Substantivization of adjectives

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Abstract

The process of deriving substantives from adjectives in the classical Indo-European languages can be accomplished in two fundamentally different ways. The first possibility is a derivational one, i.e. the adjective is substantivized by a word-formation process that typically consists of an overt morphological or morphonological operation such as suffixation, accent shift, introduction of new ablaut grades, or a combination thereof. The second process, on the other hand, is a gradual one: an adjective can be substantivized through the ellipsis of a head noun that this adjective was originally paired with. In this paper, I intend to outline the differences and similarities between these two mechanisms and discuss their role in the interpretation of Proto-Indo-European stems in $^{*}(e-)h_2-$.

Keywords

substantivization – nominalization – ellipsis – agreement – adjectives

1 Introduction

When talking about substantivization (or nominalization) of adjectives, most Indo-Europeanists will probably first think of substantivizing suffixes such as $^{*}(o)n-$, $^{*}(o/e)t-$, $^{*}i-$, $^{*}(e)h_2-$, etc.,¹ and formations like Lat. *Catō*, *-ōnis* m., a name (literally ‘clever one’), from *catus* ‘clever’, Gk. Στράβων, *-ωνος* m., a name (literally ‘squint-eyed one’), from στράβός ‘squint-eyed’, or Goth. *blinda* m. ‘a blind one’ (as in *Lk* 18.39: *blinda sums sat faur wig* ‘a certain blind man sat by

¹ For these suffixes see recently Nussbaum (2014: 304–06).

the way'), from *blinds* 'blind', and so on.² Substantivizing suffixes are known in modern languages, too. Compare English *-y* (as in *smart* → *smarty* 'know-it-all', or *white* → *whitey* 'a silvery fish'), German *-ling* (as in *schwach* 'weak' → *Schwächling* 'wimp, weakling', *weiß* 'white' → *Weißling* 'white butterfly'), or French *-et* (as in *rouge* 'red' → *rouget* 'red mullet (a fish)', *bleu* 'blue' → *bleuet* 'cornflower'). These suffixes are, however, quite marginal and largely unproductive. The substantivization of adjectives in languages like English, German, and French is productively achieved by a combination of syntactic, morphological and/or lexical methods: to refer to something that is green we can say *a green one* or *the green one* in English, *ein Grüner/eine Grüne/ein Grün(es)* or *der Grüne/die Grüne/das Grün(e)* in German, and *un vert/une verte* or *le vert/la verte* in French; to refer to the abstract concept of 'green-ness', we can use *a/the green*, *ein/das Grün*, and *un/le vert*, respectively (as in *the green of the dress*, *das Grün des Kleids*, *le vert de la robe*). What can be seen from these examples is that the article ($\pm$ morphological or lexical material) fulfills the role of a determiner to substantivize an adjective. In functional terms, we could therefore think of the PIE suffixes **(o)n-*, **(o/e)t-*, **-i-*, **-(e)h₂-*, etc., as analogous to our modern-day articles, though this anachronistic comparison should not be overstrained.

Yet there is another, lesser-known process that leads to the substantivization of an adjective, both in PIE and the IE daughter languages. This process is ellipsis, and it is—as we shall see—fundamentally different from the mechanisms outlined above. An ellipsis is the omission of a substantive that an adjective was originally paired with, so that the adjective alone remains in substantivized meaning. A case in point is the Latin adjective *calidus* 'hot' in the syntagma *aqua calida* 'hot water' (Cato Agr. 156.5 [*brassicam*] *coicito in aquam calidam* 'throw [the cabbage] into hot water') and (with ellipsis of *aqua*) in the substantivization *calida* f. 'hot water' (Cato Agr. 156.3 *qui poturus erit, lauget calida* 'before drinking from it, one should bathe in hot water'). In this paper, I intend to outline and discuss the basic similarities, but also the fundamental differences between these two descriptive types of substantivization of adjectives.

² See, for example, Weiss (2020: 329).

2 Ellipsis

Substantivization via ellipsis³ is a gradual process. It starts out as a syntactic phenomenon, and at this stage is known as contextual ellipsis or antecedent-based ellipsis (cf. Günther 2018: 77–78 with references). An example from Ancient Greek with the adjective *κύνειος* ‘belonging to a dog’ can be seen in the following passage from (Archigenes *apud*) Galen *Comp. Med. Sec. Loc.* 6 (12.954).

- (1) ἡ δὲ *κυνεία κόπρος*, ὅταν ὅστ’ αἱ βεβρωκότες ὧσιν οἱ κύνες, ἀρίστη κατὰ πάντα ἐστὶ καὶ ὡς βοηθοῦσα μεγάλως καὶ ὡς οὐδεμίαν ἀηδίαν ἐμφαίνουσα τῷ προσφερομένῳ. [...] καὶ Μούσας δὲ ἐπὶ πλείστον ἐχρήσατο πρῶτος τῇ *κυνείᾳ*, λευκὴν αἰεὶ παραλαμβάνων.

‘Canine excrement of dogs which were fed bones is by far the best and helps a great deal, and furthermore causes no nauseousness to the patient. (...) Musa was the first one to use **canine** (sc. excrement), he always took the white one.’

Since a *κυνεία κόπρος* is mentioned at the beginning of the passage, the context allows the substantive *κόπρος* ‘excrement’ to be ellipted in the second reference (τῇ *κυνείᾳ*) without this being detrimental to the overall comprehensibility of the sentence. Note that the adjective *λευκὴν* in the clause immediately following τῇ *κυνείᾳ* is likewise a case of ellipsis, yet an even more subtle one since the antecedent is again the noun *κόπρος* (or, conceivably, *κυνεία*), but without there being an earlier reference to a syntagma *λευκὴ κόπρος* (or, for that matter, *λευκὴ κυνεία*). In both cases, the context provides the pragmatic background that enables our understanding of the passage. If the context is, however, ambiguous, the omission of the word *κόπρος* would not lead to a meaningful sentence.

The same can be said about an example from Modern English. Billy Joel’s 1977 song *Scenes from an Italian Restaurant* concludes after almost 8 minutes with the following verses: *A bottle of red, a bottle of white / Whatever kind of mood you’re in tonight / I’ll meet you any time you want / In our Italian Restaurant*. Any listener immediately understands that the singer refers to a bottle of red or white wine that he offers to drink with the object of his desire even

3 Ellipses are discussed, e.g., by Fraenkel (1910–12 II: 136–38); Wackernagel (1920–24 II: 53); Panagl (1989: 188–89); Schaffner (2001: 328).

though the word *wine* is never explicitly uttered in the entire song—it is just not very likely that someone would like to drink *red* or *white dye*, *red* or *white pasta sauce*, and perhaps not even *red* or *white non-alcoholic grape juice*. Without context, however, sentences like *Here is a bargain organic white* or *I'd have preferred red* are not immediately understandable as referring to white wine or red wine, respectively. Compare the same sentences, but with antecedent: *Languedoc is better known for its red wine, but here is a bargain organic white from Château de Lascaux* and *He gave me a glass of white wine but I'd have preferred red*.⁴ Just for the sake of the argument, however, the sentences, in a different context, could also read: *Our company is better known for red pasta sauces, but here is a bargain organic white (one) with bacon and gorgonzola* and *He gave me a glass of white grape juice but I'd have preferred red*.

Only over the course of time has such a contextual ellipsis the potential to become visible and relevant as an actual and descriptive word-formation process.⁵ The final step of this development is the lexicalization of the adjective as a substantive. Whether or not the process reaches this point (and the majority of contextual ellipses do not) is undoubtedly facilitated by a gradual obsolescence of the adjective in adjectival meaning in other contexts than with the soon-to-be ellipted substantive (which is arguably the reason why *red* and *white* cannot be interpreted as lexicalized substantivizations in the meaning 'red wine' or 'white wine').⁶ A telling example comes from Vedic, where we find a substantivization Ved. *mahiṣá-* m. 'buffalo' (RV+). The underlying adjective *mahiṣá-* started out as an ordinary adjective meaning 'tremendous' (from **meḡh₂-s-ó-* 'having (considerable) size'), but already in the Rigveda is only marginally used to refer to things other than the buffalo, as in 10.66.10 *mahiṣáśya tanyatós* 'of tremendous thunder'. In the other adjectival attestations it is used in combination with *mṛgá-* m. 'animal', denoting 'the tremendous animal' (for example *mahiṣám mṛgám* RV 8.69.15), i.e. the 'buffalo', which explains the lexicalization of *mahiṣá-* in its substantivized meaning. The sub-

4 For the latter example cf. Huddleston (1988: 35; slightly modified). The former example is taken from https://www.thewineandcheesecask.com/newsletter_archive/2019/newsletter-Jan19.html (last access 28 July 2020).

5 For some typological remarks on the diachrony of ellipsis-like constructions see Valera (2015: 325–26).

6 Compare the English word *genitive*, originating via ellipsis from *genitive case*, with the adjective *genitive* nowadays being very restricted in usage. See *OED* (s.v. *genitive*, adj. and n.) where examples for an adjectival usage of *genitive* in the sense '[r]elating to reproduction or the generation of offspring. rare after 17th cent.' (meaning A.2.) include a 1918 quote by J.H. Kellogg: 'The increased consumption of meat was the potent cause of the failure in the genitive power of the British race.'

stantive *mahiṣá-*, unlike the adjective *mahiṣá-*, lives on in the Modern Indic languages (cf. Konkani *mhos* ‘buffalo’).⁷

Cases of Greek ellipses on their way to become fully lexicalized before our eyes include ἡ δεξιὰ / δεξιτερὰ (with or without χεῖρ) ‘the right hand’ (in Homer already always without χεῖρ), ἡ γυμναστική (with or without τέχνη) ‘gymnastics’, ἡ μουσική (always without τέχνη) ‘any of the Muses’ arts’, and many more. As can be seen from all these examples, the gender of the substantivized adjective depends on the gender of the ellipted word.⁸

Examples with textual evidence for the adjective, the syntagma of adjective and substantive, and the substantivized adjective—as with Ved. *mahiṣá-* ‘tremendous’, *mahiṣá- mṛgá-* ‘tremendous animal’, and *mahiṣá- m.* ‘buffalo’, or similarly Ved. *prthiví-* ‘broad’ (the feminine of *prthú-*), *kṣám ... prthvím* ‘broad earth’ (*RV* 10.31.9; cf. also YAv. *zqm pərōθβīm* *Y.*10.4), and *pr̥thiví-*, *pr̥thiví- f.* ‘(Mother) E/earth’—are actually not too common. In many cases we are not lucky enough to have actual evidence from texts that authorize a secure interpretation as an ellipsis. In some cases, the adjective is attested but the underlying syntagma is not, as in Gk. ψωλός ‘with the foreskin drawn back’ and ψωλή *f.* ‘*membrum virile praeputio retracto*’ (Ar.), which is from an unattested *ψωλή πόσθη with πόσθη *f.* ‘penis’, and in yet other instances, not even the adjective is attested. Compare (V)Lat. **formaticus* ‘shaped’, the source of French *fromage*, Italian *formaggio*, Catalan *formatge* ‘cheese’, where the underlying unattested syntagma is **caseus formaticus* ‘shaped cheese’ (as opposed to unshaped fresh cheese), containing an otherwise unknown adjective **formaticus* ‘shaped’ (derived from *forma* ‘form, mold’ like *umbrāticus* ‘belonging to the shade’ from *umbra* ‘shadow, shade’ and *viāticus* ‘pertaining to traveling’ from *via* ‘road’), or Gk. *κρατήριος ‘related to the κρατήρ “mixing bowl”, κρατήρ-like’, the source of κρατηρία *f.* ‘bowl’ (Dsc.), which is from an unattested syntagma *κρατηρία λεκάνη ‘κρατήρ-like dish’.⁹ In these cases, it is often difficult to identify a substantivized adjective as an ellipsis-based substantivization. But since an ellipsis-sourced substantivization is morphologically still just an adjective, it is conceivable that the substantivization process did not have any ‘morphological effect’ (i.e. no suffixation, no accent shift, no change in ablaut¹⁰), which

⁷ Cf. *EWAla* (II: 340 s.v. *mahiṣá-*).

⁸ Compare also Lat. *caprea*, -ae *f.*, the generic term for ‘roe-deer’, whose feminine gender is explained very elegantly by Adams (1985b: 278) as originating in a syntagma of the old word for ‘roe-deer’ **iōrk-* *f.* (Gk. ζόρξ and δόρξ *f.*) and an adjective **capreus* ‘goat-like’ with subsequent ellipsis.

⁹ In the passage Dsc. 4.155, κρατηρία and λεκάνη refer to the same vessel used to collect the juice of some sort of wild cucumber.

¹⁰ The term ‘effect’ is used here in purely descriptive terms. In connection with accent shift

separates them from substantivizations that are created by means of the substantivizing suffixes mentioned above.

3 'Direct' substantivization

In order to draw a clear distinction between the two types of substantivizations, I intend to name the non-ellipsis type 'direct' substantivization, in the sense that the adjective is converted 'directly' into a substantive without the prior existence of a syntagma of substantive plus adjective and subsequent ellipsis. Unlike ellipsis that evolves gradually, a 'direct' substantivization is a spontaneous and deliberate word formation process, which is especially clear in the many cases where suffixation or another 'morphological effect' is involved (on which more below). The result of this process¹¹ can be either:

- (A) a concrete individualization ($(X)_{\text{ADJ}} \rightarrow$ 'a person/animal/thing that is X_{SUBST} '), or
- (B) an abstract ($(X)_{\text{ADJ}} \rightarrow$ 'the state/quality/condition of being X_{SUBST} ')

In many cases, the abstract can simultaneously have a concrete meaning. This is nothing remarkable and can be observed in many modern-day examples of abstract-forming suffixes. Compare the English noun *whiteness* as in 'the quality or condition of being white in color' (*the whiteness of the snow on the mountains*), which can also be used in a concrete sense 'a white substance or part of something' or 'snow' (*I tried to imagine the movie-set roofs piled with fluffy whiteness*).¹² This can also be observed in the classical languages. The substantivizing suffixes mentioned at the outset typically create substantivizations that have both meanings.¹³ For derived *i*-stems, compare, for example, the Latin nouns *febris*, *-is* f. 'fever' < $*d^heg^{wh}ri-$ 'heat' (from $*d^heg^{wh}ro-$ 'hot'; cf. Gk. τέφρα f. 'ashes') and *rauis*, *-is* f. 'hoarseness' (from *rauus* 'hoarse') as abstracts, and *cīuis*, *-is* m. 'citizen' < $*keiui-$ 'member of the society' (from $*k(e)_{\text{ui}}o-$ 'socially close'; cf. Ved. *śéva-*, *śívá-* 'auspicious, dear, friendly', PGmc. $*heīwa-$ 'household', Latv. *siēva* f. 'wife') or *imber*, *-bris* m. 'rain' (cf. Osc. dat. pl. *anafriss* 'imbribus') < $*nb^hri-$ m. 'wet stuff' (from $*nb^h-ró-$ 'wet'; cf. Ved. *abhrá-* n. 'rain-cloud', Gk. ἀφρός

and change in ablaut it would be more precise to speak of morphological and/or morphonological 'effect'. For the sake of brevity, however, I will subsume all of the mentioned 'effects' under 'morphological effects' (with quotation marks).

11 Cf. Nussbaum (2014: 304–06).

12 Cf. *OED* (s.v. *whiteness*, n. meaning 1. a. and 1. b.) where the bracketed sample sentences are taken from.

13 Cf. Nussbaum (2014: 304–05).

m. 'foam').¹⁴ It is of no significance for now whether the abstract meaning was original and the concrete meaning developed from it, if it was the other way round, or whether both meanings were inherent in such formations simultaneously and the specialization of individual suffixes to create one or the other was a secondary development. At least from a theoretical perspective, the latter option seems to be the most plausible one if we interpret the PIE suffixes **-(o)n-*, **-(o/e)t-*, **-i-*, **-(e)h₂-*, etc. as analogous to determiners.¹⁵

When it comes to the formal side, the use of suffixes is actually only one of several ways to create a 'direct' substantivization. Apart from suffixation or suffix substitution (see the *i*-stem examples above), we find for example accent shift¹⁶ as in Ved. *kṛṣṇá-* 'black' → *kṛṣṇa-* m. 'black antelope', Gk. *κνήκος* 'pale yellow, tawny' → *κνήκος* f. 'safflower' (Myc. *ka-na-ko*), etc. We can also observe a systematic change in ablaut, which for athematic adjectives is called 'internal derivation'¹⁷ as in **pum-és-* 'having a beard' (>> Lat. *pūbēs*, *-eris* 'pubescent; downy') → **p(é)um-ōs* m. 'the bearded one' (> Ved. *púmāms-* m. 'man'¹⁸) or in **h₂(e)rġ-i-* 'bright, swift' (Hitt. *harki-* 'white, bright') → **h₂érġ-ōi* f. 'the swift one' (Gk. *Ἀργώ*, *-όος* f. 'Argo (name of a ship)'¹⁹). For thematic adjectives, something similar—i.e. a change in ablaut in the stem of the adjective—can be seen in substantivizations with a new accented *e*-grade ('*Substantivierungsvrddhi*'²⁰), as in **ġnh₁-tó-* 'born' (Lat. *(g)nātus* 'son', Ved. *jātá-* 'born; son', ON *kundr* 'son') → **ġénh₁to-* n. 'born one' (OHG *kind*, German *Kind* 'child'), or in substantivizations with a new accented *o*-grade,²¹ as in **mṛ-tó-* 'mortal, dead' (Ved. *mṛtá-*, Av.

14 On *i*-stem substantivizations cf. Schindler (1980: 390); Weiss (1996: 204–05); Nussbaum (1998b: 523); Nussbaum (1999: 399); Nikolaev (2003: 187–88); Rieken (2005); Vine (2006); Weiss (2020: 334–35); Weiss (2013); Höfler (2015b: 228).

15 The two phrases mentioned above containing *whiteness* in an abstract and a concrete meaning, respectively, can easily be rewritten using a determiner (*the, some*) plus the substantivized adjective (*white*) as *the white of the snow on the mountains* and *I tried to imagine the movie-set roofs piled with some fluffy white*.

16 Cf. *AiGr* (III: 88); Nussbaum (1986: 157); Schaffner (2001: 328); Rau (2008: 165); Steer (2014: 397); Höfler (2017).

17 Cf. Schindler *apud* Peters (1980: 50); Nussbaum (1986: 118); Griepentrog (1995: 109–10⁵¹); Nussbaum (1998a: 147); Widmer (2004: 30–35 and 62–70); Höfler (2015a).

18 Cf. Adams (1985a); Höfler (2015a: 178–79). For the semantics cf. Lat. *barbātus* 'bearded' and Romanian *bărbat* 'man'.

19 Cf. Rau (2009: 52⁵²).

20 Cf. Eichner (1973: 93⁴⁶); Schindler *apud* EWAia (II: 269–70); Schaffner (1997: 108⁵³); Schaffner (2001: 235–36³³⁵); Lipp (2009 II: 416¹³⁸); Steer (2014: 397); Steer (2015: 33–34, 49, 76–77, 165).

21 Cf. Schindler (1980: 390¹⁷); Hamp (1982/83: 171–77); Nussbaum (1986: 8); Rasmussen (1989: 178); Neri & Ziegler (2012: 27); Neri (2013: 197–98); Harðarson (2014: 47³); Steer (2015: 100); Neri (2016: 24, 30, 32, 34, 40); Höfler (2018b).

mārta-, Gk. βροτός) → **mórto-* m. ‘mortal one’ (Ved. *márta-* m., GAv. *maša-* m., Gk. μόρτος· ἄνθρωπος. θνητός Hsch.).²² Lastly, we also find ‘zero’ effect, as in Ved. *taviṣá-* ‘powerful’ → Ved. *taviṣá-* n. ‘power; deed of strength’, or Gk. ἀγαθός ‘good’ → Gk. ἀγαθόν n. ‘good, blessing, benefit’ and Gk. ἀγαθός m. ‘a noble man’, where the only formal difference between adjective and substantive is the determination of the grammatical gender that accompanies the change of word class.

In the ‘zero’ case, the formal overlap with ellipsis-sourced substantivizations is obvious. Or, in other words: it is not quite clear from the outset whether a word like, e.g., Ved. *vatsá-* m. ‘calf’ continues a direct substantivization of the adjective **uet-s-ó-* ‘one year old’²³ or whether it goes back to a syntagma of this adjective with an ellipted word for ‘calf’, ‘steer’, or ‘(young) animal’. This question might not seem overly relevant at first sight but it is, I think, of fundamental importance for our understanding of substantivization as a word-formation process.

4 How to distinguish the two types?

Unfortunately, there is no easy way to distinguish ellipsis-based substantivizations from direct substantivizations with no overt ‘morphological effect’. Sometimes, however, there is circumstantial evidence from the semantic side to help decide whether a deadjectival formation belongs to the former or the latter group.

4.1 Adjectival abstracts

Adjectival abstracts, the type **d^heg^{wh}-ro-* ‘hot’ → **d^heg^{wh}-ri-* ‘heat’ (Lat. *febris*, -is f. ‘fever’), are always the result of a direct substantivization. Ellipses virtually never create such abstracts. Exceptions to this rule are only apparent: even if words like γυμναστική ‘gymnastics’, μουσική ‘any of the Muses’ arts’ are abstracts in the sense that they do not refer to concrete entities, they can hardly be interpreted as adjectival abstracts of a semantic structure *X*_{ADJ} → ‘the state/quality/condition of being *X*’_{SUBST}.

22 The label ‘change in ablaut’ for both internal derivation and substantivization with a new accented *e-* or *o-*grade does not necessarily imply that these processes and their respective origin have to be analyzed in the same way. Another caveat is that it is not clear how (or, indeed, if) the three types of substantivization of thematic adjectives—viz. plain accent retraction, new accented *e-*grade, new accented *o-*grade—are interrelated.

23 For the formal analysis of this adjective (i.e. possessive adjective ‘having a year’ or denominative hypostasis ‘of the year’) see Vine (2009: 216–17; arguing for the latter).

4.2 Concrete referents or ‘individualizations’

The most prominent case of deadjectival substantivization as ‘individualization’ is in names. Deadjectival names are always ‘direct’ substantivizations, which is especially obvious in personal names like the already mentioned *Catō* and Στράβων types; an ellipsis of *uir* or ἄνθρωπος (or the like) is totally out of the question in these and any other cases of anthropological name-giving. This rule also extends to other names, like pet names (ἀργός ‘swift’ → Ἀργος, Odysseus’s dog), ship names (see Ἀργώ above), or also many place names (ἐλικός ‘eddy’ → Ἐλίκη, a town in Achaea), etc.

In the case where the substantivization is not a name but refers to a concrete referent, both types—the ‘direct’ and the ellipsis type—occur side by side and can usually be paraphrased as ‘a/the Y_{SUBST} that is X_{ADJ} ’. In the ellipsis type, this ‘ Y_{SUBST} ’ can be virtually any substantive, like ‘excrement’ (κυνεία), ‘cheese’ (*formaticus*), ‘animal’ (*mahiṣá-*), ‘earth’ (*prthivī-*), ‘hand’ (δεξιά), ‘penis’ (ψωλή), ‘art’ (μουσική), ‘dish’ (κρατηρία), or any other. In a direct substantivization, the ‘ Y_{SUBST} ’ is semantically more restricted and typically stands for a person (*cīuis*, *pūmāns-*, *Kind*, μόρτος, ἀγαθός), an animal (or specific subcategories like bird, fish, antelope [*kṛṣṇa-*]), a plant (κνήκος), a tree for animate referents, and a thing, part, substance (*imbris*, ἀγαθόν) for inanimate referents, and besides that also an instrument or a disease. Compare the different Greek substantivizations (all with accent retraction) of the adjective λευκός ‘bright, white’ that can refer to a person or divinity (Λεῦκος m., name of a divinity at Miletus), a fish (λεῦκος m. ‘a fish’ Theoc.), a tree (λεύκη f. ‘white poplar’ Att., Hell.), a thing or substance (λεῦκαι f. pl. ‘white spots on the nails’ Alex. Aphr.; λεύκη f. ‘white clay or chalk’ Gloss.), or a disease (λεύκη f. ‘leprosy’ Att.-Ion.).

Another difference is that while ellipsis-based substantivizations are always resolvable as ‘a/the Y_{SUBST} that is X_{ADJ} ’ or ‘(a/the) X_{ADJ} Y_{SUBST} ’ (i.e. a syntagma that—by definition—is the ultimate source of this substantivization), a specific ‘ Y_{SUBST} ’ is often not needed in paraphrasing a direct substantivization; it is enough to think of ‘the/a X_{ADJ} one’, as is evident, for example, from the names listed above (e.g. Ἀργώ < ‘swift one’).²⁴

In some direct substantivizations, ‘ X_{ADJ} ’ is applicable for all ‘ Y ’s and ‘ X_{SUBST} ’ is a synonym or paraphrase of ‘ Y ’. Compare the adjective **rot-h₂-ó-* ‘having wheels, wheeled’ (derived from **rot-eh₂-* ‘wheel’, attested in Lat. *rota* f.) and its direct substantivization (with accent retraction) **róth₂o-* ‘the wheeled one’

24 In terms of underlying structure, one could interpret ‘ X_{SUBST} ’ more generally as ‘the/a X_{ADJ} one’ and think of ‘ Y ’ as a silent empty noun (cf. Günther 2018: 99) whose underlying semantic representation can be rendered as ‘person’, ‘animal’, ‘thing’, or just ‘one’, depending on pragmatic context.

(attested in Ved. *rátha-* m., Av. *raθa-* m. ‘chariot’). Since all carts or chariots arguably possessed wheels, the substantive **róth₂o-* ‘the wheeled one’ is a synonym or paraphrase of ‘chariot’. No ellipsis of a word for ‘cart’ is, therefore, needed here. Similarly, the direct substantivization (with accent retraction) **kṛh₂seh₂-* ‘the horned one’ (on the basis of **kṛh₂s-ó-* ‘horned’, derived from **kér-h₂-s* n. ‘horn’, attested in Gk. κέρας) is the source of PGk. **káraha* f. ‘the horned one’ > Cret. κάρᾱ f. ‘tame goat’ (Hsch.).²⁵ Here, ‘the horned one’ is likewise a synonym or paraphrase of ‘goat’ since all goats (both male and female) have horns.²⁶

In yet other cases, the direct substantivization is explicitly not resolvable as ‘(a/the) *X*_{ADJ} *Y*_{SUBST}’, namely when the adjective ‘*X*_{ADJ}’ does not necessarily apply to the semantic head as a whole, but rather only refers to one prominent feature of it. The term Lat. *pānsa*, -ae m., also used as a cognomen *Pānsa* (from *pānsus* ‘spread out’), for instance, does not refer to a spread-out person but rather to someone with feet that are spread-out or splay.²⁷ A similar case is *scaeuus* ‘left’ and *scaeu* m. ‘left-handed person, lefty’. Another field where this feature can be observed nicely is in fish names. The English *whitling* ‘a sea trout’ (from *white*), and the Greek λευκος ‘a fish’ (from λευκός ‘white’) do not have to be ‘white fish’. The name can refer to a prominent white stripe or mark, white flesh, or a relative whiteness in relation to a darker or different-colored but otherwise similar species. The Greek μύξος fish, a kind of mullet (Ath.), derives from **muk-s-ó-* ‘slimy’,²⁸ but does not necessarily designate a ‘slimy fish’. The name probably refers to the adipose eyelids that the family Mugilidae (or mullets) is known for. Lastly, the English fish name *roughy* (as in *orange roughy*) does not designate a ‘rough fish’, but rather a fish with large rough-edged scales.²⁹

A special case of concrete referents is the formation of collectives and ‘delibatives’. As convincingly argued by Nussbaum (2014: 277–88), the substantivization of possessive or genitival adjectives derived from (i) countable or

25 Cf. Nussbaum (1986: 156–57).

26 In contrast to goats, only the males of red deer have ‘horns’ or antlers, which is why derivatives of **kó/éru-* ‘horn’ such as **kéruo-* (Lat. *ceruus*), **kṛuo-* (Welsh *carw*), **kerud-* (OHG *hiruz*, OE *heorot*), etc., originally only referred to the ‘hart’ or ‘male cervid’ (< ‘the antlered one’), as argued by Adams (1985b: 274–75), the generic term for ‘red deer’ being **h₁el(h₁)en-* (plus variants). Within Tocharian, the adjective **kṛh₂s-ó-* ‘horned’ is continued as TB *karse* ‘hart, deer’.

27 Cf. Walde & Hofmann (II: 248 s.v. *pānsa*).

28 Cf. **méuk-ōs* > Lat. *mūcor* m. ‘mold; mucous substance’; **múkseh₂-* >> Gk. μύξα f. ‘mucus, slime’. On the remodeling of inherited *ā*-stems to *ǣ*-stems in Greek see Solmsen (1909: 238).

29 Cf. *OED* (s.v. *roughy*, n. meaning 2).

count nouns and (ii) uncountable or mass nouns can lead to the semantics of (i) a collective, i.e. ‘a syntactic [and/or] ... morphological singular denoting a group of “identical” things’,³⁰ and (ii) a delibative, i.e. ‘a finite sample or ... a particular variety of the stuff in question’,³¹ respectively. For the collective type, compare Lat. *arbōs* ‘tree’ → *arbustum* n. ‘copse, plantation’ (thematic neuter in *-to-), and for the delibative type Lat. *strāmen* ‘straw’ → *strāmentum* n. ‘bundle of straw’ (thematic neuter in *-to-).³² These collectives/delibatives are also based on ‘direct’ substantivization processes, as can be seen from examples showing a ‘morphological effect’ such as accent retraction; compare Gk. ἄῤῥ ‘mist, haze; air’ (**h₂usér* ‘morning thing’) → **h₂usr-ó-* (cf. Ved. *usrá-* ‘matutinal’) → Gk. ἄῤῥα, Ion. ἄῤῥη f. ‘a cool breeze, the fresh air of morning, morning mist’ (quasi **h₂úsreh₂-* in a delibative sense ‘a bit of mist/air’),³³ or **mék-os* n. ‘slime’ → **muk-s-ó-* → **múkseh₂-* >> Gk. μύξα f. ‘(a bit of) mucus, slime’ (see also note 28), a ‘delibative’ with plural forms attested since Hesiod.

These semantic deliberations should be seen as general tendencies rather than rigid rules. In many cases, of course, the distinction can be blurry.³⁴ For the above-mentioned example Ved. *vatsá-* m. ‘calf’ (from **ǵet-s-ó-* ‘one year old’), for instance, no clear verdict can be decided. Semantically speaking, a syntagma ‘one-year-old calf’ with subsequent ellipsis is just as plausible as ‘the one-year-old one’ as a direct substantivization. Any identification should, therefore, rely—if possible—on (a combination with) formal arguments rather than on semantic considerations alone.

30 Nussbaum (2014: 285).

31 Nussbaum (2014: 278).

32 Examples taken from Nussbaum (2014: 290–92).

33 Cf. Nussbaum (2014: 297).

34 In some cases, the boundaries seem particularly fluid: there is a subtype of deadjectival ‘direct’ substantivizations that shares a specific feature with ellipsis-based substantivizations in that the gender of the substantivization is dependent on the gender of another word. But unlike in the ellipsis-case where the gender of the substantivized adjective depends on the ellipted word, the gender of this type depends on the gender of a semantically associated generic term or synonymous model word, or on a lexically determined gender restriction. Examples of the former type might be the already mentioned fish names λεύκος and μύξος, masculines just like the generic term ἰχθύς m. ‘fish’, and the word for ‘palm (of the hand)’ (see below in section 5) Lat. *palma* f., Gk. παλάμη f., etc., which—as most words for ‘hand’ in the IE languages—is a feminine; an example of the lexically determined gender restriction type is Gk. λεύκη f. ‘white poplar’ that presumably owes its gender to the fact that most dendronyms in Greek are feminine (even though the generic term for ‘tree’, δένδρ(ε)ον, is neuter).

5 The formal side: substantivizations with $^{*}-(e)h_2-$

In case of suffixation with substantivizing suffixes such as $^{*}-(o)n-$, $^{*}-(o/e)t-$, $^{*}-i-$, or $^{*}-k-$ (cf. $^{*}séno-$ ‘old’ → $^{*}sene-k-$ m. ‘old guy’ > Lat. *senex*), it is obvious that we are dealing with a ‘direct’ substantivization, i.e. a substantivization that was intentionally created by a derivational process that consisted of adding a suffix to the stem of the adjective. The same holds true for other ‘morphological effects’ accompanying the substantivization, such as change of ablaut (internal derivation, substantivizations with a new accented *e*-grade, substantivizations with a new accented *o*-grade) and change of accentuation (accent shift), or a combination of them. This means that, by implication, these morphological processes are excluded from appearing in ellipsis-based substantivizations, which themselves—as already mentioned above—look still like adjectives on the surface. In other words, in ellipsis-based substantivizations there is no other formal process to mark or create the substantivization.

One group of words, in which these premises play a significant role, are formations in PIE $^{*}-(e)h_2-$, which therefore deserve a more detailed treatment. For a substantive that can be traced back to a formation in which $^{*}-(e)h_2-$ is seemingly attached to the stem of a thematic adjective, can be one of two things:

- (A) the feminine of this thematic adjective, substantivized via ellipsis.
- (B) a ‘direct’ substantivization of this adjective via the suffix $^{*}-(e)h_2-$.

In (A), $^{*}-(e)h_2-$ is just an agreement marker added to the thematic adjective to express gender concord. In (B), however, the formant $^{*}h_2-$ is an independent substantivizing suffix that attaches to the thematic vowel $^{*}-e-$ to create ‘direct’ substantivizations, i.e. either concrete individualizations ($(X)_{\text{ADJ}} \rightarrow$ ‘a person/animal/thing that is X_{SUBST} ’) or abstracts ($(X)_{\text{ADJ}} \rightarrow$ ‘the state/quality/condition of being X_{SUBST} ’). As a substantivizing suffix, $^{*}h_2-$ was primordially not associated with feminine gender, which can be deduced not only from the rich evidence of Anatolian,³⁵ but also from the masculines in Gk. $-\etaς/-\tilde{\alpha}ς$ (the type $\pi\acute{o}\lambda\iota\tau\etaς$ m. ‘citizen’³⁶), Lat. $-a$ (the type *pānsa* m. ‘splay-footed man’ from *pānsus* ‘spread out’, see above).

Within this second group of formations in $^{*}-(e)h_2-$, ‘morphological effects’ such as the introduction of a new accented *e*-grade or *o*-grade, or plain accent

35 Cf. Hajnal (1994); Melchert (2014); Sasseville (2018).

36 Gk. $\pi\acute{o}\lambda\iota\tau\etaς$ looks like the substantivization of a deinstrumental adjective $^{*}polih_1-tó-$ ‘associated with a $\pi\acute{o}\lambda\iotaς$ ’ (cf. Osthoff *apud* Einhauser 1992: 240) of the type reflected in Latin adjectives in $-ītus$ (as in Lat. *aurītus* ‘associated with ears’ > ‘having long or large ears’ (of a hare, donkey)’ and ‘attentive, listening’, from *auris* f. ‘ear’).

shift, seem to be the rule. For the first type compare **tṃh_x-s-ró-* ‘dark’ (Lith. *tiñsras*, West-Aukšt. *timsras* ‘dark red’) → **témh_xsreh₂-* ‘darkness’ or ‘dark thing’ (Ved. *támisrā-* [f. pl. in *RV* 2.27.14] ‘the dark, a dark night’, Lat. *tenebrae* f. pl. ‘darkness’), or **g^wh₂d^h-s-ó-* ‘deep’ (substantivized as βάσσος· οὐδετέρως· ἡ βῆσσα ‘(n.), combe, glen’ Hsch.) → **g^wéh₂d^hseh₂-* f. ‘depth; deep thing’ (>> Gk. βῆσ(σ)α, Dor. βασσα f. ‘wooded combe, glen’ poet., *Il.*+).³⁷ Substantivizations with a new *o*-grade can be seen, for example, in **luksnó-* ‘bright’ (subst. as λύχνος m. ‘lamp’) or **leuksnó-* ‘bright’ (YAv. *raoxšna-*, OHG *liehsen* ‘bright’) → **louksneh₂-* f. ‘bright thing’ (YAv. *raoxšnā-* ‘light’, Lat. *lūna* (Praenest. LOSNA), OCS *luna* ‘moon’, OPr. f. pl. *lauxnos* ‘stars’³⁸), or **tṃh_x-s-ó-* ‘dark’ (Latv. *tūmšs*, *tīmšs*) or **temh_x-s-ó-* ‘id.’ (OS *thimm*), a possessive derivative of **témh_x-os* n. ‘darkness’ (Ved. *támas-*, Lat. adv. *temere* ‘thoughtlessly’ < **‘in darkness’*) → **tom(h_x)seh₂-* f. ‘darkness’ (Lith. *tamsà* f. ‘id.’).³⁹

The type with plain accent retraction is more common than the two just mentioned ones. It can be seen in masculine substantivizations such as the Greek masculine stems in *-ης* or *-ᾶς* (< **-e-h₂+s*) that are as a rule not oxytone.⁴⁰ This is true for both inner-Greek examples such as *ταχινός* ‘swift’ (poet. and late prose) → Lacon. *ταχινᾶς* m. ‘hare’ (Ael.) and *ταχίνης* ‘deer’ (Hsch.) < **‘the swift one’*, and for clearly old and/or even inherited pairs of formations, where the difference in accentuation led to different phonological outcomes, like in **CṚh₂C* sequences, where unaccented **CṚh₂C* gave Gk. *CṚη/ᾶC* (**tḷh₂-tó-* > Gk. *τλητός*, Dor. *τλᾶτός* ‘patient’) while accented **CṚh₂C* led to Gk. *CáRaC* (**tḷh₂-ro-* > Gk. *τάλαρος* m. ‘basket’).⁴¹ One such doublet is the oxytone adjective **dm̃h₂-ló-* ‘tame(d)’ > **dmālō-* > Att.-Ion. *μηλός* ‘tame, gentle’ (*EM*), Dor. *μᾶλός* (Theoc. *ep.* 1.5; as an epithet of *τράγος* ‘he-goat’) and the barytone substantivization **dm̃h₂leh₂-* > **dómālā(±s)* > *δαμάλης* m. ‘young steer’ (Arist., *AP*) < **‘the tamed [= castrated] one’*, *δαμάλης* in a fragment of Anacreon (6th c. BCE) ‘subduer’ < **‘the taming one’*.⁴²

Within feminine **-e-h₂-*stems we find accent retraction in several textbook examples, both of *einzel sprachlich* date (the individualization type in Gk. *λαπαρός* ‘slack, loose’ → Ion. *λαπάρη* f. ‘the soft part of the body; flank’ *Il.*+; Gk. *πρυμνός* ‘hindmost, end-most’ → Ion. *πρύμνη* f. ‘hindmost part; stern’⁴³ *Il.*+; Ved. *kālaka-*

37 Cf. Peters (1999).

38 OCS *luna* and OPr. *lauxnos* presuppose an *o*-grade.

39 Cf. Rasmussen (1989: 186).

40 Cf. Buck & Petersen (1945: 2); Balles (2008: 203).

41 For this phonological development and the outcome for sequences with **h₁* and **h₃* see the discussion in Höfler (2016/2017 [2019]) with references to earlier literature.

42 For the details cf. Höfler (2016/2017 [2018]).

43 On the accentuation of these words in the Homeric manuscripts cf. West (1998 I: XXI).

‘dark blue’ (Pāṇ.) → *kālākā-* f. ‘a bird (?)’;⁴⁴ the abstract type⁴⁵ in Gk. θερμός ‘hot’ → θερμή f. ‘heat’, Gk. ἐχθρός ‘hostile’ → ἔχθρα, Ion. ἔχθρη f. ‘hatred’; Ved. **tṛṣṇā-* ‘thirsty’ (< **tṛs-nó-* ‘dried up’⁴⁶) → Ved. *tṛṣṇā-* f. ‘thirst’), and in inherited formations, like for example **p̥h₂meh₂-* ‘the broad one’ > Gk. παλάμη f. ‘palm (of the hand)’, Lat. *palma* f. ‘palm of the hand’;⁴⁷ or **h₂enkulō-* ‘curved’ (Gk. ἀγκύλος ‘id.’ with Wheeler’s Law) → **h₂énkuleh₂-* ‘curved thing’ (Gk. ἀγκύλη f. ‘bend of the arm; thong of a javelin’, OIcel. *ól* f. ‘thong’, OE *ōl(-þwang)* ‘id.’⁴⁸); or **íeh₃s-nó-* ‘(providing) girding’ → **íéh₃sneh₂-* ‘belt, girdle’ (Ved. *rāsnā-* f. *VS+*,⁴⁹ Gk. ζώνη f.); or **p̥h₂s-ó-* ‘covering’⁵⁰ → **p̥h₂seh₂-* ‘the covering (one)’ (Hitt. *palahša-/palhša-/* c. ‘a garment for women; a cloth covering’, PlItal. **palasā* > Lat. *palla* f. ‘women’s garment; a curtain’ Plaut.+). Note that the latter example secures the existence of this type in PIE (including Anatolian).⁵¹

On the other hand, however, **-e-h₂-* stems can likewise continue substantivizations of the feminine forms of thematic adjectives with an ellipsis of the noun that this adjective was paired with in a former syntagma. Since this was not a spontaneous and deliberate, but rather a gradual process, we can assume that the adjective typically remains unchanged and keeps its original accentuation as in the examples from above: δεξιὰ f. ‘right hand’, γυμναστική f. ‘gymnastics’, ψαλή f. *‘phallus*’, etc. Another example from Greek that authorizes such an interpretation is στρωμή f. ‘a bed spread or prepared; bed, couch’ (Sapph., Pi., Att. etc.). The formation presupposes an adjective **στρωμνός* ‘spread’ derived from στρωμα n. ‘anything spread or laid out for lying or sitting upon’ (Att. Ion.) < **stṛh₃-men-* n. ‘spreading, spread-out thing’, in the same way that ἐρυ-

44 Cf. EWAia (I: 344).

45 Cf. Kuryłowicz (1968: 91); Pinault (2011: 174); Dieu (2016: 148–49).

46 Cf. also Av. *taršna-* m. ‘thirst’, Sanskr. *tṛṣṇaka-* ‘desirous, eager’.

47 Further cognates include: PCelt. **lāmā-* (OIr. *lám* f., MW *llaw*), PGmc. **fulmō-* (OE *folm* f., OHG *folma* f.). According to Matasović (2012: 137), PCelt. **lāmā-* also presupposes a barytone pre-form. On the development **Cṛh₂C* > Lat. *CaR(a)C* (the ‘*palma* rule’) see Höfler (2017).

48 Cf. Schaffner (2001: 371) with a slightly different account of Gk. ἀγκύλη.

49 With analogical *r-* for **y-* after *raśanā-* f. ‘rope; girdle’ (see EWAia II: 350).

50 A possessive derivative based on the neuter *s-* stem **pélh₂-(o)s* n. ‘cover(ing)’ (Gk. *ο-πελας* n. ‘skin’; denominal verb Umbr. *pelsa-* ‘bury’); cf. Weiss (2010: 305).

51 It might be worth mentioning here in all brevity that PIE seems to have also known a substantivizing accent ‘protraction’, namely when the underlying adjective was barytone. Compare the following direct substantivizations of barytone relational **-io-* adjectives: Gk. νύμφιος ‘bridal’ → νύμφιος m. ‘bride groom’ *Il.*+ (from **νυμφίος* by Wheeler’s Law), ἀχυρμιος ‘consisting of chaff’ Arat. → ἀχυρμή f. ‘heap of chaff’ *Il.* (a ‘delibative’), ἐσχάτιος ‘farthest’ → ἐσχατιά, ἐσχατή f. ‘farthest part, edge’, and Ved. *gárya-* ‘consisting of cows’ → *ganyā-* f. ‘herd of cows’ (a ‘collective’).

μνός ‘fenced, fortified’ (Att. Ion.) is derived from ἔρωμα n. ‘fence, guard’ (Il.+). It seems plausible to assume a syntagma of στρωμνή agreeing with εὐνή f. ‘bed’ or κλίνη f. ‘couch’, which originally referred to a specific type of bed or bedding that involved a prior spreading (στορέσαι) of soporific material (ῥήγεια n. pl. ‘blankets’, τάπητες m. pl. ‘quilts’, χλαῖναι f. pl. ‘coverlets’) over the bedstead (λέχος n. or δέμνια n. pl.) to make a comfortable bed (εὐνή f.).⁵² This account is more economical than to assume a ‘direct’ substantivization of the adjective qua ‘spread thing’, or some sort of collective in **-ā* with a meaning ‘(collection of) spreading material’ or similar. The only caveat in the ellipsis-based account is that there is no actual evidence for a syntagma **στρωμνή εὐνή* ‘spread out bed’.

However, it is even more difficult, nay impossible to prove an ellipsis at the PIE level. Any argumentation in this direction must necessarily depend on circumstantial evidence, generalizing assumptions, and basic semantic considerations.⁵³ A possible example, though, is the word for ‘wool’, PIE **h₂ulh₁néh₂*.⁵⁴ The majority of continuants suggests oxytone accentuation: Lat. *lāna* (without *palma* treatment; see note 47), Gk. **ληγή*,⁵⁵ MW *gwlān*, OIr. *olann* from

52 For the material culture cf., e.g., *Lfgre* (s.v. εὐνή), and the following illustrative passage from the Odyssey (7.335–42): κέκλετο δ’ Ἀρήτη λευκώλενος ἀμφιπόλοισιν / δέμνι’ ὑπ’ αἰθούσῃ θέμεναι καὶ ῥήγεια καλὰ / πορφύρε’ ἐμβαλέειν, στορέσαι τ’ ἐφύπερθε τάπητας / χλαῖνας τ’ ἐνθέμεναι οὐλας καθύπερθε νῆσασθαι. / αἱ δ’ ἴσαν ἐκ μεγάρου δᾶος μετὰ χερσὶν ἔχουσαι: / αὐτὰρ ἐπεὶ στόρεσαν πυκινὸν λέχος ἐγκονέουσai, / ὦτρυνον δ’ Ὀδυσῆα παριστάμεναι ἐπέεσσιν: / ὄρσο κέων, ὦ ξεῖνε: πεποίηται δέ τοι εὐνή! ‘... and white-armed Arete bade her maidens place a **bedstead** under cover of the portico, and to lay on it fair **blankets** of purple, and to **spread** there over **coverlets**, and on these to put fleecy **cloaks** for clothing. So they went forth from the hall with torches in their hands. But when they **had** busily **spread** the stout-built **bedstead**, they came to Odysseus, and called to him, and said: “Rouse thee now, stranger, to go to thy rest; thy **bed** is made.”’ (transl. by A.T. Murray, Loeb Classical Library).

53 Certain feminine *o*-stems of PIE pedigree could be identified as ellipsis-based substantivizations if we assume that their origin predates the emergence of feminine (i.e. **-eh₂-*) agreement of thematic adjectives. One potential example is the word for the ‘daughter-in-law’, **snusó-* f. (Gk. νύς f., Arm. *now*, Lat. *nurus*, *-ūs* f. remodeled as a *u*-stem). It is the most promising account, I think, to depart from an *s*-stem **snéu-os* n. ‘(connubial) bond’, derived from a root **√sneu* ‘to marry’ (cf. the enlarged root variant **√sneu+b^h* ‘to marry (a man)’ in Lat. *nūbō*, *nūpsī* ‘marries/d (a man)’; Russ.-CS. *snubiti* ‘to marry off’), that formed an adjective **snu-s-ó-* ‘having a connubial bond; related through marriage’ and was used in a syntagma **snusós d^hugh₂tér* ‘a daughter by marriage’ = ‘daughter-in-law’, in which the term for ‘daughter’ was eventually ellipted.

54 An insightful discussion of the evidence has recently been conducted by Pinault (2016: 241–42).

55 Remade as an *s*-stem λήγος n. (but cf. λείνα: ἔρια. Κύπριοι Hsch. if for **λενά* qua */léná/*). See Peters (1987) as well as Peters (1980: 23¹⁸) for the loss of the anlauting laryngeal.

PCelt. **ulanā* and (with different syllabification) **ulanā* (Dybo's law⁵⁶), PGmc. **wullō*- f. (Goth. *wulla*, OHG *wolla*, etc.⁵⁷). Lith. *vilna* f. (1) and SCr. *vūna* (cf. OCS *vlъna*),⁵⁸ as well as Hittite *hulana*- c. 'wool'⁵⁹ are not informative, while barytone Ved. *úrṇā*- might owe its accent to analogical influence.⁶⁰ Formally, **h₂ul_hneh₂*- could be identified as the adjective **h₂ul_h₁-nó*-, a derivative of the root **√h₂uel_h* 'to pluck' (as in Lat. *uellere* 'pluck', Alb. *vjel* 'plucks'). It is conceivable to see in it a verbal adjective with a meaning 'plucked'⁶¹ that was used in combination with a head noun for 'animal hair, wool' as the term for 'plucked wool, fleece'. Perhaps this 'plucked wool' deserved to be named explicitly in contrast to wool that the animals molted each spring without plucking and that was collected from the ground or shrubs.⁶² An ellipsis-based substantivization process would then have led to the use of **h₂ul_h₁neh₂*- as the standard word for 'wool'. Of course, however, it cannot be proven beyond doubt that **h₂ul_h₁neh₂*- actually goes back to such a syntagma. But again, the

- 56 Dybo's Law in Celtic per Matasović (2012). Matasović does not, however, include the 'wool' word in his list of examples. For a discussion of OIr. *olann* and MW *gwlán* cf. also Zair (2012: 76 and 87). According to Schumacher (2004: 136–38) **CRHT* (with *T* = any dental) would result in **CRāT* irrespective of the position of the accent.
- 57 At least according to Kroonen (2013: 598–99) who expects a sequence **-ln-* to be preserved post-tonically.
- 58 A barytone **h₂ul_h₁neh₂*- would have straightforwardly led to the attested forms, while oxytone **h₂ul_h₁neh₂*- would have undergone laryngeal-caused retraction of the accent to give Lith. *vilna* and BCS *vūna* (cf. **p_hl_h₁nó*- 'full' > Lith. *pilnas*, Serbo-Croatian *pūn*). See Jasanoff (2017: 80).
- 59 The exact interpretation of *hulana*- in relation to PIE **h₂ul_h₁neh₂*- is a matter of debate but there can be no doubt that this word goes back to the same preform eventually. Melchert (1994: 65–66) proposes the following chronology of Proto-Anatolian sound developments: first, **Cu_hRC* develops to **CuRC*, then inherited **-ln-* clusters undergo assimilation (as in **h₂ul_h₁-ne-h₁* > *hulle*- 'fight'), and only thereafter, **h₁* is lost between consonants, resulting in **hulna*- with a 'new' sequence **-ln-* that does not assimilate but rather develops an anaptyctic vowel (Hitt. *hulana*-). The supposition that interconsonantal **h₁* is lost only after certain Proto-Anatolian assimilatory processes had already taken place is, in my view, corroborated by Hitt. *genzu*- n. 'lap' reflecting **ġen_hsu*- (cf. Eichner 1973: 55, 86¹⁴; Höfler 2018a: 122³), which shows a different outcome from old **-ns-* sequences (as in **h₂e/onsu* > *haššu*- 'king').
- 60 Dieu (2016: 392–98) makes the important observation that almost all Vedic nouns in *-nā*- are barytone (cf., e.g., *sthūnā*- f. 'post, pillar', *sénā*- f. 'missile, spear', *vīnā*- f. 'lute', *rāsnā*- f. 'girdle', etc.), which could have encouraged an analogical accent retraction in **úrṇā*- < **h₂ul_h₁neh₂*-.
- 61 Cf. the references in Pinault (2016: 247³⁷).
- 62 Cf. Mallory & Adams (1997: 648–49 s.v. *wool*) for the material culture. Pinault has recently suggested to analyze the 'wool' word as a compound **h₂ul_h₁no*-, literally 'making the year of/with fleece' (Pinault 2016: 251), the formation and semantics of which are not quite clear to me.

explanation just given might be a more plausible account than to assume that the adjective ‘plucked’ was directly substantivized to ‘plucked thing’ or that **-h₂-* was used to form some sort of collective such as ‘collection of plucked material’.⁶³ Other oxytone stems in **-éh₂-* for which the explanation as ellipsis-based substantivizations of thematic adjectives seems like the more plausible alternative include **h₂eh₁séh₂-* ‘ashy (place)’ (Hitt. *ḫāššā-* c. ‘fireplace, hearth’, Lat. *āra* f. ‘altar’) and **h₂ih_{1/3}séh₂-* ‘thill- (pole)’ (Hitt. *ḫišša-* c., Ved. *iṣā́-* f.), though a discussion of these examples would go beyond the scope of this paper.

A clearer picture emerges from some ‘doublets’, i.e. from instances where it is possible to identify both a ‘direct’ and an ellipsis-based substantivization of one and the same adjective in the individual languages. One case in point is the pair Ved. *varṣā́-* f. ‘rainy season’ (AV+) and Gk. *έέρση* f. ‘dew’ (ep. poet. *Il.*+). Both nouns can be seen as a substantivization of the adjective **h₂uērsó-* ‘rainy, wet’ (cf. Ved. *varṣá-* n. ‘a rain’ RV+).⁶⁴ However, the seemingly parallel formations do not only differ in meaning, but also in the position of the accent.⁶⁵ For Greek, the preservation of **-rs-* as *-ρσ-* after the accented vowel⁶⁶ points towards an immediate preform **auērsā* < **h₂uērseh₂-*, while Ved. *varṣā́-* seems to continue an oxytone **h₂uērséh₂-*, at least without having to invoke additional hypotheses. In combination with the semantic mismatch of the two terms, we could be tempted to identify **h₂uērseh₂-* as a ‘direct’ substantivization ‘moisture’ (Gk. *έέρση* ‘dew’) on the one hand, and Ved. *varṣā́-* ‘rainy season’ (from virtual **h₂uērséh₂-*) as an ellipsis-based substantivization on the other, namely from a syntagma with a feminine word for ‘season, time of the year’, like for example (the precursor of) Ved. *sámā-* f. ‘year, half-year, season’ (RV+), originally **‘summer’* (cf. YAv. *ham-* ‘id.’).

Another ‘doublet’ comes from Germanic, where we find continuants of both a PGmc. **wranhō-* f. ‘crook’ and a PGmc. **wrangō-* f. ‘rib (of a ship)’. Either formation can be interpreted as a substantivization of the adjective PIE **uronkó-*

63 The ‘collective’ (or rather: mass noun) meaning of the word **h₂ulh₁neh₂-* might rather be due to the ‘collective’ (or rather: mass noun) meaning of the ellipted head noun (‘animal hair, wool’).

64 Cf. Nussbaum (2017: 255–56).

65 For Dieu (2016: 113–14, 380–81)—and also Nussbaum (2014: 299; 2017: 256)—the barytone accentuation of Gk. *έέρση* is secondary, related to its ‘sens concret’ (Dieu 2016: 380). If it were, however, the accent retraction would have to predate the first compensatory lengthening, see immediately in the text and the next note.

66 Cf. Pre-Gk. **órsos* ‘back, rear’ > Ion. *όρσο-* in *όρσοθύρη* f. ‘back door’ (*Od.*), Att. *όρρος* m. ‘end of the os sacrum’ (cf. OHG *ars* m., OE *ears*, ‘arse’, Arm. *or*) and Pre-Gk. **orsá́-* ‘the back, the rear’ > Ion. *ούρή* f. ‘tail; rearguard’.

‘curved, bent, crooked’ > PGmc. **wranga-* (Oícel. *rangr* ‘crooked, wrong’, OE *wrang* ‘wrong, twisted, uneven’, Mod. E. *wrong*), but within the framework outlined in this paper the formation PGmc. **wranhō-* can be seen as the continuant of a barytone, ‘direct’ substantivization **urónkeh₂-* qua abstract ‘crook, bend, curve’ that led to Oícel. *rá*, *rǫ* f. ‘corner, nook’, Swed. *vrå* ‘id.’, while PGmc. **wrangō-* is an oxytone, adjective-sourced substantivization **uronkéh₂-*, attested in Oícel. *rǫng* f. ‘rib (of a ship)’, Icel. *röng* f., Swed. *vrang*. The latter probably originated in an ellipsis of a feminine word for ‘beam, wood’ in the meaning ‘curved (wood)’ > ‘rib’.⁶⁷

The mentioned examples, therefore, seem to be in line with the proposition made above that *-*h₂-* as a substantivizing suffix created ‘direct’ substantivizations and induced retraction of the accent ($\pm$ new ablaut grades) in the stem of the underlying thematic adjective, while in ellipsis-based substantivizations the accentuation of the underlying thematic adjective—in these cases agreeing with a substantive ending in *-*h₂*-⁶⁸—was left unchanged.⁶⁹ This led to the existence of barytone and oxytone *-*eh₂*-stems side by side. It must be stressed in this respect, however, that this rule of thumb only applies to ‘secondary’ *-*eh₂*-stems, i.e. those that are derived from thematic adjectives; the argument presented here does not apply to seemingly ‘primary’ *-*eh₂*-stems like the verbal noun types reflected by Gk. *τομή* or *φυγή*.

6 Conclusion

The aim of this paper was to establish a distinction between two basic processes of substantivization in PIE and the IE languages, namely between ‘direct’ substantivizations and substantivizations via ellipsis, and to outline the basic similarities and the fundamental differences between these two mechanisms. I argued that a ‘morphological effect’ (i.e. suffixation or suffix substitution, change in ablaut, accent shift, or a combination of them) in the substantivization vis-à-vis the underlying adjective is indicative of the former process, while in ellipsis-based substantivizations the substantivization looks just like the adjective of an erstwhile noun phrase, in which this adjective agreed with a subsequently ellipted substantive. This broad rule is only somewhat tarnished by a subgroup of ‘direct’ substantivizations that show no ‘morphological effect’

67 For the philological details cf. Schaffner (2001: 418–20 with notes).

68 I refrain from invoking a specifically ‘feminine’ agreement here. See also below in the Conclusion.

69 Cf. in nuce Dieu (2016: 152) for Greek.

(like, for example, Gk. ἀγαθός 'good' → Gk. ἀγαθόν n. 'good, blessing, benefit' and Gk. ἀγαθός m. 'a noble man'); however, the semantic considerations outlined in section 4 might be able to serve as a guideline for their categorization. Regarding stems in $*-e-h_2-$ that can be seen as either 'direct' substantivizations of thematic adjectives or as feminine adjectives substantivized by ellipsis, I argued that the same rules apply: if the deadjectival stem in $*-e-h_2-$ is barytone, it is of the former, if oxytone, of the latter type. A couple of handbook examples of secondary oxytone $*-e-h_2-$ -stems (as, for example, the 'wool' word) are reconstructible for PIE including Anatolian, which means that this hypothesis might have repercussions on our understanding of adjectival agreement in the proto-language. However, this will have to await another occasion.

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