Yet another look at deep and surface anaphora

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1 Ellipsis: The phenomena

(1) a. “Eclipsis est defectus dictionis, in quo necessaria verba desunt” ['ellipsis is an incomple- tion of speech in which necessary words are missing'] (St. Isidore of Sevilla, Etymologiarum, Liber I ‘De grammatica’, ch. XXXIV ‘De Vitiis’, sec. 10)

b. “ellipsis, or speech by half-words, [is the peculiar talent] of ministers and politi-
cians” (Alexander Pope, 1727, Peri Bathous, p. 115)

c. “zweimal tausendjährige Ellipsenplage” (Bühler 1934; 1978:168)

(2) ‘Headed’ (H+) ellipses (in Chao’s 1987 terminology)

a. sluicing
John can play something, but I don’t know what.

b. VP-ellipsis
John can play the guitar and Mary can, too.

c. pseudogapping
John can play the guitar and Mary can the violin.

d. NP-ellipsis/’N’-ellipsis
John can play five instruments, and Mary can play six.

(3) ‘Headless’ (H-) ellipses

a. stripping
John can play the guitar, {and Mary, too/and Mary as well/but not Mary}.

b. gapping
John can play the guitar, and Mary the violin.

John can play the guitar better than Mary.

Two questions:

1. The structure question:
   Is there syntax internal to the ellipsis site? (E.g., is there an actual VP in the second
   clause of (2)b?)

2. The identity question:
   The understood material is identical to some antecedent. Is the relevant kind of identity
   syntactic (defined over phrase markers of some sort) or semantic (defined over semantic
   representations of some sort)?

Table 1 organizes a selection of the literature by the answers it proposes to these two
questions.

<table>
<thead>
<tr>
<th>Is identity syntactic or semantic?</th>
<th>Is there syntax in the ellipsis site?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntactic</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Sag 1976, Williams 1977,</td>
</tr>
<tr>
<td></td>
<td>Fiengo &amp; May 1994, Chung et al. 1995, etc., Kehler 2002</td>
</tr>
<tr>
<td>No</td>
<td>N/A (incoherent)</td>
</tr>
<tr>
<td>Semantic</td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Some previous research on the two ellipsis questions

A third question, which so far has not attracted quite the attention the above two questions have, is the licensing question: what heads or positions or structures allow for ‘ellipsis’, and what are the locality conditions on the relation between these structures and ellipsis? The licensing question has been addressed by Zagona 1982, Lobeck 1995, Johnson 2001, and Merchant 2001 and forms a substrand of van Craenenbroeck’s work (van Craenenbroeck 2010): these latter owe a great debt to Lobeck 1995, whose approach is based on a kind of ECP applied to a null pro-like element.
1.1 What ellipsis is not


(6) Special registers: telegrams, titles, headlines, weather reports, recipes, instructions ('If no paper, turn wheel')

(7) Short directives: Left! Higher! Scalpel!

(8) Labels: (cf. Bühler’s ‘dingfest angeheftete Namen’, Bühler 1934: sec. 10)
   a. Campbell Soup.
   b. Starbucks.
   d. Fire!
   e. And now: the first act of the night: The Rolling Stones!
   f. To kill a Mockingbird
   g. Der Zauberberg
   h. Next exit: Chicago.

(9) Expressive exclamations: Wonderful! Nonsense! Fate! For Pete’s sake!

(10) Utterance idioms (Kleins “elliptische Formeln”):
   a. Up yours.
   b. ‘Gewitter im Mai—April vorbei’ (lit. ‘storms in May—April over’)
   c. ‘Wenn schon, denn schon’ (lit. ‘if already, then already’; roughly, ‘in for a penny, in for a pound’)
   d. Dutch ‘Met Jason’ (‘with Jason’) as a telephone greeting

(11) Other nonsentential partially fixed material expressions
   a. So much for the light of reason.
   b. Off with his head!
   c. A good talker, your friend Bill.
   d. Books open to page 15!
   e. How about a cookie?
   f. What, me worry?
   g. Hey, Phil!
   h. Vikings 27, Bears 3

(12) Some kinds of fragments (e.g. Schlangen 2003’s ‘explanation’ subtype)
   a. Mary: Try it. It’s good for you.
   b. Peter: Why?
   c. Mary: Lots of vitamins.

2 ‘Deep’ and ‘surface’ anaphora

Hankamer and Sag 1976, Sag and Hankamer 1984: (‘model-interpretive’ vs. ‘ellipsis’): ‘surface’ anaphors make reference to (surface) syntactic structure; ‘deep’ anaphors make reference to deep syntactic structure or nonlinguistic elements in the context of utterance

(13) Diagnostics:
   a. extraction (A’, A, head)
   b. agreement
   c. inverse scope
   d. Missing Antecedent Anaphora
   e. pragmatic control (linguistic antecedent)
   f. sloppy identity
   g. split antecedents

2.1 Potent diagnostics

2.1.1 Extraction

(14) I asked him to write a report.
   a. Did he agree to? (‘surface’)
   b. Did he agree? (‘deep’)

(15) a. Which report did he refuse to write, and which report did he agree to?
   b. *Which report did he refuse to write, and which report did he agree?

(Caveat in Aelbrecht 2010, van Craenenbroeck 2010: Beware the fallacy of denial of the antecedent.)

2.1.2 Agreement

(16) a. First, there were bananas available, and then there weren’t.
   b. First, there were going to be bananas available, and then there weren’t.

2.1.3 Inverse quantifier scope (IQS)

(17) a. A doctor examined every patient, and then a nurse did. (∃>∀, ∀>∃)
   b. A doctor examined every patient, and then a nurse did it. (∃>∀, *∀>∃)
2.1.4 Missing Antecedent Anaphora (MAA)

(18) Grinder and Postal 1971:
   a. My uncle didn’t buy anything for Christmas, but my aunt did, and it was bright red.
   b. *My uncle didn’t buy anything for Christmas, so my aunt did it for him, and it was bright red.

2.2 Problematic diagnostics

2.2.1 Pragmatic control (Use of anaphor without a linguistic antecedent)

(19) Yes, we can do it! Yes, we did it! Don’t do it! Ye...
b. *Abby wants to hire someone who speaks a Balkan language, but I don’t re-
member which (Balkan language) Ben does. <want to hire someone who speaks
\
\textit{t}>.

c. *Abby knows five people who have dogs, but cats, she doesn’t <know five people

\textit{who have}>.

d. *Which film did you refuse to see because Roger was so revolted when he did

after renting?

e. *They met a five inches taller man than you did.

4.1.2 Fragment answers
Morgan 1973 and Merchant 2004, though see Culicover and Jackendoff 2005, Stainton 2006,
Valmala 2007 for additional, conflicting data (see section 5.1.2 below).

4.1.3 Stripping/Bare Argument Ellipsis (BAE)
(BAE is Reinhart 1991’s term; see Lechner 2001 for discussion.)

(31) a. Does Abby speak \textit{Greek} fluently?

b. No, \textit{Albanian}.

c. No, she speaks \textit{Albanian} fluently.

(32) a. Did Abby claim she speaks \textit{Greek} fluently?

b. No, \textit{Albanian}.

c. No, she claimed she speaks \textit{Albanian} fluently.

(33) a. Will each candidate talk \textit{about taxes}?

b. No, \textit{about foreign policy}.

c. No, each candidate will talk \textit{about foreign policy}.

(34) a. Did each candidate\textsubscript{2} agree on who will ask him\textsubscript{2} \textit{about taxes} (at tonight’s debate)?

b. *No, \textit{about foreign policy}.

c. No, each candidate\textsubscript{2} agreed on who will ask him\textsubscript{2} \textit{about foreign policy} (at tonight’s
debate).

4.1.4 Gapping

(36) *Some wanted to hire the woman who worked on Greek, and others \textit{Albanian}.

(37) *SHE discussed my question which \textit{LETTERS} we wrote and \textit{HE} which \textit{BOOKS}.
(Winkler 2005:61 (22b))

4.2 The P-stranding generalization
Merchant 2001; (41)-(42) represent P-stranding languages (as seen in the (b) controls), while
(43)-(45) illustrate non-P-stranding languages.

(41) \textbf{English}

a. Peter was talking with someone, but I don’t know (with) who(m).

b. Who was he talking with?

(42) \textbf{Swedish}

a. Peter har talat med någon; jag vet inte (med) vem.

\textit{Peter has talked with someone I know not with who}

‘Peter talked with someone, but I don’t know who.’

b. Vem har Peter talat med?

\textit{who has Peter talked with}

‘Who has Peter talked with?’

(43) \textbf{Greek}

a. I Anna milise me kapjon, alla dhe ksero *(me) pjon.

\textit{the Anna talked with someone but not I know with who}

b. * Pjon milise me?

\textit{who talked.3s with}
4.3 Case matching
Ross 1969, case matching effects found in sluicing (and fragment answers, Merchant 2004)

(46) German
a. Er wollte mit jemandem tanzen, aber ich weiss nicht, *(mit) wem.
   *He wants to dance with someone, but I don’t know who.
   who.ACC who.DAT
   ‘He wants to dance with someone, but they don’t know who.’

4.4 Complementizer deletion
Morgan 1973, Merchant 2004

(47) What does no-one believe?
*That I’m taller than I really am.

(48) What are you ashamed of?
*That I ignored you.

4.5 Infinitivals: Raising vs. control
Merchant 2004

(49) a. *It’s [to procrastinate] that people tend.
   b. Q: How do people tend to behave?
      A: *To procrastinate.

(50) a. It’s [to get a job in Europe] that she really wants.
    b. Q: What does she really want?
       A: To get a job in Europe.

4.6 Predicate answers
Hankamer 1979, Merchant 2004

(51) a. A: What did he do for his sister?
   B: Funded *(her).
   b. He did [fund(ed) her] for his sister.

As Culicover and Jackendoff (2005:11 fn 8) put it, the presence of these kinds of connectivity effects would represent “impressive evidence of the reality of the invisible structure” (while reporting that they don’t find consistent island effects in cases like (34b), they don’t consider the remaining facts).

5 Evidence against structure in ellipsis

5.1 Absence of locality effects

5.1.1 Sluicing
As Ross 1969 famously first observed, the putative wh-extraction out of ellipsis sites in sluicing appears insensitive to islands:

(52) They want hire someone who speaks a Balkan language, but I don’t remember which.

(53) Every linguist, argued with a philosopher who took issue with one of his, claims, but I can’t remember which one of his claims. (adapted from Lasnik 2001)

(54) Bob found a plumber who fixed the sink, but I’m not sure with what.

5.1.2 Fragment answers
Similar observations have been made for certain fragment answers (in Culicover and Jackendoff 2005:244ff., Stainton 2006, Valmala 2007).

(55) Is Sviatoslav pro-communist or anti-communist these days?
   —Pro. *[Pro, Sviatoslav is i[t-communist these days.]
5.2 Exceptions to the P-stranding generalization

“[i]n some cases and in some languages, it seems that speakers are willing to accept a bare wh-phrase in place of the PP, though I have not yet determined with sufficient clarity under what conditions this is possible, or whether or not this is a systemic property of a class of prepositions or languages” (Merchant 2001:100).

5.1.3 Gapping

Culicover and Jackendoff 2005:273 also adduce one example, in (59), for which they claim acceptability; to their example I add the attested examples in (60).

(59) Robin knows a lot reasons why dogs are good pets, and Leslie, cats.

(60) a. He spoke in the kind of tone a lawyer might use to address a jury, or a serious professor of history his students. (Tom McCarthy, Remainder, Vintage: New York, 2005, p.236.)

b. If this narrative were a quotidian account of the history of Russia, this chapter would be a proletarian’s account of the Great October Soviet Socialist Revolution of 1917, if a history of France, the beheading of Marie Antoinette, if a chronicle of America, the assassination of Abraham Lincoln by John Wilkes Booth. (Marisha Pessl, Special topics in calamity physics, Vintage: New York, 2006, p. 311.)

c. No, this was the torturous, clammy kind, when one’s pillow slowly takes on the properties of a block of wood and one’s sheets, the air of the Everglades. (op.cit., p. 347.)

5.1.4 Ellipsis in comparatives

Kennedy and Merchant 2000

(61) a. Brio wrote a more interesting novel than Pico did.
b. *How interesting did Pico write a _ novel?

5.2 Exceptions to the P-stranding generalization

Casielles 2006 and Stainton 2006 also adduce fragment answer examples out of islands that seem quite acceptable.
6 Two kinds of NP-ellipsis in Greek

(66) **Gender and ellipsis generalization** When gender is variable (as on determiners, clitics, adjectives, and some nominals under certain conditions), it may be ignored ‘under ellipsis’. When gender is invariant (on nouns in argument positions, and on some nominals in predicative uses), it may not be ignored ‘under ellipsis’.

(67) This generalization can be accounted for with a semantic theory of ellipsis, if ‘ellipsis’ is heterogeneous, following Hankamer and Sag 1976, van Craenenbroeck 2010, and many others, where we have available both

- **PF-deletion** of nP (or ‘GenderP’), as a kind of ‘surface’ anaphora (or true ‘ellipsis’, in the revised terminology of Sag and Hankamer 1984), and
- a **null proform** $e_X$, a kind of ‘deep’ anaphora (“model-theoretic” anaphora, in the term of Sag and Hankamer 1984)

7 Predicate adjectives under ellipsis in Greek

(68) a. O Petros ine ikanos, ala o Alexandros dhen ine.

   The Petros is capable.m.sg but the Alexander not is
   ‘Petros is capable, but Alexander isn’t.’

b. I Maria ine ikani, ala i Anna dhen ine.

   The Maria is capable.f.sg but the Anna not is
   ‘Maria is capable, but Anna isn’t.’

c. To koritsi ine ikano, ala to agori dhen ine.

   The girl.neut.sg is capable.n.sg but the boy.neut.sg not is
   ‘The girl is capable, but the boy isn’t.’

d. I pateradhes ine ikani, ala i papudhes dhen ine.

   The fathers.m.pl are capable.m.pl but the grandfathers.m.pl not are
   ‘The fathers are capable, but the grandfathers aren’t.’

e. I miteres ine ikanes, ala i jajadhes dhen ine.

   The mothers.f.pl are capable.f.pl but the grandmothers.f.pl not are
   ‘The mothers are capable, but the grandmothers aren’t.’

f. Ta koritsia ine ikana, ala ta agoria dhen ine.

   The girls.n.pl are capable.n.pl but the boys.n.pl not are
   ‘The girls are capable, but the boys aren’t.’

With adjectival predicate ellipsis, any combination of gender and number between the antecedent and the elided predicate is possible:

Deep and surface and Greek NP-ellipsis

<table>
<thead>
<tr>
<th>O Petros ine ikanos</th>
<th>To koritsi ine ikano</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Maria ine ikani</td>
<td>I pateradhes ine ikani</td>
</tr>
<tr>
<td>o Alexandros dhen ine</td>
<td>ala i papudhes dhen ine</td>
</tr>
</tbody>
</table>

(69) a. O Patros ine ikanos, ala o Alexandros dhen ine.

   The Petros is capable.m.sg but the Alexander not is
   ‘Petros is capable, but Alexander isn’t.’

b. I Maria ine ikani, ala i Anna dhen ine.

   The Maria is capable.f.sg but the Anna not is
   ‘Maria is capable, but Anna isn’t.’

c. To koritsi ine ikano, ala to agori dhen ine.

   The girl.neut.sg is capable.n.sg but the boy.neut.sg not is
   ‘The girl is capable, but the boy isn’t.’

d. I pateradhes ine ikani, ala i papudhes dhen ine.

   The fathers.m.pl are capable.m.pl but the grandfathers.m.pl not are
   ‘The fathers are capable, but the grandfathers aren’t.’

e. I miteres ine ikanes, ala i jajadhes dhen ine.

   The mothers.f.pl are capable.f.pl but the grandmothers.f.pl not are
   ‘The mothers are capable, but the grandmothers aren’t.’

f. Ta koritsia ine ikana, ala ta agoria dhen ine.

   The girls.n.pl are capable.n.pl but the boys.n.pl not are
   ‘The girls are capable, but the boys aren’t.’

8 Nouns under ellipsis

8.1 Nonalternating nouns (adherfos/adherfi ‘brother/sister’)

(73) **As predicates:**

   a. # O Petros ine kalos adherfos, ala i Maria ine mia kakia.

   The Petros is good.masc brother masc but the Maria is a fem bad.fem
   (on the meaning ‘Petros is a good brother, but Maria is a bad one (sister),’)

   b. # I Maria ine kali adherfi, ala o Petros ine enas kakos.

   The Maria is good.fem sister.fem but the Petros is a masc bad masc
   (on the meaning ‘Maria is a good sister, but Petros is a bad one (brother),’)

   c. Controls: when gender matches, these are fine:

   i. O Petros ine kalos adherfos, ala o Kostas ine enas kakos.

   ii. I Maria ine kali adherfi, ala i Anna ine mia kakia.

(74) **As arguments:**

5 Part of the huge, well-known generalization that inflectional morphology is usually irrelevant to ellipsis.
Number is irrelevant even in argument positions.

6 I use a nominal subdeletion (‘N’-ellipsis) construction here, but the results are the same with canonical predicate ellipsis (after ine ‘be’) and with predicate stripping (both positive and negative).
a. # O Petros exi enan adherfo stin Veria, ala dhén exi mia stin
the Petros has a.masc brother in.the Veria but not has one.fem in.the
Katerini.
katerini
(Petros has a brother in Veria, but he doesn’t have one (sister) in Katerini.)
b. # O Petros exi mia adherfi stin Veria, ala dhén exi enan stin
the Petros has a.fem sister in.the Veria but not has one.masc in.the
Katerini.
katerini
(Petros has a sister in Veria, but he doesn’t have one (brother) in Katerini.)
c. Controls: when gender matches, these are fine:7
i. O Petros exi enan adherfo stin Veria, ala dhén exi enan stin Katerini.
O Petros exi mia adherfi stin Veria, ala dhén exi mia stin Katerini.
ii. O Petros exi enan kalo adherfo, ala dhén exi enan kako.
O Petros exi mia kalo adherfi, ala dhén exi mia kakia.

(75) Noun pairs that do not alternate at all (neither as predicates nor as arguments)
<table>
<thead>
<tr>
<th>masc</th>
<th>feminine</th>
</tr>
</thead>
<tbody>
<tr>
<td>adheros</td>
<td>'brother'</td>
</tr>
<tr>
<td>kiriós</td>
<td>'mister/gentleman'</td>
</tr>
<tr>
<td>ksádheros</td>
<td>'(male) cousin'</td>
</tr>
<tr>
<td>engonos</td>
<td>'grandson'</td>
</tr>
<tr>
<td>vafístikos</td>
<td>'godson'</td>
</tr>
<tr>
<td>antras</td>
<td>'man, husband'</td>
</tr>
<tr>
<td>pateras</td>
<td>'father'</td>
</tr>
<tr>
<td>babas</td>
<td>'dad'</td>
</tr>
<tr>
<td>jos</td>
<td>'son'</td>
</tr>
<tr>
<td>papus</td>
<td>'grandfather'</td>
</tr>
<tr>
<td>gambros</td>
<td>'groom, son-in-law'</td>
</tr>
<tr>
<td>raptis</td>
<td>'tailor'</td>
</tr>
<tr>
<td>kureas</td>
<td>'barber'</td>
</tr>
<tr>
<td>prinkipas</td>
<td>'prince'</td>
</tr>
<tr>
<td>vasilias</td>
<td>'king'</td>
</tr>
</tbody>
</table>

(76) So far, compatible with Barbiers’s (2005) suggestion that ‘[gender] is interpretable on nouns and uninterpretable on adjectives and determiners’.8

8.2 Two-way alternating nouns (jatros ‘doctor’)

Epicene (or ‘hybrid’ or ‘variable gender’; see Corbett 1991) nouns have only one form, but their concord and agreement patterns are determined by the natural (or ‘semantic’) gender of their referent (seen in the article, attributive adjectives, predicate adjectives, relative pronouns, and personal pronouns):

(77) a. I kali jatros itan xarumeni. Tin agapusame.
the.fem good.fem doctor was happy.fem her loved.3p
'The good doctor (female) was happy. We loved her.'

b. O kalos jatros itan xarumenos. Ton agapusame.
the.masc good.masc doctor was happy.masc him loved.3p
'The good doctor (male) was happy. We loved him.'

NB: This isn’t just ‘natural’/‘semantic’ agreement (agreement ad sensum) overriding grammatical/syntactic agreement (agreement ad formam), as is possible with certain neuter nouns denoting animates (koritsi ‘girl’, agori ‘boy’, pedhi ‘child’, melos ‘member’) and personal pronouns:8

(78) a. To kalo koristi itan xarumeno. [To/tin] agapusame.
the.neut good.neut girl.neut was happy.neut it/ther loved.3p
'The good girl was happy. We loved it/her.'

b. i. * I koristi itan eki.
the.fem girl.neut was there

ii. * Kales koritsia itan eki.
good.fem girls.neut were there

iii. * To koritsi itan xarumeni.
the.neut girl.neut was happy.fem

(79) As predicates:

a. O Petros ine kalos jatros, ala i Maria ine mia kakia.
the Petros is good.masc doctor but the Maria is a.fem bad.fem
‘Petros is a good doctor, but Maria is a bad one.’

b. I Maria ine kali jatros, ala o Petros ine enas kakos.
the Maria is good.masc doctor but the Petros is a.masc bad.masc
‘Maria is a good doctor, but Petros is a bad one.’

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1I use both adjectival and PP modifiers to supply contrastive elements in these examples; the point is the same, and these don’t differ in their distribution (the former show agreement, while the latter avoid a possible confound with nominalized adjectival uses; see Giannakidou and Stavrou 1999 for tests to distinguish NPE from such adjectives in Greek. The distribution of the indefinite article is fairly complex in Greek, and in general is dispreferred with predicates, being more acceptable when the head noun is missing.

8These nouns in Greek are thus different from better known cases of ‘hybrid’ agreement as in (i), from Corbett 1991, discussed in Wechsler and Zlatić 2003 and Villavicencio et al. 2005:

(i) Su Majestad Suprema está contento. (Él ...)
Poss.3 Majesty.fem Supreme.fem is happy.masc (He.masc ...)
‘His Supreme Majesty is happy. (He ...)’
(80) As arguments:
   a. # O Petros exi enan jatros stin Veria, ala dh en exi mia stin
      the Petros has a.masc doctor in.the Veria but not has one.fem in.the
      Katerini.
      Katerini
      ('Petros has a (male) doctor in Veria, but he doesn’t have one (female doctor) in
      Katerini.')
   b. # O Petros exi mia jatros stin Veria, ala dh en exi en an stin
      the Petros has a fem doctor in.the Veria but not has one.masc in.the
      Katerini.
      Katerini
      ('Petros has a (female) doctor in Veria, but he doesn’t have one (male doctor) in
      Katerini.')

(81) Epicene nouns alternate under ellipsis in either direction as predicates (but in neither
direction as arguments)
 ‘judge’, proedrinos ‘president’, prothipurgos ‘prime minister’, mixanikos ‘engineer,
mechanic’, fisikos ‘physicist’, ximikos ‘chemist’, mathematikos ‘mathematician’, filol-
ogos ‘philologist’, istorikos ‘historian’, glossologos ‘linguist’, pedagogos ‘peda-
gogue’, jeoponos ‘agrologist’, jeografos ‘geographer’, idhravlikos ‘plumber’, asti-
nomikos ‘police officer’, pilotos ‘pilot’, zografos ‘artist’, painter’, mastoras ‘handyper-
son’, martiras ‘witness’, szizigos ‘spouse’, marangos ‘carpenter’, antipalos ‘opposi-
tent’, ophigos ‘driver’, ierias ‘priest/pastor’, epistimonas ‘scientist’, asthenis ‘pa-
ployee’, ipurgos ‘minister’, gramateas ‘secretary’, dhiermineas ‘interpreter’, epan-
gelmatias ‘professional’, sinergatis ‘collaborator’, apostoleas ‘sender’, asthenis ‘pa-
tient/sick person’, singenis ‘relative’, goneas ‘parent’

(82) Predicate vs. argument use, minimal pairs:
   a. O Petros ine enas jatros stin K., ke i Maria ine mia stin Athina.
      the Petros is a.masc doctor in.the K. and the Maria is one.fem in.the
      Athens.
   b. * O Petros exi enan jatros stin K., ke i Maria exi mia stin Athina.
      has has
      ‘Petros [is/has] a (male) doctor in Katerini, and Maria [is/*has] one (female doctor)
      in Athens.’

8.3 One-way alternating nouns (dhaskalos/dhaskala ‘teacher’)

(83) As predicates:
   a. O Petros ine kalos dhaskalos, ala i Maria ine mia kakia.
      the Petros is good.masc teacher:masc but the Maria is a.fem bad.fem
      ‘Petros is a good teacher, but Maria is a bad one.’
   b. # I Maria ine kali dhaskala, ala o Petros ine enas kakos.
      the Maria is good.fem teacher: fem but the Petros is a.masc bad.masc
      ‘Maria is a good teacher, but Petros is a bad one.’

(84) As arguments:
   a. # O Petros exi enan dhaskalo stin Veria, ala dh en exi mia stin
      the Petros has a.masc teacher:m in.the Veria but not has one.fem in.the
      Katerini.
      Katerini
      ('Petros has a (male) teacher in Veria, but he doesn’t have one (female teacher)
      in Katerini.')
   b. # O Petros exi mia dhaskal stin Veria, ala dh en exi en an stin
      the Petros has a fem teacher in.the Veria but not has one.masc in.the
      Katerini.
      Katerini
      (‘Petros has a (female) teacher in Veria, but he doesn’t have one (male teacher)
      in Katerini’.)

(85) Noun pairs in which the masculine form can antecede ellipsis in a predicate of the
feminine, but not vice versa (and in neither direction in argument position) 
masc feminine
dhaskalos dhaskala ‘teacher’  kathijitis kathijitria ‘professor’
mathitis mathitria ‘pupil’   fititis fititria ‘student’
pianistas pianistría ‘pianist’  athlitis athlitria ‘athlete’
tragudhistis tragudhistria ‘singer’  furnaris furnarissa ‘baker’
theos thea ‘god’  sxoliastis sxoliastría ‘commentator’
nosokomos nosokoma ‘nurse’  ipiretis ipiretría ‘servant’
katharistis katharistria ‘cleaner’  mixanikos ‘engineer’
papas papissa ‘pope’  pirovstis pirovestria ‘firefighter’
stratotitis stratotitina ‘soldier’  manavis manavissa ‘greengrocer’
latris latrissa ‘worshiper’  piitis piitria ‘poet’
kumbaros kumbara ‘best man’/ ‘maid
      of honor’  filos fili ‘friend’
   thios thia ‘uncle’/‘aunt’  nonos nona ‘godfather’
   thavmastis thavmastria ‘admirer’

Masculine is unmarked by the usual test for gender markedness:

(86) a. # i dhaskales[fem] = a group of female teachers only
b. i dhaskal[masc] = a group of male teachers, or a mixed group
8.4 Summary of data

<table>
<thead>
<tr>
<th>Can N vary under ellipsis as (part of) a(n)...</th>
<th>examples of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>...predicate? ...argument?</td>
<td></td>
</tr>
<tr>
<td>a. No</td>
<td>No</td>
</tr>
<tr>
<td>b. Yes</td>
<td>No</td>
</tr>
<tr>
<td>c. One way only:</td>
<td>No</td>
</tr>
</tbody>
</table>


9 A semantic theory of gender on animates

(88) Cooper 1983: Gender features on animate pronouns are presuppositions (implemented as partial identity functions):

- [masculine] = λxₑ : x is male[x]
- [feminine] = λxₑ : x is female[x]

Heim 2008: If β is a pronoun and i an index, then for any assignment g, [βᵢ]g = g(i) (or undefined, if i is not in the domain of g):

heᵢ =

3rd singular masc pronoun

(89) Simple extension to noun denotations:

- [masculine] = λPₑ : ∀x[P(x) → male(x)][P]
- [feminine] = λPₑ : ∀x[P(x) → female(x)][P]

(90) Basic idea: the values of gender (masculine, feminine) on nouns come in two ‘isotopes’; either the gender is part of the meaning of the root, or it is separate:

a. [adheros] = λxₑ : x is male[sibling(x)]
b. [adherfi] = λxₑ : x is female[sibling(x)]

(91) A uniform syntax:

| (92) a. [adharkos] = λxₑ[teacher(x)] | |
| b. [adharka] = λxₑ : x is female[teacher(x)] |
| (93) a. [dhaskalos] = λxₑ[teacher(x)] | |
| b. [dhaskala] = λxₑ : x is female[teacher(x)] |

9.1 A heterogeneous theory of elliptical identity: PF-deletion (‘surface’/‘ellipsis’) and null proforms (‘deep’/‘model-theoretic anaphora’)

(97) a. ‘Surface’ (ellipsis) anaphora; e.g., VP-ellipsis (VPE):
We asked him to review the films, and he agreed to. (<review the films>)
We asked him to review the films, and he agreed. (= to review the films)

b. ‘Deep’ (model theoretic) anaphora; e.g., Null Complement Anaphora (NCA):
We asked him to review the films, and he agreed. (= to review the films)

(98) Potent diagnostics (see Merchant 2013b for a recent overview): Extraction; Agreement; Inverse scope; Diagnostics whose value is unclear: Pragmatic control; Sloppy identity; Split antecedents; Missing antecedent phenomena

(99) a. Which films did he refuse to see, and which films did he agree to? VPE
b. *Which films did he refuse to see, and which films did he agree to? NCA

(100) Marie kann mehr Lieder singen als ihr Grossvater (es) konnte. Marie can more songs sing than her grandfather it could ‘Marie can sing more songs than her grandfather could.’ (Bentzen et al. 2012)

9.1.1 PF-deletion

We need PF-deletion in nominal ellipses (viz., nPE) in Greek for some of the usual reasons (see Johnson 2001, Merchant 2013b, etc.)

1. Extraction out of the ellipsis site (the genitive argument tis glossologias in (101))
2. Agreement out of the ellipsis site (the determiner ton and AP kenurio in (101))
Typically, since uniform PF-deletion of nP can’t handle the gender mismatched cases, we need another mechanism:

9.1.2 A null proform

A null pro-noun: $e_N$ (cf. Panagiotidis 2003a, 2003b, Barbiers 2005, Corver and van Koppen 2011, etc., on analogs: English one, Afrikaans een/ene, etc.)

$e_N$ must be indexed: it introduces a free variable over noun meanings whose value is given by the contextual assignment function:

$$[e_N]^g = g(i)$$

Typically, $e_N$ will need an antecedent; this requirement can be implemented with coindexing with an antecedent noun. In other words, indices matter—they indicate antecedence relations among elements that may not (and typically do not) stand in a c-command relationship (the particular index used on bound variables is irrelevant to $g$: these indices are bound by a $\lambda$-operator, and $g(i)$ for them is not relevant).

The assignment function can be constrained by this indexing, on antecedents:

a. Bill bought an old ball and I bought a new one.

b. $[one_{ball}]^g = g(2) = [ball_{2}]^g$

If $\beta$ is a noun and $i$ is an index, then for any assignment $g$ where $i$ is the domain of $g_{\beta}$, $[\beta]^g = \beta^g$ if $g(i) = i$ (else it is undefined)

Hypothesis: Greek $e_N$ is a pro-noun selected for by Num (or is a pro-nP)
9.2 Derivations

1. One-way nouns: feminine is presuppositional, masculine not

(111) As predicates ($m \rightarrow f$):

a. $\text{the Petros is good.masc teacher}.masc \text{ but the Maria is } a.fem \text{ bad.fem}$

   ‘Petros is a good teacher, but Maria is a bad one.’

b. PF-deletion won’t apply here, because $[\text{nP}_1] \neq [\text{nP}_2]$:

   Peter is $\text{DP}$

   | $\text{D}$
   | $\text{NumP}$
   | $\text{AP}$
   | $\phi : \text{masc}$
   | $\text{Num}$
   | $\text{N}$
   | $\text{dhaskalos}$

c. Maria is $\text{DP}$

   | $\text{D}$
   | $\text{NumP}$
   | $\text{AP}$
   | $\phi : \text{fem}$
   | $\text{Num}$
   | $\phi : \text{fem}$
   | $\text{Num}$
   | $E$
   | $\text{nP}_2$ >
   | $\phi : \text{fem}$
   | $\text{N}$
   | $\text{dhaskalos}$

d. So we need the proform analysis here: since dhaskalos itself has no gender presupposition, it can supply the meaning of $e_{N2}$ even when this latter is in an environment normally requiring the other gender:

   $[e_{N2}]^g = g(2) = \lambda x: x \text{ is female[teacher}(x)]$ (by (93b))

(112) As predicates ($f \rightarrow m$):

a. $\# \text{ the Maria is kali dhaskala, ala o Petros enas kakos } e_{N2}\cdot$

   ‘Maria is a good teacher, but Petros is a bad one.’

b. The reverse, using the proform, yields the anomalous result that Petros is a female:

   $[e_{N2}]^g = g(2) = \lambda x: x \text{ is female[teacher}(x)]$ (by (93b))

c. And the PF-deletion option is of no use here, for the same reason it can’t be used to derive the $m \rightarrow f$ examples: $[\text{nP}_1] \neq [\text{nP}_2]$

Neither strategy will work for gender mismatches in argument positions, though:

1. the PF-strategy won’t work for reasons we’ve just seen (the ellipsis targets a constituent containing Gender, forcing equivalence), and

2. the proform strategy won’t work because the needed values for the unvalued $\phi$-features on the determiner, etc., cannot be supplied: there is no available controller for the agreement targets.

(113) As arguments:

a. $\ast \text{ the Petros has a.masc teacher}.m \text{ in.the Veria but not has one.fem in.the Katerini.}$

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

*See Baker 2008 for a theory that allows upward agreement in such cases (where the usual, closer controller is missing).
b. * O Petros exi mia dhaskala stin Veria, ala dhen exi enan stin the Petros has a.fem teacher in.the Veria but not has one.masc in.the Katerini. Katerini

('Petros has a (female) teacher in Veria, but he doesn’t have one (male teacher) in Katerini.')

c. ...*but he doesn’t have

2. Epicene nouns: both gender values are structurally supplied

(114) As predicates:

a. O Petros ine kalos jatros, ala i Maria ine mia kakia eN2.
   the Petros is good.masc doctor but the Maria is a.fem bad.fem
   'Petros is a good doctor, but Maria is a bad one.'

b. I Maria ine kali jatros, ala o Petros ine enas kaksos eN2.
   the Maria is good.fem doctor but the Petros is a.masc bad.masc
   'Maria is a good doctor, but Petros is a bad one.'

(115) [eN2]9 = g(2) = [jatros]9 = λx[doctor(x)] (by (94))

(116) As arguments:

a. # O Petros exi enan kalos jatro; dhen exi mia kakia.
   the Petros has a.m good.m doctor not has a.f bad.f
   ('Petros has a good (male) doctor; he doesn’t have a bad (female) one.')

b. # O Petros exi mia kali jatro; dhen exi enan kako.
   the Petros has a.f good.f doctor not has a.m bad.m
   ('Petros has a good (female) doctor; he doesn’t have a bad (male) one.')

c. Proform option fails to supply the agreement values needed:

d. Unvalued φ : __ on D leads to Morphology crash: agreement targets in arguments have nowhere else to turn for a controller (unlike in predicates, which have the subject)

e. We don’t want to allow PF-deletion to apply here, because [ NP1 ] = [ NP2 ] (!): Peter has

f. he doesn’t have
3. Nonalternating nouns: both gender values are presuppositions on N

(117) As predicates:

a. # O Petros ine kalos adherfos, ala i Maria ine mia kakia the Petros is good.masc brother.masc but the Maria is a.fem bad.fem <adherfi / eN2>. sister (on the meaning ‘Petros is a good brother, but Maria is a bad one (sister).’)

b. # I Maria ine kali adherfi, ala o Petros ine enas kakos the Maria is good.fem sister,fem but the Petros is a.masc bad.masc <adherfi / eN2>. brother (on the meaning ‘Maria is a good sister, but Petros is a bad one (brother).’)

(118) a. *PF-deletion: [adherfos] ≠ [adherfi]

b. #eN: [eN2]g = g(2) = [adherfos]g = λx : x is a male|sibling(x)]

10 Conclusions

(119) Gender on animate nouns is interpretable, but varies in where it comes in: some nouns (adherfos, adherfi, dhukasha) have gender presuppositions as part of their lexical meanings, while others (dhukalos, jarsos) get their presuppositions only as a result of combining with a Gender node in the syntax (whose value for gender is also interpretable).

(120) We need a heterogeneous theory of null things: PF-deletion (‘ellipsis’, the old ‘surface’ anaphora) and null pronouns (‘model-theoretic anaphora’, the old ‘deep’)

(121) Even seemingly recalcitrant ellipsis phenomena can be handled with ease ([E] and e, to be precise).

References


Deep and surface and Greek NP-ellipsis


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Szczegelniaik, Adam. 2005. All sluiced up, but no alleviation in sight... Ms., Boston College.