

Null subjects in Finnish and the typology of pro-drop

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1. Introduction¹

Subject pro-drop in Finnish finite clauses differs from subject pro-drop in many other well-known pro-drop languages including Arabic, Spanish, and Greek in that (a) it makes a difference between first and second person on the one hand, third person on the other, and (b) it is optional, in a way that is different from the other pro-drop languages. (1) exemplifies the subject agreement paradigm in Finnish. Third person is represented here by the human-referring pronouns *hän* and *he* (see Holmberg and Nikanne 2008 on third person pronouns in Finnish).

(1)	SG	PL
1	(Minä) laula-n. I sing-1SG	(Me) laula-mme. we sing-1PL
2	(Sinä) laula-t. you.SG sing-2SG	(Te) laula-tte. you.PL sing-2PL
3	Hän laula-a. he/she sing-3SG	He laula-vat. they sing-3PL

The following examples show that in Finnish a third person subject pronoun cannot be dropped (cannot be null) in a finite clause even though it has an unambiguous antecedent in

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the preceding sentence, while in Jordanian Arabic it can be, and even has to be, dropped in that context in the unmarked case.²

- (2) Onko Leila kotona? Ei, *(hän) lähti ulos. [Finnish]
is.Q Leila home no she went.3SG out

- (3) Layla bi-l -beet? La, halla (#hiya) tʕil'at [Jordanian Arabic]
Layla in-the-house? no just.now she went.3G.F
'Is Layla home? No, she just went out!'

Finnish does allow even third person pro-drop in the right context, though, as in (4), where it is optional.

- (4) Leila ei sanonut minne (hän) oli menossa. [Finnish]
Leila not said where she was going
'Leila didn't say where she was going.'

Informally, the difference is that the pronoun in (4) has a c-commanding antecedent in the same complex sentence.

This paper will present and discuss the properties of null subjects in Finnish, their interpretation and distribution, locating the Finnish system in a typology of null argument

² Thanks to Marwan Jarrah for the example. According to Jarrah, the natural interpretation if the pronoun is pronounced is that the speaker resents that fact that she went out.

systems. It will also briefly touch upon object pro-drop, which is a highly restricted phenomenon in Finnish.

2. Three pro-drop/null subject types

Holmberg (2005) proposed a three-way distinction among pro-drop languages: consistent, partial, and radical (or discourse) pro-drop languages. This typology is discussed in more detail in Holmberg, Nayudu, Sheehan (2009), Biberauer, Holmberg, Roberts, Sheehan (2010, esp. chapters 2 and 3), Thampoe (2016), Barbosa (to appear), Frascarelli (to appear).

Jordanian Arabic, in (4), is a representative of the consistent pro-drop class of languages, while Finnish would be a partial pro-drop language. In consistent pro-drop languages pro-drop is dependent on agreement, in partial pro-drop languages it is also dependent on agreement at least in part, but in discourse pro-drop languages it is not, and cannot be since most of them have no agreement. These are all distinguished from non-pro-drop languages like English and French, which allow subject pro-drop only under very strict syntactic and stylistic conditions.³

In the following I will first go through the properties that characterise consistent pro-drop languages, then partial pro-drop languages, then discourse pro-drop languages.

Thereafter I will put Finnish pro-drop to the test, to see how it behaves with respect to the criterial properties.

³ For instance, in so called diary style, the first person subject can be dropped (*Woke up early, had yoghurt for breakfast.*). More generally, in colloquial English the subject can be dropped when it is the initial constituent of a main clause, so called topic drop; see Haegeman 2000.

2.1 Consistent pro-drop

The languages that are called consistent pro-drop languages or consistent null subject languages in the literature have the following properties:

(a) They have subject pro-drop in all persons, all styles, and all clause types, main and embedded, whether the subject is initial in the sentence or not. (3) exemplifies subject drop in a main clause when preceded by a negation particle.

(b) Pro-drop can be dependent on an antecedent (a ‘controller’) in a higher clause, or the antecedent can be extrasentential, as in (3). When there is a controller, it does not need to be strictly local. For instance, in (5), the antecedent of the null subject in the second conjunct can be *Paolo*, even though *Gianni* is structurally a closer antecedent.

(5) Gianni₁ non ha detto niente, ma Paolo₂ ha detto che Ø_{1/2} vuole comprare una macchina nuova. [Italian]
‘Gianni₁ hasn’t said anything, but Paolo₂ has said that he_{1/2} wants to buy a new car.’

(c) The subject agreement system is rich, distinguishing at least three persons and two numbers.

(d) Typically there is no null third person inclusive generic pronoun corresponding to English *one* in *One can see the door from here*. This function is therefore expressed by a 2SG pronoun, i.e. generic ‘you’ (which is typically null) or some dedicated impersonal subject form, or by a passive, among other means (see Holmberg 2010b).

Examples of consistent pro-drop languages are Arabic, Greek, Italian, Spanish, Polish, Hungarian, Persian.⁴

⁴ See Dalmi (2014) for arguments that Hungarian does not have all the properties expected from a consistent pro-drop language.

2.2 *Partial pro-drop*

(a) Pro-drop may be restricted to some persons or verb forms. In Hebrew, for example, subject pro-drop occurs freely with first and second person subjects, but not in the third person except when embedded, and not in the present tense (Vainikka and Levy 1999, Shlonsky 2014).

- (6) a. Ø axalti lexem. [Hebrew]
 eat.PST.1SG bread
 ‘I ate bread.’
- b. ani/*Ø oxel lexem
 I eat.PRS.SG bread
 ‘I eat bread.’

It may also be stylistically restricted. In Marathi pro-drop is common in colloquial spoken language, but is more restricted in the written form. In Finnish it is the other way around, for first and second person pro-drop.

- (b) With third person subjects referential pro-drop requires an antecedent in a higher clause (a ‘controller’), so it is only found in embedded clauses.
- (c) The controller needs to be local: Only the closest c-commanding noun phrase can be a controller.
- (d) The subject agreement system can be deficient.
- (e) There is a null third person inclusive generic pronoun.

Examples of partial pro-drop languages are Finnish, Brazilian Portuguese, Hebrew, Marathi (and several other Indo-Aryan languages), Russian.

2.3. *Discourse pro-drop*

Discourse-pro-drop languages, finally, have the following properties:

- (a) Pro-drop of subjects and non-subjects, in all persons and tenses.
- (b) Pro-drop is not dependent on control; the antecedent can be extrasentential.
- (c) Often there is no agreement, but there can be (for instance Tamil is a language with rich agreement, which is nevertheless has the properties of discourse pro-drop languages; Thampoe 2016).⁵

Example languages are Japanese, Korean, Thai, Sinhala, Tamil.

3. Subject pro-drop in Finnish

3.1 *Subject pro-drop in root clauses*

Pro-drop of first and second person pronouns in root clauses is common in written and formal Finnish, but much less common in colloquial Finnish. It is prescribed in schools and its scarcity in the spoken language is much lamented. The following is a translation from a blog, expressing a sentiment that is fairly typical.

In the last few days I have been worrying about my egocentricity. I was horrified when I read through my previous texts, and I realized that I still use “I”-phrases, representing bad Finnish. Instead of writing “Olen ajatellut” [have.1SG thought - AH], too often I

⁵ The term radical pro-drop refers to languages which have referential pro-drop in the absence of any agreement, meaning that the features of the missing argument are radically absent. The existence of languages like Tamil, which have agreement, yet exhibit the properties of agreementless pro-drop languages, is a reason for avoiding the term radical pro-drop.

write “Minä olen ajatellut” [I have.1SG thought - AH] emphasizing myself twice in the same sentence. Oh God!

<http://essentia.vuodatus.net/blog/category/naurattaisi+jos+ei+vituttaisi>

There is one context where pro-drop appears to occur regularly and frequently, that is in answers to yes-no questions.

(7) Question: Halua-a-ko Leila teetä? [Finnish]

want-3SG-Q Leila tea.PRT

‘Does Leila want some tea?’

Answer: Halua-a.

want-3SG

‘Yes.’

A standard form of answer to a yes-no question echoes the finite verb of the questions in affirmative answers, and the sentential negation plus, optionally, the verb in negative answers (Holmberg 2001, 2016). These answers are not derived by pro-drop, though. One indication of this is the fact that the person of the subject makes no difference. Note that the subject in (7) is third person, which, as mentioned above, cannot otherwise be null in main clauses.

Another indication is that pronouncing the subject in the answer is unpreferred. (8) is not an entirely well formed answer to (7). Pro-drop in Finnish is generally optional.

(8) #Hän haluaa. [Finnish]

she wants

Instead, verb-echo answers are derived by verb movement to C, in a sentential structure [_{CP} C [_{IP} DP [I VP]]], and ellipsis of the IP.⁶ This explains why the person of the subject is irrelevant, and also explains why (8) is not a viable alternative to (6). Verb-echo answers are common among the languages of the world. See Holmberg (2016: ch. 3) on how to distinguish between answers that are derived by pro-drop and answers that are not. There is no clear correlation between verb-echo answers and pro-drop type. European Portuguese, for example, is a consistent pro-drop language which does employ verb-echo answers, while Spanish, another consistent pro-drop language, does not (Martins 1994, 2006). Brazilian Portuguese is a partial pro-drop language which, like Finnish, employs verb-echo answers, but Hebrew is a partial pro-drop language which does not (Martins 2006, Holmberg 2007).

3.2. *Subject pro-drop in embedded clauses*

In embedded finite clauses null subjects are common, even third person subjects, as long as they have an antecedent (a controller) in the superordinate clause.

- (9) a. Jussi₁ sanoo että (hän₁) aikoo ostaa uuden auton. [Finnish]
 Jussi says that he intends buy new car
 ‘Jussi says that he intends to buy a new car.’
- b. Leila₁ muistutti Mattia₂ että Ø_{1/2} oli jo käynyt ullakolla.
 Matti reminded Matti.PAR that she/he had already visited attic.ADE
 ‘Laila reminded Matti that she/he had already been in the attic.’

⁶ Holmberg (2001) and Holmberg (2016) present two different versions of the derivation of the answers, although both involve verb movement and ellipsis.

c. Marjaa₁ harmittaa ettei (hän₁) voinut tulla aikaisemmin.

Marja.PAR annoys that.NEG she could come earlier

‘It annoys Marja that she couldn’t come earlier.’

d. [Jussin₂ äiti]₁ sanoo että Ø_{1/*2} aikoo ostaa uuden auton.

Jussi’s mother says that she/he intends buy new car

‘Jussi’s mother says that she intends to buy a new car.’

Characteristically, the antecedent/controller of the embedded null subject is the subject of the superordinate clause. Example (9b) shows that the controller of an embedded null subject, notated here as Ø, can be an object, although in the absence of a context the preferred reading is that it is the subject. (9c) shows that the controlling superordinate subject need not have the same case as the null subject. (9d) shows the role of locality and c-command: The reading in which the embedded null subject is coreferential with the subject NP ‘Jussi’s mother’, rather than the possessive NP ‘Jussi’ is strongly preferred, to the point where the other reading is unavailable. This is a locality effect: the bigger NP c-commands the null subject, and is thereby structurally closer to the null subject than the possessor NP which does not c-command the null subject. If spelled out, the embedded subject can equally well refer to either NP.⁷

⁷ This pertains especially to standard, written Finnish. The example raises another issue, namely the choice between the third person pronouns *hän* and *se*. The former pronoun, with its plural counterpart *he*, refers strictly to humans. The latter, with its plural counterpart *ne*, can refer to humans or non-humans, although traditionally reference to humans is disallowed in written Finnish. There is a preference for using the form *hän* in (i) when the embedded subject is coreferential with the

(10) [Jussin₂ äiti]₁ sanoo että hän_{1/2} aikoo ostaa uuden auton. [Finnish]

Jussi's mother says that she/he intends buy new car

'Jussi's mother says that she/he intends to buy a new car.'

Among the consistent pro-drop languages there is some variation, which is not well investigated, regarding optionality of null subjects, in the contexts where they can occur at all (that is, not when they are focused, for example). There is a generalization, though, which could be universal, first discussed by Montalbetti (1986), who named it the Overt Pronoun Constraint.

(11) **Overt Pronoun Constraint:** Overt pronouns cannot link to formal variables if and only if the distinction between overt and empty pronouns obtains.

That is to say, pronouns bound by quantified NPs have to be null, in null-subject languages, as illustrated by Montalbetti's example (12).

superordinate clause subject and using *se* when it is not, including when it is coreferential with the possessor *Jussi*.

(i) [Jussin₂ äiti]₁ sanoo että hän_{1/se₂} aikoo ostaa uuden auton. [Finnish]

Jussi's mother says that she/he intends buy new car

'Jussi's mother says that she intends to buy a new car.'

For some speakers the preference probably amounts to a rule, albeit obfuscated by the prescriptive rules of standard and written Finnish. See Lappalainen (2010).

(12) Nadie₁ sabe que Ø₁/el_{*1/2} vendrá. [Spanish: Montalbetti 1986]

nobody knows that he will .come

In at least some partial pro-drop languages this constraint does not hold; see Duarte (2000) on Brazilian Portuguese. In Finnish, there appears to be some variation (which was not known to Holmberg, Nayudu, and Sheehan 2009). A small-scale investigation, carried out with the help of Saara Huhmarniemi (thanks also to Satu Manninen), yielded the following results: In the case of (13), all speakers accepted a bound reading for the overt pronoun or a disjoint reading where *hän* refers to a specific individual.

(13) Jokainen ruotsalainen pelkää, että Ø₁/hän_{1/2} joutuu saunaan.

every Swede fears that he gets.put sauna.ILL

‘Every Swede is afraid that he will end up in the sauna.’

In the case of (14), too, with a negated quantifier, all speakers accepted a bound or disjoint reading for the overt embedded subject, but with a more or less strong preference for the disjoint reading.

(14) Kukaan ruotsalainen ei pelkää, että Ø₁/hän_{1/2} joutuu saunaan.

no Swede not fear that he gets.put sauna.ILL

‘No Swede is afraid that he will end up in the sauna.’

In the case of (15), however, most speakers could only get a disjoint reading for the overt embedded subject (indicated by * for the bound reading).

- (15) Kukaan₁ ei tiedä milloin Ø₁/hän*_{1/2} kuolee. [Finnish]
 no-one not know when he dies
 ‘No-one knows when he will die.’

For all the speakers and all sentences the embedded null subject could only have a bound reading. The surprising difference between (14) and (15) may be that the quantified subject in (14) can have a restrictive reading ‘none of the Swedes’, which is less readily available in (15). This remains to be investigated, though.

3.3. *Subject pro-drop in adjunct clauses*

There are indications that subject pro-drop is particularly common and natural in adverbial clauses, among other finite clauses. Compare (15), containing a complement clause, and the clauses under (16), featuring adverbial clauses.

- (16) Eeva väittää että (hän) puhuu ranskaa sujuvasti. [Finnish]
 Eeva claims that she speaks French well

- (17) a. Jussi tulee mielellään, jos (hän) voi. [Finnish]
 Jussi comes with pleasure if he can
 ‘Jussi will gladly come, if he can.’
- b. Isäni katselee rugbya, vaikkei (hän) ymmärrä säännöistä mitään.
 father.my watches rugby even.NEG he understands rules.ELA anything
 ‘My father watches rugby even though he doesn’t understand any of the rules.’

- c. Hän on hullu, kun (hän) huutaa tuolla tavalla.
 he is crazy when he shouts that.ADE manner.ADE
 ‘He is crazy, shouting like that.’

The evidence comes from an investigation reported in Alsaedi (2016), comparing L2 acquisition of the English subject system by Finnish, French, and Arabic learners. In grammaticality judgment tests the Finnish learners accepted null subjects in English adverbial clauses more than in complement clauses (both are ungrammatical in English), which is plausibly due to interference from Finnish. This tallies with reports from Finnish informants that the null subject is even (mildly) preferred over the overt one in (16a,b,c), which is not the case in (15).⁸

Interestingly the same generalization holds in Hebrew, another partial pro-drop language. In fact it holds in a stronger form, as discussed by Shlonsky (2014): third person null subjects are well formed in adverbial clauses, provided they have a controlling antecedent, but ungrammatical in complement clauses like (16). As shown by Shlonsky, the generalization in Hebrew is that the distribution of such null subjects is inversely correlated with the grammaticality of subject extraction. The subject of an adverbial clause cannot move, but can be null when controlled, the subject of a complement clause embedded under verbs of saying and thinking can move in Hebrew, but cannot be null when controlled (Shlonsky 2014: 13). In Finnish the subject of a complement clause of saying and thinking can be controlled, as shown in (16) (see also Frascarelli, to appear, discussed in section 6

⁸ It is also interesting that the interpretation of embedded third person null subjects in Italian and Finnish is more similar in adverbial clauses than in complement clauses; see Frascarelli (to appear), discussed in section 6.

below). Interestingly, in Finnish the subject cannot move (Finnish has a that-trace effect), meaning that Shlonsky's generalization may hold in Finnish, too.

- (18) *Kuka Pekka luuli että ___ tapasi Merjan? [Finnish: Huhmarniemi 2009: 68]
 who Pekka thought that met Merja

Whether Shlonsky's generalization holds when more data in Finnish are taken into account remains to be investigated (see Huhmarniemi 2014 and Brattico, forthcoming). Space also does not allow a discussion of the explanation of the generalization proposed by Shlonsky (2014).

(19) shows that a relative clause can have a controlled third person null subject in Finnish, which is also the case in Hebrew, as predicted by Shlonsky, as relative clauses do not allow subject extraction.

- (19) Jari rikkoi maljan jonka (hän) oli saanut lahjaksi sukulaisiltaan. [Finnish]
 Jari broke vase which he had got present. TRA relatives. ABL. 3SG
 'Jari broke a vase that he had received as a present from his relatives.'

In Brazilian Portuguese and Marathi, two other partial pro-drop languages investigated by Holmberg, Nayudu and Sheehan (2009) and Holmberg and Sheehan (2010), relative clauses cannot have a controlled null subject, though. The comparative investigation among partial pro-drop languages carried out in these works would need to be done again, taking Shlonsky's generalization into account.

3.4. *Non-local pro-drop not accepted*

Consider Italian (5) again, repeated here as (20), and compare it with Finnish (21).

- (20) Gianni₁ non ha detto niente, ma Paolo₂ ha detto che Ø_{1/2} vuole comprare una macchina nuova. [Italian]
'Gianni₁ hasn't said anything, but Paolo₂ has said that he_{1/2} wants to buy a new car.'

- (21) Jussi₁ ei ole sanonut mitään mutta Pauli₂ sanoi että Ø*_{1/2} haluaa ostaa uuden auton.
'Jussi₁ hasn't said anything, but Pauli₂ has said that he*_{1/2} wants to buy a new car.'

In Italian, in the absence of any context, either reading is equally good. In Finnish, only the local reading is possible, according to Holmberg (2010). This categorical judgement may need to be modified below, though, given the data from Frascarelli (to appear) discussed in section 6.

3.4. *Non-referential pro-drop*

Expletive subject with extraposition is common in spoken Finnish, but never obligatory.

- (22) (Se) oli hyvä että Jussi tuli auttamaan. [Finnish]
it was good that Jussi came to help
'It was good that Jussi helped out.'

Expletive subject *se* 'it' with weather verbs occurs in spoken Finnish, but is never obligatory and strictly avoided in written Finnish.

(23) Nyt (se) taas sataa. [Finnish]

now it again rains

‘Now it’s raining again.’

A formal account of this is that Finnish has a null ‘it-type’ expletive. An alternative formal account is that Finnish has an optional EPP (see Holmberg and Nikanne 2002); the subject position (which is also the position of a fronted topic) can remain unfilled if there is no subject or topical constituent to fill it.

Finnish also has a ‘there-type’ expletive, which is the partitive form *sitä* of *se* ‘it’, in impersonal sentences where the sentence has a subject or other potential topic which is not moved to the subject/position. This expletive is not optional in the manner of the *se*-expletive, i.e. it does not have a null exponent. The effect can be seen in (24). In (24a), the subject is fronted, in (24b) the expletive *sitä* fills the subject position, while (24c), which has neither a fronted subject nor an expletive, is ungrammatical.⁹

(24) a. Hevonen voi potkaista sinua päähän. [Finnish]

horse can kick you head.ILL

‘A/the horse can kick you in the head.’

b. Sitä voi hevonen potkaista sinua päähän.

there can horse kick you in.the.head

‘You can get kicked in the head by a horse.’

⁹ There is a grammatical reading of (21c), that is when the subject is fronted to the IP-initial position but then the verb is fronted to a sentence-initial focus position (Holmberg 2001, Holmberg and Nikanne 2002).

- c. *Voi hevonen potkaista sinua päähän.
can horse kick you in.the.head

3.5. The inclusive generic null subject (null 'one')

Finnish has a null inclusive generic subject pronoun. ‘Inclusive’ means that the pronoun refers to people in general including the speaker and the addressee. The agreement on the verb indicates that the null pronoun has 3SG features, like English *one* or German *man*. This pronoun has no overt form.

- (25) a. Tässä tuolissa istuu mukavasti. [Finnish]
 this.INE chair.INE sit.3SG comfortably
 ‘One can sit comfortably in this chair.’
- b. Kesällä herää aikaisin.
 summer.ADE wake.3SG early
 ‘In the summer you wake up early.’

According to Holmberg (2005, 2010a,b), Holmberg, Nayudu and Sheehan (2009), and Holmberg and Sheehan (2010) this is a characteristic of partial pro-drop languages. See Holmberg (2010b) for arguments that there is a null 3SG pronoun in the syntactic structure which triggers 3SG agreement on the finite verb in these constructions, i.e. they are not subjectless. The subject/topic position needs to be filled with overt material, often a locative or other adverbial, or with the expletive *sitä*. Compare (25a) and (26a,b). That is to say, the

inclusive generic null subject cannot satisfy the EPP in Finnish (see Holmberg 2010b) (and the expletive *sitä* does not have a null counterpart, as pointed out in section 3.4).

- (26) a. *Istuu mukavasti tässä tuolissa. [Finnish]
 sits comfortably this椅.椅
 b. Sitä istuu mukavasti tässä tuolissa.
 there sits comfortably this椅.椅
 ‘One can sit comfortably in this chair.’

4. The formal difference between consistent, partial, and discourse pro-drop languages

The formal nature of null subjects is obviously a highly controversial issue, much debated especially since the early eighties, when the idea of the pro-drop or null subject parameter was introduced (Rizzi 1982, 1986, Chomsky 1982, Huang 1984, Jaeggli and Safir (eds.) 1989), Vainikka and Levy (1995), Y. Huang (2000), Holmberg (2005), Biberauer et al. (2010). This is not the place to elaborate on this issue, but I will, nevertheless, summarize the theory articulated in Holmberg (2010a,b) and Roberts (2010) to explain the differences between consistent and partial pro-drop languages. The general idea is that there is a difference in the agreement system between the two types of pro-drop languages. Consistent pro-drop languages have a D(efinite)-feature in T, along with a set of unvalued ϕ -features (person, number, and in some languages gender). The unvalued ϕ -features are assigned a value by the subject, and the subject gets assigned nominative case in the process. The effect of the D-feature is that a null subject will always be interpreted as a definite pronoun. Partial pro-drop languages, too, have subject-verb agreement, i.e. they, too, have unvalued ϕ -features in T, which are assigned value by the subject, but they do not have a D-feature in T.

This means that a third person null subject will not be interpretable as a definite DP unless it is controlled by a definite DP in a higher clause. This explains why the only interpretation a null subject can have in a main clause is generic, and why it is dependent on a local controller when it occurs in embedded clauses.

5. An alternative way to derive null subjects and objects: NP ellipsis

As for discourse pro-drop, it is obviously not dependent on agreement, as the languages in question typically lack agreement. An interesting idea is that so called discourse pro-drop is not ‘pronoun drop’ but NP ellipsis in languages which have no D, or have a covert D, in argument noun phrases (Jayaseelan 1999, Tomioka 2003). When NP ellipsis applies in a language with an abstract D, the visible (audible) effect is like that of pro-drop. Consider (27):

(27) John saw a bear. I saw one, too. ← I saw [DP one [_{NP} ~~bear~~]], too

In (27) the NP of the object in the second sentence can be deleted under identity with the NP in the first sentence. The stranded numeral *one* would be the strong form of the indefinite article *a/an*. An interesting extension of this idea is that definite pronouns are also the result of NP ellipsis, as shown in (28).

(28) John saw a bear. I saw it, too. ← I saw [DP it [_{NP} ~~bear~~]], too

The analysis presupposes a theory of definite pronouns as determiners (Postal 1969). As in (27), the NP in the second clause of (28) would be deleted under identity with the NP in the first clause. In this case the pronoun *it* would be a strong form of the definite article *the*; see

Panagiotidis (2002), Elbourne (2013). Now, for a language without articles, that is without (audible) D, the NP-ellipsis will have the effect of pro-drop, as shown schematically in (29) and (30), using English words; (29) would be the case of object drop, (30) the case of subject drop.

(29) John saw bear. I saw, too. \leftarrow I saw [_{DP} \emptyset [_{NP} ~~bear~~]], too

(30) Bear saw me. Saw you, too. \leftarrow [_{DP} \emptyset [_{NP} ~~bear~~]] saw you, too.

As it happens, all known discourse pro-drop language lack articles. This is also true of Tamil, which is exceptional among well-studied discourse-pro-drop languages in having rich agreement, implying that lack of agreement is not a criterial property of discourse pro-drophood, but absence of articles may be (Thampoe 2016).

A well-established property of the known discourse pro-drop languages is that they have object as well as subject drop. This is predicted if the null arguments are derived by NP-ellipsis; there is no reason why this would be restricted to subjects.

Recently Barbosa (to appear) has argued that partial pro-drop languages, too, have their null arguments derived by NP-ellipsis. The observations motivating this hypothesis are that partial pro-drop languages (a) lack articles, and (b) allow object as well as subject drop.

It is not entirely true that all known partial pro-drop languages lack articles: Hebrew has a definite article, as does Icelandic (a partial pro-drop language according to Holmberg 2010a,b).¹⁰ Finnish lacks articles, though, even though colloquial Finnish is known to quite systematically use the neutral demonstrative *se* for some of the functions of definite articles

¹⁰ Barbosa (to appear) is aware of this, but points out that the Hebrew article system is defective, as it lacks an indefinite article. This is true, but so does Arabic, which otherwise has all the hallmarks of consistent pro-drop language.

(Laury 1997). But Finnish does not have object drop, certainly not as widely used as in other languages reported to have object pro-drop. Finnish does have what looks like object drop in cases like (31).

- (31) Eeva ei löytänyt avaimiaan, mutta Jussi löysi. [Finnish]
 Eeva NEG found keys.3SG but Jussi found
 ‘Eeva didn’t find her keys, but Jussi did.’

As discussed in Holmberg (2001) the second conjunct is not derived by object drop, though, but by ‘verb-stranding VP ellipsis’ (Goldberg 2005, Sailor 2014). Finnish has verb movement to T (Holmberg et al. 1993, Holmberg 2001). If the predicate is transitive, and verb movement is followed by VP-ellipsis, the result looks like object-drop. Note that the translation into English uses standard VP-ellipsis.

In other contexts where object drop is standardly used in, for example, Chinese (here Mandarin; Lee 2014), Finnish needs an overt pronoun.

- (32) a. Zhang kanjian zhe zhi xiong le . Mali ye kanjian. [Mandarin]
 Zhang see this CI bear ASP Mali also see
 ‘Zhang saw this bear. Mary also saw it.’
 b. Jussi näki sen karhun. Eeva-kin näki *(sen).
 Jussi saw that bear Eeva too saw it
 ‘Jusi saw that bear. Eeva saw it, too.’

There is, thus, not much empirical support for the contention that Finnish would derive null arguments by NP-ellipsis, the way discourse pro-drop languages do, if Jayaseelan and Tomioka are right.

6. A comparison of null subject use in Finnish and Italian

Frascarelli (to appear) reports and discusses the results of an online questionnaire-based investigation testing grammaticality judgments of sentences with null subjects, with 273 Finnish and 128 Italian respondents. The objective is to test whether the facts and the predictions of the theory in Holmberg (2005), Holmberg, Nayudu, and Sheehan (2009), and Biberauer, Holmberg, Roberts, and Sheehan (2010) are right, specifically the distinction between consistent pro-drop languages (represented by Italian) and partial pro-drop languages (represented by Finnish), with focus on third person null subjects.

The overall results show that Italian is more permissive than Finnish as regards the distribution and interpretation of third person null subjects, as we would expect. The difference is not obviously qualitative, though, in the way predicted by Holmberg (2005), Holmberg, Nayudu & Sheehan (2009), and Biberauer, Holmberg, Roberts and Sheehan (2010). Consider the following data. The question is how the respondents interpret the embedded null subject: as coreferent with the main clause subject, or as referring to somebody else, or as ambiguous between the two interpretations.

(33) a. Leo ha detto che **pro** ha comprato una casa. [Italian]

Leo has said that has bought a house

b. Juhani kertoi että **pro** oli ostanut talon. [Finnish]

Juhani said that had bought house

	Leo/Juhani	Somebody else	Both (ambiguous)
ITA	24%	31%	45%
FIN	69%	14%	17%

Table 1

The theory does not predict any particular preferences in the case of Italian, and that is confirmed by the results. For Finnish, the theory predicts a categorical preference for the coreferential (controlled) reading, as Finnish is supposed not to allow third person referential subject pro-drop except when the subject is locally controlled. A clear majority of the respondents did indeed assign that reading to the null subject. However, as many as 1/3 of them allowed the non-co-referential reading, too, and 14% gave that as their preferred or only reading.

Next consider (34):

(34)a. Jari ha parlato a Leo ieri. Ora **pro** ha capito cosa è successo.

Jari has talked to Leo yesterday now has understood what has happened

b. Jari puhui Leo-lle eilen. Nyt **pro** ymmärtää mitä tapahtui. [Finnish]

Jari talked to Leo yesterday now understands what happened

Both: ‘Jari talked to Leo yesterday. Now he understands what has happened.’

The question is whether the second sentence is grammatical at all. The prediction, on the basis of the literature cited above and more generally on the basis of the received view on

third person pro-drop in Italian and Finnish, is that the Italian respondents would find it grammatical while the Finnish respondents would not. Consider Table 2:

	Grammaticality		
	OK	No	
ITA	100%		
FIN	32%	64%	

Table 2

As predicted, the Italians all accepted pro-drop in this context. As for the Finns, a clear majority found pro-drop ungrammatical in this context, but somewhat surprisingly, as many as a third found it acceptable.

Clearly, Frascarelli's (to appear) results indicate that the standard view on third person subject pro-drop in Finnish needs to be modified. third person subject pro-drop is an option, at least for some speakers, even without a local, c-commanding antecedent, as a more or less marked alternative. The difference between Italian and Finnish is clear enough, though, evident in the answers to just about every question asked in Frascarelli's experiment. We may continue to assume that this difference is a reflection of a more general difference between consistent and partial pro-drop languages.¹¹

¹¹ The option of having a third person null argument interpreted by recourse to a non-c-commanding antecedent, as a marked option, is also found in possessive noun phrases, according to Huhmarniemi and Brattico (2015). In standard Finnish there is a possessive suffix which can stand alone in the first and second person, but needs a spelled out, controlling (c-commanding) antecedent in the third person. Huhmarniemi and Brattico demonstrate that even the third person suffix can sometimes stand alone, in the sense of not having a c-commanding antecedent.

Frascarelli (to appear) takes her results to show that consistent and partial pro-drop languages all rely on a topic chain to interpret third person null subjects. In particular, they all have a [+aboutness] topic feature in the C-domain, which may be abstract, which controls the null argument via the ϕ -features of T. There is a parameter which determines whether the topic chain can be entirely abstract or whether it needs “(at least) one link of the Topic chain [to] be visible at the interface levels”, i.e. to be pronounced. The latter would be characteristic of partial pro-drop languages.

7. Conclusions and suggestions for future research

The paper has given an overview of null-subject-related properties in Finnish. They are mainly properties which are claimed in the literature to be characteristic of partial pro-drop languages, which is expected as the definition of this type of pro-drop is based in part on the properties of Finnish, in Holmberg (2005), Holmberg, Nayudu, and Sheehan (2009), and Biberauer et al. (2010).

Some recent findings have been discussed, which enrich and complicate the picture. There is variation with respect to Montalbetti's (1986) Overt Pronoun Constraint, which needs to be further investigated. Shlonsky's (2014) generalization that there is an inverse correlation between control and movement of embedded subjects in Hebrew may hold in Finnish, too. Frascarelli (to appear) has shown that there is variation regarding the interpretation of null subjects, in that third person null subjects can have a non-controlling, non-local antecedent, at least for many speakers, given the right context. The possibility, raised by Barbosa (to appear), that partial pro-drop languages including Finnish would have their null subjects derived by NP-ellipsis was discussed as well.

As for future research, an obviously interesting task is to carry out systematic comparison between Finnish and its relatives, including the very close relative Estonian and the more distantly related but syntactically very similar North Saami, as well as other Saami varieties, and all the other Uralic languages. As always, comparison of closely related varieties has the potential to provide information about variation and universals which cannot easily be had by comparison of unrelated languages (or more correctly, very distantly related languages, since ultimately all languages are related); see Kayne (2005).

A close comparison of Hebrew and Finnish embedded null subjects is obviously also called for, in light of the facts discussed in section 3.3, extending the comparative investigation of partial pro-drop in Holmberg, Nayudu and Sheehan (2009) and Holmberg and Sheehan (2010) to another partial pro-drop language.

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