

Natural Gender and Interpretation in Greek*

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Abstract

This paper investigates the interpretation of nouns with natural genders in Greek. It is claimed that there are two ways in which nouns can be associated with (natural) gender inferences, namely, (i) via lexical specification, and (ii) via competition with the opposite gender (*gender competition*). It is furthermore proposed that in the first case the gender is not only presupposed but also asserted, while in the second case, the lexical semantics does not say anything about the gender. Concretely, it is shown that nouns like *adherfos* ‘male sibling’, *adherfi* ‘female sibling’ and *dhaskala* ‘female teacher’ have lexically specified gender, while *dhaskalos* ‘teacher.m’ and *jatros* ‘doctor’ do not. The first half of the paper is devoted to giving empirical motivation for the distinction between (i) and (ii) and the analyses of these nouns. In the second half of the paper, the proposed semantics is shown to account for previously observed data of nominal ellipsis, with an auxiliary assumption that gender competition does not take place under ellipsis.

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1 Introduction

In a subset of languages of the world, nouns come with gender specification (see [Corbett 1991](#), [Kramer 2015](#), among others). We focus here on one such language, (Modern) Greek, although our proposals are expected to generalize beyond this particular language.

In Greek, all nouns trigger gender agreement with items such as determiners and adjectives.¹ In languages like this, two types of gender are typically recognized, namely, *grammatical gender* and *natural gender*. Roughly put, a grammatical gender is a gender without semantically interpreted gender inferences. For instance, *thalasa* ‘sea’ is a feminine noun in the sense that it triggers feminine agreement with determiners and adjectives, but this gender assignment does not seem to have a semantic correlate.

For nouns denoting humans,² the overwhelming tendency is that the gender specification correlates with the gender in the non-grammatical sense.³ For example, the masculine noun *adherfos* and the feminine noun *adherfi* not only share the morphological root *adherf-*, but also a semantic core in that both describe siblings, with the sole interpretive difference being the gender specification: *adherfos* means ‘male sibling’ or ‘brother’, and *adherfi* means ‘female sibling’ or ‘sister’. Thus, we say these nouns have natural genders. They also trigger obligatory gender agreement/concord with determiners and adjectives, on a par with other nouns with gender specifications, as illustrated by (1).

- (1) a. O Petros episkefthike enan/*mia arosto/*arosti **adherfo** tu.
the Petros visited one.M/*one.F sick.M/*sick.F sibling.M his
‘Petros visited a male sibling of his.’
b. O Petros episkefthike *enan/mia *arosto/arosti **adherfi** tu.
the Petros visited *one.M/one.F *sick.M/sick.F sibling.F his
‘Petros visited a female sibling of his.’

In addition to nouns like *adherfos-adherfi*, Greek has a class of nouns that only have one form

¹To avoid unnecessary complications, we distinguish gender and noun (declension) classes, and define gender in terms of agreement (see [Corbett 1991](#) and [Kramer 2015](#) for extensive discussion on this point). There is undoubtedly some relationship between gender and noun classes, but this relationship is not at all straightforward, due to the existence of nouns such as *papa* ‘dad’ in Russian, whose declension class is feminine but whose gender is masculine. Also, as we will see immediately below, the morphological properties of a gendered noun in Greek do not seem to be a decisive factor for how the gender is interpreted. See [Bobaljik & Zocca \(2011\)](#) for interesting ideas, although Greek does not seem to exactly match their predictions, as we discuss below.

²Animate but non-human-denoting nouns—nouns denoting (higher) animals and other animates, especially those that describe tamed animals—often involve both grammatical and natural gender ([Corbett 1991](#), [Comrie 1999](#), [Bobaljik & Zocca 2011](#), [Yanovich 2012](#), [Kramer 2015](#)). For instance, in Greek, *jata* ‘cat’ is a feminine noun but can describe male cats, suggesting that its gender is grammatical. To complicate the matter, however, there is also a masculine noun *jatos*, which only describes male cats, whose gender seems to be interpreted so is a natural gender. Here we will focus on human-denoting nouns, and will come back to non-human denoting animate nouns at the end of the paper.

³As is well known, there are often exceptions to this. In Greek, *koritsi* ‘girl’, for example, is used to refer to female individuals, but it is grammatically neuter. Similar nouns can be found in German and Dutch. Similarly, the French noun *victime* ‘victim’ and the Spanish noun *persona* ‘person’ can describe male individuals, despite the fact that they are grammatically feminine (Greek does not seem to have human-denoting feminine nouns that can describe male individuals). We treat them as cases of grammatical genders, as their genders do not seem to be interpreted. Since our main concern here is the interpretation of natural gender, we will largely ignore such cases, although we will discuss data involving *koritsi* in Section 4.5. It should be emphasized that in the domain of human-denoting nouns, grammatical gender is an exception, rather than the rule, at least in Greek. And importantly, there is no pair of masculine and feminine nouns in Greek, where the masculine noun describes female individuals and the feminine nouns describe the male individuals (see [Percus 2011](#) for Italian).

but can trigger masculine or feminine agreement on determiners and adjectives, depending on the natural gender of the individual(s) they are used to describe. Such nouns are called *epicene nouns*. For example, *jatros* ‘doctor’ is an epicene noun. As shown in (2), it is compatible with a feminine or masculine determiner, and the agreement markings on determiners and adjectives affect the interpretation.

- (2) a. O Petros episkefthike enan kalos **jatro**.
the Petros visited one.M good.M doctor
‘Petros visited a good male doctor.’
b. O Petros episkefthike mia kali **jatro**.
the Petros visited one.F good.F doctor
‘Petros visited a good female doctor.’

Although gender specification is not visible on the nouns themselves (and we will claim that they are in fact semantically gender-neutral), we include epicene nouns as cases of natural gender, as the choice of the gender has semantic consequences.

The main focus of the present paper is the interpretation of nouns like *adherfos-adherfi* and *jatros* which are specified for natural gender. We will largely put aside grammatical gender (but see Section 4.5).

Given that masculine-feminine pairs like *adherfos-adherfi* are abundant within and across languages, it makes sense to assume that natural gender features on such nouns are somehow semantically interpreted (on a par with other φ -features, such as number) (see [Alexiadou 2004](#), [Sauerland 2003, 2008b](#), [Percus 2011](#), [Matushansky 2013](#), [Kramer 2015](#) and references therein).⁴ The question is how exactly gender features are interpreted. We propose that there are actually two ways in which nouns with natural genders are associated with gender inferences. One way is to have the gender inference as part of the denotation of the noun, and we furthermore claim that in that case, the gender inference is in the presupposition and assertion at the same time. As we will discuss in detail later, there is evidence to believe that *adherfos* and *adherfi* have such gender specifications. Following the standard assumption that nouns denote predicates of type $\langle e, t \rangle$, we can analyze their denotations as follows.

- (3) a. $\llbracket \text{adherfos} \rrbracket = \lambda x_e: \mathbf{male}(x). \mathbf{male}(x) \wedge \mathbf{sibling}(x)$
b. $\llbracket \text{adherfi} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{sibling}(x)$

The second way for natural gender to have semantic consequences is indirect, namely, by competing with the noun with opposite gender specification, which we refer to as *gender competition* ([Percus 2011](#) is an important precursor of this idea).⁵ As we will argue, the masculine noun *dhaskalo* ‘teacher’ actually has no lexical gender specification, but (often) ends up describing male individuals, due to gender competition with the feminine counterpart *dhaskala*, which comes with lexically specified gender, just like *adherfos* and *adherfi* above. Thus, we will claim that the denotations of these nouns are as follows.

⁴It should be mentioned that this is not a universally accepted view. However, the alternative view where gender has no semantics misses the overwhelming, if not exception-less, generalization among human-denoting nouns that the gender specification has semantic consequences. See [Percus \(2011\)](#) and [Kramer \(2015:§3.4.2\)](#) for discussion on this point.

⁵As we will see, this is closely related to Roman Jakobson’s notion of ‘unmarked gender’, which has been used by many subsequent authors (cf. [Bobaljik & Zocca 2011](#), [Kramer 2015](#)). Importantly, however, what matters to us is semantic unmarkedness, which does not correlate necessarily with morphological markedness in the case of Greek. We thank an anonymous reviewer for drawing our attention to Roman Jakobson’s work.

- (4) a. $\llbracket \text{dhaskalos} \rrbracket = \lambda x_e. \mathbf{teacher}(x)$
 b. $\llbracket \text{dhaskala} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{teacher}(x)$

Notice how the pairs in (3) and (4) differ. This difference is often concealed and is only observed in certain grammatical constructions. For instance, in simple examples like (1) and (5), the gender inferences seem to be determined solely by the gender of the noun, and one might be tempted to account for all masculine-feminine pairs in a uniform manner.

- (5) a. O Petros episkefthike enan **dhaskalo**.
 the Petros visited one.M teacher.M
 ‘Petros visited a male teacher.’
 b. O Petros episkefthike mia **dhaskala**.
 the Petros visited one.F teacher.F
 ‘Petros visited a female sibling of his.’

We will show, however, there are systematic differences between *dhaskalos* ‘male teacher’ on the one hand, and *adherfos* ‘male sibling’ and their feminine counterparts on the other, and the above denotations account for these observations.

We also claim that epicene nouns have gender-neutral denotations similar to that of *dhaskalos*, directly reflecting the lack of morphological gender marking, although they may trigger gender agreement with other items, as we saw above. For instance, the denotation for *jatros* ‘doctor’, looks like (6).

- (6) $\llbracket \text{jatros} \rrbracket = \lambda x_e. \mathbf{doctor}(x)$

We also claim that the gender inferences associated with epicene nouns arise due to the mechanism of gender competition applied to other exponents of gender features such as determiners and adjectives (or wherever the interpreted occurrence of the gender feature is).

In sum, our main proposal consists in the following two claims:

- There are two kinds of natural gender: (i) lexically specified gender has the gender inference in the presupposition and assertion of the lexical denotation of the noun (e.g. *adherfos*, *adherfi*, *dhaskala*), and (ii) the gender inference generated via gender competition, without a lexically specified gender (e.g. *dhaskalos*, epicene nouns).
- Some masculine-feminine pairs with natural genders (e.g. *adherfos-adherfi*) have lexically specified genders for both nouns, while others (e.g. *dhaskalos-dhaskala*) only have a lexically specified gender on the feminine noun. Epicene nouns are all semantically unmarked.

Neither of these two claims are entirely new on their own, but there are crucial differences from previous studies. In particular, Percus (2011) proposes the mechanism of gender competition for Italian nouns, and claims that feminine nouns in Italian have asserted feminine gender. This is similar to our first point above (and contrary to what is proposed by Sauerland 2003, 2008b, for whom no φ -features are interpreted on items morphologically marked for gender). Unlike us, however, Percus assumes that masculine nouns never have lexically specified gender. We claim some masculine nouns have lexically specified gender, e.g. *adherfos* ‘male sibling’, while others don’t, e.g. *dhaskalos* ‘male teacher’. We will also discuss a broader set of empirical phenomena, including nominal ellipsis with gender mismatches (Bobaljik & Zocca 2011, Merchant 2014). As for the second claim, Bobaljik & Zocca (2011) and Merchant (2014) put forward similar lexical variation among nouns with natural genders, but our analysis has some important

differences from theirs, including the point that nouns with lexically specified genders have gender inferences in the assertion as well. We will discuss Merchant’s (2014) analysis in great detail in Section 5.

In the body of the paper we will first raise empirical evidence for the above claims about the interpretation of natural gender in Greek. Our key observations reveal the semantic unmarkedness of the nouns without a lexically specified gender, and also that lexically specified genders involve the gender inferences in the assertion, as well as in the presupposition (contra Sauerland 2003, 2008b, Bobaljik & Zocca 2011, Merchant 2014, for whom natural genders are only presuppositional). With this semantics at hand, we will then develop a semantic analysis of a related phenomenon, namely the behavior of natural gender in nominal ellipsis with gender mismatches. As Merchant (2014) observes (see also Bobaljik & Zocca 2011 for other languages), nominal ellipsis with gender mismatches is ungrammatical with *adherfos-adherfi*, while it is grammatical with epicene nouns. Furthermore, with *dhaskalos-dhaskala*, it is only grammatical if the masculine noun is the overt antecedent. These generalizations are illustrated by the following examples.⁶

- (7) a. *O Petros episkefthike enan **aderfo** tu sti Veria, ke mia ~~aderfi~~
the Petros visited one.M sibling.M his in.the Veria, and one.F (sibling.F)
stin Katerini.
in.the Katerini
(intended) ‘Petros visited a bother of his in Veria, and a (sister) in Katerini.’⁷
- b. *O Petros episkefthike mia **aderfi** tu sti Veria, ke enan ~~aderfo~~
the Petros visited one.F sibling.F his in.the Veria, and one.M (sibling.M)
stin Katerini.
in.the Katerini
(intended) ‘Petros visited a sister of his in Veria, and a (brother) in Katerini.’
- (8) a. O Petros episkefthike enan **jatro** sti Veria, ke mia ~~jatrou~~ stin
the Petros visited one.M doctor in.the Veria, and one.F (doctor) in.the
Katerini.
Katerini
‘Petros visited a male doctor in Veria, and a female doctor in Katerini.’
- b. O Petros episkefthike mia **jatrou** sti Veria, ke enan ~~jatros~~ stin
the Petros visited one.F doctor in.the Veria, and one.M (doctor) in.the
Katerini.
Katerini
‘Petros visited a female doctor of his in Veria, and a male doctor in Katerini.’
- (9) a. O Petros episkefthike enan **dhaskalo** sti Veria, ke mia ~~dhaskala~~ stin
the Petros visited one.M teacher.M in.the Veria, and one.F (teacher.F) in.the
Katerini.
Katerini
‘Petros visited a male teacher in Veria, and a female teacher in Katerini.’

⁶The supposed elided phrases are indicated throughout the paper as ELLIPSIS. We will eventually claim that what is elided is always totally identical to the antecedent, even in (9a). So according to our final analysis, what is elided there is actually the masculine noun *dhaskalo*, although the determiner and adjective are marked feminine here. We also argue in Section 5, the data (7)–(9) falsify Merchant’s (2014) claim that nominal ellipsis with gender mismatches is unattested in argument positions in Greek.

- b. *O Petros episkefthike mia **dhaskala** sti Veria, ke enan ~~dhaskalo~~ stin
 the Petros visited one.F teacher.F in.the Veria, and one.M (teacher.M) in.the
 Katerini.
 Katerini
 (intended) ‘Petros visited a female teacher of his in Veria, and a male teacher in
 Katerini.’

We will claim that these data can be given a straightforward analysis with one auxiliary assumption that gender competition does not take place under ellipsis.

Before moving on, we would like to mention three issues that this paper does *not* address (this is of course not to deny their theoretical importance). Firstly, there seems to be a gap in the paradigm in Greek in that there is no masculine-feminine pair that has a lexically specified gender only on the masculine noun (i.e. the opposite of *dhaskalos-dhaskala*). This is likely to be due to the general unmarkedness of masculine relative to feminine in Greek, which we will discuss in some detail in the next section. Although we will not try to capture the absence of such pairs of nouns in Greek, we would like to note that there seem to be languages where feminine is less marked than masculine (see [Corbett 1991:Ch.7](#), [Kramer 2015:Ch.5](#)), and there might well be pairs with natural gender where the masculine noun has a lexically specified gender and the feminine noun does not (see [Percus 2011](#) for related discussion). Whether this is so is left unanswered here.

Secondly, we will put aside the issue of which nouns belong to which class. There are several reasons for this. For one, apart from the robust generalization that all epicene nouns lack lexically specified genders, there does not seem to be other stable morphological cues as to which nouns have lexically specified genders and which nouns don’t in Greek (see, however, [Bobaljik & Zocca 2011](#) for the potential relevance of morphology in Brazilian Portuguese and other languages). For instance, *adherfos* and *dhaskalos* share the suffix *-os*, but their genders do not have the same semantic status. In fact, which nouns belong to the *adherfos-adherfi* class vs. the *dhaskalos-dhaskala* class seems to be a point of inter-speaker variation (see [Bobaljik & Zocca 2011](#) and [Merchant 2014:fn.6](#) for related remarks).⁸ Putting aside the issue of inter-speaker variation, the following lists, adapted from [Merchant \(2014:\(19\),\(24\),\(27\)\)](#), indicate that morphology does not seem to determine the classification.

⁷These sentences are most natural with a possessive pronoun *tu*. The following examples involving other similar nouns shows that the presence of a possessive pronoun is an irrelevant factor.

- (i) a. *O Petros episkefthike enan **rapti/prinkipa** sti Veria, ke mia ~~modhistra/prinkipissa~~ stin
 the Petros visited one.M tailor/prince in.the Veria, and one.F seamstress/princess in.the
 Katerini.
 Katerini
 (intended) ‘Petros visited a tailor/prince in Veria, and a (seamstress/princess) in Katerini.’
 b. *O Petros episkefthike mia **modhistra/prinkipissa** sti Veria, ke enan ~~raptis/prinkipas~~
 the Petros visited one.F seamstress/princess in.the Veria, and one.M tailor/prince
 stin Katerini.
 in.the Katerini
 (intended) ‘Petros visited a seamstress/princess in Veria, and a (tailor/prince) in Katerini.’

⁸For some speakers we consulted informally, the *dhaskalos-dhaskala* pair behaved like *adherfos-adherfi* according to the phenomena we will discuss below, although no speaker had only the *adherfos-adherfi* class. Importantly, however, all the data we gathered are internally consistent within the speakers. More systematic research is certainly needed to elucidate individual variation, which we leave for future research.

- (10) *Adherfos-adherfi* class
- | | | | |
|----------------------|----------------|-------------|-----------------|
| kirios | ‘gentleman’ | kiria | ‘lady’ |
| antras | ‘man, husband’ | jineka | ‘woman, wife’ |
| ksadherfos | ‘male cousin’ | ksadherfi | ‘female cousin’ |
| engonos | ‘nephew’ | egnomi | ‘niece’ |
| vaftistikos ‘godson’ | vaftistikia | | ‘goddaughter’ |
| prinkipas | ‘prince’ | prinkipissa | ‘princess’ |
| vasilias | ‘king’ | vasilissa | ‘queen’ |
| aftokratoras | ‘emperor’ | aftokratira | ‘empress’ |
- (11) Epicene nouns
- antipalos ‘opponent’, apostoleas ‘sender’, asthenis ‘patient/sick person’, astinomikos ‘police officer’, dhiermineas ‘interpreter’, dhikastis ‘judge’, dhikigoros ‘lawyer’, dhi-mosiografos ‘journalist’, epangelmatias ‘professional’, epistimonas ‘scientist’, filologos ‘philologist’, fisikos ‘physicist’, glossologos ‘linguist’, goneas ‘parent’ gramateas ‘secretary’, idhravlikos ‘plumber’, iereas ‘priest/pastor’, ithopios ‘actor’, ipalilos ‘employee’, ipurgos ‘minister’, istorikos ‘historian’
- (12) *Dhaskalos-dhaskala* class
- | | | |
|--------------|---------------|-----------------------|
| manthtis | mathitria | ‘pupil’ |
| pianistas | pianistria | ‘pianist’ |
| tragudhistis | tragudhistria | ‘singer’ |
| theos | thea | ‘god’ |
| noskomos | nosokoma | ‘nurse’ |
| katharistis | katharistria | ‘cleaner’ |
| kathijitis | kathijitria | ‘professor’ |
| fititis | fititria | ‘student’ |
| thios | thia | ‘uncle, aunt’ |
| nonos | nona | ‘godfather/godmother’ |

Furthermore, there does not seem to be a solid semantic predictor. As Bobaljik & Zocca (2011) point out for other languages, there seems to be a tendency for kinship terms to belong to the *adherfos-adherfi* class, but according to the above lists, there are some exceptions to this in Greek (at least for some speakers), e.g. *thios-thia* ‘uncle, aunt’. Thus, the semantics, although arguably relevant, is not the only factor, either (pace Bobaljik & Zocca 2011). At the moment, we have nothing insightful to say about this issue, unfortunately.

It should also be noted in this connection that the same three classes seem to exist in other languages, e.g. Brazilian Portuguese, as observed by Bobaljik & Zocca (2011). It is of particular interest here that the analogues of epicene nouns in Brazilian Portuguese have separate masculine and feminine forms, e.g. *médico* ‘male doctor’ and *médica* ‘female doctor’. What this entails is that there can be masculine-feminine noun pairs where both nouns lack lexically specified genders (at least in the assertion) in some languages, although no such nouns are found in Greek. Bobaljik & Zocca’s data also suggest that class assignment is not crosslinguistically stable and thus is unpredictable from the semantics alone. For instance, *tio-tia* ‘uncle, aunt’ in Brazilian Portuguese seems to belong to the *adherfos-adherfi* class, but the corresponding nouns in Greek belongs to the the *dhaskalos-dhaskala* class (although the data are potentially muddled by the possibility of inter-speaker variation, as noted above). These issues lead also to important questions concerning the acquisition of nouns and their class assignment. However, they are far beyond the purview of the present paper, and we will leave them open for future research. In what follows, we will treat *adherfos-adherfi*, *dhaskalos-dhaskala*, and *jatros*, as representative

cases of nouns with natural gender in Greek (acknowledging potential inter-speaker variation).

A third issue we will leave open has to do with the syntax of gendered nouns. We have been speaking as if gendered nouns are listed in the lexicon as they are. This is, however, not to exclude the possibility that these nouns are decomposable into smaller components. For instance, it is perfectly compatible with our proposal to assume that *adherfos* decomposes into the root *adherf-* and some functional node (e.g. *n*; see Kramer 2014, 2015) that hosts the gender feature. We remain uncommitted to the internal syntax of the nouns under discussion, especially the exact location of the gender feature, which is currently an actively debated topic but is largely orthogonal to our main claims (see Wechsler & Zlatić 2003, Sauerland 2008b, Matushansky 2013, Kramer 2014, 2015, Puškar 2015, Fathi & Lowenstamm 2016 and references therein).

The organization of the present paper is as follows. Section 2 introduces the idea of unmarked natural gender and gender competition. Section 3 is devoted to empirically motivating our two main proposals mentioned above. We will use three sets of phenomena that reveal differences between nouns with lexically specified genders vs. nouns without lexically specified genders and show how the denotations of the nouns proposed above account for them. In Section 4, we will discuss nominal ellipsis, and develop a semantic account of it. We will also claim that the mechanism behind nominal ellipsis must be PF deletion, rather than phonologically null anaphora. Then in Section 5, we will critically discuss Merchant’s (2014) account of the nominal ellipsis data, and compare it to ours. We will conclude and discuss further issues in Section 6.

2 Unmarked Gender and Gender Competition

2.1 Unmarkedness of Masculine in Greek

Since Roman Jakobson’s seminal work, it is now recognized that genders in natural languages are often not equal. Specifically, in Greek, as in many other Indo-European languages, masculine is less marked relative to feminine in the semantic sense, i.e. masculine can often be used in a gender-neutral manner as an ‘elsewhere gender’, so to speak (see Spathas 2010 for Greek and Corbett 1991, Bobaljik & Zocca 2011, Heim 2008, Kramer 2015, Percus 2006, 2011, Sauerland 2008b for other similar languages). This is most clearly observed with items that have gender inferences in the domain of presupposition, e.g. pronouns.

There are independent reasons to believe that natural genders (and possibly other interpretable φ -features) on pronouns are presupposition triggers (Cooper 1983, Heim & Kratzer 1998, Kratzer 1998, 2009, Heim 2008, Jacobson 2012, Sudo 2012). In English, for example, *her* is used to refer to a female individual, and if it is used to refer to a male individual, it gives rise to presupposition failure. More specifically, assuming that pronouns denote variables, Heim & Kratzer (1998) propose the following treatment, based on (Cooper 1983).⁹

- (13) For any index i and assignment g ,
- $\ulcorner \text{her}_i \urcorner \in \text{dom}(\llbracket \]^g)$ iff $g(i)$ is female.
 - Whenever $\ulcorner \text{her}_i \urcorner \in \text{dom}(\llbracket \]^g)$, $\llbracket \text{her}_i \rrbracket^g = g(i)$.

The same analysis can be applied to the Greek feminine pronouns (see Spathas 2010).

One might be tempted to give a similar analysis to masculine pronouns, but unlike feminine

⁹We are not committed to a particular analysis of pronouns in the present paper. See Jacobson (2012) for a treatment of gender presuppositions on pronouns in variable-free semantics. It should also be remarked that Cooper (1983) distinguishes the semantic contributions of gender features on free and bound pronouns.

pronouns, masculine pronouns in Greek can be used as gender-neutral pronouns.¹⁰ This asymmetry between masculine and feminine can be observed, for example, when the pronoun is bound by a quantifier with individuals of both genders in the domain of quantification. In such contexts, a masculine pronoun is felicitous but not a feminine pronoun, as shown in (14). Here, the intended reading is one where the pronoun *tu/tis* is bound by the disjunctive subject.

- (14) a. *Kapios fititis i kapia fititria evapse to domatio tu.*
 some.M student.M or some.F student.F painted the room his
 ‘Some male student or some female student painted his room.’
 b. *#Kapios fititis i kapia fititria evapse to domatio tis.*
 some.M student.M or some.F student.F painted the room her
 ‘Some male student or some female student painted her room.’

As we will explain more precisely below, the unacceptability of (14b) shows that feminine pronouns are exclusively used for feminine referents (see the references cited above for similar facts in other languages). We will present further evidence of the gender-neutrality of masculine in Greek with data involving gender features on determiners and adjectives (namely, (26), (27), (30) and (31); see also Spathas 2010).

2.2 Gender Competition

In sentences like (14), masculine pronouns seem to behave like gender-neutral pronouns, but in other contexts, they are not completely void of gender inferences. For instance, a free masculine pronoun is typically used to refer to a male individual, and it is simply infelicitous to use it to refer to, say, Hilary Clinton. Concretely, (15) cannot be used to mean ‘I will vote for Hilary Clinton’.

- (15) *Tha ton psifiso.*
 will him vote.I
 ‘I will vote for him.’

Also, the following example is unacceptable under the bound reading of *tu*.

- (16) *Kapia fititria evapse to domatio tu.*
 some.F student.F painted the room his
 ‘Some female student painted his room.’

How can we reconcile these facts with gender-neutral uses such as (14)? Following the ideas of Percus (2006, 2010, 2011) and Sauerland (2008a,b), we assume that masculine pronouns are actually semantically completely gender-neutral in Greek, but systematically excluded when their feminine counterparts could be used felicitously. In order to make this idea more concrete, we postulate a principle forcing the use of the more specific form of the masculine and feminine pair, whenever possible (cf. Heim 2008, Percus 2006, 2011, Sauerland 2003, 2008a,b).¹¹

¹⁰English is more complicated here. See discussion in Corbett (1991:Ch.7) and McConnell-Ginet (2011), for example.

¹¹The authors cited here, except for Percus (2011), formulate the principle as a general principle about alternative expressions that have presuppositions of different strengths, which is often called *Maximize Presupposition* after Heim (1991). We will discuss in Appendix the possibility that *Maximize Presupposition* is behind gender competition, and present some data preventing us from fully endorsing it. As the data are rather complex (and somewhat inconclusive at this point), we will not discuss *Maximize Presupposition* in the body of the paper, and use the version of the principle that is specific to gender.

- (17) *The Principle of Gender Competition*
 Suppose S and S' only differ in the form of some gendered item, α vs. α' , respectively. Then, the use of S in the context c is infelicitous if all of the following are true.
- α' asymmetrically entails α in the presupposition and/or assertion.
 - The presupposition of α' is satisfied in c ; and
 - The assertions of S and S' are equivalent.

The relevant notion of entailment here is *generalized entailment*. Generalized entailment is defined between two expressions with identical *conjoinable types*.

- (18) *Conjoinable types*
- t is a conjoinable type.
 - If σ_1 is a type and σ_2 is a conjoinable type, then $\langle \sigma_1, \sigma_2 \rangle$ is a conjoinable type.
 - Nothing else is a conjoinable type.
- (19) *Generalized Entailment*: For any x and y of the same conjoinable type τ ,
- x entails y iff $x = 0$ or $y = 1$ or for each z of type σ_1 such that $\tau = \langle \sigma_1, \sigma_2 \rangle$, $x(z)$ entails $y(z)$.
 - x and y are equivalent iff x entails y and y entails x .

The Principle of Gender Competition accounts for the data in (14) as follows. By assumption, the feminine pronoun *tis* presupposes that the referent is female. In (14b), this presupposition makes one of the disjunctive possibilities unable to be true. Generally, a disjunction is only felicitous if all the disjuncts are possibly true (Gazdar 1979). Since this is not the case for (14b), the example is unacceptable. On the other hand, the masculine pronoun in (14a) has no presupposition by assumption. The Principle of Gender Competition says that (14a) is only felicitous in contexts where (14b) is not felicitous. Since (14b) is infelicitous everywhere, (14a) can be used in any contexts.

In cases where the feminine counterpart could be used felicitously, on the other hand, a masculine pronoun ceases to be gender-neutral, as predicted by the Principle of Gender Competition. Suppose that we know that Hilary Clinton is female. Then, in order to refer to her, the use of a feminine pronoun is forced by the Principle of Gender Competition, and the use of the masculine pronoun is consequently banned, although it is semantically coherent. The example in (16) is explained similarly: In this sentence, the feminine pronoun *tis* could be felicitously used instead, which blocks the use of the masculine pronoun *tu*.

It is worth clarifying one technical point here, namely, the Principle of Gender Competition is meant to apply at every local level. In order to see this, consider the following examples. The intended interpretation is the one where the possessive pronouns refer to Maria.

- (20) a. #I Maria evapse to domatio **tu**.
 the.F Maria painted the room his
- b. I Maria evapse to domatio **tis**.
 the.F Maria painted the room her
 ‘Maria painted her room.’

Notice that at the level of the whole sentence, (20a) has the exact same presupposition and assertion as (20b). That is, although the masculine pronoun *tu* has no gender presupposition of its own, the subject DP is associated with a natural gender presupposition (which is visible on the feminine definite determiner *i*; see Section 3 for more discussion on determiners). If the Principle of Gender Competition only applied at the sentential level, (20b) would fail to be

stronger than (20a), thereby making the application of the principle vacuous.

In order to correctly rule out the example in (20a), we adopt Singh’s (2011) idea and assume that the Principle of Gender Competition is checked at every *local context* (in the sense of Heim 1982, 1983, Schlenker 2009, among others). We will not technically define local contexts here, as it requires dynamicization of the entire semantic system, which is routine but significantly complicates the exposition; see Singh 2011 for a concrete formulation for a similar principle *Maximize Presupposition* discussed in Appendix). Yet, the idea should be easy to grasp: (20a) violates the Principle of Gender Competition at levels below the subject, since at these levels (20b) has a stronger presupposition due to the gender presupposition on the possessive pronoun, which is satisfied here. In many examples we will encounter, local computation of the principle is technically required, although the details are not presented here for the sake of simplicity.

3 The Semantics of Nouns with Natural Gender

Although masculine is generally unmarked in Greek, not all cases of masculine are semantically empty. As mentioned in the introduction, we claim that some nouns have lexically specified genders, while others don’t, and if lexically specified, both feminine and masculine give rise to semantic entailments. Specifically, we propose the following denotations.

- (3) a. $\llbracket \text{adherfos} \rrbracket = \lambda x_e: \mathbf{male}(x). \mathbf{male}(x) \wedge \mathbf{sibling}(x)$
 b. $\llbracket \text{adherfi} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{sibling}(x)$
- (4) a. $\llbracket \text{dhaskalos} \rrbracket = \lambda x_e. \mathbf{teacher}(x)$
 b. $\llbracket \text{dhaskala} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{teacher}(x)$
- (6) $\llbracket \text{jatros} \rrbracket = \lambda x_e. \mathbf{doctor}(x)$

Of particular interest here is the difference between nouns with lexically specified genders (*adherfos*, *adherfi*, *dhaskala*) and nouns without lexically specified genders (*dhaskalos*, *jatros*). In what follows, we will present three sets of data motivating these denotations, namely, plural nouns (Section 3.1), negative existential sentences (Section 3.2) and focus constructions (Section 3.3).

Before proceeding to the arguments, it should be noted that the above semantics is consistent with the general unmarkedness of masculine in Greek and the Principle of Gender Competition. If both masculine and feminine nouns have lexically specified gender, as in the case of *adherfos-adherfi*, neither is stronger than the other, which makes the application of the principle trivial. On the other hand, with pairs like *dhaskalos-dhaskala*, we will expect the masculine noun to be felicitous only if the feminine noun is somehow unusable. This is exactly what we will observe.

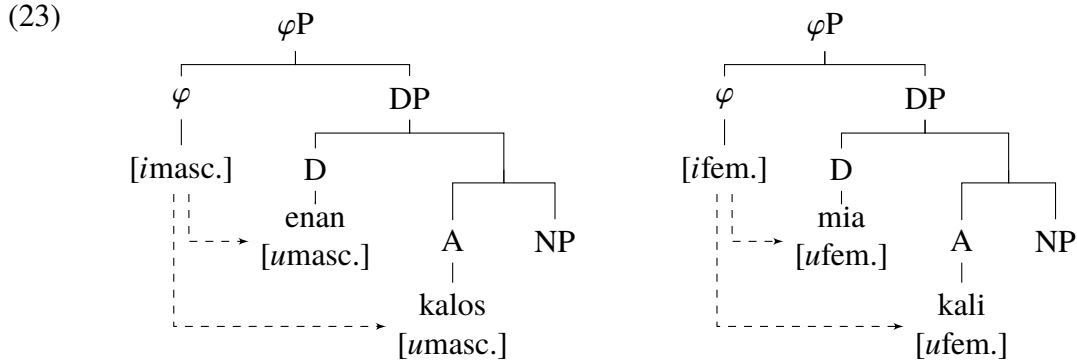
Also, it should also be made clear at this point what we assume for other exponents of gender than nouns, such as determiners and adjectives. We could assume one of two things. One possibility is to analyze their gender features as presuppositional, as in (21) and (22). For expository purposes, let us assume indefinite articles denote existential determiners, and adjectives function as intersective modifiers, but nothing crucial hinges on this. We also ignore number features.¹²

- (21) a. $\llbracket \text{enan} \rrbracket = \lambda P_{\langle e,t \rangle}. \lambda Q_{\langle e,t \rangle}. \exists x(P(x) \wedge Q(x))$
 b. $\llbracket \text{mia} \rrbracket = \lambda P_{\langle e,t \rangle}. \lambda Q_{\langle e,t \rangle}: \forall x(P(x) \rightarrow \mathbf{female}(x)). \exists x(P(x) \wedge Q(x))$
- (22) a. $\llbracket \text{kalos} \rrbracket = \lambda x_e. \mathbf{good}(x)$

¹²The universal presupposition (21b) is probably too strong. See Beaver (2001) and Sudo (2012, 2014b) and references therein for ways to weaken it.

- b. $\llbracket \text{kali} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{good}(x)$

Another possibility is to assume that there is a semantically interpretable occurrence of the gender feature outside of DP, which syntactically agrees with the uninterpretable occurrences appearing on determiners and adjectives, as suggested by Sauerland (2003, 2008b). This is depicted in the following diagrams, where $[iF]$ is an interpretable occurrence of feature F and $[uF]$ is an uninterpretable one. The dotted lines indicate syntactic agreement.



The interpretable gender features have the following semantics:¹³

- (24) a. $\llbracket [imasculine] \rrbracket = \lambda x_e. x$
 b. $\llbracket [ifeminine] \rrbracket = \lambda x_e: \mathbf{female}(x). x$

The theoretical choice here is inconsequential for the purposes of this paper. Crucially, however, some of the data we will discuss point to the conclusion that determiners and adjectives never express gender inferences in the assertion, which is consistent with both of these analyses.

In this connection, it should be stressed that gender features on nouns are interpreted differently from gender features on determiners and adjectives. Specifically, according to our analysis, nouns with lexically specified genders have gender inferences not only in the presupposition but also in the assertion. This implies that not all exponents of gender can be analyzed in the same way (contra Sauerland 2008b). Furthermore, we claim that whether the masculine feature of a masculine noun is interpreted depends on the noun. Concretely, *adherfos* ‘male sibling’ has a lexically specified gender with a masculine gender inference, while *dhaskalos* ‘teacher.M’ does not. This means that it is impossible to treat masculine features on nouns uniformly (contra Percus 2011, Sauerland 2008b), unlike feminine features on nouns or gender features on other exponents. We will now see evidence for this.

3.1 Plural Nouns

Our first evidence for the presence/absence of lexically specified gender in the nouns under discussion comes from plural nouns (cf. Corbett 1991, Bobaljik & Zocca 2011). The logic here is as follows. The plural morpheme is standardly analyzed as a distributive operator, which is a kind of universal quantifier (cf. Link 1983, Winter 2000). Specifically, it takes the denotation d of a singular noun, and turns it to something that applies to any group of individuals each of whom makes d true. Then it follows that if a singular noun has a lexically specified gender, its plural form will require every member of the group it describes to have that gender, and consequently, it can only be used to describe gender-uniform groups. If a noun has no lexically

¹³Notice that this structure assumes that quantificational DPs always undergo QR to resolve type-mismatch with the gender feature. See Sauerland (2003) for more discussion on this point.

specified gender, on the other hand, its plural form will say nothing about the gender of the individuals and can therefore be used to describe mixed-gender groups.

Let us go through concrete examples to see that the semantics proposed above are in line with the empirical facts. Firstly, *adherfi* ‘sibling.M.PL’ can only describe groups of male siblings, and *adherfes* ‘sibling.F.PL’ groups of female siblings, as demonstrated by (25).¹⁴

- (25) a. #O Petros ke i Maria ine **adherfi** tu Jani.
the Petros and the Maria are sibling.M.PL the.GEN Janis.GEN
‘*Petros and Maria are brothers of Janis’s.’
b. #O Petros ke i Maria ine **adherfes** tu Jani.
the Maria and the Petros are sibling.F.PL the.GEN Janis.GEN
‘Maria and Petros are sisters of Janis’s.’

Compare this to the *dhaskalos-dhaskala* pair: The plural masculine noun *dhaskali* ‘teacher.M.PL’ can describe mixed-gendered groups, while the plural feminine noun *dhaskales* ‘teacher.F.PL’ is exclusively used for groups of female teachers.

- (26) a. O Petros ke i Maria ine **dhaskali** stin Katerini.
the Petros and the Maria are teachers.M in.the Katerini
‘Petros and Maria are teachers in Katerini.’
b. #O Petros ke i Maria ine **dhaskales** stin Katerini.
the Petros and the Maria are teachers.F in.the Katerini

The crucial difference between (25a) and (26a) shows that *adherfos* has a lexically specified gender, while *dhaskalos* is actually gender-neutral.

Plural epicene nouns can also describe mixed gendered groups, but only if the gender on other exponents are masculine, as shown in (27).

- (27) a. O Petros ke i Maria ine kali **jatri**.
the Petros and the Maria are good.M doctors
‘Petros and Maria are good doctors.’
b. #O Petros ke i Maria ine kales **jatri**.
the Petros and the Maria are good.F doctors

Notice that this contrast also makes sense under our assumptions about natural gender on adjectives. The feminine adjective in (27b) indicates the presence of a gender presupposition that all members of the group in question are female. This is not met in this example.

It should be also mentioned that *dhaskali* ‘teacher.M.PL’ and *kali jatri* ‘good.M doctors’ cannot describe groups of female individuals.

- (28) a. #I Elena ke i Maria ine **dhaskali** stin Katerini.
the Elena and the Maria are teachers.M in.the Katerini

¹⁴Importantly, the examples in (25) are not ruled out due to agreement mismatch. Generally, predicational sentences of this kind do not require agreement between the two DPs in Greek, as shown by the grammaticality of (i), where the subject DP is marked feminine (on the determiner *i*) and the other DP is neuter.

- (i) I Maria ine kalo koritsi.
the.F Maria is good.N girl.N
‘Maria is a good girl.’

- ‘Elena and Maria are teachers in Katerini.’
- b. #I Elena ke i Maria ine kali **jatri**.
 the Elena and the Maria are good.M doctors
 ‘Elena and Maria are good doctors.’

This is as expected, given the Principle of Gender Competition. In examples like (28), the feminine counterparts are felicitous and convey stronger meaning. Therefore, the use of the gender-neutral masculine forms are blocked, although they are semantically coherent.

3.2 Negative Existential Sentences

Negative existential sentences can be used to make the same point. In such contexts, nouns with lexically specified genders restrict the domain of quantification to be gender-uniform. Since they are in downward entailing contexts, furthermore, this means that they will give rise to weaker entailments. By contrast, nouns without a lexically specified gender will not restrict the domain of quantification, thereby giving rise to stronger inferences.

The following data show that our semantics makes correct predictions. Starting with *adherfos-adherfi*, these nouns restrict the domain of quantification to male and female individuals, respectively. Consequently, there is no inference about the opposite gender.

- (29) a. O Petros dhen exi kanenan **adherfo**.
 the Petros not has no.M sibling.M
 ‘Petros has no brother.’ \Rightarrow Petros has no sister
- b. O Petros dhen exi kamia **adherfi**.
 the Petros not has no.F sibling.F
 ‘Petros has no sister.’ \Rightarrow Petros has no brother

On the other hand, we observe an asymmetry with *dhaskalos-dhaskala*, as in the following examples. In particular, (30a) does entail that Petros has no female teacher in Katerini, unlike (30b), which does not entail that Petros has no male teacher in Katerini.

- (30) a. O Petros dhen exi kanenan **dhaskalo** stin Katerini.
 the Petros not has no.M teacher.M in.the Katerini
 ‘Petros has no teacher in Katerini.’ \Rightarrow Petros has no female teacher in Katerini
- b. O Petros dhen exi kamia **dhaskala** stin Katerini.
 the Petros not has no.F teacher.F in.the Katerini
 ‘Petros has no female teacher in Katerini.’
 \Rightarrow Petros has no male teacher in Katerini

Notice that this observation is compatible with the Principle of Gender Competition. That is, it is satisfied with (30a), whenever (30b) cannot be used, i.e. whenever there is at least one male individual in the domain of quantification.

We observe the same contrast with epicene nouns, as predicted by the proposed semantics where feminine features on determiners and adjectives introduce gender presuppositions, while masculine features on them are semantically empty.

- (31) a. O Petros dhen exi kanenan **jatro**.
 the Petros not has no.M doctor
 ‘Petros has no doctor.’ \Rightarrow Petros has no female doctor

- b. O Petros dhen exi kamia **jatro**.
 the Petros not has no.F doctor
 ‘Petros has no female doctor.’ \Rightarrow Petros has no male doctor

Thus, these observations point to the conclusion that *dhaskalos* ‘teacher.M’ and *jatros* ‘doctor’ have no lexically specified gender, unlike the other nouns in question.

3.3 Focus Constructions

Further evidence for our analyses of the gendered nouns comes from focus constructions. Focus constructions semantically involve reference to alternatives, and it is known that focus alternatives generally are oblivious to presuppositions triggered by φ -features (or ‘ φ -presuppositions’), including gender features (see Spathas 2010, Jacobson 2012, Sauerland 2013 for relevant discussion).¹⁵ For instance, consider the following examples, under the bound readings of the possessive pronouns.

- (32) a. Of all the students, only I did my homework.
 b. Of all the students, only John did his homework.
 c. Of all the students, only Mary did her homework.

Suppose that the relevant students are the speaker, John and Mary. Then, (32a) entails that Mary and John didn’t do their homework, (32b) that the speaker and Mary didn’t do their homework, and (32c) that the speaker and John didn’t do their homework. What is of importance here is that the φ -features (person and gender features here) of the bound possessive pronoun seem to have no semantic effects in the focus alternatives. For instance, what is negated in (32c) looks like the following, and the third person and feminine features do not figure here.

- (33) a. I did my homework.
 b. John did his homework.

On the other hand, assertions are never ignored. For instance, (34) does *not* entail that John is not an athlete.

- (34) Of all the students, only Mary is a female athlete.

This does not entail that John is not a male athlete, but only that John is not a female athlete.

This can be used as a test for the presence of gender inferences in the assertion. As in line with the semantics proposed above, gender inferences are not ignored in the alternatives with nouns that have lexically specified gender (and therefore assert gender). Concretely, the following examples involving *adherfos* and *adherfi* lack inferences about the opposite gender.

- (35) a. Mono o Petros ine **adherfos** tu Jani.
 only the Petros is sibling.M the.GEN Janis.GEN
 ‘Only Petros is a brother of Janis.’ \Rightarrow Maria is not Janis’s sister.

¹⁵There is some controversy in the literature regarding the analysis of examples like (32). In particular, one popular analysis says that the φ -features on these pronouns are semantically uninterpreted and are morphological reflections of the agreement relation with the binder (Heim 2008, Kratzer 1998, 2009), but there are other ideas as well (Spathas 2010, Jacobson 2012, Sauerland 2013, Sudo 2012, 2014a). For the most part, we can be neutral with respect to this debate, but for certain data points, e.g. (55), the agreement-based theory has nothing to say, as there is nothing that agrees with the gender marking (see Spathas 2010 and Sudo 2012, 2014a for similar arguments against the agreement-based theory).

- b. Mono i Maria ine **adherfi** tu Jani.
 only the Maria is sibling.F the.GEN Janis.GEN
 ‘Only Maria is a sister of Janis.’ ⇒ Petros is not Janis’s brother.

This makes sense if the gender inference is not ignored in the alternatives. For instance, for (35a), the alternative meaning Maria is a male sibling of Janis is trivially false, because Maria is not male. Similarly for (35b).

Furthermore, as expected, we observe an asymmetry with *dhaskalos-dhaskala*, as in (36).

- (36) a. Mono o Petros ine **dhaskalos**.
 only the Petros is teacher.M
 ‘Only Petros is a teacher.’ ⇒ Maria is not a teacher.
 b. Mono i Maria ine **dhaskala**.
 only the Maria is teacher.F
 ‘Only Maria is a teacher.’ ⇒ Petros is not a teacher.

(36a) does entail that Maria is not a teacher, while (36b) does not entail that Petros is not a teacher. This is consistent with our semantics where only *dhaskala* ‘teacher.F’ has a lexically specified gender.

In addition, we observe no contrast with epicene nouns, as expected from our semantics.

- (37) a. Mono o Petros ine kalos **jatros**.
 only the Petros is good.M doctor
 ‘Only Petros is a good doctor.’ ⇒ Maria is not a good doctor.
 b. Mono i Maria ine kali **jatros**.
 only the Maria is good.F doctor
 ‘Only Maria is a good doctor.’ ⇒ Petros is not a good doctor.

In both cases, there is no asserted gender. (37a) has no gender presupposition either, the gender presupposition of (37b) is ignored in the alternatives.

Other focus constructions point to the same conclusions, including superlatives, ordinals and nominal *only*. In order to save space, we will only present data involving superlatives here. In the superlative construction of the form *the best N*, nouns with lexically specified gender give rise to readings that only compare different gender groups, while nouns without lexically specified gender yield gender-neutral readings. This is shown by the following examples.¹⁶

- (38) a. O Petros ine o kaliteros **adherfos** Jani.
 the Petros is the.M best.M sibling.M Janis.GEN
 ‘Petros is the best brother of Janis’ (among Janis’ brothers).
 b. I Maria ine i kaliteri **adherfi** Jani.
 the Maria is the.F best.F sibling.F Janis.GEN
 ‘Maria is the best sister of Janis’ (among Janis’ sisters).
 (39) a. O Petros ine o kaliteros **dhaskalos**.
 the Petros is the.M best.M teacher.M

¹⁶Yatsushiro & Sauerland (2006) observe that certain German feminine nouns behave like *dhaskalos* ‘male teacher’ here. Such nouns can be analyzed as involving only gender presuppositions and not assertions. This implies that their gender features could potentially be analyzed as mere agreement reflexes without semantic interpretations in the style of Sauerland (2008b) discussed above (see also Bobaljik & Zocca 2011). Greek does not seem to have such nouns in the domain of human-denoting nouns, but see the discussion of *médica* ‘female doctor’ in Brazilian Portuguese in Section 1 and fn.20.

- ‘Petros is the best teacher (among the male and female teachers).’
- b. I Maria ine i kaliteri **dhaskala**.
the Maria is the.F best.F teacher.F
‘Maria is the best teacher (among the female teachers).’
- (40) a. O Petros ine o kaliteros **jatros**.
the Petros is the.M best.M doctor
‘Petros is the best doctor (among the male and female doctors).’
- b. I Maria ine i kaliteri **jatros**.
the Maria is the.F best.F doctor
‘Maria is the best doctor (among the male and female doctors).’

3.4 Interim Conclusion

The data presented in this section show that there are two types of nouns with natural gender in Greek, namely nouns with lexical specified gender and nouns without lexically specified gender. To repeat our analysis, we propose the following denotations.

- (3) a. $\llbracket \text{adherfos} \rrbracket = \lambda x_e: \mathbf{male}(x). \mathbf{male}(x) \wedge \mathbf{sibling}(x)$
b. $\llbracket \text{adherfi} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{sibling}(x)$
- (4) a. $\llbracket \text{dhaskalos} \rrbracket = \lambda x_e. \mathbf{teacher}(x)$
b. $\llbracket \text{dhaskala} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{teacher}(x)$
- (6) $\llbracket \text{jatros} \rrbracket = \lambda x_e. \mathbf{doctor}(x)$

This distinction among nouns with natural gender suggests that gender features on human-denoting nouns are interpreted on nouns, and furthermore their semantic contributions are different from gender features on determiners and adjectives in that the gender inference is also present in the assertion. This is contrary to previous analyses such as [Sauerland \(2008b\)](#), [Bobaljik & Zocca \(2011\)](#) and [Merchant \(2014\)](#).

It should also be stressed here that there are two kinds of masculine nouns: masculine nouns like *adherfos* have lexically specified gender, while masculine nouns like *dhaskalos* do not. This means that non all masculine nouns are equal (*pace* [Percus 2011](#)).

Notice that the Principle of Gender Competition correctly regulates the uses of the semantically gender neutral nouns. In particular, it rules out unacceptable cases like the following.¹⁷

- (41) a. #I Maria ine kalos **jatros**.
the Maria is good.M doctor
b. #I Maria ine **dhaskalos**.
the Maria is teacher.M

Although these examples are semantically coherent, they are made unacceptable due to the felicity of the following alternatives (cf. the discussion at the end of Section 2 about local evaluation of the principle).

- (42) a. I Maria ine kali **jatros**.
the Maria is good.I doctor
‘Maria is a good doctor.’

¹⁷With some nouns in some languages (e.g. *actor* in English or *moskvič* ‘Muscovite’ in Russian), analogous mismatches are tolerated, at least for some speakers (cf. [Bobaljik & Zocca 2011](#)). Similarly, as mentioned in fn.2, some animal-denoting nouns in Greek have similar properties, which we will discuss in Section 6.

- b. I Maria ine **dhaskala**.
 the Maria is teacher.F
 ‘Maria is a teacher.’

It should be noted that for masculine nouns like *adherfos* ‘male sibling’, the observations so far are actually consistent with the possibility that their gender presupposition is also semantically null. However, the infelicity of sentences like (43) suggest that this is not the case. That is, (43) is not simply false, and more adequately described as presupposition failure (cf. ‘Mary is not a male sibling of Janis’s’, which is not infelicitous but false).

- (43) #I Maria ine **adherfos** tu Jani.
 the Maria is sibling.M the.GEN Janis.GEN
 ‘Maria is a brother of Janis’s.’

Also, by keeping the masculine presupposition in the denotation of *adherfos*, we can maintain the uniformity of the interpretation of gender features on nouns: if a noun is lexically specified for natural gender, it both presupposes and asserts it, and if not, it is simply unmarked.

4 Nominal Ellipsis with Gender Mismatches

With the semantics of nouns with natural gender proposed above at hand, we now offer a solution to a puzzle previously identified by Merchant (2014) (his account will be critically reviewed in the next section). The puzzle has to do with nominal ellipsis with gender mismatches. We will argue that our semantics straightforwardly accounts for the data involving nouns like *adherfos-adherfi* and epicene nouns with independently motivated assumptions about (nominal) ellipsis. In order to account for the data involving *dhaskalos-dhaskala*, we propose to add an additional assumption that the Principle of Gender Competition becomes inactive under ellipsis.

4.1 Nominal Ellipsis in Greek

Let us start with the basics of nominal ellipsis in Greek. Nominal ellipsis is observed with both predicative and argument nominals. We focus here on nominal ellipsis in argument position (see next section for nominal ellipsis in predicative position). The following sentence is one such example.

- (44) O Petros episkefthike enan **aderfo** tu sti Veria, ke enan ~~aderfo~~ tu stin
 the Petros visited one.M sibling.M his in.the Veria, and one.M (sibling.M his)
 Katerini.
 in.the Katerini
 ‘Petros visited one bother of his in Veria, and one in Katerini.’

In the absence of mismatching φ -features, as in (44), nominal ellipsis is generally possible with any noun. Below are some more examples with other nouns.

- (45) O Petros episkefthike enan **dhaskalo** sti Veria, ke enan ~~dhaskalo~~ stin
 the Petros visited one.M teacher.M in.the Veria, and one.M (teacher.M) in.the
 Katerini.
 Katerini
 ‘Petros visited one teacher in Veria, and one in Katerini.’

- (46) O Petros episkefthike enan **jatro** sti Veria, ke enan ~~jatɾo~~ stin
 the Petros visited one.M doctor.M in.the Veria, and one.M (doctor.M) in.the
 Katerini.
 Katerini
 ‘Petros visited one doctor in Veria, and one in Katerini.’

This is the same for feminine nouns, but the data are omitted to save space.

One caveat is in order here. As indicated in the examples above, we assume that nominal ellipsis in Greek involves PF deletion, rather than a phonologically null pronominal. The bulk of the discussion in this section does not depend on this assumption in any crucial way, but we will give some arguments for our position in Section 5.4, when we compare our analysis to Merchant’s (2014), who assumes that both strategies are available in Greek.

4.2 Nominal Ellipsis with Gender Mismatches

Greek nouns may encode number and gender. Generally mismatches in number do not disrupt nominal ellipsis. Here we show this with masculine nouns, but the same holds for feminine nouns.

- (47) a. O Petros episkefthike enan adherfo tu sti Veria, ke dhio ~~adherfus tu~~
 the Petros visited a.M sibling.M.SG his in Veria, and two (sibling.M.PL
 stin Katerini.
 his) in Katerini.
 ‘Petros visited one brother of his in Veria, and two in Katerini.’
 b. O Petros episkefthike dhio adherfus tu sti Veria, ke enan ~~adherfo tu~~
 the Petros visited two sibling.M.PL his in Veria, and one (sibling.M.SG
 stin Katerini.
 his) in Katerini.
 ‘Petros visited two brothers of his in Veria, and one in Katerini.’
- (48) a. O Petros episkefthike enan dhaskalo sti Veria, ke dhio ~~dhaskalus~~ stin
 the Petros visited a.M teacher.M.SG in Veria, and two (teacher.M.PL) in
 Katerini.
 Katerini.
 ‘Petros visited one teacher in Veria, and two in Katerini.’
 b. O Petros episkefthike dhio dhaskalus sti Veria, ke enan ~~dhaskalo~~ stin
 the Petros visited two teacher.M.PL in Veria, and one (teacher.M.SG) in
 Katerini.
 Katerini.
 ‘Petros visited two teachers in Veria, and one in Katerini.’
- (49) a. O Petros episkefthike enan jatɾo sti Veria, ke dhio ~~jatɾus~~ stin
 the Petros visited a.M doctor.M.SG in Veria, and two (doctor.M.PL) in
 Katerini.
 Katerini.
 ‘Petros visited a teacher in Veria, and two in Katerini.’
 b. O Petros episkefthike dhio jatrus sti Veria, ke enan ~~jatɾo~~ stin
 the Petros visited two doctor.M.PL in Veria, and one (doctor.M.SG) in
 Katerini.
 Katerini.

‘Petros visited two doctors in Veria, and one in Katerini.’

On the other hand, as Merchant (2014) observes, gender mismatches sometimes disrupt ellipsis licensing and sometimes not (see Bobaljik & Zocca 2011 for essentially the same observation in other languages, primarily Brazilian Portuguese). More specifically, nominal ellipsis with mismatching gender is never possible with *adherfos-adherfi*, regardless of which noun is the antecedent, while it is always possible with epicene nouns. For *dhaskalos-dhaskala*, it is only possible if the masculine noun is the antecedent. The relevant data are repeated from (7)–(9).¹⁸

- (7) a. *O Petros episkefthike enan **aderfo** tu sti Veria, ke mia ~~aderfi~~
the Petros visited one.M sibling.M his in.the Veria, and one.F (sibling.F)
stin Katerini.
in.the Katerini
(intended) ‘Petros visited a bother of his in Veria, and a (sister) in Katerini.’
- b. *O Petros episkefthike mia **aderfi** tu sti Veria, ke enan ~~aderfo~~
the Petros visited one.F sibling.F his in.the Veria, and one.M (sibling.M)
stin Katerini.
in.the Katerini
(intended) ‘Petros visited a sister of his in Veria, and a (brother) in Katerini.’
- (8) a. O Petros episkefthike enan **jatro** sti Veria, ke mia ~~jatro~~ stin
the Petros visited one.M doctor in.the Veria, and one.F (doctor) in.the
Katerini.
Katerini
‘Petros visited a male doctor in Veria, and a female doctor in Katerini.’
- b. O Petros episkefthike mia **jatro** sti Veria, ke enan ~~jatro~~ stin
the Petros visited one.F doctor in.the Veria, and one.M (doctor) in.the
Katerini.
Katerini
‘Petros visited a female doctor of his in Veria, and a male doctor in Katerini.’
- (9) a. O Petros episkefthike enan **dhaskalo** sti Veria, ke mia ~~dhaskala~~ stin
the Petros visited one.M teacher.M in.the Veria, and one.F (teacher.F) in.the
Katerini.
Katerini
‘Petros visited a male teacher in Veria, and a female teacher in Katerini.’
- b. *O Petros episkefthike mia **dhaskala** sti Veria, ke enan ~~dhaskalo~~ stin
the Petros visited one.F teacher.F in.the Veria, and one.M (teacher.M) in.the
Katerini.
Katerini
(intended) ‘Petros visited a female teacher of his in Veria, and a male teacher in Katerini.’

Given the semantic differences among these noun we have pointed out in the previous

¹⁸The acceptable sentences below seem to be somewhat degraded in comparison to the corresponding examples with matching gender given above. But the same contrast persists even without nominal ellipsis, suggesting that it is due to an extra factor. Since this subtle difference between matching vs. mismatching genders could be due to anything, and is not of our main concern here, it is left unmarked here. What is more important is the rather stark contrasts among the following examples.

section, it is natural to expect that these patterns should be explained by their meanings. This is exactly what we will propose. Specifically, we argue that the behavior of *adherfos-adherfi* and epicene nouns follow straightforwardly from independently motivated assumptions about ellipsis licensing. Furthermore, we claim that the asymmetric licensing in (9) also falls out naturally, once an auxiliary assumption about gender competition is made.

4.3 Ellipsis Licensing

We argue first that given the semantics of nouns with natural gender we proposed in the previous section, it is not so surprising that nominal ellipses with gender mismatches are impossible with *adherfos-adherfi* and possible with epicene nouns, regardless of which noun is the antecedent.

It is known that elliptical phenomena in general tolerate certain types of mismatches but not others. Specifically, it is observed that elliptical constructions ignore mismatches in φ -presuppositions (Ross 1967, Fiengo & May 1994, Johnson 2014), similarly to focus constructions. For instance, the following VP-ellipses are acceptable with sloppy identity, which should involve a mismatch in gender.

(50) Mary did her homework. John didn't ~~do his homework~~.

Furthermore, again as in the case of focus constructions, it is not possible to have mismatches in the assertion, however. For example, words like *female* and *male* assert the gender (as can be tested with the usual projection tests), and mismatches involving these nouns are not tolerated under ellipsis.

(51) Mary met five female linguists. *John met six ~~male linguists~~.

The only available interpretation of the second sentence here is that John met six female linguists.

Generally, total identity up to φ -presuppositions is required across various elliptical phenomena.¹⁹ Then, given our denotations of the nouns, it is no surprise that *adherfos* and *adherfi* do not allow nominal ellipsis with gender mismatches in either direction, because both forms assert the gender. Thus, the unacceptability of (7) is of the same nature as that of (51).

Furthermore, recall that epicene nouns have no gender specification in their denotation. Ellipsis is never disrupted with gender mismatches on other exponents, as gender in these cases is presuppositional. Thus, nominal ellipsis with gender mismatches is licensed in either direction as in (8).

However, the asymmetric licensing with *dhaskalos-dhaskala* is puzzling.²⁰ Notice that ellipsis involving asymmetric entailment is generally unacceptable, as shown by (52).

(52) a. John invited three linguists. *Bill invited four ~~semanticists~~.
 b. John invited three semanticists. *Bill invited four ~~linguists~~.

Recall that the feminine form *dhaskala* asymmetrically entails the masculine form *dhaskalos* in the assertion, as the former asserts the gender while the latter has a gender-neutral assertion.

¹⁹But see Dalrymple, Shieber & Pereira (1991), Kehler (2002), Merchant (2014), Elliott, Nicolae & Sudo (2014), Elliott & Sudo (to appear) for cases where total identity is not required.

²⁰Here, we are disagreeing with Bobaljik & Zocca (2011), who claim that what is puzzling is the behavior of the counterparts of Greek epicene nouns in Brazilian Portuguese. On the other hand, Bobaljik & Zocca seem to assume that asymmetric licensing with pairs like *dhaskalos-dhaskala* is expected, given the unmarkedness of masculine in languages like Greek and Brazilian Portuguese. However, as we are claiming here, this is not as simple as they take it to be, given the semantic asymmetry between *dhaskalos* and *dhaskala*. See Section 6 for related more discussion.

Thus, it is expected that nominal ellipsis with *dhaskalos* and *dhaskala* is just as unacceptable as (52), regardless of which noun is the antecedent.

Contrary to this expectation, however, what is actually observed with (9) is that nominal ellipsis with gender mismatches is possible when the antecedent is masculine, and not when the antecedent is feminine. In order to make sense of this, we propose that the Principle of Gender Competition does not apply to elided nouns.²¹

4.4 The Principle of Gender Competition under Ellipsis

We analyze the crucial data (9) involving *dhaskalo-dhaskala* as in (53). In particular the ellipsis here involves total identity, and the DP with an elided noun has DP-internal gender mismatch.

- (53) a. O Petros episkefthike enan **dhaskalo** sti Veria, ke mia ~~dhaskalo~~ stin
the Petros visited one.M teacher.M in.the Veria, and one.F (teacher.M) in.the
Katerini.
Katerini
‘Petros visited a male teacher in Veria, and a female teacher in Katerini.’
- b. *O Petros episkefthike mia **dhaskala** sti Veria, ke enan ~~dhaskala~~ stin
the Petros visited one.F teacher.F in.the Veria, and one.M (teacher.F) in.the
Katerini.
Katerini
(intended) ‘Petros visited a female teacher of his in Veria, and a male teacher in
Katerini.’

It should be noted that the overt counterparts of these sentences are both unacceptable, as in (54).

- (54) a. *O Petros episkefthike enan **dhaskalo** sti Veria, ke mia dhaskalo stin
the Petros visited one.M teacher.M in.the Veria, and one.F teacher.M in.the
Katerini.
Katerini
‘Petros visited a male teacher in Veria, and a female teacher in Katerini.’
- b. *O Petros episkefthike mia **dhaskala** sti Veria, ke enan dhaskala stin
the Petros visited one.F teacher.F in.the Veria, and one.M teacher.F in.the
Katerini.
Katerini
(intended) ‘Petros visited a female teacher of his in Veria, and a male teacher in
Katerini.’

²¹As an anonymous reviewer reminds us, Bobaljik & Zocca (2011) makes crucial use of an assumption about ellipsis to account for similar facts in Brazilian Portuguese. However, they do so in order to account specifically for the counterparts of epicene nouns, rather than the counterparts of *dhaskalos-dhaskala*. That is, as mentioned in the previous footnote, they take the main theoretical problem to be the symmetric licensing for nouns like *médico* ‘male doctor’ vs. *médica* ‘female doctor’. Assuming that their gender marking is a morphological reflex of syntactic agreement, they claim that nominal ellipsis with gender mismatches is possible with these nouns, because syntactic agreement is not relevant for ellipsis licensing. Our explanation of the behavior of epicene nouns is similar to this, although for us, the assumption is that φ -presuppositions are ignored for the purposes of ellipsis licensing. Crucially, our claim about ellipsis and the Principle of Gender Competition to be presented in the next subsection is qualitatively distinct from Bobaljik & Zocca’s (2011) idea.

In fact, such DP-internal gender mismatches with overt material are generally banned in Greek.²²

With the tools we have introduced so far, we can explain the unacceptability of the sentences in (54) as follows. Although (54a) is semantically perfectly coherent, due to the gender-neutral denotation of *dhaskalos*, which is entailed by its feminine counterpart *dhaskala*, it is ruled out by the Principle of Gender Competition. (54b) is ruled out, because the feminine determiner *mia* is available here. Notice also that with a feminine determiner, it would have a different meaning than the intended meaning. To put it differently, it is simply not possible to refer to a male teacher with *dhaskala*, due to its semantic entailment.

Coming back to the elliptical cases, the infelicity of (53b), then, is not at all surprising. The explanation is the same as for (54b). What is surprising is the felicity of (53a). The minimal difference between (53a) and (54a) is whether the noun is overt, and the reason why (54a) is infelicitous is because of the Principle of Gender Competition. This suggests that the Principle of Gender Competition is made inactive under ellipsis, which is exactly what we claim. With this auxiliary assumption, the sentence in (53a) is ruled in, as it is semantically coherent.

It is crucial here that what is elided in (53a) is a masculine noun *dhaskalos*, which is assumed to have no lexically encoded gender inference. This makes a prediction that when an elided noun with a feminine determiner occurs in a focus construction, the interpretation should not be restricted to female individuals. This prediction is borne out, as shown by the following example.

- (55) a. I perisoteri apo emas den ehun dhaskalo stin Katerini.
the more from us not have teacher.M in.the Katerini
'Most of us don't have a teacher in Katerini.'
b. Mono i Maria exi mia ~~dhaskalo~~.
only the Maria has one.F (teacher.M)
'Only Maria has one.'

The crucial point about (55b) is that it entails that the other relevant people have no teacher, male or female, in Katerini, and, therefore, is judged false if it turns out that Petros has a male teacher, for example. Observe, furthermore, that the following sentence with an overt feminine noun is *not* judged false in such a scenario.

- (56) Mono i Maria exi mia dhaskala stin Katerini.
only the Maria has one.F teacher.F in.the Katerini
'Only Maria has a female teacher in Katerini.'

Essentially the same contrast arises with other focus constructions too, e.g. superlatives:

- (57) a. Oli ehume dhaskalo stin Katerini, ala i Maria ehi tin kaliteri ~~dhaskalo~~.
all have teacher.M in.the Katerini, but the Maria has the.F best.F teacher.M
'We all have a teacher in Katerini, but Maria has the best one.'
b. Oli ehume dhaskalo stin Katerini, ala i Maria ehi tin kaliteri dhaskala
all have teacher.M in.the Katerini, but the Maria has the.F best.F teacher.F
stin Katerini.
in.the Katerini
'We all have a teacher in Katerini, but Maria has the best female teacher in the Katerini.'

²²See Corbett (1991), Wechsler & Zlatić (2003), Matushansky (2013), Puškar (2015), among others, for cases in other languages where such mismatches are tolerated.

(57a), unlike (57b), entails that Maria’s female teacher is better than anybody else’s teacher, including male teachers. Thus, if Petros has a male teacher and if he turns out to be better than Maria’s, (57a) is judged false, while (57b) stays true.

These data constitute strong support for our analysis where what is elided in (53a) is a masculine noun with gender-neutral meaning, even when other items like determiners are overtly marked as feminine.

In sum, we have demonstrated that the semantics for nouns with natural gender proposed in Section 3 naturally accounts for the data involving nominal ellipsis with gender mismatch with one auxiliary assumption that the Principle of Gender Competition does not apply to elided material.

4.5 Grammatical Gender

Before moving on, there is one issue that is left open here, which concerns grammatical gender. Greek has several neuter nouns that refer to humans, e.g. *koritsi* ‘girl’, *melos* ‘member’, *pedhi* ‘child’, *agori* ‘boy’ (cf. Spathas 2010). As mentioned briefly in fn.3, we treat them as involving grammatical gender (rather than natural gender). As Merchant (2014) observes, ellipsis with gender mismatches is not possible at all with these nouns, as demonstrated by (58) (see also Merchant’s 2014 (71)).

- (58) *I Eleni ine ena kalo koritsi, ala i Maria ine mia kakia ~~koritsi~~.
the Eleni is a.N good.N girl.N, but the Maria is a.F bad.F (girl.N)
(intended) ‘Eleni is a good girl, but Maria is a bad one.’

Notice that the unacceptability of (58) does not immediately follow from our analysis, because the structure of the sentence is essentially identical to the masculine-feminine case discussed above. Notice also that all the gender presuppositions should be satisfied in this sentence.

It seems to us that there is an independent constraint that specifically targets grammatical gender that forces DP-internal concord even under ellipsis. This rules out (58), because the second conjunct here involves a grammatically neuter noun but the determiner and adjective in the same DP bear feminine.

Importantly, in order to rule in felicitous cases of nominal ellipsis with gender mismatches we discussed above like (53a), the constraint needs to be somehow made sensitive to the distinction between natural gender and grammatical gender. That is, for natural gender, this constraint does not apply and concord is simply not required to the extent that the Principle of Gender Competition is satisfied. If on the right track, this implies that syntax treats natural gender and grammatical gender differently, despite the fact that they can be morphologically conflated. Analyses along these lines have in fact been put forward by some previous studies, such as Alexiadou (2004) and Kramer (2014, 2015), but we will refrain from making an explicit connection here, and leave the issue open for future research.

5 Merchant on Nominal Ellipsis in Greek

In this section, we discuss Merchant’s (2014) analysis of nominal ellipsis with gender mismatches in Greek. In addition to observing the basic differences among nouns with natural gender illustrated by (7)–(9), Merchant claims that nominal ellipsis with gender mismatch is only attested in predicative positions and not in argument positions. This claim is already falsified by (7)–(9), where the relevant nouns occur in object position. As his analysis is tailored to derive this false generalization, it cannot be maintained in its full form. Yet, it is nonetheless instructive to closely inspect his data and to compare his analysis to ours.

5.1 The Putative Predicate vs. Argument Asymmetry

Let us start with Merchant's (2014) false generalization that nominal ellipsis with gender mismatches is only possible in predicative positions which is based on the following set of data. Firstly, the following sentences (his (9), (22) and (25), respectively) show the same patten as (7)–(9).

- (59) a. *O Petros ine kalos **adherfos**, ala i Maria ine mia kakia ~~adherfi~~.
the Petros is good.M brother.M but the Maria is a.fem bad.fem (sister)
(intended) 'Petros is a good brother, but Maria is a bad (sister).'
- b. *I Maria ine kali **adherfi**, ala o Petros ine enas kakos ~~adherfos~~.
the Maria is good.F sister.F but the Petros is a.M bad.M (brother)
(intended) 'Maria is a good sister, but Petros is a bad (brother).'
- (60) a. O Petros ine kalos **jatros**, ala i Maria ine mia kakia ~~jatros~~.
the Petros is good.M doctor but the Maria is a.F bad.F (doctor)
'Petros is a good doctor, but Maria is a bad one.'
- b. I Maria ine kali **jatros**, ala o Petros ine enas kakos ~~jatros~~.
the Maria is good.F doctor but the Petros is a.M bad.M (doctor)
'Maria is a good doctor, but Petros is a bad one.'
- (61) a. O Petros ine kalos **dhaskalos**, ala i Maria ine mia kakia ~~dhaskala~~.
the Petros is good.M teacher.M but the Maria is a.F bad.F (teacher.F)
'Petros is a good teacher, but Maria is a bad one.'
- b. *I Maria ine kali **dhaskala**, ala o Petros ine enas kakos ~~dhaskalos~~.
the Maria is good.F teacher.F but the Petros is a.M bad.M (teacher.M)
(intended) 'Maria is a good teacher, but Petros is a bad one.'

It should be noted that none of these sentences are perfectly natural, which is largely due to the fact that there is an indefinite article only in the second conjunct, a factor Merchant himself acknowledges as a potential confound. He explains that the indefinite article is included in his examples, despite the somewhat degraded status, because without it, the second sentence would preferentially receive a predicative adjectival reading (which is akin to 'Mary is bad', rather than 'Mary is a bad one'), which would not involve nominal ellipsis. We would also like to note that adding an indefinite article in the first sentence would result in an identity reading (similar in meaning to 'Petros is one brother/doctor/teacher'), rather than a predicational reading, and is also somewhat unnatural. Nonetheless, we think that the data above still show the same three-way distinction we observed with (7)–(9).

Merchant's claim about the unavailability of nominal ellipsis with gender mismatches in argument positions in Greek is based on the following examples (adapted from his (10), (23), and (26)). All of them are unacceptable, unlike (7)–(9).

- (62) a. *O Petros exi enan **adherfo** stin Veria, ala dhen exi mia ~~adherfi~~ stin
the Petros has a.M brother in.the Veria but not has one.F (sister) in.the
Katerini.
Katerini
(intended) 'Petros has a brother in Veria, but he doesn't have one (sister) in
Katerini.'
- b. *O Petros exi mia **adherfi** stin Veria, ala dhen exi enan ~~adherfo~~ stin
the Petros has a.F sister in.the Veria but not has one.M (brother) in.the

Katerini.

Katerini

(intended) 'Petros has a sister in Veria, but he doesn't have one (brother) in Katerini.'

- (63) a. *O Petros exi enan **jatro** stin Veria, ala dhen exi mia ~~jatrø~~ stin
the Petros has a.M doctor in.the Veria but not has one.F (doctor) in.the
Katerini.
Katerini
(intended) 'Petros has a male doctor in Veria, but he doesn't have one (female
doctor) in Katerini.'
- b. *O Petros exi mia **jatro** stin Veria, ala dhen exi enan ~~jatrø~~ stin
the Petros has a.F doctor in.the Veria but not has one.M (doctor) in.the
Katerini.
Katerini
(intended) 'Petros has a female doctor in Veria, but he doesn't have one (male
doctor) in Katerini.'
- (64) a. *O Petros exi enan **dhaskalo** stin Veria, ala dhen exi mia ~~dhaskala~~ stin
the Petros has a.M teacher.M in.the Veria but not has one.F (teacher.F) in.the
Katerini.
Katerini
(intended) 'Petros has a male teacher in Veria, but he doesn't have one (female
teacher) in Katerini.'
- b. *O Petros exi mia **dhaskala** stin Veria, ala dhen exi enan ~~dhaskalo~~ stin
the Petros has a.F teacher.F in.the Veria but not has one.M (teacher.M) in.the
Katerini.
Katerini
(intended) 'Petros has a female teacher in Veria, but he doesn't have one (male
teacher) in Katerini.'

Importantly, when the nouns are of the same gender, the judgments improve, as shown by the following examples (adapted from Merchant's (12), (13), (32), (33), and (34)).

- (65) a. O Petros exi enan **adherfo** stin Veria, ala dhen exi enan ~~adherfø~~ stin
the Petros has a.M brother in.the Veria but not has one.M (brother) in.the
Katerini.
Katerini
'Petros has a brother in Veria, but he doesn't have one (brother) in Katerini.'
- b. O Petros exi mia **adherfi** stin Veria, ala dhen exi mia ~~adherfi~~ stin
the Petros has a.F sister in.the Veria but not has one.F (sister) in.the
Katerini.
Katerini
'Petros has a sister in Veria, but he doesn't have one (sister) in Katerini.'
- (66) a. O Petros exi enan kalo **adherfo**, ala dhen exi enan kako ~~adherfø~~.
the Petros has a.M good.M brother but not has one.M bad.M (brother)
'Petros has a good brother but he doesn't have a bad one (brother).'
- b. O Petros exi mia kali **adherfi**, ala dhen exi mia ~~kakia adherfi~~.
the Petros has a.F good.F sister, but not has one.F bad.F (sister)

‘Petros has a good sister but he doesn’t have a bad one (sister).’

These data led Merchant to conclude that ellipsis with gender mismatches is unavailable across the board, if the relevant noun is in an argument position. This, of course, contradicts our data (7)–(9).

Contrary to Merchant, we argue that the examples with gender mismatches in (62)–(64) are unacceptable for reasons independent of nominal ellipsis. That their unacceptability has little to do with nominal ellipsis can be shown by the fact that the non-elliptical versions of the sentences are in fact all unacceptable, as shown below.²³

- (67) a. *O Petros exi enan **adherfo** stin Veria, ala dhen exi mia adherfi stin
the Petros has a.M brother in.the Veria but not has one.F sister in.the
Katerini.
Katerini
(intended) ‘Petros has a brother in Veria, but he doesn’t have a sister in Katerini.’
- b. *O Petros exi mia **adherfi** stin Veria, ala dhen exi enan adherfo stin
the Petros has a.F sister in.the Veria but not has one.M brother in.the
Katerini.
Katerini
(intended) ‘Petros has a sister in Veria, but he doesn’t have a sister in Katerini.’
- (68) a. *O Petros exi enan **jatro** stin Veria, ala dhen exi mia jatro stin
the Petros has a.M doctor in.the Veria but not has one.F doctor in.the
Katerini.
Katerini
(intended) ‘Petros has a male doctor in Veria, but he doesn’t have a female doctor
in Katerini.’
- b. *O Petros exi mia **jatro** stin Veria, ala dhen exi enan jatro stin Katerini.
the Petros has a.F doctor in.the Veria but not has one.M doctor in.the Katerini
(intended) ‘Petros has a female doctor in Veria, but he doesn’t have a male doctor
in Katerini.’
- (69) a. *O Petros exi enan **dhaskalo** stin Veria, ala dhen exi mia dhaskala stin
the Petros has a.M teacher.M in.the Veria but not has one.F teacher.F in.the
Katerini.
Katerini
(intended) ‘Petros has a male teacher in Veria, but he doesn’t have a female teacher
in Katerini.’
- b. *O Petros exi mia **dhaskala** stin Veria, ala dhen exi enan dhaskalo stin
the Petros has a.F teacher.F in.the Veria but not has one.M teacher.M in.the
Katerini.
Katerini
(intended) ‘Petros has a female teacher in Veria, but he doesn’t have a male teacher
in Katerini.’

There seem to be two problems with these sentences. Firstly, under the scope of clause-mate

²³Merchant (2014) presents essentially the same sentences as acceptable (his (32)–(34)), but we could not replicate these results with our informants, for whom the following sentences are as unacceptable as their elliptical counterparts.

negation, as in the second conjuncts of these sentences, the use of the negative concord indefinite determiners, *kanenan* and *kamia*, instead of *enan* and *mia*, is almost obligatory. Changing the determiners does not make the sentences fully acceptable, however. Rather, making the second conjunct positive does, as demonstrated by (70)–(72).²⁴

- (70) a. O Petros exi enan **adherfo** stin Veria, ke exi mia adherfi stin Katerini.
the Petros has a.M brother in.the Veria and has one.F sister in.the Katerini
'Petros has a brother in Veria, and he has a sister in Katerini.'
- b. O Petros exi mia **adherfi** stin Veria, ke exi enan adherfo stin Katerini.
the Petros has a.F sister in.the Veria and has one.M brother in.the Katerini
'Petros has a sister in Veria, and he has a sister in Katerini.'
- (71) a. O Petros exi enan **jatro** stin Veria, ke exi mia jatro stin Katerini.
the Petros has a.M doctor in.the Veria and has one.F doctor in.the Katerini
'Petros has a male doctor in Veria, and he has a female doctor in Katerini.'
- b. O Petros exi mia **jatro** stin Veria, ke exi enan jatro stin Katerini.
the Petros has a.F doctor in.the Veria and has one.M doctor in.the Katerini
'Petros has a female doctor in Veria, and he has a male doctor in Katerini.'
- (72) a. O Petros exi enan **dhaskalo** stin Veria, ke exi mia dhaskala stin
the Petros has a.M teacher.M in.the Veria and has one.F teacher.F in.the
Katerini.
Katerini
'Petros has a male teacher in Veria, and he has a female teacher in Katerini.'
- b. O Petros exi mia **dhaskala** stin Veria, ke exi enan dhaskalo stin
the Petros has a.F teacher.F in.the Veria and has one.M teacher.M in.the
Katerini.
Katerini
'Petros has a female teacher in Veria, and he has a male teacher in Katerini.'

In these contexts, we do observe the now-familiar three-way classification according to the possibility of nominal ellipsis.

- (73) a. *O Petros exi enan **adherfo** stin Veria, ke exi mia ~~adherfi~~ stin Katerini.
the Petros has a.M brother in.the Veria and has one.F (sister) in.the Katerini
(intended) 'Petros has a brother in Veria, and he has a sister in Katerini.'
- b. *O Petros exi mia **adherfi** stin Veria, ke exi enan ~~adherfo~~ stin Katerini.
the Petros has a.F sister in.the Veria and has one.M (brother) in.the Katerini
(intended) 'Petros has a sister in Veria, and he has a sister in Katerini.'
- (74) a. O Petros exi enan **jatro** stin Veria, ke exi mia ~~jatro~~ stin Katerini.
the Petros has a.M doctor in.the Veria and has one.F (doctor) in.the Katerini
'Petros has a male doctor in Veria, and he has a female doctor in Katerini.'
- b. O Petros exi mia **jatro** stin Veria, ke exi enan ~~jatro~~ stin Katerini.
the Petros has a.F doctor in.the Veria and has one.M (doctor) in.the Katerini
'Petros has a female doctor in Veria, and he has a male doctor in Katerini.'

²⁴Two anonymous reviewers independently pointed out to us that adding an additive particle *ke* before the indefinite article further increases the acceptability of these examples.

- (75) a. O Petros exi enan **dhaskalo** stin Veria, ke exi mia ~~dhaskala~~ stin
 the Petros has a.M teacher.M in.the Veria and has one.F (teacher.F) in.the
 Katerini.
 Katerini
 ‘Petros has a male teacher in Veria, and he has a female teacher in Katerini.’
- b. *O Petros exi mia **dhaskala** stin Veria, ke exi enan ~~dhaskalo~~ stin
 the Petros has a.F teacher.F in.the Veria and has one.M (teacher.M) in.the
 Katerini.
 Katerini
 (intended) ‘Petros has a female teacher in Veria, and he has a male teacher in
 Katerini.’

These data again show that nominal ellipsis in argument positions is possible and exhibits the three-way classification of gendered nouns.

Then, what makes Merchant’s original data unacceptable? We argue that the culprit is the information structural properties of the examples that are naturally enforced by the polarity difference of the two conjuncts and the use of *ala* ‘but’. In order to understand this, take the following examples with matching genders and without ellipsis. To save space, we confine our attention to epicene nouns here, but the same applies to *dhaskalos-dhaskala*. Also, we use the negative concord determiners in these examples, as they sound significantly more natural in negative contexts.

- (76) a. O Petros exi enan jatro stin Veria, ala dhen exi kanenan jatro stin
 the Petros has a.M doctor in.the Veria but not has no.M doctor in.the
 Katerini.
 Katerini
 ‘Petros has a male doctor in Veria, but he doesn’t have a doctor in Katerini.’
- b. O Petros exi mia jatro stin Veria, ala dhen exi kamia jatro stin
 the Petros has a.F doctor in.the Veria but not has no.F doctor in.the
 Katerini.
 Katerini
 ‘Petros has a female doctor in Veria, but he doesn’t have a female doctor in
 Katerini.’

We observe that the most natural prosody of these sentences places a contrastive topic intonation on *Veria* and *Katerini*, and a focus intonation on *enan/mia* and *kanenan/kamia* (cf. Giannakidou & Stavrou 1999). Importantly, such a contrastive intonation is not forced in the positive examples (70)–(72). It is beyond the scope of this paper to explain why the contrastive topic intonation is virtually obligatory in the negative examples but not in the positive examples, but we claim here that this information structural difference is the crucial factor that renders the former examples unacceptable.²⁵

There are two important ingredients here. Firstly, a contrastive topic generally yields an ‘exhaustive inference’ that the asserted property (e.g. Petros has a doctor) does not hold for all

²⁵An anonymous reviewer remarks that (70)–(72) are acceptable to them. We did not replicate their judgments with our informants, but we would like to note that our prediction here is that if different prosodies (perhaps together with certain specific contexts) were available (to some speakers), they might alter the essential pragmatic properties of the examples (i.e. their exhaustive inferences) and make them acceptable, and also that ellipsis might play a role in determining which prosodies are available (or more natural). While we leave this as a theoretical possibility here, but please see the relevant discussion below.

alternatives of the contrastively topicalised element (e.g. *in Veria* vs. *in Katerini*) (cf. Büring 1997, 2003, to appear).²⁶ For instance, for the first conjunct of the acceptable example (76a) with a matching gender, the generated inference is that Petros has no doctor in Katerini.

Secondly, there is an interpretive asymmetry between masculine and feminine in Greek, as discussed in Section 2. Specifically, masculine is actually gender-neutral, although it behaves as if it has a gender inference in some cases due to the Principle of Gender Competition. Coming back to (76a), the exhaustive inference of the first conjunct is gender-neutral. That is, it says that Petros has no doctor, male or female, in Katerini, rather than just that Petros has no male doctor in Katerini. Similarly, the second conjunct of (76a) generates an inference that Petros has no doctor, male or female, in Katerini, but he has one in an alternative place, i.e. Veria. Consequently the meanings of the two conjuncts align quite well in this case.

Keeping this in mind, observe now that there is a contrast when different genders are involved as in (77), which is identical to Merchant’s original data in all relevant respects. This example is unacceptable with or without nominal ellipsis.

(77) *O Petros exi enan jatros stin Veria, ala dhen exi kamia jatros stin Katerini.
the Petros has a.M doctor in.the Veria but not has no.F doctor in.the Katerini

(intended) ‘Petros has a male doctor in Veria, but he doesn’t have a female doctor in Katerini.’

We claim that (77) is unacceptable for the following reasons. Due to the interpretive markedness of feminine that its gender inference is kept in negative contexts (see the discussion in Section 2), the inference here is that Petros has no female doctor in Katerini but he has one in Veria. Notice that the exhaustive inference of the first conjunct says that Petros has no doctor, male or female, in Katerini, but the second sentence only asserts that he has no female doctor, despite the fact that the assertion could be stronger, i.e. that he has no doctors, male or female, in Katerini. It is reasonable to assume that such a sentence causes infelicity. In fact, this constraint can be independently observed with examples that do not even involve gendered nouns, e.g. (78).

(78) #In Veria_{CT}, John has a relative. In Katerini_{CT}, he has no cousin.

As in the Greek example above, the exhaustive inference of the first conjunct here is stronger than what is asserted in the second sentence, and the sentence is infelicitous. Compare this to the following acceptable sentence, where the second sentence asserts something as strong as or stronger than the exhaustive inference of the first conjunct.

(79) In Veria_{CT}, John has a cousin. In Katerini_{CT}, he has no cousin/relative.

This analysis makes one testable prediction: When the noun in the positive sentence is changed to feminine and the noun in the negative sentence changed to masculine, (77) should become as felicitous as (79), because the second sentence will assert something stronger than the exhaustive inference of the first sentence. This prediction is borne out, as shown in (80).²⁷

²⁶There is one more exhaustive inference to the effect that the focus alternatives of the asserted property do not hold of the contrastive topic, e.g. for the acceptable example in (76a), Petros only has one doctor who is male in Veria, which could be a pragmatic inference. This inference is not crucial here.

²⁷In an earlier version of the paper, we reported that (80) was also unacceptable. We rechecked the data with five native speakers. Four of them judged (80) as acceptable and (80) is not, and the one remaining speaker reported a mild contrast in the same direction. We thank an anonymous reviewer for sharing their judgments, as well as pointing out that this data point supports our theory, as explained below.

This example is acceptable with or without ellipsis.

- (80) O Petros exi mia jatros tin Veria, ala dhen exi kanenan jatros tin Katerini.
the Petros has a.F doctor in.the Veria but not has no.M doctor in.the Katerini
(intended) ‘Petros has a female doctor in Veria, but he doesn’t have a doctor in Katerini.’

Similarly, the following example that does not involve an entailment relation between the assertions and exhaustive inferences are perfectly acceptable with or without ellipsis.

- (81) O Petros exi enan xazo jatros tin Veria, ala mia ekspipni jatros tin
the Petros has a.M stupid.M doctor in.the Veria but a.F smart.F (doctor) in.the
Katerini.
Katerini
‘Petros has a stupid doctor in Veria, but a smart one in Katerini.’

Thus, we conclude that the unacceptability of (77) can be attributed to the pragmatics of contrastive topic.²⁸

5.2 Merchant’s Theory

Merchant (2014) puts forward an analysis of nominal ellipsis that derives the putative predicative vs. argument contrast, which we have just argued to be an epiphenomenon resulting from other factors independent from nominal ellipsis. Although his analysis is not tenable as it is, it has some important similarities to, as well as differences from our analysis. Let us review his theory.

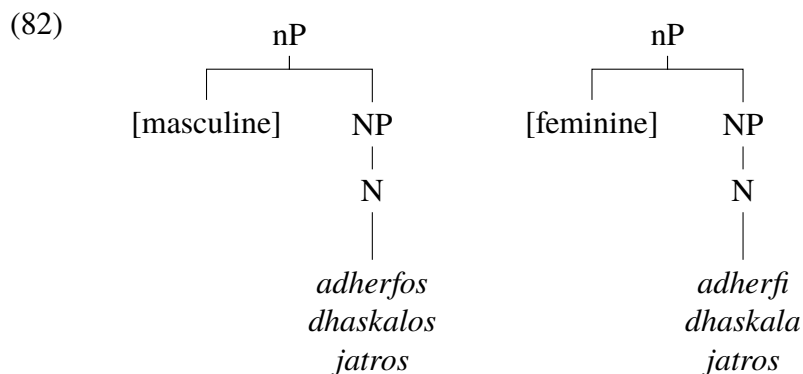
Merchant claims that there are two strategies available in Greek that lead to missing nouns on the surface:

1. PF-Deletion of nP triggered by the Ellipsis-feature [E]
2. Null proform e_N

He assumes that the PF-Deletion strategy is only available under total identity and therefore is never employed with gender mismatches. The null proform e_N , on the other hand, accounts for such cases.

Specifically, Merchant assumes that gender features in the nominal domain occupy a syntactic position above NPs headed by gendered nouns, as illustrated in (82).

²⁸We would like to mention here another analytical possibility to account for the infelicity of (77). We observe that the first sentence of (77) tends to be associated with an exhaustive inference that Peter only has one doctor in Veria, who is male. Notice that due to the contrastive topic on *tin Katerini* ‘in Katerini’ in the second sentence, it is associated with the inference that somewhere other than Katerini, he has a female doctor. Since in this mini-discourse the only other salient location is Veria, one could interpret this inference as saying that he has a female doctor in Veria. Then, this contradicts what the first sentence states under the exhaustive inference. Although the relevant readings of the two conjuncts seem to be possible at least for (77) in an out-of-the-blue context, they are not the only interpretive possibilities.



By assumption, these features have presuppositional meanings, as in (83).

- (83) a. $\llbracket [\text{masculine}] \rrbracket = \lambda P_{et}. \lambda x_e: \mathbf{male}(x). P(x)$
 b. $\llbracket [\text{feminine}] \rrbracket = \lambda P_{et}. \lambda x_e: \mathbf{female}(x). P(x)$

[Merchant](#) makes a similar assumption about the semantics of gendered nouns to ours, but in a different way. That is, he assumes that some gendered nouns lexically specify gender by gender presuppositions, while others have no gender inferences. More precisely, the denotations of the nouns under question look like the following.

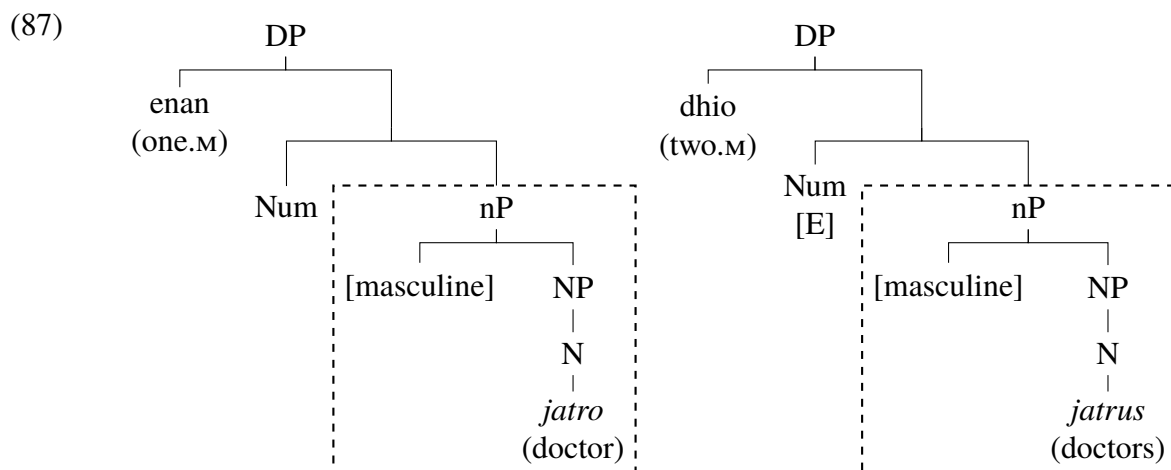
- (84) a. $\llbracket [\text{adherfos}] \rrbracket = \lambda x_e: \mathbf{male}(x). \mathbf{sibling}(x)$
 b. $\llbracket [\text{adherfi}] \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{sibling}(x)$

- (85) $\llbracket [\text{jatros}] \rrbracket = \lambda x_e. \mathbf{doctor}(x)$

- (86) a. $\llbracket [\text{dhaskalos}] \rrbracket = \lambda x_e. \mathbf{teacher}(x)$
 b. $\llbracket [\text{dhaskala}] \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{teacher}(x)$

These are crucially different from our denotations in (3), (6) and (4) in that the gender inference only appears in the presupposition here. [Merchant](#) goes on to claim that the difference in gender specification as shown here makes certain gender mismatches ungrammatical. Let us go through the two strategies for nominal ellipsis in turn to see how his analysis works.

Firstly, PF-deletion triggered by [E] accounts for nominal ellipses with matching gender. [Merchant](#) assumes that [E] appears on Num and requires semantic identity between the antecedent nP and elided nP. For instance, with the following DPs, the second nP can be elided.



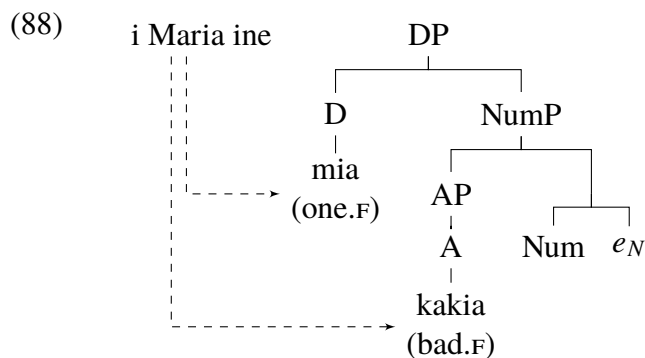
With a gender mismatch, however, the presupposition triggered by the gender feature of the elided nominal will disrupt ellipsis licensing, which is assumed to require complete identity, including the presuppositions.²⁹ Consequently, the PF Deletion strategy cannot be employed when there is a gender mismatch.

On the other hand, the second strategy employing the pro-form e_N can sometimes be used to give rise to ellipsis with a gender mismatch. Merchant assumes that e_N is selected for by Num and refers to a contextually salient property denoted by some other noun in the prior discourse. These assumptions account for the asymmetric licensing with nouns like *dhaskalos-dhaskala* as follows.

For the sentence involving *dhaskalos-dhaskala* in (61a) above, e_N is resolved to the masculine antecedent *dhaskalos* ‘teacher’. The crucial assumption here is that this masculine noun has no presupposition of its own, although the gender feature [masculine], which sits above the noun, triggers a gender presupposition. Consequently, resolving e_N to the masculine noun will not cause a semantic problem in the second conjunct, even though the subject there is feminine. By contrast, in the case of (61b), e_N is resolved to the feminine noun *dhaskala* ‘teacher’, which by assumption has a lexically specified gender, and thus causes a semantic clash with a masculine subject. Hence the asymmetric licensing.

Furthermore, Merchant’s account explains the (im)possibility of nominal ellipsis with gender mismatches for the other two classes of nouns as well. For epicene nouns, nominal ellipsis with gender mismatches is possible in either direction, since these nouns do not have lexically specified presupposition. By contrast, since nouns like *adherfos-adherfi* have gender presuppositions, nominal ellipsis with gender mismatches always results in semantic anomaly.

Finally, Merchant accounts for the putative impossibility of nominal ellipsis in argument positions as follows. He assumes that the gender features that appear on D and A in examples like (61a) come from the subject of the predicational sentence, as depicted in the following tree diagram (based on his (54)).



In argument positions, however, D and A will not be able to obtain φ -features, which Merchant assumes to result in ungrammaticality. Furthermore, since e_N requires a licenser and needs to be in a certain local relation with D, at least D must be present when e_N is. As a result, nominal ellipsis with a gender mismatch is never possible with argument NPs.

5.3 Extraction Data

Merchant (2014) raises data involving extraction from the ellipsis site as support for his analysis.

²⁹One might contest this assumption on the grounds that mismatches in gender presuppositions and other presuppositions triggered by φ -features (or ‘ φ -presuppositions’ as we call them here) are generally tolerated under ellipsis (Ross 1967, Fiengo & May 1994, Johnson 2014), as discussed in Section 4. We will come back to this in Section 5.4 below.

More specifically, he observes that extraction from the ellipsis site is with a matching gender, but not with a gender mismatch.³⁰ Here, what is extracted is the genitive phrase, and *dhikigoro* ‘lawyer’ is an epicene noun.

- (89) a. Tu Jani, tha dho ton xazo_F dhikigoro *t*. Tu Kosta, tha
 the.GEN Janis.GEN will see.I the.M stupid.M lawyer *t*. the.GEN Kostas, will
 dho ton ekspipno_F dhikigoro *t*.
 see.I the.M smart.M (lawyer *t*)
 ‘I’ll see Janis’ stupid (male) lawyer, and I’ll see Kostas’ smart one.’
- b. ??Tu Jani, tha dho ton xazo_F dhikigoro *t*. Tu Kosta, tha
 the.GEN Janis.GEN will see.I the.M stupid.M lawyer *t*. the.GEN Kostas, will
 dho tin ekspipni_F dhikigoro *t*.
 see.I the.F smart.F (lawyer *t*)
 ‘I’ll see Janis’ stupid male lawyer, and I’ll see Kostas’ smart female one.’

Merchant argues that this observation speaks in favour of his analysis for the following reason. Recall that according to him, gender-matching ellipsis can be derived via PF deletion, while gender-mismatching ellipsis always involves a null pronominal e_N . It is then expected that extraction in the latter case should be impossible, given that extraction from a pronominal should be generally banned (cf. Fiengo & May 1994, Schwarz 2000, Johnson 2001, Saab to appear). The above contrast in fact accords well with this prediction.

While the observation seems to be solid, we would like to disagree with the conclusions Merchant draws. Firstly, the unacceptability of (89b) is actually not as grave as one might expect for a violation of the ban on extraction from a pronominal element. In fact, the contrast appears to be comparable to the mere degradation associated with ellipses with gender mismatches across the board. Secondly, we observe that the baseline cases without ellipsis already exhibit the same kind of contrast (at least for some speakers):³¹

- (90) a. Tu Jani, tha dho ton xazo_F dhikigoro. Tu Kosta, tha dho
 the.GEN Janis.GEN will see.I the.M stupid.M lawyer. the.GEN Kostas, will see.I
 ton ekspipno_F dhikigoro.
 the.M smart.M lawyer
 ‘I’ll see Janis’ stupid (male) lawyer, and I’ll see Kostas’ smart one.’

³⁰Merchant’s examples are reproduced in (i) (his (43) and (47)). Note that he marks the second sentence with a *, but as we observe here, the contrast is not as sharp as Merchant’s notation might suggest.

- (i) Tis istorias idha ton palio [proedhro *t*], kai...
 the history.GEN I.saw the.M old.M [chair.M *t*], and
 ‘I saw the former chairperson(masc) of the history department, and..
- a. tis glossologias tha dho ton kenurio.
 the linguistics.GEN fut I.see the.M new.M
 (lit.) ‘of linguistics, I’ll see the new(masc) (one).’
- b. *tis glossologias tha dho tin kenuria.
 the linguistics.GEN fut I.see the.F new.F
 (lit.) ‘of linguistics, I’ll see the new(fem) (one).’

Note that here what is extracted is probably a complement PP, while it is a possessor in (89), but this difference does not seem to matter for judgments.

³¹Three out of our six informants report a slight improvement for (90b) over (89b), but even for them the contrast is not at all sharp.

- b. ??Tu Jani, tha dho ton xazo_F dhikigoro. Tu Kosta, tha dho
 the.GEN Janis.GEN will see.I the.M stupid.M lawyer. the.GEN Kostas, will see.I
 tin ekspipni_F dhikigoro.
 the.F smart.F lawyer
 ‘I’ll see Janis’ stupid male lawyer, and I’ll see Kostas’ smart female one.’

Although we need to leave an analysis of these data for another occasion, they indicate that whatever is responsible for the contrast is not the mechanism of ellipsis, contrary to Merchant (2014). Rather, ellipses with matching genders and non-matching genders seem to show mild contrasts across the board (cf. fn.18). The nature of these contrasts are not very clear to us at this moment, but that they are not very sharp suggests that they are likely to be caused by non-syntactic factors, and given that they are observed with the overt versions of the sentences, they have little to do with ellipsis *per se*.³²

5.4 Comparison with Our Analysis

As we saw above, Merchant’s theory is made to derive the predicative vs. argument asymmetry, which we have argued to be a false generalization, but this part of his theory is actually logically independent from how nominal ellipsis with gender mismatches is accounted for. He derives the predicative vs. argument asymmetry in terms of φ -agreement with determiners and adjectives: when e_N is used, the determiner and adjective need to acquire their φ -features from something outside of the local DP, as the noun cannot provide them. If the DP is used predicatively, the subject of the sentence can provide φ -features, but if the DP is in an argument position, there is no suitable supplier of φ -features, leading to ungrammaticality.

Notice that his assumptions about licensing of e_N could be dropped, without also abandoning his explanation of nominal ellipsis with gender mismatches with e_N , if he assumed—as we do, in fact—that φ -features on determiners and adjectives need not be syntactically licensed and are simply interpreted (or licensed by the φ -head above the DP; Sauerland 2003; see Section 3). With this fix, nominal ellipsis with gender mismatches becomes possible in both predicative and argument positions under his theory.

There are some more aspects of Merchant’s analysis that differentiate it from our analysis. According to him, for instance, all lexically specified genders are only presuppositional, but the phenomena discussed in Section 3 indicate that certain nouns with natural gender involve

³²We furthermore observe that for some (precisely, two out of six) speakers we consulted with, extraction from an indefinite phrase is perfectly acceptable, even with a gender-mismatch ellipsis.

- (i) a. Tu Jani, tha dho ton xazo_F dhikigoro. Tu Kosta, tha dho enan ekspipno_F
 the.GEN Janis.GEN will see.I the.M stupid. lawyer. the.GEN Kostas, will see.I a.M smart.M
 dhikigoro.
 lawyer
 ‘I’ll see a stupid (male) lawyer of Janis’, and I’ll see a smart one of Kostas’.
- b. Tu Jani, tha dho ton xazo_F dhikigoro. Tu Kosta, tha dho mia ekspipni_F
 the.GEN Janis.GEN will see.I the.M stupid. lawyer. the.GEN Kostas, will see.I a.F smart.F
 dhikigoro.
 lawyer
 ‘I’ll see a stupid male lawyer of Janis’, and I’ll see a smart female one of Kostas’.

Again, we cannot offer an explanation of the definite-indefinite contrast here, but the lack of a contrast in (i) for the relevant speakers indicates that at least for these speakers, extraction from ellipsis with gender mismatches is not impossible, which is problematic for Merchant.

gender inferences in the assertion. Furthermore, as discussed in Section 4, elliptical phenomena generally seem to be oblivious to mismatches in φ -presuppositions, but he assumes that total identity, including gender presupposition, is required for PF deletion, as we noted in fn.29.

However, he could actually adopt our lexical entries without changing the essence of his explanation of nominal ellipsis. That is, he could assume, just as we do, that PF deletion is disrupted by lexically specified gender, because it involves a gender inference in the assertion. Thus, the lexical semantics is not an essential difference between Merchant’s (2014) analysis and ours.

We think the most crucial difference between the two analyses boils down to the question of whether two separate mechanisms are required to account for nominal ellipsis in Greek. Our analysis is a demonstration that this is not the case.

Note that when we presented our analysis, we did not discuss which mechanism that Merchant (2014) postulates is the right mechanism, and simply assumed that nominal ellipsis in Greek involves PF deletion. However, we could account for the main data with e_N instead, for the following reasons.³³ Recall that we assumed total identity under ellipsis, in particular total semantic identity. But e_N would also force total semantic identity, because it will have the same denotation as the antecedent noun.

That said, there are several reasons to favor the PF deletion account. Firstly, as we saw in the previous subsection, extraction from nominal ellipsis site is generally possible, which suggests that the ellipsis site has an internal syntactic structure, and so PF deletion is at least possible. Furthermore, recall from 4.5 that nominal ellipsis with gender mismatches is not possible with grammatical gender, as in (58).

- (58) *I Eleni ine ena kalo koritsi, ala i Maria ine mia kakia koritsi.
 the Eleni is a.N good.N girl.N, but the Maria is a.F bad.F (girl.N)
 (intended) ‘Eleni is a good girl, but Maria is a bad one.’

We speculated there that this is because DP-internal concord is forced with grammatical gender. That is, the problem here is that the elided neuter noun does not agree with the feminine determiner and adjective. If, on the other hand, e_N is available, as Merchant (2014) assumes, this analysis will be no longer available. Since e_N must be compatible with any gender in principle, it should be able to appear with a determiner and/or adjective carrying a feminine feature, given that nominal ellipsis with gender mismatches is possible with epicene nouns and with *dhaskalos-dhaskala* when *dhaskalos* is the antecedent. Moreover, there’s no reason why it cannot refer back to the meaning of *koritsi* ‘girl’ in (58). Then, (58) is wrongly ruled in. In fact, Merchant (2014) leaves (58) as an open problem that is unaccounted for in his theory. On the other hand, our analysis with PF deletion has at least something to say about this data point.

6 Conclusions and Further Issues

To conclude, in the first half of the paper we explored the semantics of natural gender in Greek. We observed that masculine is generally unmarked in Greek and is actually semantically gender-neutral, but its use is regulated by the Principle of Gender Competition, repeated here.

- (17) *The Principle of Gender Competition*
 Suppose S and S' only differ in the form of some gendered item, α vs. α' , respectively.

³³See Giannakidou & Stavrou (1999) and Lekakou & Szendrői (2012) for previous studies that employ a null pro-form to account for nominal ellipsis in Greek. See also Lobeck (2006), Saab (to appear) and references therein for various theoretical positions regarding nominal ellipsis in English and other languages.

Then, the use of S in the context c is infelicitous if all of the following are true.

- a. α' asymmetrically entails α in the presupposition and/or assertion.
- b. The presupposition of α' is satisfied in c ; and
- c. The assertions of S and S' are equivalent.

While a principle like this was invoked by previous authors (in particular [Percus 2011](#)), one of the novel claims we made is the precise denotations. In particular, there are ones that have lexically specified genders and ones without, and such a distinction is also observed among masculine nouns. This is summarized as follows.

- (3) a. $\llbracket \text{adherfos} \rrbracket = \lambda x_e: \mathbf{male}(x). \mathbf{male}(x) \wedge \mathbf{sibling}(x)$
 b. $\llbracket \text{adherfi} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{sibling}(x)$
- (4) a. $\llbracket \text{dhaskalos} \rrbracket = \lambda x_e. \mathbf{teacher}(x)$
 b. $\llbracket \text{dhaskala} \rrbracket = \lambda x_e: \mathbf{female}(x). \mathbf{female}(x) \wedge \mathbf{teacher}(x)$
- (6) $\llbracket \text{jatros} \rrbracket = \lambda x_e. \mathbf{doctor}(x)$

This semantics is motivated by a number of observations showing that nouns without lexical gender specification give rise to gender-neutral readings.

The innovative aspect of the present analysis is that when a noun has a lexically specified gender, it has the gender inference both in the presupposition and assertion, and when a noun doesn't have a lexically specified gender, it simply has no gender inference anywhere in its denotation. We furthermore submit here that this is the case across languages. One seeming counter-example to this is nouns like *médico* 'male doctor' and *médica* 'female doctor' in Brazilian Portuguese. As mentioned in Section 1, they behave like epicene nouns with respect to nominal ellipsis with gender mismatches. However, we can accommodate them by following [Bobaljik & Zocca's \(2011\)](#) assumption that the gender markings on these nouns are not part of nouns themselves, but something akin to the gender markings on determiners and adjectives. There are several theoretical possibilities here. For instance, they could be agreement reflexes with some other item, e.g. the determiner, or alternatively, they could well be realizations of some functional projection carrying a gender presupposition (cf. fn.16). As [Bobaljik & Zocca \(2011\)](#) remark, the fact that the gender endings *-o* and *-a* appear on a number of non-nominal items in Brazilian Portuguese, including determiners and adjectives, is suggestive of an analysis along these lines. Although the validity of this analysis is yet to be tested with empirical data, if it is on the right track, the behavior of these nouns under ellipsis with gender mismatches is not at all puzzling, given that φ -presuppositions can be ignored.

In the latter half of the paper, we showed that the semantics straightforwardly accounts for the data involving nominal ellipsis with gender mismatches previously discussed by [Merchant \(2014\)](#), together with the assumption that the Principle of Gender Competition does not apply to elided material. We also critiqued [Merchant's \(2014\)](#) claim about the predicate vs. argument asymmetry with a wider range of data, arguing that his original examples (62)–(64) involve independent information-structural factors that make them unacceptable. We concluded from this discussion that there is nothing particularly special about Greek nominal ellipsis, and [Merchant's](#) theory with two mechanisms for Greek nominal ellipsis is not empirically motivated. Rather, we claimed that the mechanism behind it should be just PF deletion.

Before closing, we would like to mention two further relevant facts. We mentioned in fn.17 the existence of gender-neutral nouns that have gender-specific counterparts but do not seem to compete with them. For instance, at least for some speakers, *actor* in English can be used gender-neutrally, although it has a morphologically related feminine form *actress*. Thus, for

these speakers, we observe the following pattern of judgments.

- (91) a. Mary is an actor.
 b. Mary is an actress.
 c. John is an actor.
 d. #John is an actress.

If the Principle of Gender Competition applied to *actor-actress*, (91a) should be ruled out. Thus, this indicates that *actor* somehow does not compete with *actress*.

In Greek, one can find such nouns in the domain of animal-denoting nouns (although not among human-denoting nouns). For instance, *jata* is grammatically a feminine noun, but commonly used describe both female and male cats. In addition to this noun, there is a gender-specific noun *jatos*, which is exclusively used for male cats. Concretely, from (92), one cannot infer the gender of the cat that Maria bought, but one can infer that Kostas bought a male cat.

- (92) a. I Maria ajorase mia jata.
 the Maria bought a.F cat.F
 ‘Maria bought a cat.’
 b. O Kostas ajorase enan jato.
 the Kostas bought a.M cat.M
 ‘Kostas bought a male cat.’

Just as in the case of *actor-actress*, if *jata* and *jatos* competed, one should infer from (92a) that Maria bought a female cat. Thus, again, *jata* does not seem to compete with *jatos*.

The immediate question that arises is why these nouns are exempt from gender competition. We would like to suggest here that the gender-neutral member of these pairs has a grammatical gender, and the Principle of Gender Competition does not apply to grammatical gender. Specifically, we analyze *jata* ‘cat.F’ as having grammatical gender, rather than natural gender. In fact, we observe that the *jata-jatos* pair does not allow nominal ellipsis with gender mismatches, just like in the case of *koritsi* ‘girl.N’ in (58).

- (93) a. I Maria ajorase mia mavri jata. O Kostas mia aspri jata.
 the Maria bought a.F black.F cat.F. the Kostas a.F white.F (cat.F)
 ‘Maria bought a black cat. Kostas bought a white one.’
 b. I Maria ajorase mia mavri jata. *O Kostas enan aspro jata.
 the Maria bought a.F black.F cat.F. the Kostas a.M white.M (cat.F)

Extending this idea to English, *actor* (for certain speakers) could be analyzed as having grammatical gender. There are, however, some more complications here. In particular, *actor* can bound a feminine pronoun, as in (94).

- (94) Only this actor is satisfied with her film career.

One might take this as showing that *actor* has no grammatical gender. However, as Spathas (2010) observes, gender mismatches in pronominal binding are possible, at least in some languages, although not in others. As shown in (95), *to koritsi* ‘the girl’, which is grammatically neuter, can bind a feminine pronoun.

- (95) Mono to koritsi vjike apo to spiti tu / tis.
 only the.N girl.N exited from the house its.N / her.F
 ‘Only the girl left her house.’

Under the bound reading of the pronoun, this entails that other relevant people (e.g. boys) did not leave their houses. Thus, the example in (94) does not convincingly show that the gender on *actor* is not grammatical gender.

In this respect, there is a puzzling contrast between *koritsi* ‘girl’ and *jata* ‘cat’. The latter does not allow for gender mismatching pronominal binding.

- (96) Mono i jata vjike apo to spiti tis / *tu.
 only the.F cat.F exited from the house her.F / *his.M
 ‘Only the cat left her house.’

This observation suggests that there is something fundamentally different between grammatical gender on human-denoting nouns and animal-denoting nouns, at least in Greek. We leave this issue open for future research.

Appendix: Maximize Presupposition

In this appendix, we will briefly discuss the nature of the Principle of Gender Competition. Previous studies on the unmarkedness of masculine relative to feminine have made use of the following more general principle, rather than a gender specific principle like ours.

- (97) *Maximize Presupposition (MP)*
 Sentence *S* is infelicitous in context *c* if there is an alternative *S'* such that
- a. *S* and *S'* assert the same thing in the assertion (i.e. they Strawson-entail each other);
 - b. *S'* has a stronger presupposition than *S*; and
 - c. the presupposition of *S'* is satisfied in *c*.

The intuition behind MP is that given two expressions such that they mean the same thing but one has more presuppositions than the other, the one with more presuppositions needs to be used. This makes similar predictions as our principle, but there is one crucial difference. Specifically, MP, as formulated in (97), actually does not explain (98) under our analysis of *dhaskalos-dhaskala*, because the masculine and feminine forms differ in the assertive meaning. That is, the feminine counterpart, (99), does not assert the same thing as (98).

- (98) *I Maria ine dhaskalos.
 the Maria is teacher.M

- (99) I Maria ine dhaskala.
 the Maria is teacher.F
 ‘Maria is a teacher.’

One way to explain this is to omit the first clause of MP. This modification is actually put forward by Spector & Sudo (2014) on completely independent grounds.³⁴ Let’s call this principle MP* (Spector and Sudo call it the Presupposed Ignorance Principle).

- (100) *Maximize Presupposition* (MP*)*
 Sentence *S* is infelicitous in context *c* if there is an alternative *S'* such that

³⁴To compensate for the omission of the clause, we need proper restrictions on what counts as an alternative to prevent overgeneration. Although such a general theory of alternatives is yet to be developed (see e.g. Katzir 2007, Fox & Katzir 2011, Breheny, Klinedinst, Romoli & Sudo 2016), it is a theoretical possibility that with an appropriate theory of alternatives, the first clause of MP becomes superfluous to begin with.

- a. S' has a stronger presupposition than S ; and
- b. the presupposition of S' is satisfied in c .

This correctly renders (98) unacceptable in relation to (99). Furthermore, we can incorporate our proposal that competitions do not happen under ellipsis as follows:

(101) *Maximize Presupposition!*** (MP**)

A sentence S is infelicitous in context c if there is an alternative S' such that

- a. The presuppositions triggered by overt items in S' are stronger than the presuppositions triggered by overt items in S ; and
- b. the presuppositions of S' are satisfied in c .

This could be used to explain our crucial data. However, there are some reasons to be cautious about making this move, as MP** makes predictions that are not as straightforward as one might expect.

MP is used to explicate various types of inferences in addition to gender inferences. Let us go through some concrete cases. For instance, a prototypical case of MP involves indefinite vs. definite articles with singular nouns such that the use of an indefinite article generates an inference that the definite counterpart cannot be used, i.e. the uniqueness inference of the definite article would not be met (Heim 1991, 2011). Concretely, suppose that it is commonly known that John's aeroplane has two engines, and Bill's has only one (thanks to Clemens Mayr, p.c. for discussion on these examples). Then, we have the following contrast.

- (102) a. John's aeroplane lost an engine.
 b. ??Bill's aeroplane lost an engine.

The (mild) infelicity of (102b) is considered to be due to the acceptability of the definite (possessive) phrase, *its engine*. Now observe that with a VP ellipsis, this violation is obviated (again assuming total identity under ellipsis).

- (103) John's aeroplane lost an engine. Bill's aeroplane did ~~lose an engine~~, too.

This is expected under our modification of MP, according to which MP should not apply to elided material. However, a significant confound here is that the overt version of (103) is not at all deviant, unlike (102b).³⁵

- (104) John's aeroplane lost an engine. Bill's aeroplane lost an engine, too.

It seems that in cases like (104), considerations about parallelism somehow overrides the competition between indefinites vs. definites, making our predictions impossible to test. Essentially the same considerations apply to other cases that allegedly involve MP, e.g. *both* vs. *all*.

Notice that such obviation effects are not observed with gender. It is often assumed (e.g. Heim 2008, Percus 2006) that masculine pronouns have no gender presuppositions and compete with feminine pronouns, which do have gender presuppositions. But having a masculine pronoun in a parallel sentence doesn't make it possible to use a masculine pronoun with a feminine antecedent. More concretely, the second sentence of (105) does not have a bound pronoun interpretation.

- (105) John likes his hometown. Mary likes his hometown, too.

³⁵We thank Orin Percus (p.c.) for helpful discussion on this point. See also Percus (2010) for related observations.

If MP is the principle behind all these phenomena, it remains puzzling why such a difference exists between gender inferences and the inferences of determiners.

In addition, there is at least one case that does not behave as expected under MP**. It is considered that *think* and *know* constitute a pair that MP operates on, in addition to *a vs. the* and *all vs. both* (Percus 2006, Chemla 2008). Specifically, *know*, but not *think*, has a factive presupposition, and whenever the factive presupposition is satisfied, the use of *think* is infelicitous. For example, assuming that John, but not Bill, has been admitted to MIT, we observe the following contrast.

- (106) a. #John thinks that he has been admitted to MIT.
b. Bill thinks that he has been admitted to MIT.

Unlike in the examples above, however, the infelicity of (106a) is not saved by a parallel structure with or without ellipsis.

- (107) a. Bill thinks that he has been admitted to MIT.
#John thinks that he has been admitted to MIT, too.
b. Bill thinks that he has been admitted to MIT.
#John does ~~thinks that he has been admitted to MIT~~, too.

For these reasons, we leave it open whether the Principle of Gender Competition could be reduced to some more general principle like MP.

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