIST OF TABLES..... | viii |
| LIST OF FIGURES | ix |
| CHAPTER | |
| 1 INTRODUCTION..... | 1 |
| 2 EVIDENCE FOR AN ANIMACY-BASED, TWO-GENDER SYSTEM IN PIE..... | 3 |
| Definition of morphological gender | 3 |
| Evidence for a two-gender system | 4 |
| 3 THE *-(E)H ₂ - SUFFIX IN PIE..... | 10 |
| Collective nouns | 10 |
| Abstract nouns..... | 13 |
| Feminine gender | 15 |
| 4 ON THE DEVELOPMENT OF THE SUFFIXES | 21 |
| Greenberg's theory of gender..... | 21 |
| Semantic shift..... | 22 |
| Relational adjectives | 24 |
| Two separate developments | 25 |
| * <i>-h₂-</i> as individualizing..... | 27 |
| 5 TOWARD A UNIFIED EXPLANATION OF *-(E)H ₂ - AND * <i>-IH₂-</i> | 29 |

| | |
|-------------------------------------------------------------------|----|
| *- <i>h</i> ₂ - as a marker of substantivization | 29 |
| Two distinct suffixes | 36 |
| A closer look at *- <i>ih</i> ₂ - | 39 |
| Genitivals, possessives, and diminutives | 42 |
| 6 DIMINUTIVES | 46 |
| Semantic tendencies of diminutives | 46 |
| Implications | 50 |
| 7 Conclusion | 53 |
| REFERENCES | 55 |

LIST OF TABLES

| | Page |
|---------------------------------------------------------------------------------------|------|
| Table 1: PIE Noun Case Endings | 6 |
| Table 2: Distribution of <i>*-i-h_x-</i> and <i>*-ih₂-</i> | 41 |

LIST OF FIGURES

| | Page |
|-----------------------------------------------------------------------------------------|------|
| Figure 1: Development of the Suffix $*(e)h_2$ | 26 |
| Figure 2: Nussbaum's (2014) Two-Step Derivational Process..... | 33 |
| Figure 3: Kim's (2014) Process for Reanalysis of Feminine Suffixes | 39 |
| Figure 4: Jurafsky's (1996) Proposed Universal Structure for Diminutive Semantics | 47 |

CHAPTER 1

INTRODUCTION

The core or nuclear Indo-European (NIE) languages, excluding Anatolian, share a three-gender system in their nominals, which allows for the reconstruction of three genders in the protolanguage. However, it is widely accepted that this system with masculine, feminine, and neuter goes back to an earlier two-gender system, which distinguished only animate and inanimate. This hypothesis of an animacy-based, two-gender system, in fact, precedes the discovery and decipherment of Hittite—an Indo-European (IE) language with only two genders—in the early twentieth century, which helped provide support for an earlier animacy-based system. This thesis will begin by laying out the evidence for a two-gender system of animate and inanimate in Proto-Indo-European (PIE) before Anatolian branched off and then, in Anatolian.

The discussion will then turn to the suffix $^{*-(e)h_2-}$ and its different functions, including deriving collective nouns, deriving abstract nouns, and later marking the feminine gender. The origins of this suffix and how its earlier functions may have led to its being reanalyzed as a marker of the feminine are vexed questions in IE studies. It is generally agreed that it is the same $^{*-(e)h_2-}$ suffix across its different functions or, at the very least, that there are homophonous morphemes $^{*-(e)h_2-}$. However, it is still unclear how and why these three categories should be thus connected. This thesis outlines several of the theories that attempt to account for these questions for which scholars have argued over the years.

This paper also looks at the other feminizing suffixes seen in the IE languages: **-ih₂-* (the *devī-* type) and, somewhat more briefly, **-ih_s-* (the *vrkī-* type). It discusses the functions of these two suffixes as well as their distributions relative to **-(e)h₂-* and the theories different scholars have offered about both.

Finally, this thesis outlines the semantic tendencies and range of the diminutive with the goal of drawing parallels between this range and that seen among the feminizing suffixes. This connection may provide a semantic basis for the suffixes, in all their various functions and values, coming to mark the feminine gender. However, the paper concludes by acknowledging the fact that it is likely a combination of factors—including semantic—which led to the reanalysis of these morphemes as feminine.

CHAPTER TWO

EVIDENCE FOR AN ANIMACY-BASED, TWO-GENDER SYSTEM IN PIE

2.1 Definition of morphological gender

As Matasović (2004: 18) says, “Gender is unlike all other grammatical categories of nouns.” Unlike case and number, the gender of a noun does not affect the meaning of a word. For example, “it would be quite senseless to say that, e.g., the masculine gender of Latin *pēs* specifies its meaning in any sensible way” (Matasović 2004: 18). In addition, gender is invariable, unlike case and number; it is inherent in nouns, and “each noun must necessarily belong to a gender” (Luraghi 2014: 208), but gender is inflectional in adjectives and pronouns, which agree with the nouns to which they refer.

The Canonical Gender Principle, according to Corbett and Fedden (2016: 495), is “[i]n a canonical gender system, each noun has a single gender value.” Nouns are assigned one gender, which is fixed, but a noun’s gender is “not necessarily arbitrary” (Corbett and Fedden 2016: 504). The gender assignment may be based on the noun’s semantics or on its phonological or morphological form; languages vary in what factors they use to assign gender (Corbett and Fedden 2016: 520).

However, nouns may also be assigned to a gender to which they ought not belong according to their semantics and “the general rules of the language (in the same way that there may be verbs that do not correspond to the ordinary models of conjugation and nouns with irregular declensions)” (Ledo-Lemos 2003: 9). This sort of “irregularity” is exemplified by the

Latin *manus* ‘hand’, which is feminine. There is no obvious semantic basis for its assignment, and most other fourth-declension nouns in *-us* are masculine in Latin (Ledo-Lemos 2003: 9).

Setting aside the issue of the occasional synchronic opacity of gender assignment, it is crucial to note the function of gender in a language. Gender is in line with other grammatical categories in that it helps speakers establish and interpret syntactic relations among words in an utterance (Matasović 2004: 19). The obligatory agreement of nouns with co-indexed nominals, such as adjectives and pronouns, allows speech participants to track referents more easily. This “agreement triggering property,” Luraghi (2014: 219) says, characterizes gender. Thus, this paper will define gender as a grammatical category specified in the lexicon, which triggers agreement within a noun phrase.¹

2.2 Evidence for a two-gender system

2.2.1 In the nuclear Indo-European languages

There is evidence in core or nuclear Indo-European languages, excluding Anatolian, that suggests that the three-gender system, distinguishing masculine, feminine, and neuter, is not the oldest state of affairs. Remnants of an earlier two-gender system can be seen in nouns where there is no “formal distinction between masculine and feminine stems” (Beekes and de Vaan 2011: 189). For example, kinship terms like **ph₂tér-* ‘father’ (Latin *pater*, Greek *πατήρ*, Sanskrit *pitár-*) and **meh₂tér-* ‘mother’ (Latin *māter*, Greek *μήτηρ*, Sanskrit *mātár-*) are both *r*-stems and do not mark the masculine and feminine nouns differently in the stems (Fortson 2010: 173). It is the root itself that provides the meaning and, in this case, gender. The lack of distinct stems

¹ Matasović (2014: 235), however, notes that “the PIE gender system is typologically highly unusual in that its sole domain is the NP,” being in no way reflected in the verb.

suggests that both **ph₂tér-* and **meh₂tér-* might have belonged to the same gender (i.e. animate) at an earlier stage of PIE.

Even more critical evidence for an earlier animacy-based gender system comes from adjectives of two terminations. These adjectives have a single masculine/feminine declension and a separate neuter declension (e.g. 3rd declension Latin adjectives like *facilis* masc. and fem., *facile* ‘easy’ neut., Greek *ἄλογος* masc. and fem., *ἄλογον* neut. ‘without speech, non-rational’) (Sihler 1995: 349). The two-way split also appears “in compound **s*-stem adjectives in Vedic and Greek (m[asc]/f[em]. nom. sg. Ved. *su-mánās*, Gk. *eu-menés*, n[eut]. Ved. *su-mánas*, Gk. *eu-menés* ‘good-minded; kindly’)” (Lundquist and Yates 2018: 2096). Adjectives of this type seem to preserve the earlier animate/inanimate distinction.

As exhibited by the examples above, gender was not marked in the stem in the animacy-based system. Instead, it was marked in the endings, and “the earliest reconstructable PIE gender system only showed differences in gender agreement in the grammatical cases” (Matasović 2014: 243). The animate and inanimate genders were distinct in the nominative and accusative case endings only. The animate gender, which later became the masculine, had an ending **-s* in the nominative case and an **-m* in the accusative, but the inanimate/neuter nominative-accusative had no endings in either case (Sihler 1995: 248). This can be seen “in the athematic declension of the IE languages; later, when the thematic declension was created, the ending **-m* of the animate accusative was extended to the nominative and accusative of neuters” (Luraghi 2014: 225).

Table 1. PIE Noun Case Endings

| | | <i>athematic</i> | <i>thematic</i> |
|------------------|------------------------|--------------------------------------|-----------------------------------------------|
| sg. | nom. | *-s ~ Ø (neut. Ø) | *-o-s (neut. *-o-m) |
| | voc. | Ø (neut. Ø) | *-e (neut. *-o-m) |
| | acc. | *-m (neut. Ø) | *-o-m (neut. *-o-m) |
| | instr. | *-éh ₁ ~ *-h ₁ | *-o-h ₁ |
| | dat. | *-éy | *-o-ey |
| | abl. | *-és ~ *-os ~ *-s | *-e-ad |
| | gen. | *-és ~ *-os ~ *-s | *-o-syo |
| | loc. | Ø (→ *-i) | (**-e →) *-e-y |
| | du. | nom./acc./voc. | *-h ₁ e (neut. *-ih ₁) |
| instr./dat./abl. | | ??? | ??? |
| gen./loc. | | *-ows (?) | ??? |
| pl. | nom./voc. | *-es (neut. *-h ₂ ~ Ø) | *-o-es (neut. *-e-h ₂) |
| | acc. | *-ns (neut. *-h ₂ ~ Ø) | *-o-ns (neut. *-e-h ₂) |
| | instr. | *-b ^h i | *-ōys |
| | dat./abl. ² | *-mós | *-o-mos (*-o-y-mos?) |
| | gen. | *-óHom | *-o-oHom |
| | loc. | *-sú | *-o-y-su |

(Ringe 2006 : 41)

The fact that masculine and neuter (or animate and inanimate) did not use a suffix to mark gender supports the hypothesis that the feminine *-ih₂/*-eh₂ suffixes are later, secondary developments.

As stated above (§2.1), gender triggers obligatory agreement within a noun phrase in PIE. Thus, adjectives parallel the inflectional endings found in the nouns, with masculine and neuter being distinct in the nominative and accusative only in athematic classes. Feminine adjectives, on the other hand, are formed “by suffixes that generally combine a marker of the feminine with PIE animate case endings, e.g. feminine accusative singular *-eh₂-m” (Lundquist and Yates 2018: 2094-2095). In adjectives with thematic vowels, the feminine is derived from the masculine by replacing the *-o- with *-eh₂-, as in Proto-Nuclear-Indo-European *néwos,

² According to Sihler (1995: 248), dat./abl. pl. could also be *-bhos for athematic and *-o-bhos for thematic.

**néweh₂*,³ **néwom* (Lundquist and Yates 2018: 2096). Since the feminine is derived from the masculine, it must be a later development.

A similar relationship can also be seen in many pairs of nouns that contain gender in the suffix. For example, a pair such as **deiu-o-* ‘god’ and **deiu-ih₂/*-eh₂* ‘goddess’ (Latin *deus* and *dea*; Sanskrit *devás* and *devī*; Lithuanian *diēvas* and *diėvė*⁴) have gender encoded not in the root—as is the case with the kinship terms above—but in the suffix (Beekes and de Vaan 2011: 189; Brugmann 1897: 4).

Finally, the masculine and feminine demonstrative pronouns **so* and **seh₂*, respectively, show the feminine **-eh₂-* being substituted for the **-o-* thematic vowel in the masculine (Beekes and de Vaan 2011: 189). Compare **so* and **seh₂* with their neuter counterpart **to*. The neuter pronoun (**t-*) differs in the root from the masculine and the feminine pronouns, which are both **s-*. This relationship points to an earlier animacy-based gender system, where the animate (later, masculine) pronoun is with **s-*, from which a feminine in **-eh₂* is derived, and the inanimate/neuter one is with **t-*.

2.2.2 Anatolian

The NIE evidence of the two-gender system was remarked upon as early as Brugmann 1891. Then the decipherment of the Anatolian language Hittite in the early twentieth century brought with it new evidence for the hypothesized animacy-based system. Hittite does not distinguish between masculine and feminine; it only has a “two-way distinction between animate or common gender and inanimate or neuter” (Fortson 2010: 161). However, there are technically

³ The lack of animate ending **-s* in the feminine nominative singular has been noted and remarked upon by others with no clear explanation established or agreed upon.

⁴ The *-ė* in Lithuanian is from **-ijā* (possibly from **-ih_x+eh₂*).

two possible sources for this system: either it developed from a three-gender system and later lost the masculine/feminine distinction, or it is the continuation of a two-gender system that existed in the language's pre-history (Matasović 2004: 36). Scholars generally agree that the latter explanation is correct (Matasović 2004: 33). Thus, they conclude that the three-gender system in PIE developed after Anatolian had already branched off (Beekes and de Vaan 2011: 189).

Despite its lack of feminine gender, Hittite did have a method of deriving words with female referents. The suffix “**-s(o)r-*, derived from a word **soro-* ‘woman’,” as in the reconstructed PIE word for sister, **swe-sōr*, which, perhaps, more literally should be translated as ‘woman of one’s own (kinship group)’ (Fortson 2010: 184). The ability of Hittite to derive such feminine nouns with this morpheme does not mean that they had feminine as a grammatical gender. In fact, “all human languages are perfectly capable of marking the referent of a noun as female when necessary, e.g. by lexical means,” even if the language only marks gender in pronouns or has no gender system at all (Kim 2014: 120). For example, Classical Armenian, which has no gender system, has a suffix *-uhi* that designates females. In Hittite, these nouns with female referents did not trigger any distinct agreement in co-indexed adjectives or pronouns and can therefore not be considered grammatically feminine. Nouns with the suffix **-sor(o)-* simply “behave just like other animate stem classes with respect to adjectival and pronominal agreement patterns” (Lundquist and Yates 2018: 2099), suggesting that feminine was not a grammatical gender in Hittite.

The combined evidence from Hittite and NIE languages outlined above strongly suggests that the PIE three-gender system of masculine, feminine, and neuter is unoriginal. The following chapter will outline the functions of the **-ih₂-*/**-eh₂-* suffixes. Although these suffixes later come

to mark the feminine and are most often associated with the feminine, they had other, older functions, which can be seen in the IE languages to varying degrees. Ultimately, this thesis will explore the question of how these suffixes developed into markers of the feminine from these older functions.

CHAPTER THREE
THE $^{*-(E)H_2}$ - SUFFIX IN PIE

3.1 Collective nouns

In PIE, one of the functions of the derivational suffix $^{*-h_2}$ - was to form collective plurals from animate nouns, especially in Anatolian. Fortson (2010: 181) claims that deriving collective plurals was the suffix's original function. However, Luraghi (2014: 216) disagrees, claiming that $^{*-h_2}$ - was originally used to form abstract nouns. Regardless of which function came first, the suffix's role as a collective marker can be seen in the following Anatolian example: Hittite *alpaš* 'cloud' had a plural form *alpeš* 'clouds', but it also had the collective *alpa* 'group of clouds' (Fortson 2010: 181). According to Kim (2014: 132), the suffix "made collectives to count nouns (and delibative⁵ plurals to mass nouns)."

Most scholars now agree that consonant-stem collectives with final long vowels go back to earlier forms with the $^{*-h_2}$ - suffix. The theory proposes $^{*-}\bar{V}R < **VRh_2$; for example, to the mass noun $^{*}\bar{u}éd-or$ 'water', there was the collective plural $^{**}\bar{u}éd-or-h_2 > ^{*}\bar{u}éd-ōr$ '(bodies of) water', or similarly for $^{*}h_1néh_3m-on$ 'name', there existed an earlier collective $^{**}h_1néh_3m-on-h_2 > ^{*}h_1néh_3m-ōn$ '(set of) names' (Kim 2014: 124). The *s*-stem collectives, which, like stems ending in a resonant, were affected by Szemerényi's Law,⁶ were also compensatorily lengthened after the loss of the laryngeal: $^{*}mén-os-h_2 \rightarrow ^{*}mén-ōs$ 'thoughts' (Kim 2014: 124). Thus,

⁵ Delibatives will be discussed in more detail in §5.1. But, Nussbaum (2014: 286) defines them as mass nouns that refer to a specific set or type of the base noun.

⁶ $^{**}-VRs$ and $^{**}-VRh_2 > ^{*}\bar{V}R$ (Ringe 2006: 20)

although the **-h₂-* suffix became obscured in these stem types in PIE, it can be fairly well proven that such earlier forms did exist.

According to Fortson (2010: 181), some scholars believe that the collective belonged to the number system of PIE nominals. This means that PIE would have inflected for four distinct numbers: singular, dual, distributive plural, and collective. However, Matasović (2006: 108) says that this theory is typologically improbable given that “[t]here are no known number systems in which nouns lower on the animacy hierarchy (PIE neuters) distinguish more values than nouns higher on the animacy hierarchy (PIE masculines and feminines).” Inanimate nouns only distinguish more than one number if animate nouns already distinguish more than one (Luraghi 2011: 440). As collectives were inanimate/neuter in gender, it is unlikely that collective constituted a distinct grammatical number. The lack of verbal endings to correspond to a collective also suggests that this was a derived form rather than inflectional like singular, dual, and plural since the collective did not trigger the same type of agreement in the verbal domain that the other numbers did (Matasović 2006: 109).

In the IE languages, these collectives were often reanalyzed as neuter plurals and “integrated into the paradigms of the nouns from which they had originally been formed” (Ringe 2006: 46). Thus, what started as a derivational suffix (**-h₂-*) became an inflectional marker of the neuter plural. Despite this later development, the collective was, in fact, grammatically singular in PIE, which can be seen in Anatolian, Greek, and Old Avestan, where neuter plurals agreed with singular verbs (Matasović 2006: 110). For example, in the Greek *τὰ ζῷα τρέχει* ‘the animals run’ (Fortson 2010: 181), *τὰ ζῷα* is a nominative neuter noun in the plural but agrees with the third person singular verb *τρέχει*. Sihler (1995: 266), in his discussion of the **-eh₂-* stem nouns, says the following:

[I]n Hitt., as in G[reek], the ‘plural’ of the neuter was in a very real sense singular, as it construes with 3sg verbs. Before that discovery, there was room for debate over whether G[reek] syntax of the *πάντα ῥεῖ* ‘all things flow’ type was an innovation. But now it is clear that it can only be an ancient trait. The reinterpretation of a neut.pl. as some kind of derivative (collective) singular is thinkable if **k^wek^wlé-H₂* (to **k^wek^wlom* ‘wheel’) was not so much ‘wheels’ as something like ‘wheelage’, or perhaps indifferently one or the other.

It should be noted that Sihler’s translation of the collective as ‘wheelage’ is, in fact, an abstract noun, which itself speaks to the somewhat fluid relationship—what Ledo-Lemos (2003: 33) calls the “great permeability”—between the two categories. This archaic feature found in Anatolian, Greek, and Old Avestan seems to support Matasović’s (2006) argument that the collective **-h₂-* suffix was derivational rather than a means of inflecting number.

Collective nouns often exhibited a shift of accent in addition to the **-eh₂-* suffix. The collective **k^wek^wlé-h₂-* ‘set of wheels’ is derived from the o-stem masculine noun **k^wék^wlo-* ‘wheel’ (Ringe 2006: 46). Although different IE languages later leveled out this accent alternation (e.g. Greek masculine *κύκλος* and neuter plural *κύκλα*) (Ringe 2006: 46), this shifting accent provides some support for Matasović’s (2006: 116) theory that **k^wek^wlé-h₂-* is not “an irregular neuter plural (or collective) of the masculine noun **k^wék^wlo-* ‘wheel’ ... [but is] a regular neuter nom.acc.pl. of the thematic adjective **k^wek^wlo-* ‘turning’, derived from the root **k^wel(H₁)-* ‘to turn’.” Similarly, Nussbaum (2014: 300) argues that the collective was largely formed “by deriving a possessive from the relevant count or mass noun.” For example, the PIE word **h₂uórso-* ‘mist, rain’ would have a possessive form **h₂uersó-* ‘rainy’. The **-h₂-* suffix was then applied to substantivize the possessive (or exocentric) adjective: from the possessive

**h₂uersó-* ‘rainy’ to the collective noun **h₂uersé-h₂* ‘a quantity, period of rain’ (Nussbaum 2014: 300).

Therefore, Matasović (2006:116) points out that forms like Greek *loipá* ‘the rest’ (to *loipós* ‘the remaining (one)’) and Latin *loca* (to *locus*) are indeed archaic. They are not, however, evidence for a collective number; more likely, they prove that thematic nouns could form adjectives, “distinguishing ... three numbers, and the neuter plural of such nominals may have had collective meaning” (Matasović 2006: 116).

3.2 Abstract nouns

Scholars disagree as to whether **-h₂-* was originally a collective or abstract suffix (cf. Luraghi 2014 and Fortson 2010). It is clear, however, that both functions existed in early PIE as Anatolian also has abstract nouns in **-h₂-*: “Luvian *zid-āh* (-iša) ‘virility’ (from *ziti-* ‘man’), Lycian *pijata-* ‘gift’ (< **pijo-teh₂*)” (Fortson 2010: 181). The suffix appeared in all cases and numbers of the derived abstract nouns (Luraghi 2011: 437).

The abstract value of the suffix **-h₂-* is also reconstructed in Hittite *-āuar* (< **-eh₂-* + *-uar/-un-*), as in the deverbatives *ašāuar* ‘animal pen’ (: *ašzi* ‘remains’) or *ḫaršuar* ‘tilled field’ (: *ḫaršzi* ‘plow’) and the denominatives *karāuar* ‘horn(s), Gehörn’⁷ or *partāuar* ‘wing’ (Nussbaum 1986: 32). These words, however, have undergone the fairly common development of concretization in Hittite. This semantic shift from abstract to concrete noun will become more relevant in the discussion, below, of how the **-h₂-* suffix might have developed. Unfortunately, there is no clear explanation as to why a small group of Hittite nouns in **-h₂-* should have been

⁷ While this word may have lost its abstract value, it seems to have developed a collective value. This, again, supports the idea that there is a “great permeability” between abstract and collective values (Ledo-Lemos 2003: 33).

extended by *-uar* and changed from abstract to concrete in meaning while others, such as *hašša-* ‘hearth’ (cf. Lat. *ara*), were not (Nussbaum 1986: 34).

The **-h₂-* suffix can also be seen across the NIE languages with its abstract function. For example, the PIE form reconstructed for the Latin feminine adjective *vēra* ‘true’ “also evidently lies behind the abstract reflected by OHG *wāra* f[em]. ‘loyalty’ (quasi **‘trueness’*) and OCS *věra* f[em]. ‘belief’ (i.e. ‘a truth, true thing’)” (Nussbaum 2014: 275). The *-a* seen in these forms, of course, goes back to **-h₂-*.

Abstract nouns fell into both animate and inanimate genders in PIE. Luraghi (2011: 441) summarizes, “According to Matasović, the early PIE inanimate gender basically included only mass nouns, such as nouns of substances and fluids, and some abstracts.” On the other hand, the animate gender included nouns that referred to inanimate objects as well as some abstract nouns (Luraghi 2011: 441).

Thus, the key distinction between animate and inanimate genders in early PIE seems to have been the level of individuation rather than a strict correspondence with natural/referential animacy. Abstract nouns were included in both animate and inanimate genders because they tended to fall in between the two extremes in terms of individuation (Luraghi 2011: 444). There are some categories of abstract nouns that do include concepts that may be considered more animate or “capable of acting because they indicate entities which cannot be controlled by human beings, such as emotions” (Luraghi 2011: 444). Many types of abstract nouns end up feminine in the core IE languages, indicating that they are, in fact, between masculine and neuter in terms of individuation (Kim 2014: 121). Luraghi (2011: 440-446) discusses the role that

individuation played in the gender system of PIE, saying that it worked in conjunction with natural/referential animacy within the system.⁸

According to Comrie (1989: 189), individuals often correspond to higher animacy and “therefore countable, while entities of lower animacy are more readily perceived as an indeterminate mass.” His typological discussion of individuation in animacy-based gender systems supports Luraghi’s explanation of the PIE gender system with highly individuated nouns being assigned to the animate category (later masculine) and less individuated nouns assigned to inanimate/neuter. This would then leave the nouns of intermediate individuation to fall, later, into the feminine, which stood between masculine and neuter in terms of individuation and agency.

3.3 Feminine gender

The **-h₂-* suffix as a marker of the feminine is seen in the NIE languages, excluding Anatolian (Fortson 2010: 182). Thus, the feminine gender, as discussed above (§2.2.1-2), was a later development of PIE that occurred after the Anatolian branch split from PIE. For words with natural or referential gender, the root word itself might indicate its gender (e.g., Latin *pater* vs. *māter*; Greek *πατήρ* vs. *μήτηρ*); when masculine and feminine share a stem, however, the inflection differentiates the two (e.g., Latin *deus* vs. *dea*; Lithuanian *diēvas* and *diėvė*) (Brugmann 1897: 4). This feminine ending in *a* or *ā* comes from the suffix **(e)h₂-*, which was derivational in origin but “later became a theme vowel associated with the feminine gender” (Luraghi 2011: 457). By late PIE, the feminizing suffixes—both **-h₂-* and **-ih₂-*, the latter of which is discussed later in more detail—had already moved away from their derivational status

⁸ This theory will also feed into the discussion of **-h₂-* as a feminizing suffix and how the morpheme might have been reanalyzed as such (cf. Kim 2014).

to become more inflectional in that they became thematic vowels that marked and characterized inflectional classes (Luraghi 2014: 209-210).

Grammatical gender is fixed in nouns and triggers obligatory agreement with other co-indexed nominals. Therefore, the feminine became a proper grammatical gender in PIE when adjectives and pronouns had to agree with the feminine noun to which they pointed/referred (cf. Luraghi 2014). For example, there were the three-termination adjectives, such as **néwos* (masc.), **néweh₂* (fem.), **néwom* (neut.) ‘new’ (Latin *novus, nova, novum*), which formed the feminine “by substitution of **-eh₂-* for the thematic vowel of a masculine **o*-stem” (Lundquist and Yates 2018: 2096). However, the first step in developing a gender system actually involves agreement with demonstratives since they would pattern with their antecedent inflectionally, whether animate or inanimate. The PIE demonstratives distinguished animate (**so*) from inanimate (**to*), and later, at the relevant stage, split the animate demonstrative to masculine (**so*) and feminine (**seh₂*) (Luraghi 2011: 452).

The connection between PIE neuter plurals and feminine singulars has been long remarked upon. One striking similarity between the two is the lack of **-s* in the nominative singular of feminine *ā-* (**-eh₂-*) stems, which is paralleled in the nominative-accusative plural of *o*-stem neuters (Sihler 1995: 266). Ringe (2006:42) addresses this similarity, saying the following:

Most of the zero-endings of the non-neuter nom. sg. arose by Szemerényi’s Law... or are obviously analogical on those that did, but most stems in **-h₂-*, which seem regularly to have been feminine, lacked an overt nom. sg. ending for reasons that are unclear. The zero-endings of the neut. pl. direct cases likewise

arose by Szemerényi's Law (which apparently affected all fricatives, thus $*-h_2-$ as well as $*-s$).

The question here, therefore, is why the feminine nominative singular should lack the case marker $*-s$.

The suffix $*(e)h_2-$ is not the only feminizing suffix; in fact, more common is the suffix $*-ih_2-$ of the *devī́*-type feminines (Kim 2014: 119). The source and origin of $*-ih_2-$ and its connection to $*(e)h_2-$ is still obscure, but Kim (2009) argued, based on evidence found in Tocharian, that $*-ih_2-$ was the original feminine marker. This would mean that the feminizing $*(e)h_2-$, found in thematic adjectives, was a later development. Kim (2014: 132) later revises this theory, saying that $*-ih_2-$ could be used with athematic and thematic nouns, but $*-h_2-$ was used for primary adjectives. This theory is in lieu of the commonly reconstructed “ $*-eh_2-$ for thematic stems and $*-ih_2-$ for athematic stems: cf. Ved. *návā* vs. *svādvī́*, *bháratī*, G[k]. *vēā* vs. *ἦδεῖα*, *φέρουσα*” (Kim 2014: 121).

Kim (2014: 124-125) notes, too, that although it may be tempting “to analyze $*-ih_2-$ as $*-i-h_2-$, i.e. as a combination of the $*-i-$ and $*-h_2-$,” such as analysis does not work out because “ $*-i-$ derives individualizing and abstract nouns only to thematic bases, whereas the *devī́*- suffix $*-ih_2-$ was clearly associated with athematic stems.” Therefore, the suffix $*-ih_2-$ must be reconstructed as a single morpheme.

In the core IE languages, the feminine gender includes nouns beyond simply those that indicate a female referent. It is true that such nouns, for example, **swesōr* ‘sister’ (Latin *soror*) and **snusos* ‘daughter-in-law’ (Greek *nuós*) are also grammatically feminine (Matasović 2004: 169). However, the grammatical gender, feminine, also consists of nouns that were originally “substantivized adjectival formations” (Matasović 2004:168), which are found beside *o*-stem

adjectives: *trophé* ‘food’ vs. *trophós* ‘feeding’, *tomé* ‘a cut’ vs. *tomós* ‘cutting’ (Matasović 2004: 168). As Melchert (2014: 263) points out, though, this claim that “Greek feminine action nouns such as *τομή* ‘(a) cutting’ reflect neuter collectives (see again the just criticism of circularity by Luraghi 2011)” has no concrete evidence to support it.

In addition, there are also nouns that derive from possessive adjectives, such as Greek *mélissa* ‘bee’ < **melit-ih₂* (*méli* ‘honey’)⁹ (Matasović 2004: 169). On the etymology of the PIE word for ‘bee’, Pinault (2011: 171) says,

On peut gloser ce mot **mélit-ih₂* comme ‘celle du miel’, mais quelle est la relation précise entre le dérivé et sa base ? Une relation d’appartenance stricte (‘qui appartient au miel’) serait bizarre, une relation plus vague (‘qui est en rapport avec le miel’) ne vaut guère mieux. Un sens plein est obtenu avec la glose ‘maîtresse du miel’, d’où ‘pourvue du miel’, car l’abeille est l’animal dont l’activité produit le miel, et le ‘donne’ en quelque sorte aux humains.

Yet, this definition, ‘maîtresse du miel’, seems no more or less bizarre than the ones above. There is no reason for ‘bee’ to come from ‘female/feminine honey’. It would seem much more likely, instead, that ‘bee’ goes back simply to ‘possessing honey’ as Nussbaum’s (2014) argument would suggest.

As stated above (§3.2), degree of individuation played a role in gender assignment in the two-gender, animacy-based system of early PIE, and feminine nouns in the IE languages do seem to be “intermediate between the masculine and neuter on a scale of individuation” (Kim 2014: 121). A mass noun such as **mélit* ‘honey’ was weakly individuated and, thus, inanimate/neuter. An individuated noun such as **pód-* ‘foot’, on the other hand, was animate—

⁹ Greek *mélissa* ‘bee’ could alternatively be from the compound **meli-liǵh-ih₂* ‘honey-licking’.

and later masculine (Lundquist and Yates 2018: 2095). However, individuation could not have been the factor motivating the split from animate into masculine and feminine.

Luraghi (2011: 456) offers a typological discussion of gender systems, concluding that the motivation for this development could only have been sex-based. In a system with an animacy distinction, the animate class will generally involve more subcategories than the inanimate, or at least acquire additional ones before an inanimate class does. A split in the animate class, then, will reflect referential sex as seen in the development of a feminine class in PIE. Then, only after the introduction of this new class will it “take part in the individuation scale” (Luraghi 2011: 456).

More than simply indicating referential sex, Luraghi (2009b: 127 and 2011) makes the argument, with which Melchert (2014: 264) agrees, that an involvement in procreation may have played a role in gender assignment in PIE. It may have been a key factor motivating the split between masculine and feminine. Nouns that referred to male or female humans/animals were, for the most part, assigned to masculine and feminine, respectively (Lundquist and Yates 2018: 2095). For example, there was the masculine noun **ph₂tēr* ‘father’ beside feminine **méh₂tēr* ‘mother’ and **w_lk^wos* ‘(he-)wolf’ beside **w_lk^wih_xs* ‘she-wolf’ (Lundquist and Yates 2018: 2095). However, words that indicated children and young animals were often neuter in the IE languages (Melchert 2014: 264), e.g. Gk. *téknōn*, OHG *kind*, and OCS *děte* (Lundquist and Yates 2018: 2095). The humans/animals to which those nouns refer are too young to procreate, so, despite being physically animate, they are grammatically neuter.

A similar phenomenon is seen in German *Mädchen* ‘girl’, which is a neuter noun that may take either a neuter or a feminine anaphoric pronoun.

(1) Weiß dieses Mädchen überhaupt, was sie/es da getan hat?
knows this.N girl at.all what she/it there done has
'Does this girl know at all what she's done there?' (Corbett and Fedden 2016: 518)

A questionnaire experiment determined that feminine anaphors were used more if *Mädchen* referred to, for example, an eighteen-year-old girl “as opposed to a two- or [twelve]-year-old one, where neuter pronouns were more frequent. These results show that speakers perceive biological sex as more important for adults than for children” (Corbett and Fedden 2016: 522). This supports Luraghi’s theory that involvement in procreation was a factor—alongside individuation—in gender assignment in PIE.

CHAPTER FOUR

ON THE DEVELOPMENT OF *-(E)H₂-

4.1 Greenberg's theory of gender development

It would be difficult to discuss the development of these suffixes into a marker of feminine gender without first discussing Greenberg's (1978) typologically based theory of the development of gender markers. In the article in question, he illustrates how a demonstrative adjective may become a gender marker, breaking the process down into three stages, where the demonstrative is considered stage zero (Greenberg 1978: 61).

Stage zero: The deictic aspect of a demonstrative is eroded until it is simply a definite article "where it becomes compulsory and has spread to the point at which it means 'identified' in general" (Greenberg 1978: 61). This is seen in the history of the Romance languages; the Latin third person pronoun *ille*, which in its different numbers and genders yields, for example, French *le (l')*, *la*, *les* (Alkire and Rosen 2010: 205).

The definite article is Greenberg's first stage, followed by stage two non-generic article, in which the article may have "both definite determination and non-definite specific uses" (Greenberg 1978: 63). When the article becomes semantically bleached, leaving no real contrast between nouns collocated with the article and those without, a language may level either of these forms. If speakers level the form with the article, then the language has reached stage three where the article has become a marker "which no longer has any synchronic connection with definiteness or specificity" (Greenberg 1978: 69). This process may or may not have played a

role in the pre-PIE development of **-eh₂-*. However, this question falls beyond the scope of this paper.

The part of Greenberg's (1978) discussion that is critical for this paper is the spread of gender agreement in the nominal system of a language. According to Greenberg, it is again the demonstratives that act as the "initiator" in the spread of grammatical agreement (Greenberg 1978: 75)¹⁰. Similar to the early stages of the above process, demonstratives may lose their deictic value and come to function as anaphors in a language (*ille* had both functions in Classical Latin). Demonstrative adjectives and pronouns tend to take on the markers or ending of their coindexed noun because "nouns are continuing discourse subjects and are therefore in constant need of referential devices of identification" (Greenberg 1978: 78). In other words, such agreement helps speech act participants track referents in a conversation. Then, from the demonstratives the agreement spreads to other modifiers, namely adjectives. Luraghi (2011: 451) summarizes the "stages in the rise of gender markers" as follows:

Generic nouns → classifiers → pronominal demonstratives → attributive
demonstratives → determiners → agreement markers.

However, Greenberg does note that the expansion of a gender system may differ to some extent from the creation of a new system: "Gender systems may expand by adding new genders; this is generally done using existing morphological material" (Corbett 1991: 313).

4.2 Semantic shift

There is no widely accepted theory as to how **-h₂-* became associated with the feminine in late PIE. One theory says that the **-h₂-* found in **g^wen-h₂* 'woman' might have been

¹⁰ Luraghi (2014: 226-227), however, argues that "agreement spreads first to modifying adjectives."

reanalyzed as a feminizing suffix from a collective (Matasović 2004: 174). In order for this theory to work, it must be assumed that **g^wen-h₂* was originally a collective noun, meaning something along the lines of ‘(a group of) wives/women’. However, there is no real evidence that **g^wen-h₂* was ever a collective (Melchert 2014: 263). The same lack of evidence applies to **h₂uid^héueh₂* ‘widow’, which is often cited alongside **g^wenh₂* in this argument (Melchert 2014: 263). For ‘widow’, this argument proposes a collective meaning ‘(a set of) dead person’s relatives’ (Lundquist and Yates 2018: 2099).

Yet, most scholars do assume that the collective and feminine suffixes are from the same source (Kim 2014: 116). The above theory is an attempt to reconcile the two functions semantically, but it requires feminine collective nouns to have played a role in the reinterpretation of the collective noun suffix **-h₂-* as a marker of the feminine. As Luraghi (2011: 438) points out, “This theory is at odds with the well-known fact that no traces of feminine collectives are attested anywhere in the Indo-European languages.” Thus, the lack of evidence makes the theory an unsatisfying explanation of the connection between collectives and feminines.

Some scholars have suggested that some type of semantic shift from collective nouns and/or abstract nouns may have been at the root of the reinterpretation of **-h₂-* as a feminine marker. While it is true that abstract nouns may easily come to refer to a person— “as in Eng. *youth* ‘state of being young’ > ‘a young individual’, or Lat. *testimōnium* ‘testimony’ > French *témoin* ‘witness’” (Fortson 2010: 182)—this explanation would require the reinterpretation of abstracts on a massive scale, e.g. ‘priesthood, state of being a priest’ → ‘priest’ (e.g., Lycian *kumaza* ‘priest’, where *-(a)za* < **-tiēh₂-*) (Kim 2014:117). Though this is not strictly impossible, such a change seems unlikely. Similarly, a massive shift from collectives to individuals, such as

‘priesthood, priests as a group’ → ‘priest’, while possible, does not provide a satisfying account of the development of the suffix into a specifically feminine morpheme (Kim 2014: 117).

It has been argued that the **-h₂-* suffix derived individual and abstract nouns, and “[t]his hypothesis provides a much more natural starting point for the numerous animate nouns in **-eh₂-* denoting individuals... [than a] massive reinterpretation of abstracts ... and/or collectives” (Kim 2014: 117). This argument proposes that the function of the suffix changed depending on the semantics of the lexical item to which it was attached (i.e., [\pm internal structure] / [\pm subdivided]), forming either collectives or animate singulars (Kim 2014: 117). However, it is difficult to say whether certain words were “reinterpreted or backformed from collectives:... *cīvis* ‘citizen’ may reflect either endocentric ‘the socially close one’ or backformed ‘member of society’” (Kim 2014: 117).

Although the theory that **-h₂-* was individualizing does eliminate the need to assume large semantic shifts, it does not “solve” the question of how the suffix came to be associated with the feminine. There are words with the **-h₂-* suffix denoting individuals that do not refer to females, for example Latin *scrība* ‘scribe’ or *agricola* ‘farmer’ (Kim 2014: 118). How can these words be reconciled with **-h₂-* as a feminine suffix? Given the existence of such “naturally” masculine nouns in *-a*, the development of the **-h₂-* suffix into a marker of the feminine becomes harder to account for.

4.3 Relational adjectives

Ledo-Lemos (2003) proposes that **-eh₂-* originally formed relational adjectives, which “have a great facility, on the one hand, for being transformed into nouns, and, on the other hand, for acquiring diverse semantic specializations” (Ledo-Lemos 2003: 153). Among its

“specializations,” $*-eh_2-$, he claims, went from relational adjective to abstract and collective nouns, then to neuter plural inflectional ending. The suffix was used in its relational adjective function in compounds that often had natural female referents, such as Hittite *ishassara-* ‘lady, mistress.’ According to his theory, *ishassara-* < $*esHo-$ noun ‘master, lord’ + $*h_2$ relational suffix, which together formed the modifier, and $*-sor-$ ‘woman,’ the nucleus noun of the compound, + the thematic vowel *a* being a secondary addition to the word¹¹ (Ledo-Lemos 2003: 143). This is based on the phonological development of $*H+s > ss$ in Anatolian. However, geminate sibilants in Anatolian have sources other than laryngeal, which Ledo-Lemos (2003: 139-140) does acknowledge, citing both $*s+s > ss$ and $*n+s > ss$. The role of $*-h_2-$ in these feminine (referentially, not grammatically) compounds is his basis for the suffix’s development to a marker of the feminine.

4.4 Two separate developments

Some scholars argue that trying to identify a semantic motivation behind the reinterpretation of the $*-h_2-$ suffix as feminine is futile (Luraghi 2011: 456). She proposes, instead, that there was a split within the animate gender, and the feminine (as opposed to the masculine) became marked with the $*-h_2-$ or $*-ih_2-$ suffix simply because the feminine was the marked gender, linguistically speaking. Melchert (2014: 267) summarizes Luraghi’s argument as follows:

Luraghi (2009a: 128) suggests that the assignment of $*-(e)h_2$ to the feminine in the new three-gender system may have been motivated simply by the fact that in Indo-European the feminine gender is typically marked vis-à-vis the masculine,

¹¹ However, a better analysis would have $*esHo-h_2-$ as the head of the compound.

and...markedness [may have been] decisive in how the sex-based split of the former animate gender was implemented.

Melchert (2014: 267) cites the modern feminizing suffixes *-esse* from French and *-in* from German to support the markedness claim.

Luraghi (2014: 217) offers a theory for separate developments of the **-h₂-* suffix. Her proposal claims that at some point in the protolanguage the suffix developed in two separate directions.

Figure 1. Development of the Suffix **-(e)h₂*

| | |
|-------|------------------------------------------------------------------------------------------|
| 1. | derivational suffix (non-obligatory) |
| 2a. | neuter nouns: inflectional suffix (nominative/accusative plural, obligatory). |
| 2b.i | <i>-ā-</i> stems: marker of inflectional class ('thematic vowel', obligatory) |
| 2b.ii | first class adjectives: marker of inflectional class and feminine gender (obligatory) |

Stages (1) and (2) are chronologically ordered, whereas stages (2a) and (2b) represent two separate developments:
(2a): a derivational suffix turns into an inflectional one, preserving (part of) its meaning;
(2b): a non-obligatory, meaningful suffix turns into a thematic vowel, i.e. a purely grammatical, obligatory item, which is also interpreted as the marker of a noun class (i.e. of a grammatical gender).
(Luraghi 2009a: 5-6)

This theory has the benefit of eliminating the need to provide a semantic connection between the collective and feminine since Luraghi (2014: 200) understands “the change that led the suffix **-h₂-* to become the feminine marker... as chronologically disconnected from the change that led it to become the ending of the nominative/accusative neuter plural.” In this article, Luraghi (2014: 216) states that the original function of the **-h₂-* suffix was to form

abstracts and then later went through the developments outlined above. In an earlier paper, Luraghi (2011: 437) says that the “polysemy of abstract nouns” explain their connection to the neuter. That paper, however, does not thoroughly discuss the development from abstract to collective and feminine, nor does it deal at length with the question of **-ih₂-* and its standing relative to **-h₂-*.

4.5 **-h₂-* as individualizing

Melchert (2014: 265) agrees with the general opinion that the other values and uses of **-h₂-* had some involvement with its development as a marker of the feminine. However, he argues that “its attested use to form endocentric nouns referring to humans in various roles must have been the crucial starting point for its becoming a motion-suffix in a sex-based gender contrast” (Melchert 2014: 265). As seen above (cf. §4.2), there are words in **-h₂-* that refer to humans but have male referents, such as the Latin deverbative *scrība* ‘scribe.’ Then, there are those that refer to humans, either male or female, for example denominative Russian *láda* ‘husband, wife’ (← *lad* ‘harmony’) (Kim 2014: 118).

The loss of the suffix **-sor*, which derived nouns with female referents in PIE (cf. **swesōr*) and was “originally an independent noun ‘woman’,” left a “functional gap” in the language (Melchert 2014: 266). He uses the “push-” or “pull-chain” metaphors used in phonology to describe the effect this gap may have had on the morphology. The feminine (as opposed to the masculine rather than neuter) is the marked gender in the NIE languages and is therefore derived via suffixation or internal derivation—or a combination. Even before the feminine was a proper morphological gender in PIE, nouns with female referents were derived from the animate (→ masculine) base forms (Melchert 2014: 267). Here, still, the recurring

question remains: Why should **-h₂-* and not some other morpheme have been chosen to fill this gap?

The suffix **-h₂-* seemed to have a value of ‘the X one’ in its endocentric function, and an individualizing function gives the same value: ‘the X one’ (Melchert 2014: 268). If scholars agree that **-h₂-* marked appurtenance originally, even that value does not make it an obvious choice for a marker of the feminine, especially considering “PIE had other secondary suffixes with that basic function” (Melchert 2014: 268). He suggests that it may have been the suffix’s collective/deliberative function (i.e., its ability to mark “belonging to a set or group”) that set it apart, so to speak. However, Melchert (2014: 268) concedes that no theory will be especially convincing until there is “a more explicit unified account of the functions of both the **-eh₂-* and **-ih₂-* suffixes.”

CHAPTER FIVE

TOWARD A UNIFIED EXPLANATION OF *-(E)H₂- AND *-IH₂-

5.1 *-h₂- as a marker of substantivization

Nussbaum's (2014) account of the development of *-h₂- and *-ih₂- begins with a detailed discussion of the “collective” and defining what exactly that term covers. Using the features [±BOUNDED, ±SUBDIVIDED],¹² he outlines each of the possible combinations. Among these combinations, there are delibatives, which are “special forms of mass nouns, which designate (1) a finite sample or (2) a particular variety of the stuff in question” (Nussbaum 2014: 278). In other words, a mass noun of the type [-B, -S] (e.g. *beer*) may become a [+B, -S] count noun (*a beer*), or a [-B, +S] mass noun (e.g. *birdseed*) may become a [+B, +S] count noun (*a (type of) birdseed*). He (2014: 283-284) outlines the possible types of derivation that are relevant for a discussion of the PIE “collective”:

1. count noun [+B, -S] → finite collective [+B, +S]:

(a) pluralizable and countable: *square foot* → *a/the square footage, (the) square footages, two (different) square footages*

(b) barely pluralizable or countable: *citizen* → *a/the citizenry*

(c) non-pluralizable, non-countable: *bag* → *baggage*

2. count noun [+B, -S] → non-finite collective (mass) [-B, +S]: *machine* → *machinery*

¹² BOUNDED refers, of course, to a finite quantity whereas SUBDIVIDED means that the whole consists of identical units/parts (Nussbaum 2014: 277).

3. mass noun [-B, -S] → finite, pluralizable, countable delibative [+B, -S]: *wine*

→ *a/the wine, wines, so-and-so many wines*

4. mass noun [-B, +S] → finite collective [+B, +S]

(a) weakly pluralizable and countable: *plumage* (derived mass noun) → *a/the*

plumage, the plumages, two plumages

(b) non-pluralizable or countable: *cutlery* (non-derived mass noun) → *the cutlery*

5. mass noun [-B, -S] : non-countable plural: *water* : *the waters of Babylon, sand* :

the sands of time

In Germanic, there is a morpheme **ga-* that may both “group some number of count nouns as a singular” (Nussbaum 2014: 286) (i.e. derive collectives) and make mass nouns, which refer to a specific set or type of the base noun (i.e. a delibative).

Count nouns → collectives: OHG *fogal* → *gifugilī* ‘poultry’, Gmn. *Feder* → *Gefieder* ‘plumage’

Mass nouns → delibatives: OHG *wetar* ‘wind, weather’ → *giwitiri* ‘a “bit of weather”, a storm’, Gmn. *Blut* ‘blood’ → *Geblüt* ‘family, ancestry’

This Germanic evidence serves to support the theory that the same morphology that derives collectives from count nouns may be used to derive delibatives from mass nouns (Nussbaum 2014: 287).

The relationship between collectives and delibatives seen in the morphology above also extends to semantics. An “ordinary analysis of the unexceptional [+B, +S] derivatives of the

citizenry type is literally ‘collective’: *citizenry* ‘a collective of citizen’...[or] *Gebirge* ‘a collection of mountain’ ... they can also be immediately reanalyzed as straightforwardly ‘delibative’: *citizenry* ‘a sample of all the citizens in the world’... *Gebirge* ‘a sample of all the mountains in the world’” (Nussbaum 2014: 287). He (2014: 288) uses this morphological and semantic evidence to relabel the PIE “collective” as “collective/delibative”, where “collective/delibative” includes the two collective types [+B, +S] (e.g. *citizenry*) and [-B, +S] (*crockery*) and the delibative [+B, -S] (*grainage*).

The IE collective/delibative is critically related to denominal derivatives with ‘genitival’ and ‘possessive’ value. The genitival derivatives, which Nussbaum (2014: 289) defines as ‘X’ → ‘of X’, include the following formations:

- (a) $v\check{r}ddhi$ derivatives: **suékuro-* ‘father-in-law’ → **suēkuro-* ‘son-in-law’ (OHG *swehur* → *suager*)
- (b) *-ijo-* derivatives: Gk. *πατήρ* ‘father’ → *πάτριος* ‘of (one’s) father(s)’
- (c) others (e.g. *-īno-* derivatives): Lat. *mare* ‘sea’ → *marīnus* ‘of the sea’

The possessive derivatives, on the other hand, which Nussbaum (2014: 289) defines as ‘X’ → ‘having X’, show forms like the following:

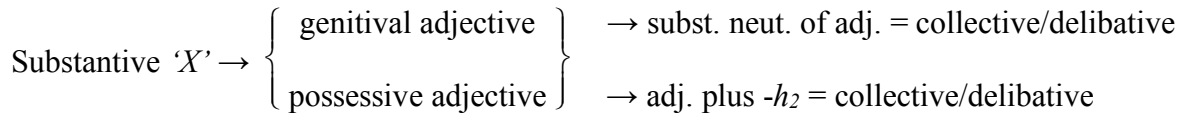
- (a) **-o/e-* without $v\check{r}ddhi$: Ved. *pīvas-* ‘fat’ (substantive) → *pīvas-á-* ‘having fat, fat’ (adj.)
- (b) **-to-* derivatives: Lat. *barba* ‘beard’ → *barbātus* ‘bearded’
- (c) **-uent-* derivatives: Ved. *ásva-* ‘horse’ → *ásvā-vant-* ‘having horses’
- (d) others (e.g. **-ro-* derivatives): Gk. *όδύνη* ‘pain’ → *όδυνηρός* ‘painful’

These two types (genitival and possessive) overlap around the value ‘made (up) of’ (Nussbaum 2014: 290):

substantive Gk. *λίθος* ‘stone’ → genitival adj. *λίθιος* (Thess.) ‘(made) of stone’
(**-ijō-*)
substantive Skt. *araṭu-* ‘*araṭu* tree’ → possessive adj. *araṭvá* ‘containing, made
(up) of *araṭu* (wood)’ (*-a-* without *vṛddhi*)

The substantivized neuter of such genitival or possessive derivatives may then be used as a collective/delibative (Nussbaum 2014: 290). For example, Ved. *pārśvám* ‘side’ (*-a-* neuter with *vṛddhi*) is the substantivized neuter of a genitival derivative, functioning as a collective/delibative (from the substantive Ved. *párśu-* ‘rib’). Similarly, the substantivized neuter of a possessive, such as Lat. *arbustum* ‘copse, plantation’ (**-to-*), derives from the substantive *arbōs* ‘tree’ and has a collective/delibative value. According to Nussbaum (2014: 291), an additional morpheme **-h₂-* may be added to the genitival or possessive derivatives when functioning as a collective or delibative: Gk. *κόνις* ‘dust’ → (derived genitival adj. plus **-h₂-* as collective/delibative) *κονίη* ‘cloud of dust’; Ved. *bándhu-* ‘relative’ → (derived possessive adj. plus **-h₂-* as collective/delibative) *bandhú-tā-* ‘kinfolk’. This derivational process can be seen in Nussbaum’s (1986: 117) account of the words ‘head’ and ‘horn’ in the different IE languages: **ḱor-u-* / *ḱer-u-* ‘head-bone(s): object(s)’ → **ḱér-h₂* ‘head-bone: material’ → **ḱērh₂-o-* ‘(made) of head-bone’ / ‘the head-bone (collective)’ > ‘skull’. Nussbaum (2014: 291) summarizes the above with the following diagram:

Figure 2. Nussbaum’s (2014) Two-Step Derivational Process



Next, Nussbaum (2014: 294) addresses the semantics of these derivatives. As discussed above, the delibative derived from a mass noun denotes a set or type of the noun on which it was built. Therefore, the reconstructed mass noun **uód-r/-n-* ‘water’ (Hitt. *wātar*), which stands beside the form **uéd-ōr/-n-* (reconstructed, for example, for Gk. *ῥδωρ*), ought to have originally stood in the relationship ‘water’ → ‘a body, stretch, mass of water’, respectively.¹³ The semantic change required for Gk. *ῥδωρ* to take on the value ‘water’ is simple or, as Nussbaum says, “trivial” since a statement like *There’s a body of water nearby* is practically equivalent to *There’s water nearby*.

PIE collectives like **h₁neh₃-mḡ* ‘name’ → **h₁neh₃-mō(n)* ‘pair of names, full name’ have ablaut shift that appears formally identical to the “‘internally derived’ possessive derivatives like **pih_x-uḡ/*pih_x-uén-* (Gk. *πίαρ*) ‘fat’ (subst.) → **pih_x-uō(n)* (Gk. *πίων*, Ved. *pīvān-*) ‘fat’ (adj.)” (Nussbaum 2014: 296). Therefore, the PIE collective formations like **h₁neh₃-mḡ* ‘name’ → **h₁neh₃-mō(n)* ‘pair of names, full name’ or **uód-r/-n-* ‘water’ → **uéd-ōr/-n-* ‘a body, stretch, mass of water’ must have utilized possessive internal derivation, and the resulting derivatives were semantically identical to those possessives seen above, such as Lat. *arbōs* ‘tree’ → *arbustum* ‘copse, plantation’ and Ved. *bāndhu-* ‘relative’ → *bandhūtā-* ‘kinfolk’ (Nussbaum 2014: 296).

¹³ Similarly, Nussbaum (2014: 294) applies this logic to other mass nouns, such as **h₁ésh₂-r/-n-* ‘blood’.

With Szemerényi’s Law extended to $*-h_2-$ as discussed earlier, the collective $*h_1néh_3mōn$, for example, would come from an earlier $**h_1néh_3m-on-h_2$. This implies a “two-step derivational history” for such collective/delibative derivatives in $*-h_2-$ (Nussbaum 2014: 297):

non-collective: $*h_2user-$ ($ἀήρ$ ‘air’)

→ (1) possessive ($*-o/e-$ without $vṛddhi$) $*h_2usr-o/e-$

→ (2) possessive plus $*h_2$ (as collective/delibative) $*h_2úsre-h_2$ ($αῦρα$ ‘a breeze’)

non-collective: $*\muód-r/-n-$ ‘water’

→ (1) possessive

→ (2) possessive plus $*h_2$ (as collective/delibative) $**\muédor-h_2$ ‘a body of water’

From here, Nussbaum (2014: 300) concludes that this two-step derivational process means that much of the “derivational semantic ‘work’” was accomplished in the first step—in the internally derived possessive—and not by adding the $*-h_2-$ suffix. The $*-h_2-$ suffix “was added as an overt mark of substantivization ... to an adnominal that was already in a kind of semantically exocentric (possessive) relationship to the basis word that was consistent with an eventual collective/delibative function for that derived adnominal” (Nussbaum 2014: 300).

If neuter plurals in $*-h_2-$ are to be understood as “re-valued” collective singulars, then Nussbaum (2014: 301) suggests this may have occurred as three developments in two distinct steps. In step one, the collectives of aggregating count nouns, which were grammatically singular, were reanalyzed as count plurals, for example Ved. $dhā́ma$ ‘dwelling place’ :

dhámǎ/dhámāni (Nussbaum 2014: 302). There were only a few of these neuter collectives that remained grammatically singular, such as Gothic *namo*, but this was relatively rare and not consistent across IE dialects (cf. Skt. *nāmāni* ‘names’). On the other hand, “a *-h₂- collective to an aggregating non-neuter count noun—if thematic: (a) not only may be retained as a singular with collective value ... (b) but may also retain collective value as a neuter plural,” such as (a) RV *párvata*- ‘mountain : YAv. *pauruuatā*- ‘mountain range’ and (b) Lat. *locus* ‘place’ : *locī* ‘(various) spots’ : *loca* ‘region’ (Nussbaum 2014: 302). Once the morphology could be used for neuter plurals in addition to singular collectives, it was extended further in step two to non-aggregating count nouns (Nussbaum 2014: 302),¹⁴ such as **jugóm* ‘yoke’ (Ved. *yugám*) : **jugéh₂* (*yugā[nī]*). This new nom.-acc. neuter plural was then able to form plurals to mass nouns, such as Lat. *aes* ‘money’ : *æra* ‘wages’ (Nussbaum 2014: 303).

In the final few pages of his expanded handout, Nussbaum (2014: 303-306) remarks upon the feminine and abstract. As previously noted, *-h₂- forms the feminine to *-o- stem adjectives. Otherwise, the more common feminine formant *-ih₂- —if there are separate masculine and feminine forms of the adjective—is used: **p_lth₂u*- ‘broad’ (Ved. *p_lrthú*-, Gk *πλατύς*) : f. **p_lth₂(e)u-ih₂* (Ved. *p_lrthvī*-, Gk. *πλατεῖα*) (Nussbaum 2014: 303).

As for abstract adjectives, the “[n]on-thematic types of adjective hardly have any need for a derived abstract, since they are mostly derivatives of their own abstracts in the first place” (Nussbaum 2014: 304): **krét-u*- ‘power’ (Ved. *krátu*-, *krátv*-) → **k_ṛt-u*-/**k_ṛt-éu*- ‘powerful’ (Gk. *χρατύς*). Thus, the most of the “work” required in the derivation of these abstract adjectives is in deriving the adjective not the abstract value. The derivation of, for example, an *-i-stem would go as follows: adj. **h₂ergó*-/**h₂rgó*- (*ἀργός*) ‘bright, shining’ → substantivized adj.

¹⁴ He also mentions in an aside that i-stem and u-stem neuter plurals with *-h₂-, such as Ved. *trī* and *vásū*, respectively, may be based on analogy with the thematic *-e-h₂-.

* $h_2(o/e)r\acute{g}i-$ (Hitt. *harki-*) ‘bright, shining (one)’ > abstract * $h_2(o/e)r\acute{g}i-$ (*ἀργι-*) ‘brightness’; adj.
 * $h_2\acute{e}kro-$ (*ἄκρος*) ‘high’ → substantivized adj. * $h_2\acute{o}/\acute{e}kri-$ (Lat. *ocris* masc.) ‘high (one)’ >
 * $h_2\acute{o}/\acute{e}kri-$ (*ἄκρις* fem.) ‘height’ (Nussbaum 2014: 304). These “re-adjectivized” forms would
 then have been “exploited to provide thematic adjectives with a specifically feminine form”
 (Nussbaum 2014: 306), for example * $\mu\acute{e}rh_xo$ ‘true (masc., neut.)’ (Lat. *vērus, -um*) → * $\mu\acute{e}rh_xe-h_2$
 *‘the true (one)’ > ‘true (fem.)’ (Lat. *vēra*).

5.2 Two distinct suffixes

Building upon the views of Nussbaum, Kim (2014: 132) examines * $-ih_2-$ and * $-h_2-$ as “two distinct denominal suffixes.” He concludes that, while both suffixes derived endocentric and exocentric nouns, * $-ih_2-$ was originally a marker of possession or appurtenance (Kim 2014: 124; Pinault 2011: 170-171). An example of the suffix’s possessive function is: * $m\acute{e}lit-$ ‘honey’ (Gr. *μέλι*) → * $m\acute{e}lit-ih_2-$ ‘one possessing honey’ (Gr. *μέλισσα* ‘bee’). For appurtenance or instantive, there is the following derivation: * $b^h\acute{u}g-$ ‘flight’ (Hom. *φύγα-δε*) → * $b^h\acute{u}g-ih_2-$ ‘a flight, escape’ (Gk. *φύζα*) (Kim 2014: 125). These possessive-instantive (i.e. referring to an instance of an action or state) derivatives primarily indicated female referents. However, as Kim (2014: 129) sees no “obvious way to motivate the female value of * $-ih_2-$ within non-Anatolian IE,” he suggests that this value may have been inherited from PIE despite the lack of evidence in Anatolian for * $-ih_2-$. This suffix came to replace the older *(h_1)*ós-r* (cf. **swesōr*), and derivatives in * $-ih_2-$ were eventually used as appositives to nouns with female referents or other intermediately individuated nouns (Kim 2014: 132).

The * $-h_2-$ suffix, on the other hand, formed individual and abstract nouns. Melchert (2011) argues that it also “formed concrete nouns, which were morphologized either as

collectives (i.e. set) plurals in **-h₂-* or as animate singulars with nom. **-h₂-*, acc. **-h₂-m* according to semantic factors, specifically [±internal structure]¹⁵ (Kim 2014: 117). The benefit of this explanation, according to Kim, is that it eliminates the need to theorize a massive semantic shift from a collective value to an abstract one at some earlier stage of the protolanguage.

However, there are a few known instances of nouns denoting individuals that were previously abstract or collective. For example, Lat. *agri-cola* ‘field-tiller, farmer’ was from an abstract noun **k^hol-é-h₂* ‘tilling’ (Kim 2014: 117). While **-h₂-* is, of course, a marker of the feminine in the NIE languages, it was not used primarily to mark nouns with female referents. In fact, the suffix **-ih₂-* is much more commonly seen as a marker of a female referent than **-h₂-*. Ved. *ásvā* ‘mare’, Hom. *δοῦλη* ‘female slave’, or Lat. *amīca* ‘female friend’, which all show reflexes of the suffix **-h₂-* are exceptional and “can be shown to continue substantivized feminine thematic *adjectives* in **-eh₂-*, or rather **-e-h₂-*” (Kim 2014: 119).

The earlier distribution of these two suffixes **-ih₂-* and **-h₂-* differs slightly from what is seen in the NIE languages. The suffix **-ih₂-* could attach to athematic and thematic base nouns while **-h₂-* attached to primary adjectives (Kim 2014: 132). The PIE primary adjectives could not take the **-ih₂-* suffix to form a possessive-instantive because only substantives could take **-ih₂-*. Instead, the primary adjectives “made use of the suffix **-h₂-* in its endocentric sense, hence **néu-e-h₂-* ‘the new one’” (Kim 2014: 127).

With this distribution, the two suffixes later became allomorphs only to be leveled subsequently, for example, to **-ih₂-* in Tocharian (Kim 2014: 132). The so-called Brugmannian languages, however, “retained the contrast of possessive-instantial (→ feminine) **-ih₂-* vs.

¹⁵ [±internal structure] is what Nussbaum (2014) calls [±subdivided].

collective **-h₂-* in athematic adjectives (whence e.g. Ved. *vásvī* vs. *vásū*, Gk. *ἡδεῖα, φέρουσα* vs. *ἡδέφα φέροντα*), but leveled **-e-h₂-* into the feminine of all thematic stems, resulting in the familiar homophony of fem. nom. sg. and neut. nom./acc. pl. in ... Lat. *nova*” (Kim 2014: 127). The individualizing value of the suffix **-h₂-* combined with its apparent complementary distribution with **-ih₂-* led to the reevaluation of the two suffixes as allomorphs of the same morpheme.

Kim (2014: 128) discusses the possible role the demonstrative pronoun/adjective could have played in the reanalysis **-eh₂-* as a feminine morpheme and the suffix’s eventual spread in thematic adjectives in the Brugmannian languages. As the demonstrative had the suppletive stems **so-* and **to-* for animate and inanimate, respectively, the forms **se-h₂* and **te-h₂* would have been in competition. The demonstrative **te-h₂* was eventually set as the collective—later neuter plural—seen in Ved. *tá(ni)* or Gk. *τά*. The **se-h₂* form was set as “an instancial denoting a single female, and subsequently a modifier agreeing with feminine nouns”: Ved. *sá* or Gk. *ἡ* (Kim 2014: 128).

The noun derived with the possessive-instancial suffix **-ih₂-*, was reanalyzed as the feminine form of the animate (→ masculine) adjective (Kim 2014: 130). He depicts the grammaticalization as follows:

$$Iuno \begin{cases} lūcī \\ lūcīna \end{cases} = \text{'Juno of the grove'}$$

$$lingua \begin{cases} Latī \\ Latīna \end{cases} = \text{'the Latin language'}$$

The derived adjective *lūcīna*, for example, may be treated as *lūc-ī-na* since the *-ī-* morpheme derived adjectives from nouns in *-o-* or *-īo-*, which was later extended by *-no-* (Nussbaum 1975: 147).

However, Nussbaum (1975: 119) is careful to distinguish *-ī-no* that forms adjectives from nouns in *-o-* or *-īo-* from the homonymous suffix *-īno* (often *-īnum* or *-īna*), which derived denominative or deverbative nouns. Its deverbative function can be seen in a form like *ruīna* ‘a falling’ (later, ‘downfall, destruction; [pl.] ruins’) built to *ruere* ‘to rush, to fall’. Although it is deverbative, the suffix shows a sense similar to the instantive value of **-ih₂-* discussed in §5.2, where **b^húg-* ‘flight’ (Hom. *φύγα-δε*) → **b^hug-ih₂-* ‘a flight, escape’ (Gk. *φύζα*) (Kim 2014: 125). The collective sense of *-īno* appears in a number of names for meats, including *porcīna* ‘pork’ and *agnīna* ‘lamb’ (Nussbaum 1975: 120). Nussbaum (1975: 120) argues that these two suffixes (*-ī-no* and *-īno*) had different origins because “they do not correspond either in function (for [*-īno* derivatives] are substantives—very often collectives) or in distribution (for [*-īno* derivatives] exhibit no special association with nouns in *-o-* and *-yo-* and indeed are not always even denominative at all).”

A situation similar to the one seen in Latin is found in Vedic, with the *vṛkī-* type nominals distinct from the *devī-* type. The *devī-* suffix *-ī-* (< **-ih₂-*) only derived substantives with female referents from masculine thematic nouns whereas the *vṛkī-* suffix *-ī-* (< **-i-h_x-*) had a

much greater distribution synchronically¹⁶, including deriving a noun with a female referent from an athematic masculine base and both thematic and athematic feminine adjectives¹⁷ (Nussbaum 1975: 139). Table 2, adapted from Nussbaum (1975: 139), shows the synchronic distribution of the two suffixes in question in Vedic:

Table 2. Distribution of **-i-h_x-* and **-ih₂-*

| | Non-Thematic | Thematic | |
|-------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Fem. of adj. | <i>*-ih₂-</i> fem. <i>pr̥thv-ī-</i> (: masc. <i>pr̥thú-</i>) | <i>*-(e)h₂-/*-ih₂-</i> fem. <i>priyá-</i> (: masc. <i>priyá-</i>) / fem. <i>devī-</i> (: masc. <i>devá-</i>) | grammatical |
| Fem. nominal derivative | <i>*-ih₂-</i> fem. <i>śunī-</i> (: masc. <i>śván-</i>) | <i>*-i-h_x-</i> fem. <i>vṛkī-</i> (: masc. <i>vṛka-</i>) | derivational |

There now seems to be a general agreement among scholars that the suffix **-i-h_x-*, illustrated above with Latin and Vedic, and the suffix **-ih₂-*, one of the feminine markers of the NIE languages, were two separate and distinct morphemes (cf. Kim 2014: 124-125). Pinault (2011: 135) adopts “l’interprétation du type *vṛkī-* comme une formation à valeur individualisante sur un collectif en **-i-* recharacterisé par **-h₂-*.” The suffix **-ih₂-*, on the other hand, seems to have been a unitary morpheme originally, which was, as Kim (2014) argues, itself distinct from **-(e)h₂-*.

¹⁶ This is true in the earlier language, but later, in Classical Sanskrit, the *devī-* type becomes the basic feminine pattern.

¹⁷ Though *-ā* is also seen in the thematic feminine adjectives, cf. *sārva-* ‘all’ : fem. *sārvā* (Nussbaum 1975: 138).

5.4 Genitivals, possessives, and diminutives

Essentially, a possessive derives a nominal with the value ‘(one) having X’ from a noun meaning ‘X’ while a genitival would derive a nominal ‘(one) belonging to X’ from the same noun ‘X’ (Nussbaum 2009: 1). Both have been discussed as possible sources of the feminizing suffixes (§5.1), where a genitival or possessive adjective would be derived in the first instance and then substantivized as a collective/deliberative in **-h₂-*.

5.4.1 Genitivals

These derivatives, however, can move beyond their initial values, for instance the Germanic genitival derivative **dōli-* ‘valley dweller’ (← **dala-*), e.g. OIc. *dæll* (masc.). The sense of ‘belonging to the valley’ remains clear in ‘valley dweller’, but the value of the word has moved beyond a strict or literal sense of ‘(one) belonging to X’. There is also the Latin *sacrum* ‘rite’ (or *sacra* ‘rites’) → *sācri-* ‘of the rites, for sacrificing’, which retains both a strict genitival value as well as a more abstracted one (Nussbaum 2009: 4). Patronymics may also be considered genitival derivatives, meaning ‘child/descendent of X’: Ved. *púrukutsa-* : *páurukutsi-* or YAv. *zaraθuštra-* : *zaraθuštri-* ‘of, descended from Zaraθuštra’ (Nussbaum 2009: 3). In the Vedic example, the genitival *-i-* is accompanied by *vṛddhi*, but in the Avestan, there is no *vṛddhi*, only genitival *-i-*.

Genitival derivatives commonly develop a semantic value of ‘X-like’ from a noun ‘X’. Thus, with the Latin *-īno-* suffix from §5.3, there is *dīvīnus* ‘god-like’ to *deus* ‘god’ or *māsculīnus* ‘male (adj.)’ to *māsculus* ‘male person/animal’. Nussbaum (2009: 5) outlines the semantic development as follows:

**h₁ek̑uo-* ‘horse’ → **h₁ek̑uijo-* ‘belonging to, (one) of the horses’ = ‘having the features of a horse’ = ‘horse-like’ > Ved. *ásvya-*, Gk. *ἵππιος*

When substantivized, a sense ‘X-like’ comes to mean ‘a kind of X’, for example **d^hoig̑ho-* (Gk. *τοιχος* ‘wall’) : **d^hoig̑h_x-* (Ved. *deh[́]-* ‘dam’) (Nussbaum 2009: 6).

According to Nussbaum (2009: 6), there is no indication that Ved. *deh[́]-* ‘dam’ is small relative to the base noun ‘wall’ (i.e. a proper diminutive). However, the shift can be made from ‘a kind of X’ to ‘an X of sorts’, which leads to pejorative derivatives or “dismissives”: Gk. *ἀνῆρ* ‘man’ beside *ἀνδρίων* ‘not much of a man, pitiful fellow’ though not necessarily physically small (Nussbaum 2009: 6). But diminutives can result from ‘an X of sorts’ or ‘a sort of X, an X up to a point’ via ‘a small version of X’: Gk. *πόδιον* ‘little foot’ or *θύριον* ‘little door’. Such a semantic shift is even more common for animate beings as they may become diminutives in one of two ways: ‘X up to a point’ → ‘small X’ or ‘(born) of X’ → ‘young (and therefore small) X’ (Nussbaum 2009: 7). For example, for Greek *δέλφαζ* ‘pig’ → *δελάκιον*, it may go through (1) ‘a pig up to a point’ > ‘a little pig’ or (2) ‘(born) of, (sprung) from a pig’, which is ‘the young of a pig, a piglet’. Similarly, Vulgar Latin **anatīno* ‘duckling’ produces Italian *anatrino* ‘id.’. All of which is to say that genitival morphology is often seen on words for young or diminutive animals (Nussbaum 2009: 7).

5.4.2 Possessives

Although possessive derivatives develop quite differently from genitivals, they may also end up with diminutive value according to Nussbaum (2009). The value ‘(one) having X’ is roughly equivalent to ‘having X to offer’, which implies ‘producing X’. For example, there is

mélit* ‘honey’ (Hitt. *milit*, Gk. *μέλι*), to which **mélit-ia ‘bee’ is built—thus, not simply ‘possessing honey’ but ‘producing honey’ (Nussbaum 2009: 7).

Following that line of semantic development, possessive derivatives can come to be “augmentative” (Nussbaum 2009: 9). If built to a base noun that refers to a young animal or offspring, then it naturally means ‘producing X young’, in other words ‘grown, adult, mature X’: Ved. *vatsá-* ‘calf’ : Rigveda *vatsínīnām gāvām* ‘of cows that have (produced) calves’ or Gk. *γόνος* ‘child’ : *γονῆες* ‘parents’ (Nussbaum 2009: 8). Then, “[a]s soon as possessive internal derivatives like **pók-u*/**pék-u*- ‘small head of live-stock’ → **pék-u*-/**p(e)k-éu*- ‘adult/big head of live-stock’ become at all opaque, it would become possible for them to be reanalyzed as genitival and/or ‘dismissive’ or diminutive” from ‘full-blown, regular-size **pék-u*-’ to ‘thing like a, little **pék-u*-’ (Nussbaum 2009: 10).

5.4.3 **g^wén-h₂*

As discussed in §4.2, there is no evidence that **g^wén-h₂* goes back to a collective or originally possessed abstract value. To further complicate this word, Germanic **k^wāni-* and Indo-Iranian **jāni-* show a stem in *-i-* (Nussbaum 2009: 14). In addition, the Greek oblique forms are reconstructed as **g^wnah₂-i(h_x)k-* or **-ih₂-k*¹⁸ > **g^wnaik-* → **gunaik-* (Nussbaum 2009: 14). Armenian *kanay-* goes back to **g^wṇnah₂-i(h_x)* or **g^wnah₂-i(h_x)*¹⁹ > **knaĭ-*. However, the Germanic and Indo-Iranian words are derived with *-i-* plus *vṛddhi*, which means that they are genitival with two possible meanings: (1) ‘X-like thing’ (cf. Gk. *γυνή* → *-iġo-* genitival *γύναιον*, hypocoristic ‘wifey’) or (2) dismissive or diminutive ‘little wife’ (cf. Lat. *fēmina* → *femella*

¹⁸ As seen in the Latin feminine agent nouns, e.g. *nūtrīx* ‘nurse’ (Nussbaum 2009: 14).

¹⁹ If the Greek is reconstructed with the *devī-* suffix **-ih₂-* rather than **-i(h_x)*, then Armenian must be, too (Nussbaum 2009: 14).

[**fēmāne-lā-*] by way of genitival *-lo-*) (Nussbaum 2009: 15). Nussbaum (2009: 17) concludes that it seems as though **g^wén-h₂* became the unmarked form of ‘woman’ in PIE.

CHAPTER SIX

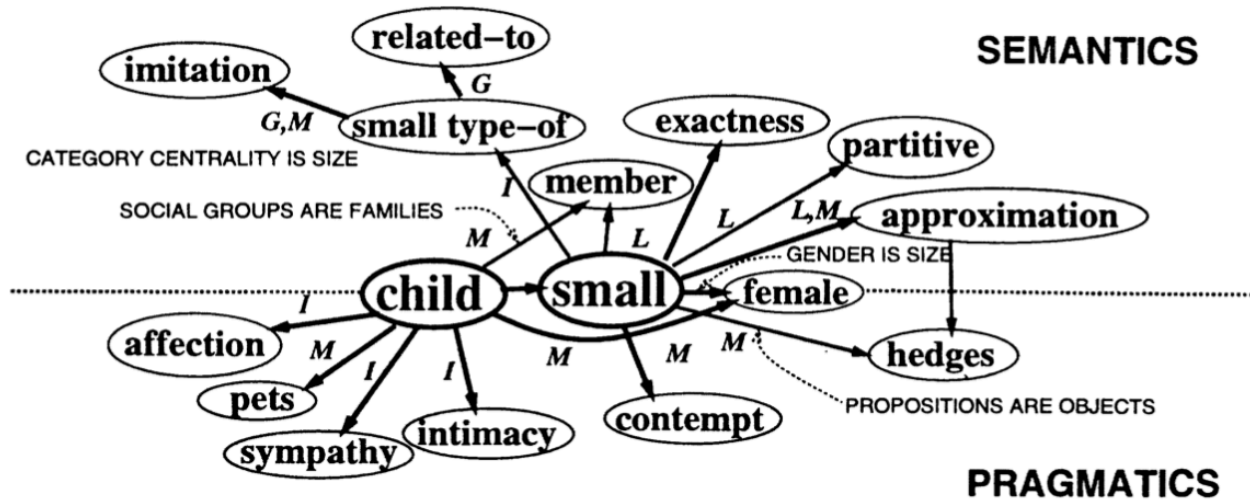
DIMINUTIVES

6.1 Semantic tendencies of diminutives

The potential for genitival and possessive derivatives to become diminutives is discussed in §5.4. In addition, it is quite clear that diminutives may have a pejorative or an affectionate connotation depending on use and context, e.g., Gk. *ἀνδρίον* ‘not much of a man, pitiful fellow’ and *γύναιον*, hypocoristic ‘wifey’, respectively. According to Jurafsky (1993 and 1996), these semantic connections to the diminutive are found across languages. In fact, there are more possible semantic connections to diminutives that are relevant to this discussion of the IE feminizing morphemes. However, Jurafsky (1993 and 1996) argues, using the radial category model of semantics, that diminutives actually have an even wider range of semantic possibilities than pejorative and affectionate or genitival and possessive. In this model of semantics, a “radial category consists of a central prototype together with less-central conceptual extensions, represented by a network of nodes and links,” where nodes are prototypical values and links are “metaphorical extensions, image-schematic transfer, or transfers to different domains” (Jurafsky 1993: 424).

Figure 4 depicts the relationship among the various values that Jurafsky (1996) proposes for diminutives. The meanings are written at the nodes, and the mechanisms of semantic change are written as follows: inference (I), metaphor (M), generalization (G), and lambda-abstraction (L).

Figure 4. Jurafsky's (1996) Proposed Universal Structure for Diminutive Semantics



(Jurafsky 1996: 542)

This schema originates at the sense ‘child’ since Jurafsky (1996) uses typological evidence to argue that ‘child’ is the origin of diminutive morphemes: “in almost every case in which a historical origin can be determined for a diminutive morpheme, the source was either semantically related to ‘child’ (e.g. a word meaning ‘child’ or ‘son’), or pragmatically related to ‘child’ (e.g. a hypocoristic suffix on names^[20])” (Jurafsky 1996: 562).

The discussion below will not attempt to cover each of the senses seen in Figure 4 but will focus, instead, on those relevant to the issue of the PIE feminizing suffixes.

6.1.1 From ‘child’ to ‘small’

A shift from ‘child’ to ‘small’ hardly requires any explanation (cf. Engl. *little ones* ‘children’). According to Hakamies (1951: 9), “l’adulte est le prototype d’une espèce; par conséquent ce qui ou celui qui ressemble à l’espèce sans atteindre toutefois au prototype ne peut

²⁰ for example, a diminutive *Becky* to the unmarked *Rebecca*

être que plus petit.” This shift does not just apply to human referents, for example Italian *castorino* ‘small/little beaver’ < ‘young beaver’ (Grandi 2011).

6.1.2 From ‘small’ or ‘child’ to feminine

The use of diminutives for feminines is seen cross-linguistically. Corbett and Fedden (2016: 526) suggest that the connection might lie in the idea of ‘being smaller than the norm’. Although this feature “is not part of the lexical semantics of a noun[, it is] clearly a characteristic of a specific referent and the speaker’s view” (Corbett and Fedden 2016: 526).

The two values, ‘small’ and feminine, may also exist contemporaneously. For example, English male *major* stands beside female *major-ette* while the unmarked *diner* stands beside the diminutive *din-ette*. This is seen, too, in the words for ‘boy’ and ‘girl’ in a few languages, including English. The *-l* in *girl* goes back to a diminutive suffix, but *boy* lacks any such morpheme despite referring to a similarly young person. In German, *Junge* ‘boy’ has no diminutive morpheme though the *-chen* in *Mädchen* ‘girl’ is diminutive²¹ (Jurafsky 1993: 428).

6.1.3 To partitive

The change from ‘small’ to the partitive or individuating value, while somewhat more abstract than feminine, still seems to be a fairly simple semantic shift. As in the English phrase *a little (of) X*, the diminutive would be delimiting a portion from some larger whole (Jurafsky 1993: 428). A diminutive with this partitive/individuating sense may form a delibative or a count noun from a mass noun, e.g. Yiddish *der zamd* ‘sand’ : diminutive *dos zemdl* ‘grain of sand’ (Jurafsky 1993: 428).

²¹ It is actually this diminutive *-chen* that makes the noun formally neuter despite its female referent, as discussed briefly in §3.3.

With this same sense, the diminutive may also “act as an ad-verbal quantifier. Modifying verbs, it indicates the formation of a bounded part or subevent of the verb, for example by diminution of temporal extent (‘to do *x* briefly’)” (Jurafsky 1996: 555-556).

6.1.4 To resemblance, imitation, and approximation

A diminutive may mark “an object which *resembles* the source object in its form or function, but is smaller,” e.g. French *ciboule* ‘onion’ : dim. *ciboulette* ‘scallion’ (Jurafsky 1993: 429). The relationship between these two words is not merely one of size; a scallion is not simply a small onion though it may, in some respects, resemble one. Similarly, Dutch has *koek* ‘cake’ beside the diminutive marked *koekie* ‘biscuit’ (Jurafsky 1996: 552).

Imitation, like resemblance, “has, through abstraction completely left the original source domain of size” (Jurafsky 1996: 554). This category includes pairs such as Spanish *boca* ‘mouth’ vs. diminutive *boquete* ‘hole’ and Russian *noga* ‘leg’ vs. diminutive *nožka* ‘chair leg’. In both examples, it is possible for the noun marked with the diminutive to be larger than the unmarked noun (i.e. a hole larger than a mouth or a chair leg larger than a leg).

The approximation sense is exemplified by English *-ish*, as in *red* versus *reddish*. This semantic development is similar to that seen in imitation; the derived word comes near in value to its unmarked counterpart but not exactly. In the case of imitation, it is close, at least metaphorically, but not the same object/item. For approximation, the derived term is near the base word in value, but it does not adequately exemplify the base sense. It somehow does not quite hit the mark. Here, the diminutive is developing a meaning like “something ‘tantamount to’ or something which is merely ‘like’ the original” (Brugmann 1891: 262), which is the definition often cited for the reconstructed diminutive suffix **-ko-* (or **-kō-*). Other examples of this

include Mid. Breton *moel* ‘bald’ to diminutive *moelic* ‘rather bald’ and Spanish *cansado* ‘tired’ to *cansadillo* ‘rather tired’.

6.1.5 As a marker of food

Jurafsky (1996: 571) mentions that diminutives can come to mark names of food in, for example, Russian, Polish, and Greek. Unfortunately, he does no more than mention that fact in either his 1993 paper or the 1996 one. A diminutive coming to indicate names of food can be seen, for example, in the English expression *a bit of X*, such as *a bit of chicken*, where this indicates food much more clearly than a simple, unmarked *chicken*, which could be referring to it either as the animal or as food. If, however, this is a regular value that may be associated with the diminutive, then it may relate to the other Latin suffix *-īno-* (cf. *porcīna* ‘pork’), which Nussbaum (1975) outlines as unrelated to the *-īno-* of the genitival constructions discussed in §5.3.

6.2 Implications

Given the striking similarity in the semantic range of the PIE feminizing suffixes and the universal tendencies of a diminutive’s semantic range, it seems reasonable to suggest that the PIE feminizing suffix may go back to an original diminutive. Although its later developments through the different values to a feminizing one (e.g. moving from, in diminutive terms, a partitive or a related-to value to a feminine one) appear to violate the unidirectional nature of these changes as depicted in Figure 4, it would not in fact constitute a violation of this principle because it would not be a semantic change per se. The value of the suffix would not have changed to refer strictly to females but rather to mark a new class of nominals to which nouns

with female referents may belong along with other nouns of intermediate individuation or agency.

This explanation becomes even more plausible when considering the fact that the various senses of the diminutive may coexist:

There are many cases (for example in Romance) where we have direct evidence of the extension of the meaning of diminutives over time, and thus of a direct relation between senses. In addition, the same varied and complex senses of the diminutive occur again and again across languages. If the different senses of the diminutive were unrelated, there would be no reason to expect similar groupings of senses in different languages. (Jurafsky 1996: 538)

It seems logical, then, to conclude that semantics did have some role to play in the reanalysis of this suffix as a marker of the feminine.

Might it then be possible that the laryngeal element is related in each of the three feminizing suffixes (*-(*e*)*h*₂-, *-*i**h*₂-, and *-*i*-*h*_x)? At present, this is merely speculation, but if the *-*h*₂- element does go back to an original diminutive, then it is possible that the values and functions to which the suffixes extended became grammaticalized along with the different distributions seen in the IE languages. This explanation would allow for Kim's (2014: 129) suggestion that *-*i**h*₂- had female/feminine value as early as PIE and for the possessive-instantive value (cf. Kim 2014) proposed for both *-(*e*)*h*₂- and *-*i**h*₂-. It accounts for the individualizing function theorized for *-(*e*)*h*₂- and *-*i*-*h*_x- (cf. Melchert 2014 and Pinault 2011, respectively) and the collective/deliberative functions of *-*h*₂- (cf. Nussbaum 2014), from which an abstract sense is hardly a stretch (cf. Ledo-Lemos 2003: 33).

Ultimately—and most critically—this explanation would provide a point of convergence for all of these senses that readily allows for a connection to and reanalysis of these morphemes as feminine/feminizing. In fact, based on Jurafsky’s (1993 and 1996) assertion that there is some underlying link among those values seen in Figure 4, it seems possible that such a semantic link might go towards explaining the development of these suffixes into markers of the feminine even if they cannot be traced back to an earlier diminutive value.

However, tracing the feminizing morpheme(s) back to a diminutive has another benefit: it would eliminate the need to abstract an older value. According to Jurafsky (1996: 538):

Scholars as early as Petersen (1916) and Meillet (1937) have argued that reconstructions formed by abstracting over the meaning of all modern reflexes are improbably general...since it is the basic-level vocabulary items that are the most likely to survive in daughter languages, a very abstract form is less likely to leave a wide swatch of modern realizations.

The homonymy approach, on the other hand, treats each morpheme as separate and distinct synchronically despite being “composed of the same phonological material” (Jurafsky 1996: 538). The possibility that the laryngeal of **-i-h_x-* was not **-h₂-* must be noted here. However, this is, perhaps, a cautious treatment of **-i-h_x-*, and there are scholars who say that the laryngeal in this suffix was indeed **-h₂-* (cf. Pinault 2011: 135). According to Lundquist and Yates (2018: 2100), all three feminizing suffixes “likely originate from a unitary (probably derivational) suffix **h₂*.” However, a homonymy approach would not account for the overlap among the different senses, such as, for example, a child-related value possible in the approximation, small, or individuating/partitive senses (Jurafsky 1996: 538).

CHAPTER SEVEN

CONCLUSION

The three-gender system found in the NIE languages (masculine, feminine, neuter) was not the oldest gender system in PIE, which had an older two-gender, animacy-based system seen in Anatolian. When the three-gender system was developed, *-(e)h₂-*, **-ih₂-*, and **-i-h_x-* became markers of the feminine. Given the range of other—and earlier—values these suffixes had, it has been difficult for scholars to find any one factor motivating the reanalysis of these morphemes as feminine.

Melchert (2014: 268) says that he does “not believe it is necessary or wise to attempt to explain the rise of the feminine gender in terms of a single factor.” This paper proposes that a semantic connection among the different values of the feminizing suffixes may be found in the semantic range of the diminutive and that they may, in fact, go back to an earlier diminutive. However, the semantic range alone cannot explain how and why the suffix would have been reanalyzed as a marker of the feminine. It merely provides some basis in semantics for the shift, which was likely aided by the various factors that scholars have hypothesized over the years. For example, the intermediate individuation of these nouns may also have had some role to play in their recategorization as feminine (cf. Luraghi 2011). The functional gap left by the loss of **-sor-* (Melchert 2014: 266), which derived nouns with female referents in PIE and into Anatolian as well, may have necessitated the reanalysis of some other morpheme to take over its function. The process of “re-adjectivization” that Nussbaum (2014) proposes may have facilitated the reanalysis of these morphemes as feminine when set up against a masculine one, such as **krétus*

ph₂tér ‘strong father’ vs. **k₂r₂téuih₂ d^hugh₂tér* ‘strong daughter’ (Kim 2014: 131). Then, when agreement spread within the noun phrase to pronouns and adjectives, PNIE would have had a three-gender system according to the agreement-based definition of gender established earlier in this thesis.

An earlier diminutive value of the feminizing suffixes not only allows for the wide range of values these suffixes exhibited in IE languages but also accounts for some of the problems scholars have encountered in theories about their developments. For example, **g^wén-h₂* could indeed have been involved in the reanalysis of **-h₂-*, but rather than proposing an original collective value, for which there is no real evidence (Melchert 2014: 263), the word may have been an original diminutive or hypocoristic term. It would also allow **-h₂-* to come to derive individual, abstract, and collective nouns, which would eliminate the proposed massive semantic shift from collective or abstract to individuals while simultaneously taking into account those known instances where nouns denoting individuals are from abstract or collective nouns (e.g., Latin *agri-cola* ‘field-tiller, farmer’ < **k^hol-é-h₂* ‘tilling’) (Kim 2014: 117).

This theory would unify many of the differing accounts of these suffixes. Yet, even if the morphemes do not ultimately go back to an earlier diminutive value, as stated in §6.2, the semantic connections that made such a range of values possible may still have been at work. After all, these “varied and complex senses” must have a “direct relation” among them as they have repeatedly occurred and developed together across the world’s languages (Jurafsky 1996: 538).

REFERENCES

- Alkire, Ti and Carol Rosen. 2010. *Romance languages : a historical introduction*. New York: Cambridge University Press.
- Beekes, Robert S.P. and Michiel de Vaan. 2011. *Comparative Indo-European Linguistics: An Introduction*. 2nd ed. Philadelphia: John Benjamins Publishing Company.
- Brugmann, Karl. 1891. *A comparative grammar of the Indo-Germanic languages*. Vol. 2: *Morphology*. Trans. R. Seymour Conway and W. H. D. Rouse. New Westermann and Co.
- . 1897. The nature and origin of the noun genders in Indo-European languages. Trans. Edmund Y. Robbins, A lecture delivered on the occasion of the sesquicentennial celebration of Princeton University. New York: Charles Scribner's Sons.
- Bubenik, Vit, John Hewson, and Sarah Rose (eds.). 2009. *Grammatical change in indo-european languages: papers presented at the workshop on indo-european linguistics at the xviiiith international conference on historical linguistics, Montreal, 2007*. Amsterdam: John Benjamins.
- Comrie, Bernard. 1989. *Language Universals and Linguistic Typology: Syntax and Morphology*. 2nd ed. Chicago: University of Chicago Press.
- Corbett, Greville. 1991. *Gender*. Cambridge: Cambridge University Press.
- Corbett, Greville G. and Sebastian Fedden. 2016. Canonical gender. *Journal of Linguistics* 52. 495–531.
- Fortson, Benjamin W. IV. 2010. *Indo-European Language and Culture: An Introduction*. 2nd ed. Oxford: Wiley-Blackwell.

- Grandi, Nicola. 2011. Renewal and Innovation in the Emergence of Indo-European Evaluative Morphology. Diminutives and Augmentatives in the Languages of the World. *Lexis. Journal in English Lexicology* (6), <http://journals.openedition.org/lexis/403>. (31 March, 2018.)
- Greenberg, Joseph H. 1978. How does a language acquire gender markers? In: J. Greenberg (ed.), *Universals of human language*. Vol. 3: *Word structure*. Stanford: Stanford University Press, 47-82.
- Hakamies, Keino. 1951. *Étude sur l'origine et l'évolution du diminutif latin et sa survie dans les langues romanes*. Helsinki: Suomalaisen Kirjallisuuden Seuran Kirjapainon Oy.
- Jurafsky, Dan. 1993. Universals in the Semantics of the Diminutive. In: Joshua S. Guenter, Barbara A. Kaiser, and Cheryl C. Zoll (eds.). *Proceedings of the Nineteenth Annual Meeting of the Berkeley Linguistics Society: General Session and Parasession on Semantic Typology and Semantic Universals*, 423–436.
- . 1996. Universal Tendencies in the Semantics of the Diminutive. *Language* 72, 533–578.
- Kim, Ronald I. 2009. The feminine gender in Tocharian and Indo-European. In: Brent H. Vine and Kazuhiko Yoshida. *East and West: papers in Indo-European studies*. Bremen: Hempen, 67-87.
- . 2014. A Tale of Two Suffixes: **-h₂-*, **-ih₂-*, and the evolution of feminine gender in Indo-European. In: Neri and Schuhmann (eds.), 115–136.
- Ledo-Lemos, Francisco. 2003. *Femininum Genus. A Study of the Origins of the Indo-European Feminine Grammatical Gender*. München/Newcastle: LINCOM Europa.
- Lundquist, Jesse and Anthony D. Yates. 2018. Morphology of Proto-Indo-European. In: Jared Klein, Brian Joseph, and Matthias Fritz (eds.) with the cooperation of Mark Wenthe.

- Handbook of Comparative and Historical Indo-European Linguistics*, vol. 3. Berlin: De Gruyter Mouton, 2079-2195.
- Luraghi, Silvia. 2009a. The origin of the feminine gender in PIE: An old problem in a new perspective. In: Bubeník, Hewson, and Rose (eds.), 3–13.
- . 2009b. Indo-European nominal classification: From abstract to feminine. In: S.W. Jamison, H. C. Melchert, and B. Vine (eds.). *Proceedings of the 20th Annual UCLA Indo-European Conference*. Bremen: Hempen, 115-131.
- . 2011. The origin of the Proto-Indo-European gender system: Typological considerations. *Folia Linguistica* 45. 435–464.
- . 2014. Gender and word formation: The PIE gender system in cross-linguistic perspective. In: Neri and Schuhmann (eds.), 199–231.
- Matasović, Ranko. 2004. *Gender in Indo-European*. Heidelberg: Winter.
- . 2006. Collective in Proto-Indo-European. In: Karlene Jones-Bley, Martin E. Huld, Angela Della Volpe, and Miriam Robbins Dexter (eds.), *Proceedings of the Seventeenth Annual UCLA Indo-European Conference*. (Journal of Indo-European Studies Monograph, 52.) Washington, D.C.: Institute for the Study of Man, Inc., 107–121.
- . 2014. Nominal agreement in PIE from the areal and typological point of view. In: Neri and Schuhmann (eds.), 233-255.
- Meillet, Antoine. [1937] 1964. *Introduction à l'étude comparative des langues indo-européennes*, 8th edn. Reprint, University, AL: University of Alabama Press.
- Melchert, H. Craig. 2011. The PIE collective plural and the “τὰ ζῶα τρέχει rule.” In: Thomas Krisch and Thomas Lindner (eds.), *Indogermanistik und Linguistik im Dialog. Akten der*

- XIII. Fachtagung der Indogermanischen Gesellschaft vom 21. bis 27. September 2008 in Salzburg. Wiesbaden: Reichert, 395-400.
- . 2014. PIE *-eh₂ as an “individualizing” suffix and the feminine gender. In: Neri and Schuhmann (eds.), 257–271.
- Neri, Sergio and Roland Schuhmann. 2014. *Studies on the Collective and Feminine in Indo-European from a Diachronic and Typological Perspective*. (Brill’s Studies in Indo-European Languages and Linguistics, 11.). Leiden: Brill.
- Nussbaum, Alan J. 1975. Studies in Latin noun formation and derivation: *ī* in Latin denominative derivation. In: Calvert Watkins (ed.), *Indo-European Studies II*. Cambridge, MA: Department of Linguistics, Harvard University, 116-161.
- . 1986. *Head and Horn in Indo-European: The Words for “Horn,” “head,” and “Hornet”*. (Untersuchungen zur indogermanischen Sprach- und Kulturwissenschaft, Neue Folge, Vol. 2.) New York: Walter de Gruyter.
- . 2009. So how’s the little woman? Genitivals, diminutives, and PIE *g^wéh₂ etc. *Ford Foundation Workshop on Indo-European Historical Linguistics and Poetics*. Harvard University, April 2009.
- . 2014. Feminine, Abstract, Collective, Neuter Plural: Some Remarks on Each (Expanded Handout). In: Neri and Schuhmann (eds.), 273–306.
- Petersen, Walter. 1916. Latin diminution of adjectives. *Classical Philology* 11. 426-451.
- Pinault, Georges-Jean. 2011. L’origine déictique du genre féminin en indo-européen. *BSL* 106. 129-182.
- Ringe, Donald. 2006. *From Proto-Indo-European to Proto-Germanic : A Linguistic History of English: Volume I*. (A Linguistic History of English, 1). Oxford: Oxford University Press.

Sihler, Andrew L. 1995. *New Comparative Grammar of Greek and Latin*. New York: Oxford University Press.