

ON PRONOUNS, CLITIC DOUBLING, AND ARGUMENT ELLIPSIS: ARGUMENT ELLIPSIS AS PREDICATE ELLIPSIS

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The paper examines certain constructions where clitics exceptionally license sloppy readings and argues that such constructions involve a clitic doubling structure where the double, which is responsible for the sloppy reading, undergoes argument ellipsis. Typological consequences of the proposed analysis are also discussed. Additionally, a number of conclusions are reached regarding the nature of clitic doubling and especially argument ellipsis, for which a new semantically-based analysis is proposed where argument ellipsis is defined in terms of its semantic type and implemented in terms of LF copying. The analysis also considerably broadens the scope of the phenomenon, eliminating the need for independent parameterization regarding the availability of argument ellipsis across languages. The paper also addresses the more general issue of whether certain interpretations of nominal expressions are derived via type-shifting triggered by null heads present in the syntax, or post-syntactically, without corresponding syntactic structure.*

Keywords: *argument ellipsis, clitic doubling, LF copying, type shifting, NP*

1. Introduction

This paper discusses a surprising and non-obvious case of interaction between clitic doubling and argument ellipsis, an ellipsis phenomenon which elides full arguments (as in *John kissed Mary* or *Mary kissed John*, with

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Mary elided; note that argument ellipsis is not available in English) and explores what this interaction tells us about the nature of the phenomena in question, especially with respect to argument ellipsis, for which a new analysis will be proposed. The case in question superficially does not involve either clitic doubling or argument ellipsis. However, it will be argued in the paper that the looks are deceiving in this case.

The relevant case involves a class of constructions where pronominal clitics in some, but not all, languages exceptionally license sloppy readings that are otherwise not possible with pronominal elements. It will be argued that the exceptional licensing of the sloppy readings in question falls into place under a clitic doubling+argument ellipsis analysis of such constructions. Typological consequences of the proposed analysis will then be discussed. It will be shown that the analysis has consequences for the categorial status of the traditional Noun Phrase, as well as its interpretation. One of the issues to be discussed in this respect is whether certain interpretations of nominal expressions are derived via type-shifting triggered by null heads present in the syntax, or post-syntactically, without corresponding syntactic structure. The focus of discussion in this respect will be on the potential presence of the DP layer in the cases where its presence is not overtly morphologically manifested, in the sense that no overtly realized DP elements are present in the structure.

It is well-known that pronominal elements normally do not support sloppy readings. Runić (2014a, b), however, observes several cases where pronominal clitics in Serbo-Croatian (SC) do yield such readings. Thus, she observes that the pronominal clitic in (1), given in bold, allows both the strict reading, on which both Nikola and Danilo invited Nikola's girlfriend, and the sloppy reading, on which Nikola invited Nikola's girlfriend and Danilo invited Danilo's girlfriend (see (5) for a context for the sloppy reading).

- (1) Nikola je pozvao (svoju) djevojku na slavu, a pozvao
 Nikola is invited his girlfriend on slava and invited
ju je i Danilo.
 her_{CL.ACC} is too Danilo
 'Nikola invited his girlfriend to the slava and Danilo invited his
 (Danilo's/Nikola's) girlfriend too.' <SC>

The availability of the sloppy reading is rather surprising here, given that, as noted above, pronominal elements normally do not support such readings. Thus, the sloppy reading is unavailable in English (2).

(2) Nikola invited his girlfriend, and Danilo invited **her** too.

The obvious difference between (1) and (2) is that the pronominal element in the SC example is a clitic. One might then reason that it is cliticness that makes the sloppy reading available in (1), i.e., that, in contrast to non-clitic pronouns, clitic pronouns do support sloppy readings. That a simple clitic/non-clitic pronominal approach cannot work here can be easily seen by looking at other languages. Thus, clitics in Macedonian, which is closely related to SC, do not support sloppy readings, as observed by Runić (2014a, b).

(3) Nikola ja povika devojka si na slava, a
 Nikola her_{CL.ACC} invited girl him_{CL.DAT.REFL} at slava and
 Daniel **ja** povika isto.
 Daniel her_{CL.ACC} invited too
 ‘Nikola invited his girlfriend to the slava and Daniel invited
 Nikola’s/*Daniel’s girlfriend too.’ <Macedonian >

Maybe then it is something about SC that allows pronominal elements to support sloppy readings. Treating pronominal elements in SC in general as exceptional with respect to the availability of the sloppy reading is not a winning strategy either, given that non-clitic pronouns do not support sloppy readings even in SC.¹

(4) Nikola je pozvao (svoju) djevojku na slavu, a pozvao je
 Nikola is invited his girlfriend on slava and invited is
nju i Danilo.
 her_{ACC} too Danilo
 ‘Nikola invited his girlfriend to the slava and Danilo invited his
 (Nikola’s/*Danilo’s) girlfriend too. <SC>

The availability of the sloppy reading in (1) then appears to be rather puzzling in light of the unavailability of the sloppy reading in (2)–(4).

The goal of this paper is to examine the reason for the exceptional behavior of SC (1) regarding the availability of the sloppy reading and then investigate the consequences of the proposed analysis of (1) for other phenomena, in particular clitic doubling and especially argument ellipsis, which will be argued to be crucial in understanding the exceptional behavior of (1). Regarding argument ellipsis, the goal of the paper is to establish

¹ Pronominal and auxiliary clitics in SC cluster in the second position of their clause; the word order is slightly changed in (4) to observe the second position requirement since the auxiliary is a second position clitic (see Bošković (2001)).

the conditions under which argument ellipsis is possible and more generally, to contribute to our understanding of the phenomenon by providing a semantically-based account of argument ellipsis which will also considerably broaden the scope of the phenomenon in question. In particular, it will be argued that what undergoes argument ellipsis is defined in terms of its semantic type, as a result of which argument ellipsis will be implemented in terms of LF copying, not PF deletion. In the basic cases, traditional argument ellipsis will be argued to actually involve predicate ellipsis, i.e. LF copying of elements of type $\langle e, t \rangle$ (see also Tomioka (2003)). The LF copying process in question itself is not parameterized (the proposed analysis thus eliminates the need for independent parameterization regarding the availability of argument ellipsis across languages); it can in principle apply even in a language like English, which is assumed not to allow argument ellipsis. However, it will be shown that for independent reasons it cannot yield argumental interpretation in a language like English, while it can in a language like Japanese, which is assumed to allow argument ellipsis. A number of other conclusions will be reached in the course of the discussion regarding the nature of both argument ellipsis and clitic doubling, as well as more general issues regarding the categorial status and interpretation of traditional Noun Phrases, including crosslinguistic variation in this respect.

Returning to examples like (1), Runić (2014a, b) observes that SC is not the only language where clitics can support sloppy-like readings. In the next section I will first discuss the broader generalization regarding the availability of sloppy readings noted by Runić and then turn to the account of the generalization. Before providing an account, which will be done in section 3, I will make a brief digression to discuss the phenomenon of argument ellipsis, which will be crucially involved in the account provided in section 3. Section 4 involves a more general discussion of argument ellipsis, with a new proposal regarding how it should be analyzed. This section also discusses more general issues regarding the categorial status and interpretation of traditional Noun Phrases.

2. On the (Un)availability of Sloppy Readings with Clitics Crosslinguistically

Bošković (2008, 2012) gives over twenty crosslinguistic generalizations where languages differ with respect to a number of syntactic and semantic phenomena depending on whether or not they have articles (more precisely, definite articles), which means that the presence vs absence of articles can-

not simply be a phonological/PF effect.² The generalizations in question involve issues regarding extraction out of NPs, superiority effects, freedom of word order, the type of clitic systems, the presence of classifier systems, polysynthesis, sequence of Tense, negative raising, and the interpretation of superlatives and possessives, among others. As discussed in Bošković (2008, 2012) and references therein, languages without articles and languages with articles consistently show different behavior regarding these phenomena. The syntactic and semantic nature of the phenomena in question indicates that we cannot simply be dealing here with a phonological difference where articles are merely not phonologically realized in languages without articles. Based on this, Bošković (2008, 2012) argues that there is a fundamental structural difference between languages with articles and languages without articles. In particular, Bošković (2008, 2012, 2016) shows that all the differences in question can be provided with a unified account if languages with articles have DP and languages without articles lack it. I will assume this to be the case in the discussion below.³

Runić (2014a, b) establishes a rather interesting generalization regarding clitic pronouns that also runs along the NP/DP lines.⁴ The generalization concerns the availability of sloppy-like readings, a phenomenon briefly discussed in the introduction. As noted there, such readings are standardly assumed not to be available with pronominal elements. Runić shows that they are available with pronominal clitics but that languages differ in this respect. In particular, she shows that sloppy readings are available with clitics in NP languages, but not with clitics in DP languages. Thus, as noted in the introduction, the clitic pronoun in SC (5a) supports the sloppy reading on which Nikola invited Nikola's girlfriend and Danilo invited

² What is relevant here is the presence/absence of definite articles in a language. For ease of exposition I will simply use the term "article" below (the distinction is relevant only in the rare cases of languages that have indefinite but not definite articles, like Slovenian; as shown in Bošković (2009), Slovenian in all relevant respects behaves like languages without articles).

³ See also Fukui (1988), Corver (1992), Zlatic (1997), Chierchia (1998), Cheng and Sybesma (1999), Lyons (1999), Willim (2000), Baker (2003), Trenkić (2004), Despić (2011, 2013), Marelj (2011), Takahashi (2011), Jiang (2012), Talić (2013, 2015), Cheng (2013), Runić (2014a), Kang (2014), Bošković and Šener (2014), Zanon (2015), Bošković and Hsieh (2013, 2015), Ruda (2016), among others, for no-DP analyses of at least some languages without articles.

⁴ Runić builds here on discussion in Franks (2013) (for an early discussion, see Perlmutter and Orešnik (1971)).

Danilo's girlfriend (the relevant context provided by Runić is given below). The same holds for Slovenian (5b). This is not possible in Macedonian (5c) and French (5d), where only the strict reading is possible. What is important here is that SC and Slovenian lack definite articles, i.e., they are NP languages in Bošković's (2008, 2012) typology, while Macedonian and French have definite articles, i.e., they are DP languages in Bošković's (2008, 2012) typology.

(5) Context: *Nikola and Danilo are brothers and their family celebrates St. Nicholas. It is a common practice to invite a boyfriend/girlfriend to the celebration (slava). Both Nikola and Danilo have a girlfriend (thus, in this context, there are two girlfriends) and they invited their girlfriends to the celebration.*

- a. Nikola je pozvao (svoju) djevojku na slavu, a pozvao
Nikola is invited his girlfriend on slava and invited
ju je i Danilo.
her_{CL.ACC} is too Danilo
'Nikola invited his girlfriend to the slava and Danilo invited his (Danilo's/Nikola's) girlfriend too.' <SC>
- b. Marko je povabil (svojo) punco na zabavo, in povabil
Marko is invited (his) girlfriend on party, and invited
jo je tudi Peter.
her_{CL.ACC} is also Peter
'Marko invited his girlfriend to the party and Peter also invited his (Marko's/Peter's) girlfriend.' <Slovenian>
- c. Nikola ja povika devojka si na slava, a
Nikola her_{CL.ACC} invited girl him_{CL.DAT} at slava and
Danilo **ja** povika isto.
Danilo her_{CL.ACC} invited too
'Nikola invited his girlfriend to the slava and Danilo invited Nikola's/*Daniel's girlfriend too.' <Macedonian >
- d. Nicolas a invité sa petite amie à la fête et
Nicolas has invited his girlfriend to the party and
Danilo l'a invité aussi.
Danilo her_{CL.ACC}'has invited too
'Nicola invited his girlfriend to the party and Danilo invited Nicola's/*Daniel's girlfriend too.' <French>

Runić (2014a, b) discusses several additional sloppy(-like) readings and a number of additional Slavic and Romance languages (and Greek), which all conform to the pattern discussed above, i.e., they confirm the NP/DP cut

here (e.g., the only Slavic languages where clitics disallow sloppy readings are Macedonian and Bulgarian, which are the only Slavic languages with articles). Runić (2014a, b) then concludes that we are dealing here with a more general pattern; in particular, she establishes (6).

(6) Clitics may have sloppy readings only in NP languages.

The question is now what is responsible for the generalization in (6). The goal of this paper is to provide an account of (6) and then explore its consequences for the mechanisms involved in the deduction of (6), which will also involve a discussion of more general issues regarding the categorial status and interpretation of TNPs.⁵ Since the account will crucially involve the phenomenon of argument ellipsis, before providing an account of (6) I will make a short digression to discuss it.⁶

3. Argument Ellipsis

A number of languages have been argued to allow ellipsis of arguments. They include Japanese, Korean, Turkish, Chinese, Hindi, ASL, Bangla, Malayalam, Mongolian, and Javanese (see e.g. Oku (1998), Saito (2004, 2007), Abe (2009), Şener and Takahashi (2010), Takahashi (2008), Koulidobrova (2012), Takita (2011), Simpson et al. (2013), Cheng (2013), Sato (2015), Sakamoto (2016a, 2017)). One of the defining characteristics of argument ellipsis is the possibility of sloppy(-like) readings. Thus, Japanese (7b) allows the reading on which Hanako respects different teachers from Taro, unlike the pronoun in (8b) (but on a par with (8c) and (8d)). I

⁵ I will use the term traditional NP (TNP) neutrally, without commitment to the categorial status of the relevant element: TNP stands for NP and its extended projections, if any (in DP languages, the TNP is a DP).

⁶ See Runić (2014a, b) for an alternative account of (6) based on the NP/DP analysis of clitic pronouns. The account Runić gives is semantically-based; under her account clitics in NP and DP languages differ semantically. This paper proposes an alternative account of (6) where the difference in question does not result from a different semantics of clitic pronouns in NP and DP languages but from an independent factor, which is only indirectly related to clitics. (The proposed account also leaves room for potential speaker variation for NP languages like SC, which can be tied to the availability of clitic doubling and/or argument ellipsis (as well as ellipsis licensing more generally), to be discussed below. As noted in section 3.1, the analysis presented below also predicts that the sloppy reading should not be available with weak pronouns, which are expected to support it under Runić's analysis. I will leave examination of weak pronouns in this respect for future research.)

will refer to the reading in question as the sloppy reading below).⁷

- (7) a. Taro-wa sannin-no sensei-o sonkeisiteiru.
Taro-Top three-Gen teacher-Acc respects
'Taro respects three teachers.'
- b. Hanako-mo *e* sonkeisiteiru.
Hanako-also respects
'(Lit.) Hanako respects *e*, too.' <Japanese>
(Şener and Takahashi (2010))
- (8) a. John respects three teachers.
b. Mary respects them, too.
c. Mary does, too.
d. Mary respects three teachers.

The sloppy reading (Hanako's son) is also possible in (9b). It is, however, not possible with the pronoun in (9c). (The examples are slightly modified from Şener and Takahashi (2010).)

- (9) a. Taro-wa [zibun-no musuko-ga eigo-o sitteiru to] itta.
Taro-Top self-Gen son-Nom English-Acc know that said
'Taro said that his son knew English.'
- b. Hanako-wa [*e* furansugo-o sitteiru to] itta.
Hanako-Top French-Acc know that said
'Hanako said that *e* knew French.'
- c. Hanako-wa [**kare-ga** furansugo-o sitteiru to] itta.
Hanako-Top he-Nom French-Acc know that said
'Hanako said that he knows French.'

Based on these facts and a number of additional arguments, a number of authors (Abe (2009), Goldberg (2005), Kim (1999), Oku (1998), Saito (2004, 2007), Şener and Takahashi (2010), Sugawa (2008), Takahashi (2008), Takita (2011), Sakamoto (2016a, 2017), among many others) have argued that on the sloppy readings in question, (7b) and (9b) do not involve *pro* (given that in the contexts in question a pronoun cannot yield such readings). Rather, they involve argument ellipsis, where *sannin-no sensei-o* 'three teachers' and *zibun-no musuko-ga* 'his son' undergo ellipsis in (7b) and (9b) respectively (the readings in question are in fact available if these

⁷ Note that SC clitic pronouns also license the sloppy reading in this context, see Runić (2014a).

elements are overtly realized).⁸

3.1. Argument Ellipsis and Clitic Doubling

What the data discussed above indicate is that ellipsis (i.e. argument ellipsis) but not overt pronouns gives rise to sloppy readings.⁹ In light of this, I suggest that the possibility of sloppy readings in examples like (1) indicates that SC clitics co-occur here with an elided NP, i.e., that we are dealing here with a clitic+argument ellipsis combination. In other words, we are dealing here with a clitic doubling construction, where the doubled element is derived via argument ellipsis (i.e., it is an NP elided via argument ellipsis).¹⁰ The argument ellipsis NP, rather than the clitic, is the source of the sloppy reading.

This analysis immediately explains why non-clitic pronouns, as in (4), do not yield such readings: only clitic pronouns are involved in the clitic doubling construction, non-clitic pronouns are not. Under this analysis, clitic and non-clitic pronouns in SC do not differ with respect to the availability of sloppy-readings; they are unavailable with both. Furthermore, SC and Macedonian clitics also do not differ with respect to the possibility of sloppy readings—neither of them gives rise to such readings. The difference here lies in the availability of argument ellipsis.

The argument ellipsis derivation, where argument ellipsis co-occurs with a clitic, then should not be available in DP languages, given Runic's observation that clitics in such languages do not support sloppy readings. This

⁸ The above is a brief illustration of some of the arguments for the argument ellipsis analysis from the literature. The works in question also show that Otani and Whitman's (1991) analysis, on which elliptic null object constructions involve full VP ellipsis that is preceded by V-raising, cannot account for the full paradigm pertaining to argument ellipsis (e.g., they show that the sloppy readings of the kind illustrated above are available in the contexts where VP ellipsis is simply not possible).

⁹ What is important for our purposes is that (putting aside cases like (1)) sloppy readings are not possible with pronouns in the contexts under consideration; such readings are not always ruled out with pronouns; see, e.g. Elbourne (2001).

¹⁰ I will return below to the more general issue of clitic doubling in SC. It should be noted here that languages that disallow sloppy readings with clitics do allow it under clitic doubling, as expected under the current analysis, given that the double is the source of the sloppy reading. Thus, Macedonian (i) does have the sloppy reading.

(i)	Nikola	ja	povika	devojka	si	na	slava,	a
	Nikola	her _{CL,ACC}	invited	girl	him _{CL,DAT,REFL}	at	slava	and
	Daniel	ja	povika	devojka	si	na	slava	isto.
	Daniel	her _{CL,ACC}	invited	girl	him _{CL,DAT,REFL}	at	slava	too

restriction can in fact be straightforwardly captured, given the generalization regarding the availability of argument ellipsis established in Cheng (2013). In particular, Cheng (2013) establishes the generalization that argument ellipsis is possible only in languages without articles, i.e. NP languages (in fact, all the languages cited above as allowing argument ellipsis lack articles).¹¹

- (10) Only languages without articles (i.e. NP languages) may allow argument ellipsis.

Given that what licenses the possibility of sloppy readings in clitic constructions is actually argument ellipsis, and that argument ellipsis is not available in DP languages, we then capture Runic's observation that sloppy readings are not available with clitics in DP languages.

Note that (10) is a one-way correlation; it does not require all NP languages to allow argument ellipsis. As discussed above, Japanese e.g. allows it, in fact in both subject and object position. Şener and Takahashi (2010) discuss the interesting case of Turkish, which allows it in object but not subject position. It turns out that SC behaves like Turkish in the relevant respect. Before demonstrating this, notice that what is important for our purposes is that argument ellipsis is allowed with objects, the unavailability of argument ellipsis with subjects is in fact irrelevant to the preceding discussion.

That being said, the following data indicate that argument ellipsis is not possible in the subject position in SC. Only the strict reading (Peter's child) is possible in (11b); the sloppy reading (Jovan's child) is not (notice also that SC has subject, but not object, agreement-licensed *pro*-drop).

- (11) a. Petar je rekao da njegovu dijete zna engleski.
 Petar is said that his child knows English
 'Peter said that his child knew English.'
- b. Jovan je rekao da e zna francuski.
 Jovan is said that knows French
 'Jovan said that e knew French.'

That SC has argument ellipsis in object position is harder to show since SC has V-stranding VP ellipsis, where the verb moves out of the VP, which is

¹¹ Cheng (2013) follows up here on one of the NP/DP generalizations argued for in Bošković (2012), namely the radical *pro*-drop generalization (see also Koulidobrova (2012, 2017)).

followed by VP ellipsis (see Stjepanović (1998), Todorović (2015)).¹² This means that merely not eliding the verb is not enough to ensure that argument ellipsis rather than VP ellipsis is taking place. An argument for object argument ellipsis therefore needs to rule out the possibility of a V-stranding VP ellipsis derivation. (12)–(13) do in fact indicate that SC has object argument ellipsis. (Recall that only object argument ellipsis is relevant for our purposes.)

(12) a. Ona je poslala svoje predstavnike jedan drugome.
 she is sent [_{her_{anaph}} representatives_{acc}] [each other_{dat}]
 ‘She sent her representatives to each other.’

b. *Ona je poslala jedan drugome svoje predstavnike.

(13) ?Ona je poslala svoje predstavnike jedan drugome,
 she is sent [_{her_{anaphor}} representatives_{acc}] [each other_{dat}]
 a on je predstavio jedan drugome.
 and he is introduced [each other_{dat}]
 ‘She sent her representatives to each other, and he introduced them to each other.’

(12) shows that in the construction in question, only the DO-IO word order is possible, i.e., the IO cannot undergo movement here. This rules out the V-stranding VP ellipsis derivation for (13). To derive (13) via V-stranding VP ellipsis, the verb and the IO would have to undergo movement out of the VP, with the DO remaining in the VP so that it is elided under VP ellipsis. But then (13) should be at least as bad as (12b), which it clearly is not.¹³

One may then wonder how other NP languages Runić discussed, e.g. Slovenian, behave in the relevant respect. While the issue merits attention for independent reasons, it is actually not relevant for our purposes; in fact,

¹² See also Gribanova (2013a, b) and Bailyn (2017) for Russian (the discussion in these works bears on the possibility of both V-stranding VP ellipsis and argument ellipsis in Russian).

¹³ While it is better than (12b), (13) is not completely perfect. However, it is not worse than (i), which indicates that whatever is responsible for its slight marginality has nothing to do with binding (we seem to be dealing here with a PF issue having to do with interaction of focus stress and deaccenting). In other words, this also confirms that we cannot be dealing here with the kind of derivation that (12b) has, which would be required under the V-stranding VP ellipsis analysis.

(i) ?Ona je poslala Ivana Petru, a on je predstavio Petru.
 she is sent Ivan_{acc} Peter_{dat} and he is introduced Peter_{dat}
 ‘She sent Ivan to Peter and he introduced Ivan to Peter.’

whether the NP languages under consideration allow object argument ellipsis in non-clitic constructions turns out to be irrelevant to the proposed analysis of the clitic constructions under consideration. The reason for this has to do with the unavailability of argument ellipsis in (11). Saito (2007) provides an account of the impossibility of argument ellipsis in subject cases like (11) that allows argument ellipsis in clitic examples like (1) regardless of whether argument ellipsis is allowed in the object position in examples without clitics.

Like Cheng (2013), Saito (2007) is concerned with the issue of what kind of languages in principle allow argument ellipsis. Saito argues that agreement matters to the availability of argument ellipsis. In particular, he argues for (14).

(14) Agreement blocks argument ellipsis.

Since Japanese in general lacks agreement, it has both subject and object argument ellipsis; on the other hand, since SC (and the same holds for Turkish) has subject but not object agreement, argument ellipsis is blocked by (14) only for the subject position in SC (and Turkish).

Given the above discussion, the embedded clause subject in (11b) must then be *pro* since it cannot be derived via argument ellipsis. Note also that under the current analysis, (11b) may provide evidence that *pro*, more precisely agreement-licensed *pro*, cannot be clitic doubled (otherwise the double could be the source of the sloppy reading in (11b)). In other words, clitic doubling is indeed clitic doubling—only clitics participate in it. This is in fact exactly what Cardinaletti and Starke (1999) argue. They argue that only clitics, not deficient or strong pronouns, can be clitic doubled and they also argue that agreement-licensed *pro* is a deficient pronoun, not a clitic, hence cannot be doubled. That *pro* in (11b) cannot be doubled with an argument ellipsis NP, which would license the sloppy reading independently of *pro*, is then not surprising.¹⁴ (Given Cardinaletti and Starke's claim, the current analysis predicts that the sloppy reading should not be

¹⁴ Notice, however, that what I am referring to here as *pro* could also be a regular non-clitic pronoun that undergoes PF deletion (see Holmberg (2005) and references therein) or phi-features on INFL could be thematically interpretable here and bear subject theta-role, in which case there would be no *pro* in such cases (for relevant discussion, see e.g. Alexiadou and Anagnostopoulou (1998) and Barbosa (1995)). At any rate, it would be interesting to examine here NP languages with subject clitics, like Comanche (see Bošković (2016)), to see whether subject clitics in such languages would allow sloppy readings.

available with weak pronouns more generally.)

Returning to (14), what is important for our purposes (i.e. the clitic doubling+argument ellipsis account of the sloppy reading of the object clitic in (1)) is that the way Saito (2007) deduces (14) makes the issue of whether languages like SC allow argument ellipsis in the object position irrelevant to the availability of argument ellipsis in the clitic doubling cases discussed above. The gist of Saito's analysis is that T/v cannot undergo agreement with an argument ellipsis TNP, hence argument ellipsis is not available when T/v have an agreement requirement that can only be satisfied by undergoing agreement with an argument ellipsis TNP. Following up on the line of research going back to Kuroda (1988), Saito argues that languages like Japanese, which do not exhibit morphological agreement, also lack agreement in general. In such languages, T/v then do not undergo agreement (i.e., they are not subject to an agreement requirement), hence argument ellipsis is possible in such languages.

Regarding the reason why agreement with an argument ellipsis TNP is not possible, following Chomsky (2000) (in particular, Chomsky's Activation Condition) Saito assumes that an unchecked Case feature makes TNPs visible for phi-feature agreement with functional heads. Argument ellipsis TNPs undergo Case-licensing in their original position prior to LF copying. They are then copied without an unchecked Case feature, which means that they are inactive for agreement in their new position. The argument ellipsis derivation then fails in languages where there is a functional head that must agree with a TNP since argument ellipsis TNPs are inactive for agreement. What is behind the blocking effect of agreement on argument ellipsis is that in the relevant cases a functional head needs to undergo agreement with a TNP, which an argument ellipsis TNP is unable to do. As noted above, the problem does not arise in Japanese, which lacks morphological agreement and where, as a result, T/v are not subject to an agreement requirement.¹⁵

How about languages that have overt morphological agreement, but only

¹⁵ Regarding non-TNP arguments (note, however, that not all argument ellipsis languages allow argument ellipsis of non-TNP arguments, see Koulidobrova (2012)), Saito (2007) suggests that such elements also undergo Agree; however, Saito (2017) suggests an alternative analysis where the possibility of non-TNP argument ellipsis essentially depends on the possibility of TNP argument ellipsis (i.e., where the ellipsis of non-TNP arguments is blocked if the ellipsis of TNP arguments is blocked; while I do not discuss non-TNP argument ellipsis below, the discussion can be adjusted to take it into consideration).

in certain positions? The issue is actually discussed in Şener and Takahashi (2010). Şener and Takahashi argue that the overtness of morphological agreement for particular heads matters. Recall that under Saito's analysis, a functional head cannot undergo Agree with an argument ellipsis TNP. Any time agreement is morphologically manifested the relevant functional head must undergo agreement. Given the overtness of subject agreement in SC, this means that T is subject to the agreement requirement in SC, i.e., it must undergo Agree, which means that subjects cannot undergo argument ellipsis in SC under Saito's analysis. On the other hand, in the cases where agreement is not morphologically realized, in principle the relevant functional head may or may not be subject to an agreement requirement, where it would have to undergo Agree with a nominal element. None of the languages under consideration (i.e. those that are relevant for the generalization in (6)) actually has overt object agreement. This means that agreement itself cannot tell us anything about whether such languages would allow object argument ellipsis. If *v* in such languages is subject to the agreement requirement, object argument ellipsis would be blocked, if it isn't, it would not be. Importantly, regardless of whether *v* is subject to the agreement requirement in the languages in question, i.e. regardless of whether object argument ellipsis is available in the languages in question, this analysis does not block the argument ellipsis derivation in constructions with clitics. In a clitic case like the one in (1), the clitic undergoes agreement with *v*. The argument ellipsis TNP that co-occurs with it then does not need to undergo agreement with *v*, hence argument ellipsis is not blocked for this TNP.¹⁶

Under the combined Cheng/Saito analysis, we then get exactly the right cut, where argument ellipsis is always blocked in DP languages, including

¹⁶ It is worth noting here that, in contrast to Şener and Takahashi (2010), Saito (2007) suggests a simple binary distinction, where languages are either agreeing or non-agreeing for all relevant functional heads. SC would be classified as an agreeing language under Saito's approach, hence *v*, as well as T, would be subject to the agreement requirement. As noted in the text, even if *v* needs to undergo Agree in SC, in the SC clitic doubling cases involving argument ellipsis the clitic can undergo agreement with *v*, so that the presence of an inactive (for agreement) argument ellipsis TNP does not matter in this case. Under this account, where SC *v* would always need to undergo Agree, examples like (13) can be handled by assuming that the indirect object, which does not undergo argument ellipsis, undergoes Agree with *v* in the second conjunct (see Bošković (2013b) regarding the locality of Agree here; as shown in that work, like traces, elided phrases (like the direct object in (13)) do not count as interveners).

clitic cases like (3), but is allowed in NP languages like SC in the clitic cases (even regardless of its availability in non-clitic cases). Since under Saito's analysis argument ellipsis should be allowed in the presence of an object clitic in the languages under consideration regardless of whether it is available in its absence, I will not examine if other relevant languages allow object argument ellipsis in the absence of a clitic.

The analysis proposed above has important consequences for the more general issue of what determines the availability of argument ellipsis. It in fact provides evidence that both Cheng (2013) and Saito (2007) are right: both DP and agreement have a blocking effect on argument ellipsis.¹⁷

To summarize section 3.1, the argument ellipsis analysis presented in this section captures Runić's generalization regarding the restricted availability of certain sloppy readings with pronominal elements, where the readings in question are available with clitics in some but not all languages, and are unavailable with non-clitic pronouns even in the languages that allow them with clitic pronouns. The analysis also provides evidence that both Cheng (2013) and Saito (2007) are right regarding the issue of what is needed for argument ellipsis: both the lack of DP and the lack of agreement are needed.

3.2. The Overtness of Clitic Doubling

Under the analysis presented above, SC clitics can co-occur with an NP that undergoes argument ellipsis. What is of interest here is that most SC varieties actually disallow overt clitic doubling (i.e. clitic doubling by an overtly realized element) in examples like (15). (Some SC varieties do allow (15), see Runić (2014a); also, as noted below, some cases of doubling are allowed in all varieties.)

- (15) *Ivan ga piše pismo.
 Ivan it is.writing letter
 'Ivan is writing a/the letter.'

Given that on the current analysis of SC examples like (5a) the clitic in such cases co-occurs with another TNP, which means that such a combination should not be completely ruled out in SC, we need to address the unacceptability of examples like (15), a classical clitic doubling case. This

¹⁷ This may account for the relative rarity of argument ellipsis (see also section 4, where Cheng's generalization is deduced; regarding the impossibility of argument ellipsis of subjects in Chinese, see Cheng (2013) and Koulidobrova (2017)).

section will show that an independently proposed account of crosslinguistic variation regarding the availability of clitic doubling constructions like (15) actually predicts that clitic doubling will be available in SC with argument ellipsis; i.e., it provides a straightforward, natural explanation why clitic doubling is not possible in (15) but is possible with argument ellipsis in SC.

Obviously, clitic doubling can in principle be possible only in languages that have pronominal clitics in the first place. Such languages do, however, differ regarding the possibility of clitic doubling. Thus, Spanish allows examples like (16).

- (16) Lo vimos a Juan.
 him we-saw a Juan
 ‘We saw Juan.’

There are several approaches in the literature regarding the crosslinguistic variation in question. A prominent and well-known approach treats the difference in terms of Case (see Sportiche (1996), Jaeggli (1986), Schmitt (1996), among others). In languages where clitic doubling is not allowed a problem in such cases arises with respect to Case: since the clitic takes the Case that the verb would normally assign, the doubling TNP cannot be Case-licensed. In languages where clitic doubling is allowed, such licensing is possible—in some cases special mechanisms are involved, like *a* in Spanish.

SC (15) is then ruled out because ‘letter’ cannot be Case-licensed.¹⁸

¹⁸ Macedonian allows examples like (15) without any special Case-marking, as in (i).

- (i) Ivo go napisa pismoto.
 Ivo it wrote letter-the
 ‘Ivo wrote the letter.’

Bošković (2008, 2012) argues that this kind of doubling is possible only in DP languages (the observation is confined to a particular kind of doubling, namely clitic doubling that is obligatorily accompanied with a definiteness/specificity effect; see here Runić (2014a), who shows that in Prizren-Timok Serbian, where (15) is allowed, such examples do not involve the kind of doubling Bošković (2008, 2012) was concerned with (thus, they are not associated with a definiteness/specificity effect)—Runić in fact gives it a very different analysis). If this is correct, there should then be a more general restriction where the Case issue in question (i.e. the issue of the Case-licensing of the doubling element) should be resolvable only in (some) DP languages (with the kind of clitic doubling that Bošković (2008, 2012) was specifically concerned with). I suggest the following implementation of this restriction. Suppose that the clitic and the double in Macedonian (i) are involved in Case-feature sharing in the sense of Frampton and Gutmann (2002) and Pesetsky and Torrego (2001), where the two unvalued Case features, one on the clitic and one on the doubling element, become two instances of the same unvalued feature. When the Case feature on the clitic is valued by *v*, it is then also valued on its double, since we

That Case may indeed be what is at issue here is suggested by examples like (17), noted by Sanja Raković (p.c.), where *ga* and *bus* bear different Cases, hence the Case problem does not arise here (note that nominative is the default Case in SC).¹⁹

- (17) Evo *ga* *bus*.
 here *it_{gen}* *bus_{nom}*
 ‘Here is the bus.’

Importantly, the Case problem in question (i.e. the Case problem from (15)) does not arise at all when the doubling element is an argument ellipsis NP. The NP in question undergoes Case-licensing in its own clause prior to LF copying, hence no problem with respect to the Case-licensing of the doubling NP arises in this case.

It is worth noting here that Saito (2007) crucially argues that argument ellipsis NPs are Case-licensed in their original clause prior to LF copying and do not undergo Case-licensing in their “new” clause after LF copying. As discussed in section 3.1, this is in fact the crucial component of his analysis of the generalization that agreement has a blocking effect on argument ellipsis.²⁰ In other words, Saito argues that Japanese (7b), repeated in (18), is derived as follows: i) *Sannin-no sensei-o* is Case-licensed in the first clause; ii) *Sannin-no sensei-o* is then copied in LF into the second clause, where it is not involved in any Agree relation; it does not undergo either agreement or Case-licensing.

are dealing here with the same Case feature. The proposal is then that feature sharing of this type is possible only for functional elements, not lexical elements. This means that DPs, but not NPs, can enter such feature sharing, hence the way of resolving the Case issue noted in this footnote (where the clitic and the double have the same Case) is not available in NP languages (see Bošković (2008, 2012)).

¹⁹ It is not completely clear though that (17) involves clitic doubling (see here Raković (2016)).

²⁰ As discussed in section 3.1, because argument ellipsis TNPs undergo Case-licensing in their original position prior to LF copying, not having an unchecked Case feature they are inactive for agreement in their new position. The argument ellipsis derivation then fails in languages where there is a functional head that must agree with a TNP, argument ellipsis TNPs being inactive for agreement. Recall that the problem in question does not arise in the SC clitic doubling cases involving argument ellipsis. Even if *v* needs to undergo agreement in such cases in SC (in contrast to e.g. Japanese, where functional heads *T* and *v* quite generally do not need to undergo phi-licensing, which Saito ties to the more general lack of agreement in Japanese), the clitic can undergo agreement with *v*, so that the presence of an inactive (for agreement) argument ellipsis TNP does not matter in this case.

- (18) a. Taroo-wa sannin-no sensei-o sonkeisiteiru.
 Taro-Top three-Gen teacher-Acc respects
 ‘Taro respects three teachers.’
 b. Hanako-mo *e* sonkeisiteiru.
 Hanako-also respects

Applying this to SC (1), which, as discussed above, on the sloppy reading involves clitic doubling with an argument ellipsis NP (his girlfriend) in the second clause, ‘his girlfriend’ is Case-licensed in the first clause of (1), before undergoing LF copying into the second clause (where it doubles the clitic). As a result, the Case problem from (15), where ‘letter’ is not Case-licensed, does not arise on the clitic doubling+argument ellipsis derivation of (1).

At any rate, what is important for our purposes is that independently made proposals regarding crosslinguistic variation with respect to clitic doubling and argument ellipsis discussed in this and the preceding section in fact predict that argument ellipsis will be available in SC with clitic doubling and that clitic doubling will be possible in SC with argument ellipsis, which is exactly what happens under the analysis presented here.

It should be also noted that the current analysis provides evidence that argument ellipsis should be treated in terms of LF copying rather than PF deletion. If we apply the PF deletion analysis of ellipsis to the SC case under consideration, where the doubling element is elided, a difficult question arises which does not have an obvious answer: why does the relevant NP have to be deleted in these cases (as indicated by the unacceptability of (15))? On the other hand, under the LF copying analysis we have an easy explanation for why the NP in question does not surface phonologically: it is created only in LF. Furthermore, we have seen above that the Case account of the unacceptability of examples like (15) does not extend to the cases where the double is an argument ellipsis NP under the LF copying analysis of argument ellipsis, since the double does get Case-licensed under this analysis. This is not the case under the PF deletion analysis; the Case problem that arises in examples like (15) should also arise in the cases where the double is elided in PF, which would be the case under the PF deletion analysis of argument ellipsis.²¹ The analysis presented here can then

²¹ It appears that the only way out here would be to assume the rescue-by-PF-deletion mechanism; more precisely, to assume that, as is often argued regarding locality violations, which are assumed to be rescuable by PF deletion (see for example Merchant

be taken to provide evidence that argument ellipsis should be implemented through LF copying, not PF deletion (another argument will be presented in section 4; for additional arguments to this effect, see Saito (2007), Sakamoto (2017, in press)).²²

It should also be emphasized that the current analysis captures what appears to be varied behavior of various pronominal elements regarding the availability of the sloppy reading in examples like (1)–(4) (and (11b)) without saying anything special about clitic vs non-clitic pronouns, or anything special about clitics in one language vs clitics in another language. All the pronominal elements in question, clitics in SC, clitics in Macedonian, non-clitic pronouns in SC (including *pro*), and non-clitic pronouns in English, are treated the same way when it comes to the sloppy reading (none of them in fact supports it); all the differences regarding the availability of the sloppy reading in (1)–(4) follow from other factors (i.e. the (un)availability of other mechanisms), which were all independently argued for in the literature; nothing new was actually proposed here to capture the variation in question.²³

(2001), Lasnik (2001), Bošković (2011); but see Abels (2011), Barros, Eliot, and Thoms (2014) for an opposing view), violations of the traditional Case filter, where an NP does not get Case-licensed, can be voided by deleting the relevant NP in PF (see Saito (2001) for such a proposal).

²² Sakamoto's arguments in this respect are particularly strong. Sakamoto shows that covert but not overt extraction is allowed out of argument ellipsis sites in Japanese, which straightforwardly follows if argument ellipsis sites have internal structure only in LF, which is the case under the LF copying, but not under the PF deletion analysis (notice that Sakamoto's arguments against the PF deletion analysis also extend to the uniform *pro* analysis of Japanese null arguments, since this analysis would not allow extraction out of argument ellipsis sites).

Note also that treating argument ellipsis in terms of LF copying does not necessarily mean that all ellipsis should be treated this way. In fact, Dadan (2016) and Sakamoto (2017, in press) argue that both PF deletion and LF copying are in principle possible, and are taken advantage of in different ellipsis constructions. (Under Bošković's (2014) claim that ellipsis can target either phases or phasal complements, Dadan (2016) and Sakamoto (2017, in press) argue that the former always involves LF copying and the latter PF deletion (Bošković (2014) in fact gives argument ellipsis as an example of full phase ellipsis).)

²³ It is worth noting here that Sakamoto (2017) suggests that a null pronominal element (which is not the agreement-licensed *pro* that was discussed above regarding examples like (11b)) is present in traditional argument ellipsis cases. He also observes that argument ellipsis languages generally quite freely allow null arguments as deep anaphors, which is then not surprising, in which case argument ellipsis could be treated as always involving doubling, where either a null pronominal element (as in traditional argu-

Recall now that, as noted in footnote 6, Runić (2014a, b) gives an alternative, semantically-grounded account of (6) based on the NP/DP analysis of clitic pronouns. Under her account, clitics in NP and DP languages differ both syntactically (in their categorial status) and semantically. This is not the case under the current account; in fact, nothing in what was said above requires pronouns in languages with articles and languages without articles to have different categorial status or different semantics. This is not to say that they do not differ (for relevant discussion of pronouns more generally, see Bošković (2008, 2012, 2016), Despić (2011, 2013), Fukui (1988), and Runić (2014a), among others), this only means that if the current account of the contrast between SC (1) and Macedonian (3) regarding the availability of the sloppy reading is on the right track, this contrast itself does not provide evidence that clitic pronouns (or pronouns in general) should be treated differently syntactically and/or semantically in these languages.

Having discussed one surprising and non-obvious case of argument ellipsis and its consequences for the proper treatment of argument ellipsis, I conclude the paper with a more general discussion of the nature of argument ellipsis.

4. On the Nature of Argument Ellipsis

4.1. What Exactly Is Argument Ellipsis, and Why Is It Possible Only in NP Languages?

I will first consider the issue of why argument ellipsis is in principle restricted to NP languages, adopting a semantic account of this issue, and then explore its consequences. The account will significantly increase the scope of the phenomenon in question, which will be argued to be a correct move.

Consider first how the NP/DP languages distinction can be implemented semantically. The most straightforward semantic implementation of the distinction can be found in Chierchia (1998), more precisely, in his treatment of DP languages vs NP languages like Russian, if we extend his treatment of Russian to all NP languages, a natural move in light of the NP/DP generalizations from Bošković (2008, 2012), where NP languages as a class are

ment ellipsis cases) or an overt pronominal element (as in the cases discussed here; see Sakamoto (2016b) for another case from Japanese (namely *soo* ‘so’) which can be analyzed that way) is doubled.

opposed to DP languages as a class.

Chierchia (1998) argues that DP is not needed for argumenthood, which opens the door for an NP analysis of languages like SC. As in the current work, for Chierchia SC TNPs are NPs. They are of type $\langle e, t \rangle$, and become of type e (i.e., they are turned from predicates into arguments) by covert type shifting, which can be straightforwardly incorporated into the Bošković (2008, 2012) system: SC TNPs are then NPs, with covert type shifting applying to turn them into arguments. In article languages like English, D does the job in question. Thus, the definite article maps type $\langle e, t \rangle$ to type e . As a result, the TNP itself (i.e. without application of any covert type shifting operations) here has the type e in English. Excluding purely covert type shifting operations that are not triggered by elements present in the syntax, SC TNP is still of type $\langle e, t \rangle$.²⁴

It should be noted here that although Chierchia assumes that SC and Chinese both lack DP, he actually treats Chinese differently semantically. Given the parallel behavior of SC and Chinese regarding the NP/DP generalizations, where they systematically pattern together and against article languages like English and Romance (see Bošković (2008, 2012), Bošković and Hsieh (2013), Cheng (2013)), I will assume that there is no type difference between Chinese and SC here. This means that Chinese NPs are also of type $\langle e, t \rangle$, with covert type shifting to e in the cases where e interpretation is required. This treatment of Chinese is actually very similar to Cheng and Sybesma (1999), where Chinese NP is also treated as being of type $\langle e, t \rangle$ (see also Tomioka (2003) for Japanese).²⁵

²⁴ I ignore TNPs with elements like demonstratives. The discussion here adapts Chierchia (1998) to Bošković's NP/DP typology since the two do not correspond completely. In Chierchia's system, bare NP arguments are allowed in certain cases in English though not in Romance. However, the NP/DP generalizations, where English always patterns with Romance, indicate that even in these cases DP is projected in English. Based on this, Bošković (2008, 2012) reaches the conclusion that English TNPs are always DPs. In line with this, I assume that English argumental TNPs are of type e without any covert (i.e. non-D triggered) type shifting, which is in fact Chierchia's treatment of Romance.

²⁵ Although for Chierchia SC and Chinese both lack DP, (simplifying somewhat) he treats Chinese bare nominals as being of type e , and SC ones as $\langle e, t \rangle$. The above proposal treats Chinese and SC nominals the same way, extending Chierchia's account of SC to Chinese (similarly to Cheng and Sybesma (1999) and Tomioka (2003)). There are two reasons for this move. Conceptually, it minimizes crosslinguistic variation: while Chierchia's account assumes crosslinguistic differences regarding both the semantic type of nominals and the availability of covert type-shifting operations, the current account assumes only the latter (it also minimizes it by restricting it to the difference Chierchia

Simplifying somewhat, in the syntax itself argumental TNPs are then of type *e* in DP languages and of type $\langle e, t \rangle$ in NP languages. D turns NPs of type $\langle e, t \rangle$ to type *e* in DP languages; while in NP languages this is accomplished via type shifting. What is important for our purposes is that considering only the structure that is present in the syntax itself (and excluding any covert type shifting that is not triggered by syntactic structure), argumental TNPs are of type $\langle e, t \rangle$ in SC and of type *e* in DP languages—the syntactic structure itself here corresponds to type *e* in DP languages.

The above gives us a semantic implementation of the NP/DP distinction. The proposal then is that argument ellipsis is semantically constrained. In particular, I adopt (19).²⁶

(19) Argument ellipsis affects elements of type $\langle e, t \rangle$.

Recall now that I have argued above that argument ellipsis involves LF copying rather than PF deletion. (19) should in fact be interpreted as another argument to this effect given that it defines the phenomenon in semantic terms. Furthermore, in light of the above discussion where it was suggested that not all ellipsis should be treated in terms of LF copying (in fact, the strongest arguments for LF copying treatment of any ellipsis operation involve argument ellipsis), (19) can also be stated more generally as in (20).

assumed to capture the English/SC difference). Moreover, Chierchia's analysis is not completely compatible with the typology indicated by Bošković's NP/DP generalizations. Although for Chierchia SC and Chinese also lack DP, whether one looks at the type of the NP or the whole TNP (see below for the relevance of this difference), we actually never get the SC/Chinese vs English cut in his system. For Chierchia, English and SC are [+arg,+pred] languages, while Chinese is a [+arg, -pred] language. This means that NP in English and SC is (typically) of type $\langle e, t \rangle$, while in Chinese it is of type *e*. At the level of NP we then get the English/SC vs Chinese cut. For Chierchia, SC NPs become type *e* by covert type shifting, while in English D does the job in question. Excluding purely covert type shifting operations not triggered by elements present in the syntax, SC TNP is then of type $\langle e, t \rangle$, while the English (argumental) TNP is of type *e*. Since for Chierchia Chinese TNP is of type *e*, we then get the English/Chinese vs SC cut here. The problem is that the NP/DP generalizations indicate that SC and Chinese systematically lack the DP projection while English systematically projects DP. Thus, the NP/DP typology crosscuts Chierchia's typology since Chinese and SC pattern together while English systematically patterns against Chinese and SC regarding the NP/DP generalizations.

At any rate, what is suggested in the text keeps the gist of Chierchia's account of Russian vs Romance, extending it to other languages with and without articles, in line with the NP/DP generalizations where all languages without articles pattern as a group, and are opposed to languages with articles, which also pattern as a group.

²⁶ It should be noted that Tomioka (2003) (i.e. his property *pro*) is an important predecessor of the analysis argued for here, which situates the gist of Tomioka's proposal within a broader perspective.

(20) Only elements of type $\langle e, t \rangle$ can be copied in LF.

(20) states that only elements of type $\langle e, t \rangle$ can be copied. Note that the copying still applies in the syntax (more precisely, covert syntax), which means that it applies before type shifting. Recall now that considering the structure that is present in the syntax itself, argument TNPs are already of type e in DP languages. However, they are of type $\langle e, t \rangle$ in NP languages. Given that argument ellipsis affects only elements of type $\langle e, t \rangle$, through LF copying, the process is then restricted to NP languages. In other words, we deduce the generalization in (10).

To illustrate this with an argument ellipsis derivation, being of type e DP *the student* cannot be copied in LF into the position of X in (21), given (19)–(20). The problem does not arise in Japanese (22), where the direct object is of type $\langle e, t \rangle$ at the point of LF copying. *Gakusei-o* is then copied into the position of X in (22), with type shifting applying after the copying to yield the e -type interpretation.

- (21) a. Peter failed the student.
 b. *John failed X too.
- (22) a. John-wa gakusei-o rakudais-ase-ta.
 John-Top student-Acc fail-Caus-Past
 ‘John failed the student.’
 b. Peter-mo X rakudais-ase-ta.
 Peter-also fail-Caus-Past
 ‘Peter also failed.’

There is, however, another derivation that needs to be blocked for (21). Suppose that what is copied into the position of X in LF is not the full TNP but only the NP *student*, which is of type $\langle e, t \rangle$, hence this copying operation does not run afoul of (19)–(20).²⁷ This is in fact what happens in Japanese (22). Recall, however, that the copying operation is followed by a covert type shifting operation, from type $\langle e, t \rangle$ to type e , in Japanese (22). This is, however, not possible for English (21) under the derivation under consideration. The problem is that DP languages do not have access to the pure type-shifting operations of the kind NP languages do (see

²⁷ The Lobeck (1990)/Saito and Murasugi (1990) generalization that ellipsis of the complement of a functional head is possible only if the head undergoes Spec-Head agreement may actually also be relevant to the derivation of (21) under consideration (the generalization is, however, not without exceptions, for recent discussion of the generalization, see Bošković (2016) and Saito (2016); see also the Sakamoto/Dadan claim from footnote 22).

Chierchia (1998)). In particular, in the case in question, the existence of a definite article, which does the job of an iota operator, mapping elements of type $\langle e, t \rangle$ to type e , blocks the application of a pure type shifting operation that would map an element of type $\langle e, t \rangle$ to type e in English. The “Japanese” derivation from (22) is then not possible in English (21).

(19) is tantamount to saying that traditional argument ellipsis is actually predicate ellipsis. Argumental interpretation is still possible for the result of such ellipsis in NP languages because such languages have access to pure type shifting operations that turn predicates into arguments; in fact, such type shifting operations are independently needed to obtain the indicated interpretation for Japanese (23). The reason why argument ellipsis is possible in Japanese but not English is then in fact the same reason why English (24) cannot be interpreted as “John failed the student,” an interpretation available for Japanese (23). The analysis thus unifies the facts in (23)–(24) with the (un)availability of argument ellipsis in (21)–(22).

(23) John-wa gakusei-o rakudais-ase-ta.

John-Top student-Acc fail-Caus-Past

‘John failed the student.’

(24) *John failed student.

Before proceeding, it should be noted that the above analysis implies that there is a null D in the object TNP in English *Mary likes dogs*, which converts properties to kinds (see footnote 24). The account of (21b) then extends to the impossibility of ellipsis in **Mary likes dogs, and Peter hates dogs*.

As noted above, under the current analysis argument ellipsis is actually predicate ellipsis. The predicate ellipsis operation itself is not parameterized, i.e., it is not restricted to NP languages. Such an operation for independent reasons cannot yield argumental interpretation in DP languages (while it can in NP languages). However, there is nothing in anything we have seen above that would prevent such an ellipsis operation from applying in DP languages. Everything else being equal, we may then expect predicate ellipsis to be available in (at least some) DP languages, in fact not just for predicates like VPs, but also TNP predicates.²⁸ Predicate TNP ellipsis

²⁸ We are dealing here with the issue of what kind of ellipsis is in principle possible. Particular languages can still block certain ellipsis options for language-specific reasons. Thus, although VP ellipsis is quite widely available there are still many languages that disallow it (in fact, in most cases for reasons that are still unclear).

may in fact indeed be possible in DP languages. It may be instantiated even by English examples like (25) (possibly as one way of deriving such constructions), with *føøls*, which is a predicate here, derived via predicate ellipsis.²⁹

(25) They are fools, and we are *føøls* too.

In other words, we may be dealing here with the same process as argument ellipsis of NP languages, which means that $\langle e, t \rangle$ ellipsis would not be in principle restricted to NP languages (on ellipsis and type-shifting, see also Bošković (2013a)).³⁰

Returning to NP languages, if the above approach to argument ellipsis, where argument ellipsis is treated essentially as predicate ellipsis, is correct we would expect to find true predicate TNP ellipsis in languages like Japanese as well. Such ellipsis is indeed possible in Japanese, as illustrated by (26).³¹

- (26) a. Karera-wa baka da.
 they-Top fool Cop
 ‘They are fool.’
 b. Watasitati-mo [e] da.
 we-also Cop
 ‘We are also [e].’

Such examples indicate that the term argument ellipsis is a misnomer; the

²⁹ Notice that Saito’s (2007) agreement problem, which arises with traditional argument ellipsis in English, does not arise in (25), since *we* can check the phi-features of T (*fools* need not undergo feature-checking in the second conjunct). Note also that the point here is that this kind of ellipsis is not in principle blocked in DP languages (in contrast to (21b)). This does not mean that every DP language, including English, would actually allow it (see here footnote 28; there is also the issue of whether there could be competition between the ellipsis in (25) and larger VP ellipsis, given *be*-raising (out of VP) and Merchant’s (2001) Max Elide). There is in fact at least one context where predicate ellipsis is blocked in English (though due to other licensing conditions on ellipsis, and other potentially interfering factors, the impossibility of predicate ellipsis in (i) does not necessarily mean that such ellipsis is completely disallowed in English). Note also that (i) is acceptable in SC, as in (ii).

(i) *They consider John a fool, and we consider Peter a-*føøls*.

(ii) ?Oni smatraju Ivana budalom, a mi smatramo Petra
 they consider Ivan_{ACC} fool_{INSTR}, and we consider Peter_{ACC}

³⁰ Indefinite argument drop in Greek, which Giannakidou and Merchant (1997) analyze in terms of LF copying, may also be analyzable as involving ellipsis of an element with type $\langle e, t \rangle$, see (31) below (see also Tomioka (2003)).

³¹ Sloppy readings are possible with predicate ellipsis in Japanese, as noted by Takahashi (2006).

ellipsis process in question is not limited to arguments. In fact, given that even argumental TNPs are actually predicate TNPs in NP languages at the relevant point of the derivation, the term predicate ellipsis is more appropriate and in fact captures the full scope of the phenomenon.

Another question to address is whether a TNP in a predicate position can serve as an antecedent for ellipsis of a TNP in an argument position, and whether a TNP in an argument position can serve as an antecedent for a TNP in a predicate position. As long as independent factors do not block these possibilities we would expect to find such cases in languages like Japanese. It should, however, be noted that there are independent factors that may be relevant here, in particular, the well-known parallelism requirement on ellipsis (see here Bailyn (2017)), whose exact nature is still not completely clear. At any rate, (27) shows that a TNP in a predicate position can be an antecedent for an elided TNP in an argument position. This can be interpreted as providing additional evidence for the current analysis, which unifies predicate and argument ellipsis (under the umbrella of predicate ellipsis).

- (27) a. Kondo-no kaisyoku-no aite-wa isya
 next-Gen eating.together-Gen partners-Top doctors
 da. (antecedent)
 Cop
 ‘The partners who we will eat together with are doctors.’
- b. [Byooin-de-no iya-na keiken-no seide]
 hospital-in-Gen bad-Cop experience-Gen because.of
 boku-wa [e] nikunde-ru. (target)
 I-Top hate-Pres
 ‘I hate [e] because of a bad experience in a hospital
 (e=doctors).’

However, a TNP in an argument position cannot be an antecedent for a TNP in a predicate position.³²

³² The unacceptability of English examples like (i) may also be relevant here. (What would be copied here under the predicate ellipsis analysis is only the NP from the first conjunct, not the whole DP; see also footnote 27.)

(i) *They hate fools and we are fools.

- (28) a. Boku-wa isya-o nikunde-i-ru. (antecedent)
 I-Top doctor-Acc hate-Pres
 ‘I hate doctors.’
- b. *Kondo-no kaisyoku-no aite-wa [e] da.³³ (target)
 next-Gen eating.together-Gen partners-Top Cop
 ‘The partners who we will eat together with are [e]
 (e=doctors).’

I suggest that we are dealing here with an issue of parallelism: if the antecedent bears a theta-role, the target also must bear a theta-role. The requirement rules out the ellipsis example in (28), where the antecedent bears a theta-role and the target does not, but not (27), where this is not the case. It is worth noting here that Chung (2013) shows that sluicing does not tolerate certain argument structure mismatches, which leads her to posit an argument structure parallelism requirement for sluicing. Furthermore, regarding argument ellipsis itself, Takahashi (2006) shows that a subject cannot be an antecedent for an object argument ellipsis, which indicates that if the antecedent bears the external theta-role, the target must also bear the external theta-role.³⁴ We may be dealing with the same family of parallelism requirements in all these cases. (Notice, however, that what we are really testing in (27)–(28) is not actually the current proposal regarding the nature of argument ellipsis, but the nature of the parallelism requirement on ellipsis.)

It should, however, be noted here that there is an empirical issue to be resolved that concerns the possibility of argument ellipsis of indefinites like the object in (29).

- (29) Mary likes two students.

The empirical question is whether DP languages allow such argument ellipsis. English does not:

- (30) *Mary likes two students, and Peter dislikes ~~two students~~.

However, Giannakidou and Merchant (1997) argue that Greek does allow such ellipsis, based on examples like (31), which they argue is derived via the ellipsis indicated in (31).

³³ Nothing changes in (28b) (on the relevant interpretation indicated in the translation) if *-wa* is replaced by *-ga* or *-mo*.

³⁴ See Franks (1995) for another case of parallelism in terms of the external/internal theta-role distinction.

- (31) Efere o Andreas deka vivlia/ta vivlia? Ne,
 brought the Andreas ten books/the books yes,
 efere deka vivlia/*ta vivlia.
 brought
 ‘Did Andreas bring ten books/the books? Yes, he brought 10
 books/*the books.’

The question here is whether Greek is exceptional in this respect, which could be taken as indicating that the Greek construction in question should be analyzed differently, or whether Greek should be taken to indicate that what Giannakidou and Merchant (1997) call indefinite argument drop (they actually analyze it in terms of LF copying, i.e. as a surface anaphor), illustrated by (31), is in principle possible in DP languages (that not all DP languages allow it would not necessarily be an issue, see here footnote 28). Due to the wealth of different approaches to indefinites it is also unclear what the current analysis would predict in this respect. There certainly are approaches that treat indefinites like the one in (29) as being of type $\langle e, t \rangle$ that can be incorporated into the current analysis in such a way that ellipsis of such elements would in principle be allowed in DP languages, which would straightforwardly accommodate Giannakidou and Merchant’s (1997) indefinite argument drop in Greek. But there are also approaches where ellipsis of such elements would be blocked in the current system, like Winter (2001), where the DP *two students* in (29) is of type e , the existential force of the indefinite coming from D (more precisely, a phonologically null choice function D^0 ; the NP here is then of type $\langle e, t \rangle$ and the DP of type e^{35}); for relevant discussion, see also Ionin and Matushansky (2006).

4.2. An Open Issue

There is a larger question that is still looming. The previous discussion makes type $\langle e, t \rangle$ special in that it can undergo LF copying, in contrast to type e . The question is why would that be the case? Mítcho Erlewine (p.c.) points out a different way of approaching this question, where the question is about what cannot undergo LF copying. What is exceptional then would be type e . Its exceptional status can be approached by assuming that with type e , what is copied is the individual reference, not the

³⁵ The underlying assumption here is that it is not possible to create a new projection (in this case DP) in the semantics, hence the D here could not be introduced in the semantics.

e-type description, while with non-elementary types like $\langle e, \tau \rangle$ the whole denotation is copied. The former would be blocked, the intuition being that this is what deep anaphora, i.e. pronouns, is for. I will leave exploring the ramifications of this account for another occasion, since that would involve considering issues that are rather murky at present.³⁶

Another way to approach the issue under consideration could be to assume that ellipsis of elementary types is disallowed, which would also block ellipsis of type e . The reader should again bear in mind that we are dealing here with the issue of what kind of ellipsis is in principle blocked; other factors, including language-specific factors, can still conspire to block (some) non- e type ellipsis in particular languages.³⁷

5. Conclusion

The paper has provided an account of the restricted availability of sloppy readings with pronominal elements, where they are available with clitics in some, but not all languages, and unavailable with non-clitic pronouns even in languages that allow them with clitic pronouns. An account of this variation was proposed that does not say anything special about clitic vs non-clitic pronouns, or about clitics in one language vs clitics in another language. Under the proposed account, the locus of the variation in the relevant respect does not lie in the semantics of the pronominal elements—

³⁶ Thus, we would need to consider the possibility of traditional argument ellipsis with non-TNP arguments, where it is harder to control for the possibility of V-raising VP ellipsis (also, given the possibility of concealed elements, where a TNP expresses a sentential meaning (see Grimshaw (1979)), a question may arise whether what appears to be sentential ellipsis is actually ellipsis of a concealing TNP), and the possibility of ellipsis of elements whose semantic type is more controversial and could even be subject to crosslinguistic variation (see e.g. Nishiguchi (2009)). The more general issue of ellipsis licensing could also be involved. (Regarding clauses, there are approaches that consider (some) clausal complements properties (e.g. Messick (2017) and Pearson (2015)), but see also Saito (2017) for a proposal where the possibility of non-TNP argument ellipsis in a language depends on the possibility of TNP argument ellipsis in the language (see footnote 15).

³⁷ Thus, looking at languages that in principle allow traditional argument ellipsis, there is a considerable difference in its productivity between ASL, where such ellipsis is quite limited due to an independent syntactic constraint (see Koulidobrova (2012, 2017)) and Japanese, where it is quite productive (though even in Japanese, argument ellipsis is disallowed with *wh*-phrases-in-situ (see Sakamoto (2017)); see also footnote 17 regarding Chinese).

all the pronominal elements in question are treated in the same way when it comes to the sloppy readings in question; none of them in fact supports it. All the differences regarding the (un)availability of the sloppy readings in question come from other independently motivated factors. Given that the sloppy readings in question are a typical hallmark of ellipsis, the constructions where they are licensed were argued to involve ellipsis; in particular, they were argued to involve a clitic doubling structure where the double undergoes argument ellipsis. The analysis straightforwardly explains why the sloppy readings in question are possible only with clitics—only clitics occur in clitic doubling constructions. Under this analysis, the variation regarding the availability of sloppy readings boils down to the variation in the availability of argument ellipsis. Given that what licenses the possibility of these sloppy readings in clitic constructions is actually argument ellipsis, Runić's (2014a) observation that the sloppy readings in question are possible only in languages without articles follows from Cheng's (2013) observation that argument ellipsis is possible only in languages without articles.

The discussion in the paper has also enabled us to draw a number of conclusions regarding the mechanisms of clitic doubling and argument ellipsis. Regarding the former, the discussion has provided evidence that Case is one of the factors that is crucially involved in the licensing of clitic doubling, as originally proposed in Jaeggli (1986). Regarding argument ellipsis, the discussion has provided evidence that both Cheng (2013) and Saito (2007) are right with respect to the issue of what determines the availability of argument ellipsis: it is both the lack of DP (as argued by Cheng (2013)) and the lack of agreement (as argued in Saito (2007)).³⁸ The discussion has

³⁸ A clarification is in order here. As noted by an anonymous referee, while in Saito (2007) agreement plays a vital role in accounting for the impossibility of argument ellipsis in languages like English, under the analysis presented in this paper the unavailability of argument ellipsis in languages like English is explained independently by the claim that argument nominals are essentially of the wrong semantic type to be able to undergo argument ellipsis (which follows from the DP status of the languages in question). The role of agreement is thus reduced in the current analysis. In fact, if the impossibility of argument ellipsis of subjects in SC (which Saito's analysis can explain) can be attributed to independent factors (see in this respect Cheng (2013), Koulidobrova (2017), and Sakamoto (2017)), the role that phi-feature agreement/Case licensing play in the current analysis would be essentially to account for the issue of why the double in clitic doubling structures in languages like SC cannot be overtly manifested (not to account for cross-linguistic variation in the availability of argument ellipsis itself; in this respect see Simpson et al. (2013) for problems for Saito's anti-agreement approach to argument ellipsis). One

also provided evidence that argument ellipsis should be treated in terms of LF copying, rather than PF deletion (as argued in Oku (1998), Saito (2007), Sakamoto (2017, in press)).

Finally, I have argued for a semantically-based approach to argument ellipsis where argument ellipsis is actually predicate ellipsis—it involves LF copying of elements of type $\langle e, t \rangle$ (see also Tomioka (2003)). This considerably broadens the scope of what was previously considered to be argument ellipsis; it is now part of a larger phenomenon which is much more widely available. The analysis provides a rather straightforward explanation why what was considered to be argument ellipsis is possible only in languages without articles, deducing Cheng’s (2013) generalization. Adopting a semantic implementation of the NP/DP distinction that essentially extends Chierchia’s (1998) account of Russian vs Romance to other languages with and without articles, I have argued that bare nominals are of type $\langle e, t \rangle$ both in languages with articles and in languages without articles. While D converts them to arguments, i.e. to type e , in languages with articles, in languages without articles this “conversion” is done in the semantics by pure type shifting (from type $\langle e, t \rangle$ to type e). When it comes to arguments, what corresponds to the structure that is present in the syntax itself (prior to any type shifting) is then of type e in DP languages, but of type $\langle e, t \rangle$ in NP languages. Predicate ellipsis, i.e. ellipsis of elements of type $\langle e, t \rangle$, can then affect elements in argument positions in languages without articles because argumental TNPs are actually predicate TNPs, i.e. of type $\langle e, t \rangle$, when the ellipsis applies in such languages.³⁹ LF copying of predicates itself is in principle available in both DP and NP languages. However, it has a broader scope of application in the latter because of the lack of DP. LF copying of a predicate, i.e. an element of type $\langle e, t \rangle$, can still yield argumental interpretation in NP languages, but not in DP languages,

issue in the context of discussion in this footnote, however, is whether SC-type languages allow object argument ellipsis in the absence of clitics (SC does, but I have put aside the issue of whether this is the case with other SC-type languages; if they do not a Saito-style analysis could account for that).

³⁹ Güliz Güneş (p.c.) observes a case where what appears to be an argumental NP in Turkish is accompanied by a copula (‘final homework’ in (i)), which may be capturable under the current approach given that argumental NPs are actually predicates in Turkish prior to the post-syntactic type shifting (the relevant NP in (i) is focalized).

- (i) Ayşe, final ödev-i-ni-y-di, üç gün geç ver-miş-ti.
 Ayşe final homework-3Poss-Acc-Cop-Past three day late hand.in-Perf-Past
 ‘Ayşe handed in her final homework three days late.’

because the type shifting that is needed for argumental interpretation is available only in NP languages for independent reasons, namely Chierchia's blocking effect, where the presence of a lexical item that can perform $\langle e, t \rangle$ -to- e type shift blocks the application of a type shifting operation with the same effect. There is then no independent parameterization regarding the availability of argument ellipsis. Traditional argument ellipsis is restricted to NP languages and non-agreeing contexts due to independent factors, which are themselves not parameterized: LF copying of elements of type $\langle e, t \rangle$, which is responsible for the former, and the Activation Condition, which is responsible for the latter, are themselves not parameterized. What the crosslinguistic variation in the domain in question then boils down to is the variation in the amount of structure projected and the agreement properties of particular functional heads, both of which can be formulated in terms of lexical variation.

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