

Nominal Ellipsis and the Interpretation of Gender in Greek¹

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Abstract. Merchant (2014) observes that Greek has three classes of masculine-feminine noun pairs that differ in whether nominal ellipsis with gender mismatches is possible. We put forward an account of this observation, building on the idea that while certain gendered nouns have their gender inferences as part of their lexical semantics, others are underspecified and only obtain a gender inference via competition with the opposite gender. We claim that the behavior of the three classes of nouns under nominal ellipsis with gender mismatches falls out straightforwardly from their semantics under an auxiliary assumption that gender competition does not happen under nominal ellipsis.

Keywords: Gender, Nominal Ellipsis, Alternatives, Focus, Greek

1. Introduction

Merchant (2014) observes that human-denoting masculine-feminine noun pairs in Greek are classified into three groups according to whether nominal ellipsis with a gender mismatch is possible (see Bobaljik and Zocca 2011 for essentially the same observation in other languages, primarily Brazilian Portuguese): For Class I nouns like *adherfos* ‘brother’ vs. *adherfi* ‘sister’, nominal ellipsis with mismatching genders is not possible at all; By contrast, ‘epicene nouns’ (i.e. nouns that lack morphological gender marking) like *jatros* ‘doctor’ that constitute Class II allow for nominal ellipsis with gender mismatches with a masculine or feminine antecedent; Furthermore, for Class III nouns like *dhaskalos* vs. *dhaskala* ‘teacher’, nominal ellipsis with gender mismatches is grammatical when the antecedent is masculine but not when the antecedent is feminine. The following examples demonstrate these points. In these examples, the intended gender of the elided noun is visible on the determiner (D) and adjective (A).²

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²The supposed elided phrases are indicated throughout the paper as ⟨ELLIPSIS⟩. Eventually, we will claim that what is elided is always totally identical to the antecedent, even in (3a), so according to our final analysis, what is elided in (3a) is actually the masculine noun *dhaskalos*, although the D and A are marked feminine. Also, it should be noted here that the data below are problematic for the analysis proposed by Merchant (2014), but for reasons of space, we will not discuss his analysis in the present paper, and refer the reader to Sudo and Spathas (2015).

(1) Class I

- a. * O Petros episkefthike enan **aderfo** tu sti Veria, ke mia ⟨**aderfi**⟩ stin
the Petros visited one.M brother his in.the Veria, and one.F (sister) in.the
Katerini.
Katerini
(intended) ‘Petros visited a brother of his in Veria, and a (sister) in Katerini.’
- b. * O Petros episkefthike mia **aderfi** tu sti Veria, ke enan ⟨**aderfo**⟩ stin
the Petros visited one.F sister his in.the Veria, and one.M (brother) in.the
Katerini.
Katerini
(intended) ‘Petros visited a sister of his in Veria, and a (brother) in Katerini.’

(2) Class II

- 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.’

(3) Class III

- 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.’

Contrary to these gender mismatching cases, gender matching nominal ellipsis is possible with all three classes of nouns (data omitted here; see Merchant 2014; Sudo and Spathas 2015). In the discussion to follow, we will treat the above three pairs of nouns as representatives of the three

classes, and simply refer the reader to Merchant (2014: (19), (24), (27)) for more examples of gendered nouns in Greek.

It should be noted at this point that there seems to be no obvious morphological clue as to which class a given pair of gendered nouns belongs to, except that Class II nouns generally have only one form in Greek (but see Bobaljik and Zocca 2011 for other languages where Class II nouns also have two forms). Consequently, we have little to say about the role of morphology in the present phenomenon (see Bobaljik and Zocca 2011 for interesting ideas), and we also have to leave the acquisition of these nouns for future research.³ Rather, our focus here is on explaining the above differences among the three classes of gendered nouns under nominal ellipsis with gender mismatches in terms of the syntax and semantics of these nouns.

The structure of the present paper is as follows. We will propose in Section 2 that the behavior of Class I and Class II nouns follow from their lexical semantics together with independently motivated assumptions about (nominal) ellipsis. In particular, we present evidence that certain genders are lexically specified, while others only arise via competition with the opposite gender. In Section 3, we claim that with an additional auxiliary assumption that gender competition does not happen under ellipsis, the behavior of Class III nouns also falls out naturally. We will conclude in Section 4 and discuss further issues.

2. The Denotations of Gendered Nouns

Let us start with the denotations of gendered nouns in Greek. We propose the following semantics: Class I nouns always lexically specify gender, while Class II nouns generally do not have lexically specified gender (as suggested by the lack of morphological marking). Furthermore, Class III nouns are asymmetric in that masculine nouns have no lexically specified gender, while feminine nouns have lexically specified gender. This is summarized in (4)–(6). Notice that when a noun lexically specifies gender, the gender inference is both presupposed and asserted.⁴

³Relatedly, see Merchant's remarks in his fn.6 about the data collection and potential inter-speaker variation. In particular, speakers of Greek might differ in whether they assign a pair of masculine-feminine nouns to Class I or Class III, and there indeed seem to be speakers for whom the pair *dhaskalos-dhaskala* behaves like Class I nouns. Importantly, however, we have found no speaker that doesn't attest all three classes. Moreover, if a speaker classifies a pair in one of the classes, they treat it uniformly for all the tests provided throughout the paper.

⁴As for Class I nouns, there is an analytical possibility that the presupposition of the masculine form is gender neutral, but the infelicity of sentences like the following suggest that this is not the case. That is, these sentences are not simply false, and more adequately described as involving presupposition failure.

- (1) a. #I Maria ine adherfos tu Jani.
the Maria is brother the.GEN Janis.GEN
'Maria is a brother of Janis's.'
- b. #I Maria ke o Petros ine adherfi tu Jani.
the Maria and the Petros are brothers the.GEN Janis.GEN
'Maria and Petros are brothers of Janis's.'

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

We assume that other exponents of gender features than nouns, such as D and A, merely presuppose the gender, and do not assert it and furthermore [masculine] is semantically empty, as in (7) and (8). For expository purposes, we assume here that indefinite articles denote existential determiners, and adjectives function as intersective modifiers, but nothing crucial hinges on this. We also ignore number features here.⁵

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

In what follows, we will present two pieces of evidence for the lack of lexically specified gender for Class II nouns (e.g. *jatros* ‘doctor’) and Class III masculine nouns (e.g. *dhaskalos* ‘teacher’), as in (4)–(6) above. Some of the examples in this section and next section also support the lack of asserted gender on D and A and the gender-neutrality of [masculine] on D and A, as in (7)–(8). After that, we will argue that this semantics explains the behavior of Class I and Class II nouns under nominal ellipsis with gender mismatches with independently motivated assumptions about ellipsis licensing.

Also, by keeping the masculine presupposition in Class I masculine nouns, 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.

⁵The universal presupposition (7b) is arguably too strong. See Sudo (2012) and references therein for ways to weaken it. Also, we could adopt the analysis of phi-features put forward by Sauerland (2003, 2008), which postulates a semantically interpretable occurrence of the gender feature outside of DP, which syntactically agrees with the uninterpretable occurrences appearing on D and A. As the theoretical choice here is inconsequential for our purposes in the present paper, we will omit the details.

2.1. Unmarkedness

In a number of languages, [masculine] is semantically unmarked relative to [feminine] in the sense that the masculine form is actually semantically gender-neutral (Heim, 2008; Percus, 2006; Sauerland, 2003, 2008; Spathas, 2010). In Greek, masculine pronouns, for example, can be used gender-neutrally in sentences like the following. Here, the intended reading is one where the pronoun *tu/tis* is bound by the disjunctive subject *some male student or some female student*.

- (9) 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.'

The unacceptability of (9b) shows that feminine pronouns are exclusively used for feminine referents. We will see some more evidence of the gender-neutrality of [masculine] in Greek below, i.e. (11a), (12a), (14a) and (15a) (see also Spathas 2010).

That said, [masculine] often comes with a gender inference. To account for this, we adopt the idea that [masculine] is actually semantically empty in Greek, but sometimes comes with a gender inference as a result of competition with [feminine]. The details of this mechanism will be discussed in the next section.

Even in a language like Greek in which [masculine] is unmarked and semantically empty, one can find nouns that have lexically specified masculine gender. For such nouns, gender inferences are never semantically empty. We raise two sets of data showing that Class I masculine nouns have lexically specified gender, while Class II and Class III masculine nouns don't and have unmarked semantics just like masculine pronouns. They also show that feminine nouns in Greek all have lexically specified gender.

Firstly, when plural, Class II nouns with masculine D and/or A (e.g. *kali jatri* 'good.M doctors') and Class III masculine nouns (e.g. *dhaskali* 'teachers.M') can describe mix-gendered groups, while the rest cannot, as shown below.

(10) Class I

- a. * O Petros ke i Maria ine aderfoi tu Jani.
the Petros and the Maria are brothers 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 sisters the.GEN Janis.GEN
 ‘Maria and Petros are sisters of Janis’s.’

(11) Class II

- 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

(12) Class III

- 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

This suggests that Class I masculine nouns have gender inferences as lexical entailments, and also that feminine nouns in all three classes are always associated with a lexically specified gender inference, as we claim here. Notice also that (11a) and (12a) demonstrate that [masculine] on D and A is semantically gender neutral.

Another indication of the unmarkedness of Class II and Class III masculine nouns is their behavior in negative existential sentences. They do not restrict the domain of quantification to male individuals, unlike Class I masculine nouns or feminine nouns, which restrict the domain of quantification exclusively to female individuals. Thus, semantically unmarked nouns give rise to stronger entailments in the following examples.

(13) Class I

- a. O Petros dhen exi kanenan adherfo.
 the Petros not has no.M brother
 ‘Petros has no brother.’ ⇒ Petros has no sister
- b. O Petros dhen exi kamina adherfi.
 the Petros not has no.F sister
 ‘Petros has no sister.’ ⇒ Petros has no brother

(14) Class II

- a. O Petros dhen exi kanenan jatro.
 the Petros not has no.M doctor
 ‘Petros has no doctor.’ ⇒ 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

(15) Class III

- 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

These data point to the same conclusion: Class II nouns and Class III masculine nouns are gender neutral, while the rest are lexically specified for gender. In addition, (14a) and (15a) again demonstrate that [masculine] on D and A are gender neutral.

2.2. Focus Constructions

Secondly, certain focus constructions can be used to diagnose the presence of lexically specified gender. It is known that certain focus constructions are oblivious to presuppositions triggered by φ -features, including gender presuppositions (see Spathas 2010; Jacobson 2012; Sauerland 2013 for relevant discussion).⁶ For instance, consider the following examples, under the bound readings of the possessive pronouns.

- (16) 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, (16a) entails that Mary and John didn’t do their homework, (16b) that the speaker and Mary didn’t do their homework, and (16c) that the speaker and John didn’t do their homework. What is of importance here is that the φ -features (the person and gender features here) of the bound possessive pronoun seem to have

⁶There is controversy in the literature regarding the analysis of examples like (16). 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, 2014). For the most part, we can be neutral with respect to this debate, but for certain data points, e.g. (25), the agreement-based theory has nothing to say, as there is nothing that agrees with the gender marking (see Spathas 2010 and Sudo 2012 for similar arguments against the agreement-based theory).

no semantic effects in the focus alternatives. For instance, what is negated in (16c) looks like the following, and the third person and feminine features do not figure here.

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

Generally, φ -features, which are considered to be presupposition triggers (see the above references and also Cooper 1983; Heim 2008; Jacobson 2012; Sauerland 2003, 2008; Sudo 2012), have no semantic contribution in the focus alternatives. On the other hand, the asserted gender is not ignored in the alternatives, as shown below. Here, the entailments about individuals of the opposite gender are trivially true, because the asserted gender simply does not apply to them.

- (18) a. Only John is a male athlete. \Rightarrow Mary is not a female athlete.
b. Only Mary is a female athlete. \Rightarrow John is not a male athlete.

Let us apply this test to gendered nouns in Greek. The following examples demonstrate that with Class II nouns and Class III masculine nouns, the gender restrictions do not apply to the alternatives, while with the rest, they do.

(19) Class I

- a. Mono o Petros ine adherfos tu Jani.
only the Petros is brother the.GEN Janis.GEN
'Only Petros is a brother of Janis'. \Rightarrow Maria is not Janis's sister.
- b. Mono i Maria ine adherfi tu Jani.
only the Maria is sister the.GEN Janis.GEN
'Only Maria is a sister of Janis'. \Rightarrow Petros is not Janis's brother.

(20) Class II

- a. Mono o Petros ine kalos jatros.
only the Petros is good.M doctor
'Only Petros is a good doctor.' \Rightarrow 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.' \Rightarrow Petros is not a good doctor.

(21) Class III

- a. Mono o Petros ine dhaskalos.
only the Petros is teacher.M
'Only Petros is a teacher.' \Rightarrow 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.

Notice that these data also suggest that the gender inferences on A are merely presuppositional. Other focus constructions point to the same conclusion, e.g. superlative constructions of the form *the best N* (the data are omitted here to save space; see Sudo and Spathas 2015).

2.3. Partial Resolution of the Puzzle

We take the above data to show that Class II nouns and Class III masculine nouns do not have lexically specified gender, while the rest do, as in (4)–(6). Based on this semantics, we claim here that part of the ellipsis data presented in Section 1, namely the behavior of Class I and Class II nouns, can be explained straightforwardly, once an independently motivated assumption about ellipsis is made. Specifically, presuppositions triggered by φ -features are known to be ignored for the purposes of ellipsis licensing (cf. Fiengo and May 1994). This is illustrated by the following example involving VP ellipsis in English.

- (22) Mary [_{VP} hates her supervisor], but John doesn't [_{VP} ~~hates his supervisor~~].

Here the pronouns in the two VPs have different φ -features, but VP ellipsis is licensed. On the other hand, the asserted genders matter, as illustrated by the following example.

- (23) *Mary is a female candidate, and John is ~~a male candidate~~ too.

On the assumption that the same generalization holds with nominal ellipsis in Greek, the behavior of Class I and Class II nouns in (1) and (2) follows naturally from the semantics of the nouns. Recall that according to our proposal, Class I nouns have lexically specified gender with asserted gender inferences, while Class II nouns are void of gender inferences, as in (4) and (5). Thus our predictions are the following: For Class I nouns, nominal ellipsis with gender mismatches is not possible, since the gender inference is asserted. This is correct, as in (1). By contrast, for Class II nouns, which do not have lexically specified gender, nominal ellipsis with gender mismatches is possible, regardless of the gender of the antecedent noun. This prediction is also borne out, as in (2).

On the other hand, the behavior of Class III nouns remains a puzzle. The examples in (3) demonstrate that with Class III nouns, nominal ellipsis with a gender mismatch is licensed when the antecedent is masculine, but not when it is feminine. Our semantics for Class III nouns actually

incorrectly predicts nominal ellipsis with gender mismatches to be impossible in either case. This is for the following reasons. Firstly, recall that according to our semantics in (6), the feminine noun has a stronger assertion than the masculine noun. Secondly, ellipsis is generally not licensed with an asymmetric entailment, as demonstrated by the following examples of nominal ellipsis in English.

- (24) a. * John cited two phonologists. Mary cited four ⟨*linguists*⟩.
 b. * John cited two linguists. Mary cited four ⟨*phonologists*⟩.

Thus, the puzzle here is why nominal ellipsis with gender mismatches involving Class III nouns is possible at all to begin with. We offer a solution to this puzzle in the next section.

3. No Gender Competition under Ellipsis

3.1. Proposal

We assume that nominal ellipsis in Greek requires total identity between the antecedent noun and the elided noun. This implies that what is elided in (3a) is actually a masculine noun, even though the determiner is marked [feminine]. Thus, we analyze the data in (3) as follows.

- (3') a. O Petros episkefthike enan **dhaskalo** sti Veria, ke mia ⟨*dhaskalø*⟩ 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.'

Notice importantly that (3'a) becomes ungrammatical without ellipsis. Thus, we need to assume that the DP-internal gender mismatch we postulate here is somehow only ruled in with ellipsis. This might seem outlandish at first, but there is evidence for the hidden masculine noun in (3'a). Recall that the Class III masculine noun *dhaskalos* has no lexically specified gender. Then, our analysis here makes a prediction that when an elided masculine 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 demonstrated by the following example.

- (25) 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 ⟨dhaskalø⟩.
 only the Maria has one.F (teacher.M)
 ‘Only Maria has one.’

The crucial point about (25b) is that it entails that other people have no teacher, male or female, in Katerini, and is judged false if it turns out that Petros has a male teacher. Furthermore, the following sentence with an overt feminine noun is not judged false in such a scenario.

- (26) 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.’

These data constitute strong support for our analysis that what is elided in (3’a) is a masculine noun, even though D is marked as [feminine]. In addition, (25) gives credence to our hypothesis that [feminine] on D only presupposes the gender and does not assert it, as we assume in (7b).

Now, why is it that a masculine noun with a feminine D is allowed only under ellipsis? We offer an account of this state of affairs, building on the idea that gender-neutral masculine nouns like *dhaskalos* generally compete with the more marked feminine counterpart like *dhaskala*, but this competition does not happen under ellipsis.

3.2. The Principle of Gender Competition

Recall from Section 2 that in Greek (and many other languages), [masculine] is actually unmarked. We have presented evidence that the masculine negative indefinite determiner *kanenan* and masculine marked adjectives are void of gender inferences, for example. This, however, creates a new puzzle: Why is the following sentence unacceptable?

- (27) *I Maria ine kalos jatros.
 the Maria is good.M doctor

If the [masculine] adjective *kalos* does not mean masculine and *jatros* has no gender inferences either, then, semantically speaking, this sentence should be perfectly coherent. However, the sentence is unacceptable. By the same token, according to our semantics for Class III nouns, the following sentence should be semantically coherent, but it is still unacceptable.

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

In order to account for these examples, we propose that masculine nouns/determiners/adjectives with semantically unmarked gender cannot be used, when their feminine counterparts with non-neutral gender inferences can be felicitously used instead to convey the same meaning. We state this principle as follows.⁷

(29) *The Principle of Gender Competition*

Formally, let S and S' be sentences that differ only in that the form of some gendered item, α vs. α' . The use of S in the context c is infelicitous if

- a. α' asymmetrically entails α in the presupposition and/or assertion (in the sense of generalized entailment); and
- b. the presupposition of α' is satisfied in the sentence (i.e. in its local context); and
- c. the assertions of S and S' are contextually equivalent.

More informally, the principle states that given the masculine and feminine forms, the form with more lexical gender specification must be used, whenever it is felicitous and the choice of the gender does not make a difference for the overall meaning.

This explains the unacceptability of (27) and (28) above as follows. These examples are semantically coherent, but they compete with the following sentences, respectively.

- (30) a. I Maria ine kali jatros.
the Maria is good.F doctor
- b. I Maria ine dhaskala.
the Maria is teacher.F

Since these sentences are felicitous and can be used to convey the same meaning, (27) and (28) are made infelicitous.

In addition, the Principle of Gender Competition explains the unmarked behavior of Class II and Class III masculine nouns we saw in Section 2.1. Specifically, when plural, feminine nouns, having lexically specified gender, can only describe female-only pluralities. Plural Class II nouns with [masculine] D and/or A and plural Class III masculine nouns compete with this, but they could be used to describe everything but female-only pluralities, which includes mixed-gender pluralities.

⁷There is an obvious connection here to the principle of *Maximize Presupposition!* proposed by Heim (1991). However, we observe non-trivial differences, to which we will come back at the end of the paper. We thank Irene Heim (p.c.) for a helpful comment on this.

Similarly, in negative existential sentences, feminine nouns require the domain of quantification to only consist of female individuals. Consequently, Class II nouns with [masculine] D and/or A and class III masculine nouns are felicitously used whenever the domain contains at least one male individual.

Coming back to the data of nominal ellipsis with Class III nouns, the Principle of Gender Competition explains why the version of (3'a) without nominal ellipsis, i.e. (31), is unacceptable.

- (31) * 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.'

Although semantically coherent, this sentence is rendered unacceptable due to the following acceptable sentence.

- (32) 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.'

Then, why is the version of the same sentence with nominal ellipsis, namely (3'a), acceptable? We propose that under ellipsis, the Principle of Gender Competition is simply inactivated. Then, (3'a) has no competitor, and since semantically coherent, it can be used to mean what it is intended to mean.

Finally, the unacceptability of (3'b) is explained without further ado as follows. Under the intended reading, the sentence means Petros visited a female teacher of his in Veria, and a male teacher in Katerini. This simply cannot be the meaning, if the elided noun is the feminine noun *dhaskala*, because it has a lexically specified gender. Thus, it can only mean Petros visited a female teacher of his in Veria and a female teacher in Katerini. However, under this reading, the use of the masculine determiner *enan* is blocked, as it is overt and competes with the following version of the sentence, which is acceptable.

- (33) O Petros episkefthike mia **dhaskala** sti Veria, ke mia ⟨~~dhaskala~~⟩ stin
the Petros visited one.F teacher.F in.the Veria, and one.F (teacher.F) in.the
Katerini.
Katerini

‘Petros visited a female teacher of his in Veria, and a female teacher in Katerini.’

Consequently, under either interpretation, (3’b) is rendered unacceptable.

4. Conclusion and Further Issues

To sum up, we proposed the denotations of the three classes of gendered nouns such that only Class I nouns and Class III feminine nouns have lexically specified gender inferences, while for other ‘gendered nouns’, the gender inference arises due to the Principle of Gender Competition. We argued, furthermore, that the behavior of Class I and Class II nouns under nominal ellipsis straightforwardly falls out from their denotations, under an independently motivated assumption that mismatches in the presuppositions triggered by φ -features are tolerated under ellipsis. Moreover, we claimed that on the assumption that the Principle of Gender Competition does not apply to elided nouns, the nominal ellipsis data involving Class III nouns are also explained.

Before closing, we would like to mention two remaining issues. One concerns grammatical gender, which Merchant (2014) also mentions as a potential problem for his analysis. He observes that ellipsis with gender mismatches is not possible with human-denoting neuter nouns, of which Greek has several (e.g. *koritsi* ‘girl’, *melos* ‘member’, *pedhi* ‘child’, *agori* ‘boy’; see Spathas 2010 for related discussion). This is demonstrated by (34).

- (34) * I Eleni ine ena kalo koritsi, ala i Maria ine mia kakia \langle koritsi \rangle .
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.’

The unacceptability here does not immediately follow from our analysis, because the structure of the sentence should be essentially identical to the masculine-feminine case we discussed in detail. Notice also that all the gender presuppositions should be satisfied in this sentence.

One way to account for this state of affairs might be to assume an independent syntactic constraint that specifically targets grammatical gender and forces DP-internal concord even under ellipsis. This would rule out (34), because the second conjunct here involves a grammatically neuter noun but the other materials in DP bear [feminine]. Importantly, in order to rule in felicitous cases of nominal ellipsis with gender mismatches we discussed above, the constraint needs to be 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 separately, despite the fact that morphology does not make a clear distinction between natural and grammatical gender. Analyses along these lines are in fact suggested by some scholars, such as Alexiadou (2004) and Kramer (2014), but we will refrain from making an explicit connection here, and leave the issue open for future research.

Another remaining issue has to do with the nature of the Principle of Gender Competition. Previous studies on the unmarkedness of [masculine] relative to [feminine] make recourse to the following more general principle, rather than a gender specific principle like ours.⁸

(35) *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 above, actually does not explain (28) under our analysis of Class III nouns, because the masculine and feminine forms differ in the assertive meaning. That is, its feminine counterpart (30b) does not assert the same thing as (28).

This issue could be solved by omitting the first clause of MP. This modification is actually put forward by Spector and Sudo (2014) on completely independent grounds.⁹ Let's call this principle MP* (Spector and Sudo call it the Presupposed Ignorance Principle). MP* correctly renders (28) unacceptable in relation to (30b). Furthermore, we can incorporate our proposal that competitions do not happen under ellipsis as follows:

⁸The principle was originally proposed by Heim (1991), and has been subsequently refined by Percus (2006); Chemla (2008); Percus (2010); Heim (2011); Singh (2011), and Schlenker (2012), among others. These refinements are unnecessary for our discussion, although one case that requires such a refinement is the following:

- (1) *I Maria ine kali dhaskalos.
the Maria is good.F teacher.M

Here, the gender presupposition is overall the same as that of the acceptable sentence:

- (2) I Maria ine kali dhaskala.
the Maria is good.F teacher.F
'Maria is a good teacher.'

One way to account for this is by forcing MP to apply at every 'local context', as proposed by Singh (2011), but see Percus (2006, 2010) for a different analysis (which is closer to how our Principle of Gender Competition is formulated). Another relevant point here is that a different version of MP uses contextual equivalence, rather than mutual Strawson-entailment in the first clause, but we will not be concerned with this difference here.

⁹To compensate for this, proper restrictions on what counts as an alternative to prevent overgeneration are needed. Although such a general theory of alternatives is yet to be developed (see e.g. Katzir 2007; Fox and Katzir 2011; Breheny et al. 2016), it is a theoretical possibility that with an appropriate theory of alternatives, the first clause of MP becomes superfluous to begin with.

(36) *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 (3'). However, there are 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.

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

The (mild) infelicity of (37b) 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).

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

This is expected under our modification of *MP*. However, a significant confound here is that the overt version of the above sentence is not at all deviant, unlike (37b).¹⁰ It seems that in cases like this, considerations about parallelism somehow override 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 masculine vs. feminine gender. As mentioned in Section 2, it is often assumed (e.g. Heim 2008; Percus 2006; Sauerland 2003, 2008) 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 the following example does not have a bound pronoun interpretation.

¹⁰We thank Orin Percus (p.c.) for helpful discussion on this point. See also Percus (2010) for related observations.

(39) John likes his hometown. Mary likes his hometown, too.

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^{**}. Specifically, *think* and *know* are considered to constitute a pair that MP operates on, in addition to *a* vs. *the* and *all* vs. *both* (Percus, 2006; Chemla, 2008). That is, *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.

- (40) 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 (40a) is not saved by a parallel structure with or without ellipsis.

- (41) 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 a more general principle like MP.

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