Conditions on argument drop

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This paper develops a theory of context-linking in terms of silent CP features or operators, where all referential pronouns, overt and silent, must match these features in order to be successfully context-linked (interpreted). It also adopts an approach (suggested by several researchers) where verbal agreement in languages like Italian is a pronoun, incorporated into Infl. On this approach the canonical Romance type of pro can be analyzed as involving an overt φ-bundle, Ø–I_{φ}, thus differing from other argument drop types in being subject to much the same relatively lax context-linking conditions as overt weak pronouns (φ-bundles) in e.g. the Germanic languages. More radically silent arguments, like Germanic zero topics and controlled 3rd person null-subjects in Finnish, commonly have to raise across a lexical C (a complementizer or a V2 verb) into a CP domain for the purpose of successful context-linking (circumventing C-intervention), thereby showing A'-behavior not observed for other types of referential pronouns, including Romance Ø–I_{φ}. Languages like Chinese and Japanese lack lexical C categories in their clausal left periphery, thus not showing any C-intervention effects on the context-linking of null-subjects. On this approach, null-arguments are universally available in syntax, whereas their context-linking and hence their identification in PF is conditioned by contexctual factors that may or may not be present or active in individual languages and constructions.

Keywords: argument drop, context-linking, phi-identification, pro, topic drop

1. Introduction*

Three types of referential null-subjects are often distinguished (C.-T. J. Huang 1984, 1989, 1991 and many since, e.g. Holmberg 2005, Neeleman & Szendrõi 2007):

A. The Romance *pro drop* type, conditioned by agreement
B. The Germanic *topic drop* type, conditioned by an empty Spec,CP
C. The Chinese *discourse drop* type, not clause-internally constrained

In addition, Finnish, Hebrew and a number of other languages have controlled pro in subordinate clauses that shares some properties with Germanic topic-drop and Chinese discourse drop.

Types A-C are exemplified in (1)-(3) ((3) is from C.-T. J. Huang (1984:533, 1989:187); Ø-AGR in (2) and (3) indicates 'no agreement'):

* This paper elaborates on ideas that were first discussed in joint work with Joan Maling (Sigurðsson & Maling 2007, 2008). I am indebted to Joan for her support. For help with data and useful comments and discussions, I also thank …

(1) Parl**o**/Parl**i** islandese. *Italian*
speak.1SG/2SG Icelandic – verb agreement
'I/You speak Icelandic.'

(2) Kommer tillbaks imorgon. *Swedish*
come.Ø-AGR back tomorrow – empty Spec,CP, but no agreement
'[I/We/She, etc.] will be back tomorrow.'

(3) Kanjian ta le. *Chinese*
see.Ø-AGR him PERF.Ø-AGR – no clause-internal restrictions
'[He/She, etc.] saw him.'

Romance null-subjects differ from the Germanic and the Chinese types in being conditioned by *verb agreement*. Germanic null-subjects, in turn, differ from the other types in being confined to clauses with an *empty Spec,CP*. Compare (2) and (4):

(4) Imorgon kommer *(jag/hon/ …) tillbaks. *Swedish*
tomorrow come.Ø-AGR *(I/she/ …) back

Germanic referential null-subjects must thus have access to Spec,CP. Following Sigurðsson & Maling (2007, 2008), I refer to this restriction as the *Empty Left Edge Condition*, ELEC.

Null-objects are like null-subjects in either being or not being clause-internally constrained, and the clause-internal conditions are either agreement or access to Spec,CP. This is exemplified in (5)-(7). The Pashto example in (5) and the Chinese example in (7) are modelled on C.-T. J. Huang (1984:533, 536); notice that the subject in (6) is phonologically reduced (the full form being *jag*), an issue I will return to:

(5) mā wəxwar**a** *Pashto*
me.ERG eaten.3.F.SG object-verb agreement
'I ate it.' (e.g. the apple)

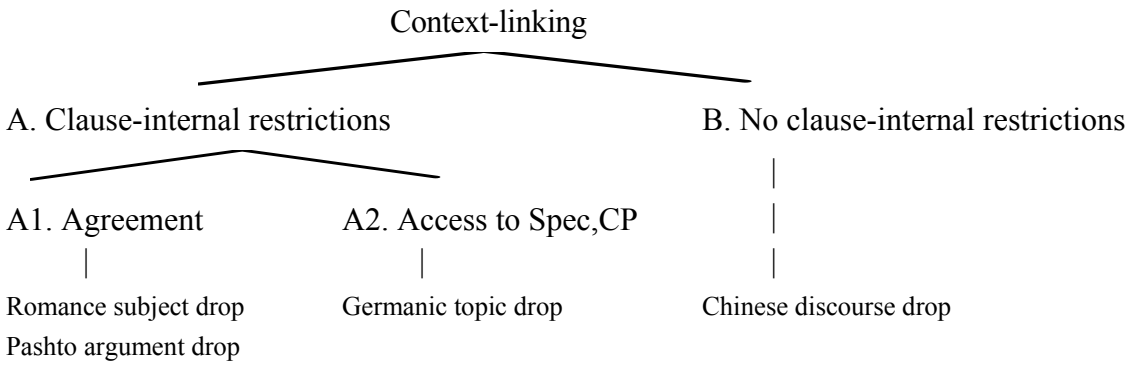
(6) Såg 'ja igår. *Swedish*
saw. Ø-AGR I yesterday empty Spec,CP, reduced subject,
'I saw [him/her, etc.] yesterday.' but no agreement

(7) Ta kanjian le. *Chinese*
he see.Ø-AGR PERF.Ø-AGR no clause-internal restrictions
'He saw [him/her, etc.].'

In C.-T. J. Huang's approach (1984, 1989), and in other GB-theoretic approaches inspired by his work (Cole 1987, Sigurðsson 1989, 1993, among many), a sharp distinction was drawn between Romance *pro* drop and Germanic *topic* drop. The Chinese type of discourse drop, in turn, was analyzed as involving subject pro or PRO, but zero object topics.

I will here explore and argue for a unified approach to referential null-arguments, where all types of (overt and silent) definite pronouns are variables, requiring identification by *context-linking*. Under this approach, the typology of referential null-arguments can be sketched as in (8):

(8) *The typology of referential null-arguments:*



Romance null-subjects have much the same distribution and referential properties as weak pronouns in languages like English and the Germanic V2 languages (Cardinaletti & Starke 1999), and I will thus adopt an analysis (Platzack 2004, Roberts 2008, Holmberg et al. 2008) where verbal agreement in languages like Italian *is* a pronoun, incorporated into Infl, henceforth **Ø–I$_{\varphi}$** (cf. the notion 'I-subject' in Borer 1986, 1989). As will be discussed in section 4, it follows that structural licensing (in the spirit of Rizzi 1982, 1986) does not distinguish between Italian Ø–I$_{\varphi}$ and Germanic weak pronouns (see also Frascarelli 2007). Rather, pronouns in general, including Italian Ø–I$_{\varphi}$, must be φ-identified under successful context-linking. Overt φ-marking of Agr cannot generally contradict the φ-interpretation of null-arguments, and thus Agr in effect constrains their identification. As will be shown, however, this is not peculiar of Italian Ø–I$_{\varphi}$ but a general phenomenon, applying to Germanic null-topics even though they are clearly not preconditioned or licensed by agreement.

Context-linking of a null-argument is commonly blocked by intervention of another category in the clausal left periphery, but such intervention can in certain cases be circumvented by movement of the null-argument across the potentially intervening category. The reason why languages like Chinese and Japanese do not display any clause-internal restrictions on pro drop is that they lack lexical C categories in their clausal left periphery, thus thus not showing any C-intervention effects on context-linking.

2. On the GB distinction between pro drop and topic drop

In GB theory there were several seemingly good reasons to distinguish between Germanic and Romance argument drop. One of these reasons was that not only subjects but also direct objects can be dropped in Germanic, as illustrated in (6) above. Another, related reason was that Germanic topic drop is not generally contingent on verb agreement, and a third reason, illustrated in (2) and (4) was that it is confined to clauses with an empty left edge (Spec,CP). This is further illustrated in (9)-(10) for Germanic subject topic drop; the dash indicates the Spec,IP position, whereas the initial position is Spec,CP:[1]

(9)	a.	(Ich) kenne	__	das	nicht.		*German*
	b.	(Jag) känner	__	det	inte.		*Swedish*
	c.	(Ég) þekki	__	það	ekki.		*Icelandic*
		(I) recognize	__	that	not		

(10)	a.	* Jetzt	kenne	__	das	nicht.	*German*
	b.	* Nu	känner	__	det	inte.	*Swedish*
	c.	* Núna	þekki	__	það	ekki.	*Icelandic*
		now	recognize	(I)	that	not	

The received analysis (see, C.-T. J. Huang 1984, 1989, 1991, Cole 1987, Sigurðsson 1989, 1993, Cardinaletti 1990, among many), was that the silent argument is either an empty operator in Spec,CP, or an NP that has been moved into the Spec,CP position and deleted from there:

(11) a. $[_{CP}\ Op_i \ldots [_{IP}\ e_i \ldots$
b. $[_{CP}\ \sout{NP}_i \ldots [_{IP}\ t_i \ldots$ (e.g., *~~Ich~~* kenne __ das nicht)

The empty Spec,IP position (e_i / t_i) could thus be analyzed as being both identified and licensed under A'-binding from Spec,CP. In Italian examples like (1) above (*Parlo/Parli*

[1] The examples in (9) and (10) are from Sigurðsson (1993:254–255), see also Y. Huang (2000:79–80). Largely the same applies to Dutch (see Haegeman 1996, Ackema & Neeleman 2007), apart from complications that arise from the fact that Dutch has a special series of weak (as well as strong) pronouns, leading to the preference of weak pronouns over nulls in certain cases where a null would be the natural option in e.g. German (Hans Broekhuis, Marcel den Dikken, p.c.). As also discussed by Haegeman (1996), West-Flemish is exceptional among the V2 Germanic languages in not allowing topic drop (i.e., it would seem that the available clitic option rules out the null-option, entirely in West-Flemish and partly in Dutch, but this needs to be looked into much more carefully than I can possibly do here).

islandese), on the other hand, the silent Spec,IP subject was taken to be licensed and identified by the rich agreement morphology of Infl in languages of this sort (Rizzi 1986):

(12) $[_{CP} \ldots [_{IP} \textit{pro}_i$ Infl/$AGR_i \ldots$

The Spec,IP subject was thus an empty variable in (11) but a pro(noun) in (12), in accordance with the classification of overt and covert NPs in Government and Binding theory (Chomsky 1982:78f; see also Y. Huang 2000:17):

(13)		*Overt*	*Covert*
a.	[–anaphor, +pronominal]	pronoun	**pro**
b.	[–anaphor, –pronominal]	R-expression	**variable**
c.	[+anaphor, +pronominal]	----	PRO
d.	[+anaphor, –pronominal]	lexical anaphor	NP-trace

It followed that the Romance type of null-subjects was predicted to obey condition B of the binding theory (saying, roughly, that pronouns have to be free in a local A domain), whereas the Germanic type of null-arguments was predicted to obey condition C (saying that R-expressions / variables are A-free). Accordingly, the Germanic type was expected to be subject to much the same island constraints and crossover effects as overt A'-movement. This was commonly assumed to be borne out, at least by and large (see, e.g., the discussion in C.-T. J. Huang 1984, Cole 1987, Sigurðsson 1993, Y. Huang 2000).

Referential indices violate the Inclusiveness Condition, stated as follows by Chomsky (1995:228):

> A 'perfect language' should meet the condition of inclusiveness: any structure is … constituted of elements already present in … [the] N[umeration]; no new objects are added in the course of computation … in particular, no indices, bar-levels in the sense of X-bar theory, etc. …

More generally, indices "are basically the expression of a relationship, not entities in their own right" (Chomsky 1995:217, fn. 53). Thus, the binding conditions cannot be stated in terms of indices, hence not in terms of the GB theoretic sense of binding. In addition, the binding conditions are conditions on representational levels (basically D-structure), which are non-existent in the minimalism, and they cannot be stated in any alternative derivational terms without resorting to either look-ahead or backtracking (violating locality and cyclicity). The binding theory has accordingly been abandoned in most minimalist approaches. It does not follow, of course, that referential conditions on NPs are non-existent in language. Several different but conceptually related minimalist accounts of binding and control phenomena have

been proposed, involving overt movement or only Agree or a combination of both (Reuland 2001, Hornstein 2001, Kayne 2002, Zwart 2002, Landau 2000, 2004, 2008, Heinat 2006, etc.).

Binding is a convenient descriptive notion, but, if it is atheoretic and non-existent in syntax, it is clear that the different properties of null-argument types cannot be analyzed in terms of binding or the binding conditions. In addition, the notions 'anaphor' and 'pronominal', that were supposed to be the very defining features of pro versus variables (cf. (13) above), do not have any content or reference outside of GB theory, i.e., they only describe the distribution of anaphoric items in GB theoretic terms. They are not themselves features of language or "entities in their own right", as seen by the fact that they get no interpretation at the semantic interface. Thus, it is not an option to abandon the binding theory and keep the [–anaphor, +/–pronominal] understanding of (the typically) Romance and Germanic null-argument types. The combinations [–anaphor, +pronominal] vs [–anaphor, –pronominal] have no status or meaning other than 'obeys condition B vs condition C of the GB binding theory.' In particular, they do not have any status as lexical primitives (cf. Safir 2004).

The notion 'variable' does not make the correct distinction between argument drop types either. A pronoun with an established reference may function as a constant in a given context, but, apart from that, any pronoun is basically a variable, an issue I will return to. A claim to the effect that different types of null-arguments differ in 'variability' amounts to claiming that they have different referential properties, but that seems to be incorrect.

A novel understanding of referential null-argument types is called for. Two different lines of reasoning suggest themselves: A lexical one and a derivational one. On a lexical approach, a null-topic of the Germanic type would have an extra feature, say +Topic, not shared by the Romance type of null-subjects. This is not particularly abstract or radical – it is clear that phonological zeros commonly represent complex semantic/syntactic structures.[2] In fact, much generative work on null-anaphora, including C.-T. J. Huang (1984, 1989, 1991), has presupposed the lexical approach. However, an approach along these lines does not seem to make the correct distinctions between referential null-argument types (not any more than an account in terms of 'anaphor' and 'pronominal'). First, it is unclear why languages should differ such that some have and some lack +Topic null-anaphora; that assumption would seem to be independently refuted by the cross-linguistic availability of +Topic PRO (cf. Landau 2000 *et seq.*, Sigurðsson 2008a). Second, the assumption or claim that Germanic null-arguments are somehow more topical than Romance null-subjects is unfounded. First and second person pronouns are inherently topical or context-linked, and it has been meticulously demonstrated that Italian third person subjects cannot be null unless they are aboutness topics,

[2] The references here are copious, I mention only Chomsky 1981, 1995, Merchand 2001, Sigurðsson & Egerland 2008.

as will be discussed in more detail in section 4. I will thus argue that both types of null-arguments are pronouns, hence in need of being successfully context-linked (φ-identified). 'Radical nulls' of the Germanic type, however, must raise into the CP domain for the purpose of successful context-linking, thereby showing A'-behavior not observed for 'more overt' pronouns, including Italian Ø–I_{φ}.

3. On the role of agreement

Reconsider the Pashto object drop example in (5), repeated here as (14):

(14) mā wəxwar**a**
me.ERG eaten.3.F.SG
'I ate it.' (e.g. the apple)

Because Pashto is a split ergative language, it can be shown that dropped arguments, both subjects and objects, crucially have to agree with the verb.[3] C.-T. J. Huang (1984:535f) demonstrates this very clearly, and I will not repeat his arguments here (see also Y. Huang 2000:55, Neeleman & Szendrõi 2007:672). Even so, it is evident that the referent of the object must *also* be identified or recovered from the context, like regular overt pronouns. There is no way of knowing that the dropped object in (14) refers to 'the apple' unless 'the apple' has been (or is being) established as an aboutness topic, either deictically or in discourse. In other words, the null object is not only clause-internally but also *clause-externally* conditioned.

The same point is demonstrated for Italian subject drop in the careful study of Frascarelli (2007). I quote one of Frascarelli's examples and her discussion around it (2007:703f):

> Consider first the following passage, in which the speaker (who works in a radio station) is talking about her boss and a colleague of hers:
>
> (13) [***il mio capo***]$_i$ *come diceva Carlo* […] **pro**$_i$ *è un exreporter* […] **pro**$_i$ *è stato in giro per il mondo* […] **pro**$_i$ *mi ha preso in simpatia solo che siccome* **pro**$_i$ *è mostruosamente lunatico, è capace che domani non* ***gli***$_i$ *sto più simpatica e* **pro**$_i$ *mi sbatte fuori* […] *comunque a parte questo* **pro**$_i$ *mi diverte moltissimo - poi c'è* ***M.F.***$_k$ *che è questo che appunto sta facendo tipo praticantato per poi andare a fare l'esame da giornalista/ fra un anno e mezzo quindi* ***lui***$_k$ *c'ha quanto meno la garanzia che* **pro**$_k$ *può rimanere lì finché* **pro**$_k$ *non farà l'esame cioè ehm* ***lui***$_i$ *poi gli deve fare / scrivere le referenze…*
> '[**my boss**]$_i$ as Carlo used to say […] **pro**$_i$ is a former reporter […] **pro**$_i$ has been all over the

[3] In this respect Pashto differs from Hindi/Urdu, which can drop non-agreeing arguments under control (cf. Butt & King 1997), like Chinese.

> world […] **pro$_i$** likes me, however, as **pro$_i$** is extremely moody, maybe tomorrow **pro$_i$** does not like me any longer and **pro$_i$** fires me […] anyway, apart from this, **pro$_i$** is really funny - then there is **M.F.$_k$** who is practicing for his exam as a journalist/ in one and a half years, so at least **he$_k$** has a guarantee that **pro$_k$** will stay there till **pro$_k$** has made the exam because **he$_i$** then must make/ write a report …'

> The initial DP *il mio capo* ('my boss') qualifies as an Aboutness-shift Topic … Once established as the Aboutness Topic, 'my boss' is interpreted as the subject of a number of following sentences, in which a N[ull]S[subject] is used. Then, a new referent is introduced (i.e., *M.F*) and, interestingly, even though the following sentence has this referent as a subject and recoverability is not at stake, the speaker does not use NS. A strong pronoun is produced, which starts a Topic chain with two pros in the following sentences … Finally, the speaker shifts the conversation to her boss and a strong subject pronoun is realized again … The short passage given in (13) … shows that strong subjects are not produced to avoid featural ambiguities: the speaker is talking about two men and the φ-features expressed with the pronoun *lui* cannot be helpful to identify either (possible) referent. Strong pronouns, on the other hand, avoid ambiguities at a discourse level, since they are used to obviate coreference with respect to the current Aboutness Topic (and, eventually, to propose a shift).
>
> This passage also shows that NSs are always interpreted in relation with the *closest* [overt or covert] Aboutness-shift Topic without ambiguities (consistent throughout the corpus). This proves that the interpretation of referential pro does not depend on the agreement features of the licensing head, but on a matching relation with the local Aboutness-shift Topic …

Other facts also suggest that the role of agreement for licensing and identifying of null-arguments has been commonly misjudged in the generative literature. One such fact is that Icelandic lost subject drop in subordinate clauses and in main clauses with a filled Spec,CP without any concomitant change of grammar, in particular, without any relevant weakening of its robust agreement morphology (commonly with 5 distinct verb forms, see (19) below and Sigurðsson 1993). The change accelerated in the 18th century and very few exmples of 'genuine' pro drop are found after 1850 (Hjartardóttir 1987). The following examples are the most recent ones I have come across, from around 1940.[4]

(15) Ætlun skipstjóra$_i$ var að sigla fram á 230 faðma dýpi,
intention captain's was to sail forth to 230 fathom's depth
en __$_i$ hætt**i** við það. Þarna var legið í tvo sólarhringa,
but stopped.3SG with that. there was laid for two day-and-nights
en __ sá**um** ekkert skip.
but saw.1PL no ship

[4] From an interview with Sveinn Magnússon (1866-1947), a farmer and fisherman, taken around 1940 but published 1988 in *Skagfirðingabók* 17:43-56. The examples are on p. 52.

‘The captain’s intention was to sail into 230 fathom’s deep water, but (**he**) changed his mind. Our ship lay there [in the previously mentioned waters] for two days and nights, but (**we**) saw no other ship.’

Spelling out the subjects is obligatory in present day Icelandic, as shown in (16):

(16) Ætlun skipstjóra$_i$ var að sigla fram á 230 faðma dýpi,
intention captain’s was to sail forth to 230 fathom’s depth
en hann$_i$ / *__$_i$ hætt**i** við það. Þarna var legið í two sólarhringa,
but he stopped.3SG with that. there was laid for two day-and-nights
en við / *__ sá**um** ekkert skip.
but we saw.1PL no ship

As seen, the *only* differences between the two historical stages is the absence vs the presence of the subjects. In particular, the verb form *sáum* ‘saw’ is unambiguously 1PL at both stages, as it has been throughout the history of Icelandic (whereas *hætti* ‘stopped’ is ambiguous between 1st and 3rd person singular).

Oevdalian (‘Älvdalsmålet’) is a Scandinavian language, spoken by 3-4 thousand people in the north western part of Dalarna in Sweden. It is closely related to Icelandic and shares many typological traits with it, but it differs from it in having referential pro drop in the 1st and 2nd person plural, as illustrated in (17)-(18). The Oevdalian examples in (17) are modelled on examples in Rosenkvist (2006):

(17) a. … um (wi̧ð) ir**um** iema. *Oevdalian*
… if (we) are.1PL home
‘… if we are at home.’
b. … um (ið) ir**ið** iema.
… if (you) are.2PL home
‘… if you are at home.’

(18) a. … ef *(við) er**um** heima. *Icelandic*
… if *(we) are.1PL home
b. … ef *(þið) er**uð** heima.[5]
… if *(you) are.2PL home

[5] The general 2pl ending is *-ið*, just like in Oevdalian. The verb *vera* ‘be’ is exceptional in applying *-uð* instead.

This difference is remarkable in view of the fact that 1st and 2nd person plural endings are person/number distinct from all other verb endings in both languages. Consider the present indicative paradigm in (19) of the verb meaning 'bite' (see Rosenkvist 2006:147):

(19)

	Oevdalian				*Icelandic*			
SG	1	bait	PL	1	bait-**um**	SG 1	bít	PL 1	bít-**um**
	2	bait		2	bait-**ið**	2	bít-ur	2	bít-**ið**
	3	bait		3	bait-a	3	bít-ur	3	bít-a

There can be no question that the Icelandic 1/2PL forms give unambiguous person/number information about their subjects, just like Oevdalian 1/2PL forms and like the 1PL form *sáum* '(we) saw' in (15) above. This is confirmed by the fact that these forms are used in subjectless exhortatives, like the following:

(20) a. Ger**um** __ eitthvað annað!
do.1PL something else
'Let's do something else!
b. Ger**ið** __ eitthvað annað!
do.2PL something else
'Do something else!'

Compare these exhortatives with the declaratives in (21)-(22):

(21) a. Nú ger**um** við eitthvað annað.
now do.1PL we something else
'Now, we do something else.'
b. * Nú ger**um** __ eitthvað annað.
now do.1PL something else

(22) a. Nú ger**ið** þið eitthvað annað.
now do.2PL you something else
'Now, you do something else.'
b. * Nú ger**ið** __ eitthvað annað.
now do.2PL something else

Plainly, something more than just unambiguous person and number marking is involved in null-subject interpretation.

The marginal cross-linguistic importance of agreement is seen even more clearly for null-objects. Languages with agreement conditioned object drop include Pashto, as discussed above, and, for instance, Georgian, Swahili (Y. Huang 2000:54-55) and Chichewa, another Bantu language (Baker 2001:144f).[6] However, object drop of this sort is rather rare (see the overview in Y. Huang 2000:78ff), whereas many languages have *clause-externally* conditioned referential object drop. This is illustrated in (23) for three such languages (all lacking object agreement); the underlined matrix subjects in (23b,c) are obligatorily antecedents of the null-objects:

(23) a. *Old Norse* (Sigurðsson 1993:259):
... ok munu nú taka __ óvinir þínir.
... and will now take (it) enemies your
'... and your enemies will now take (*your inheritance*).'

b. *Burmese* (Y. Huang 2000:85):
Hkalei amei ahphyit __ tinte lou htinte.
child mother blame (him/her) put that thinks
'*The child* thinks that mom will blame (*him/her*).'

c. *Imbabura Quechua* (Cole 1987:600):
Juzi nin Marya __ juyanata.
Juzi says Marya (him) will-love

In languages of this sort, the silent object is *discourse-linked*, as in (23a), or *controlled* or antecedent-linked, as in (23b) and (23c). Other languages that have clause-externally linked referential object drop include Chinese, Japanese, Korean, Thai, Malayalam, Chamorro and Hungarian (Y. Huang 2000:85ff). Some object drop languages, for example Chinese, allow only discourse-linked null topics, whereas e.g. Old Norse had both discourse-linked and controlled object drop (cf. Hjartardóttir 1987).[7]

Germanic topic drop is obviously not preconditioned by agreement. Even within Germanic, however, agreement *constrains* identification. We can see this by comparing e.g. Swedish (no agreement) and Icelandic (agreement). Consider the Swedish clauses in (24), where the dashes indicate silent Spec,CP and Spec,IP:

(24) a. __ Ligger __ bara på stranden.
lie.Ø-AGR just on beach.the

[6] It should however be noted that it is often difficult to distinguish between incorporated pronominal objects and 'true' object agreement in languages of this sort (see the discussion in Baker 2001:145ff).

[7] According to the description of Finnish in Huang (2000:87), it is like Old Norse in having controlled as well as discourse-linked null-objects, but many or most speakers dislike controlled definite null-objects (Anders Holmberg p.c.).

b. __ Kommer __ strax.
come.Ø-AGR right-away

In most contexts, the salient reading of Swedish null-subjects of this sort is a 1st person reading, especially 1SG. Given the right context, however, the null-subjects can be interpreted as 1st, 2nd, and 3rd person, singular or plural (Mörnsjö 2002:70ff). It is often hard to get 2nd person readings, and I will disregard them here. Third person readings are also more constrained than 1st person readings, often requiring a conversational context (speaker shift), rather than a simple narrative (speaker bound) context:

(25) A: Var är Anna?
where is Anna
B1: Ligger bara på stranden.
'She is just lying on the beach.'
B2: Kommer strax.
'She'll be here in a minute.'

Each of the Swedish clauses in (24) gets *four* different 1st and 3rd person translations in Icelandic (and three different 1st and 3rd person translations in e.g. German), depending on the verb form. The 1st and 3rd person translations of (24a) are given in (26):

(26) a. __ Ligg __ bara á ströndinni. 1SG
b. __ Ligg**ur** __ bara á ströndinni. 3SG
c. __ Liggj**um** __ bara á ströndinni. 1PL
d. __ Liggj**a** __ bara á ströndinni. 3PL

There is no way of interpreting e.g. the null-subjects in (26a) and (26c) as anything else than 'I' vs 'we', respectively. Even so, Icelandic null-subjects of this sort are like Swedish null-subjects in requiring access to Spec,CP, generally showing very similar distributional properties as null-subjects in the other V2 Germanic topic drop languages (as shown in Sigurðsson 1989:145ff, 1993, see also Mörnsjö 2002).

It is thus clear that agreement affects the identification of null-subjects but it is also clear that null-arguments can 'survive' in some languages and constructions that lack agreement. This is further evidenced by object drop constructions in the Germanic languages, as objects do not usually trigger verb agreement in Germanic. Consider the examples in (27) (see also Sigurðsson 1993:254f); as indicated, the subject pronoun is unstressed and (at least phonologically) cliticized onto the verb, a fact I will return to:

(27)	a.	__	Kenn'i(ch)	__	nicht.	German
	b.	__	Känner'ja	__	inte.	Swedish
	c.	__	Þekk'é	__	ekki.	Icelandic
			recognize'I		not	

Much as dropped subjects, dropped objects in V2 Germanic must have access to an empty Spec,CP. Compare (27) to (28)-(29):[8]

(28)	a.	*	Jetzt	kenn'i(ch)	__	nicht.	German
	b.	*	Nu	känner'ja	__	inte.	Swedish
	c.	*	Núna	þekk'é	__	ekki.	Icelandic
			now	recognize'I	(that)	not	

(29)	a.	*	Ich	kenne	__	nicht.	German
	b.	*	Jag	känner	__	inte.	Swedish
	c.	*	Ég	þekki	__	ekki.	Icelandic
			I	recognize		not	

All these facts suggest, first, that context-linking of null-arguments is an important factor and, second, that the role of agreement in the identification of null-arguments must be understood in relation to context-linking in some sense. I consider this issue in more detail in the next section.

4. On the interaction of context-linking and agreement

[8] For a discussion and description of more object drop types in the Scandinavian languages, illustrating that object drop is commonly conditioned by phonological reduction of the subject, see Sigurðsson & Maling (2007, 2008). Nonetheless, there are exceptional cases with a dropped [–HUMAN] object and a clause-initial subject, like the Swedish clause in (ia), acceptable to at least some speakers (Verner Egerland, p.c.):

(i)		Rapporten	har	kommit.				
		report.the	has	arrived				
	a.	Jag	skickar	__	med	internpost	imorgon.	
		I	send		with	internal mail	tomorrow	
	b.	* Imorgon	skickar	jag	__	med	internpost.	
		tomorrow	send	I		with	internal mail	

'The report has arrived. I'll send *it* with internal mail tomorrow.'

Frascarelli (2007) and Frascarelli & Hinterhölzl (2007) distinguish between *aboutness-shift topics*, *contrastive topics* and *familiar topics*, arguing that each type heads its own projection in the broad CP (ForceP) domain, as sketched in a simplified manner in (30) (where other categories in the CP domain are not shown):[9]

(30) [… [$_{\text{ShiftP}}$ … [$_{\text{ContrP}}$ … [$_{\text{FamP}}$ …

Following Holmberg et al. (2008), I will refer to aboutness-shift topics as *A-Top*(ics). In the same vein, we can refer to contrastive topics as *C-Top*(ics) and to familiar topics as *F-Top*(ics).

As mentioned and partly illustrated above, Frascarelli (2007) presents thorough and convincing evidence that Italian third person null-subjects always match a maintained A-Top feature in the CP domain.[10] I adopt her analysis in this respect, assuming, in addition, that the CP domain contains silent but probing (i.e., syntactically active) 'speaker' and 'hearer' features, referred to as the *logophoric agent* (Λ_A) and the *logophoric patient* (Λ_P) in Sigurðsson (2004a, 2004b *et seq*.).[11] Generalizing, we can refer to these logophoric features and the Top features as context-linking features or *context-linkers*, **CLn**, and state the *Context-Linking Generalization* in (31):[12]

(31) Any referential pronoun, overt or silent, positively matches at least one CLn in its local CP domain, CLn $\in \{\Lambda_A, \Lambda_P, \text{Top}, \ldots\}$.

Accordingly, a 1st person pronoun is [+Λ_A, …], a 2nd person pronoun is [+Λ_P, …], and a referential 3rd person pronoun is [+Top, …] ([+A-Top, …] in most contexts discussed here). The Context-Linking Generalization is thus neither controversial nor particularly innovative. It just formalizes the truism that referential pronouns, overt or covert, link to or match their

[9] See also Cardinaletti (2008), Holmberg et al. (2008). For a somewhat different understanding, see Neeleman et al. (2007).

[10] Overt Italian pronouns, in turn (as well as some overt pronouns in other languages), may either match C-Top or F-Top.

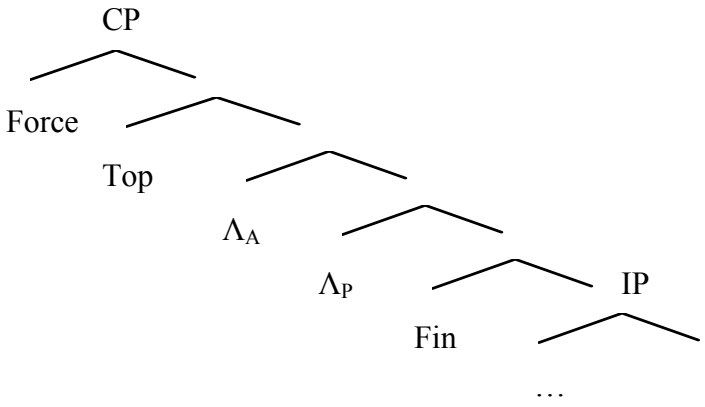
[11] This approach is conceptually related to the performative hypothesis (Ross 1970), but it is theoretically rather different from it (importantly, it does not involve any performative null-predicate). It is largely adopted in Frascarelli (2007), Holmberg et al. (2008), Baker (2008) and Zanuttini (2008). Similar approaches have been developed in semantic terms in earlier works, including Sigurðsson (1990) and the influential study of Schlenker (2003).

[12] Context-linking is referred to as D(iscourse)-linking by Pesetsky (1987) and much subsequent work. Context-linking is a more pertinent notion, as it includes not only discourse-linking but also linking to the inherent logophoric features.

linguistic and/or deictic context, and it also makes the reasonable assumption that they do so via their CP domain.[13]

I adopt the cartographic approach, inspired by the work of Rizzi (1997, etc.), Cinque (1999, etc.) and others (the 'Italian school', if one likes). I will not discuss the virtues or the properties of this approach in any detail here, as the context-linking features ('Speaker', 'Hearer', 'X-Topic') are the only C-features that matter for my purposes. For the sake of explicitness, however, I sketch the CP structure that I am assuming (abstracting away from X'-projections and 'specifiers', left dislocated constituents, Foc(us), and different topic types):

(32)



For further discussion, see Sigurðsson (2008b), Baker (2008), Holmberg et al. (2008), Cardinaletti (2008). Throughout, I also assume the approach in Sigurðsson (2004c, 2006a, 2008b) and Sigurðsson & Holmberg (2008), where movement tucks in to the right of its probe rather than adding structure to its left.[14]

Any finite CP domain has its own set of Context-Linkers, Λ_A, Λ_P, Top, …, where the CLn features are either independently valued, as in most main clauses, or valued under Agree with a preceding category. Thus, direct speech in English, as in (*He said to Mary*:) *"I will help you"*, values its local speaker/hearer features, Λ_A and Λ_P, under Agree with the matrix arguments, *He* and *Mary*, as sketched in (33) (where, for reasons of space, I do not show the Top feature, positively matched by *He* in the matrix clause); the curly brackets indicate that a category is silent (the indices are used for expository purposes only, to indicate identity matching):

(33) a. He said to Mary: "I will help you".

b. $[_{CP} .. \{\Lambda_A\}_i .. \{\Lambda_P\}_j .. [_{IP} .. \mathbf{he_k} .. \mathbf{Mary_l} .. [_{CP} .. \mathbf{\{\Lambda_A\}_k} .. \mathbf{\{\Lambda_P\}_l} .. [_{IP} .. I_k .. you_l ..$

[13] Saying that pronouns link directly to (elements in) the clause-external context is a conceivable alternative, but that approach is harder to formalize and conceptualize, and it is also empirically refuted by person switching in various languages and contexts. See below and Sigurðsson (2004b) for some relevant facts and discussion.

[14] What I have to say here can also be stated (in a more complicated and costly fashion) in the traditional Spec approach to phrasal movement.

While the third person arguments in the matrix clause are negatively valued in relation to their local speaker/hearer features (as being distinct from them, $[-\{\Lambda_A\}_i, -\{\Lambda_P\}_j]$), the first and second person pronouns in the subordinate clause are positively valued in relation to one of their own local speaker/hearer features, $\{\Lambda_A\}_k$ and $\{\Lambda_P\}_l$, which in turn inherit their reference under Agree with the matrix arguments. Intuitively, we can think of the embedded Λ_A and Λ_P features as 'switchers' that can (but need not) redefine the clause's conceived local speaker and hearer. I will henceforth simply refer to all context-linkers as CLn, unless further specification is called for.

The deictic switch seen in direct speech is of course a syntactic phenomenon, and not merely a matter of pragmatics, just like deictic switch in questions and answers is a syntactic phenomenon (Sandra: "*Are <u>you</u> invited?*" John: "*No, but <u>you</u> are*."). This is further evidenced by the fact that the same kind of switch is found in regular subordination in many languages, including Amharic, Donno Sɔ, Navajo, Kannada, Tamil, Kurdish, Persian and Punjabi (see Sigurðsson 2004b:235f, 246 n. 40, and the references cited there).[15]

There are good reasons to believe that subjects, by minimality, enter a privileged context relation as compared to non-subjects. One way of informally implementing this *Subject Context Priority* is to say that (high) subjects are interpreted or licensed in relation to their clause-external context, whereas other arguments are in addition 'transitively' licensed in relation to their (high) subjects. I assume this to be correct.

On the present approach *any* pronoun is a variable, even though pronouns typically can function as constants, in a given constant enough context. Thus, making a categorical distinction between variables and 'non-variables' in the GB-theoretic sense is misguided. The less lexically specified an argument is, the more variable reading can it have. Thus, English *they* is more of a variable than are Icelandic feminine *þær* 'they', masculine *þeir* 'they', neuter *þau* 'they', the dropped subject is more of a variable in the Swedish (24) above than in the Icelandic (26), and inherently silent arguments such as PRO are of course lexically unspecified, hence usually more variable or flexible than overt arguments with some explicitly specified features. The typical A'-/A-distinctions between GB-theoretic variables and 'non-variables' are real, but they arise not because of inherent featural differences between individual items (cf. Safir 2004), but because different items, by convention, typically take part in different types of dependencies (IP-bounded A-dependencies vs. IP external A'-dependencies).

[15] This is a very common or even a general trait of Indo-Aryan and Dravidian languages (K.V. Subbarao, p.c.).

Given the Context-Linking Generalization, a regular, overt subject pronoun in e.g. Germanic enters an Agree relation with a CLn feature ('operator') in CP, as sketched in (34):[16]

(34) a. $[_{CP}$ ... ... (Then) … $[_{IP}$ *he* said to her ... *English, etc.*

b. $[_{CP}$ ... {CLn} ... (**X**) ... $[_{IP}$ *pron* ....

↑_____↑

As indicated, the presence/absence of an overt element, **X** (here *Then*), in Spec,CP does not, of course, affect the grammaticality of the subject. The V2 Germanic languages share this pattern with English (in declarative main clauses), except for the fact that the finite verb generally raises into the CP domain in the former, to a position between X and Spec,IP (the V2 effect).

Adopting the hypothesis that Italian agreement morphology is a pronoun, incorporated into Infl,[17] we can analyze Italian null-subject clauses in a parallel fashion, as illustrated in (35). The n-dash between Ø and I_{φ} indicates that the two make up one phonological unit, but it is not intended to suggest that there is no Spec,IP position in the clause; I refrain from taking a stand on that issue (but see e.g. Alexiadou & Anagnostopoulou 1998, Holmberg 2005, Roberts 2008):

(35) $[_{CP}$ ... {CLn} ... (**X**) ... $[_{IP}$ Ø–I_{φ} ... *Italian*

↑_____↑

Since the 1st and the 2nd person are inherently context-linked, this simply says that Italian referential null-subjects (Ø–I_{φ}) must either be 1st or 2nd person pronouns or a context-linked (A-Top-linked) 3rd person pronouns, which is precisely the claim made by Frascarelli (2007; see also Grimshaw & Samek-Lodovici 1998, Butt & King 1997).

Much as in the Germanic structure in (34b), the presence/absence of an overt element, X, in Spec,CP does not affect the grammaticality of the subject (Ø–I_{φ}). This is illustrated in (36):

[16] I use IP and I rather than TP and T (T obviously being a cover term for a number of syntactically active heads or features in current minimalist approaches (Chomsky 2000 *et seq*.), including not only Tense but also at least Mood, Number and Person (see e.g. Sigurðsson & Holmberg 2008).

[17] This is an updated version of Rizzi's (1982) formulation of the null-subject parameter as being a matter of having or not having a [+referential] feature in Infl. The formal properties of the incorporation or the unification are immaterial for my purposes, and I will accordingly not discuss them here (but for four recent analyses, see Platzack 2004, Holmberg 2005, Roberts 2008, Holmberg et al. 2008).

(36) (Talvolta) parlo islandese.
(sometimes) speak.1.SG Icelandic
'Sometimes I speak Icelandic.'

Like an ordinary pronoun, Italian Ø–I_{φ} is also identifiable across clause boundaries, as in (37):

(37) a. Gianni dice che parlo islandese.
Gianni says that speak.1SG Icelandic
'Gianni says that **I** speak Icelandic.'
b. (Ieri ho visto Paolo.)
(yesterday have.1SG seen Paolo)
Maria sa che parla islandese.
Maria knows that speaks.3SG Icelandic
'(Yesterday, I saw Paolo.) Maria knows that **he** speaks Icelandic.'

Given the Context-Linking Generalization in (31), the clauses in (37) get the analysis in (38):

(38) $[_{CP}$ ... {CLn} ... $[_{IP}$ NP(Subj) ... $[_{CP}$ ... {CLn} ... $[_{IP}$ Ø–I_{φ}
↑_____↑↑_____↑

In (37a), the positively matched CLn feature is Λ_A (the speaker feature), whereas it is A-Top in (37b). Notice that the matrix subject does not intervene, as it is featurally distinct from Ø–I_{φ} and the relevant CLn features (Λ_A and A-Top). In Frascarelli's (2007) terms, it is a familiar topic (on a neutral, non-contrastive reading), thus matching an F-Top feature in its local CP domain (not indicated in (38)).[18]

In all relevant respects, then, Italian Ø–I_{φ} behaves like regular weak pronouns do in e.g. the Germanic languages (see also Cardinaletti & Starke 1999, Roberts 2008), thus bearing on the nature and behavior of overt pronouns, rather than of 'true nulls', as it were (in the present approach as well as in the approach in e.g. Roberts 2008 and Holmberg et al. 2008). From the perspective of null-anaphora, this type of pro drop might thus seem to be uninteresting, and there is a grain of truth in that. Importantly, though, the Italian type of null-subjects highlights the fact that not only 'true nulls' but also Ø–I_{φ} and other overt φ-bundles (pronouns) need to be successfully context-linked. A formal approach to context-linking, like the present one, is evidently called for.

[18] Notice that context-linking suggests that vPs are not full phases, in contrast to (canonical) finite CPs. There are many indications that the phase notion needs to be relativized with respect to features and domains, but that is a big issue into which I cannot go here (some such indications are briefly mentioned in e.g. Landau 2008 and Sigurðsson 2008b, 2008c).

Germanic null-topics have a more limited distribution than weak pronouns. Thus, a lexical element in Spec,CP generally renders Germanic null-subjects ungrammatical, as we saw in (4) and (9)-(10) above and as further illustrated for Icelandic in (39) (compare it with (36)):

(39) a. Tala stundum íslensku.
speak.1.SG sometimes Icelandic
'I sometimes speak Icelandic.'
b. * **Stundum** tala íslensku.
sometimes speak.1.SG Icelandic

These facts can be analyzed as in (40) (I will discuss the location of the null-argument in more detail in section 5). As seen, I make the fairly uncontroversial assumption that Germanic finite verb agreement is true (uninterpretable) agreement, and not an incorporated pronoun ('Agr' is a cover term for clausal Person and Number heads, cf. Sigurðsson & Holmberg 2008 and the references cited there):

(40) $[_{CP}$ ... {CLn} ... (***X**) ... $Ø_i$... Agr_i... *Icelandic*
↑_____↑↑___↑

The same analysis applies to German, Dutch and Faroese, whereas Afrikaans and the mainland Scandinavian languages, having no finite verb agreement, display the pattern in (41) (where Agr is, again, a cover term for clausal Person and Number heads, the zero 'index' simply indicating that these heads are not expressed in morphology):

(41) $[_{CP}$ ... {CLn} ... (***X**) ... Ø ... $Agr_Ø$ *Mainland Scandinavian*
↑_____↑↑___↑

In the Icelandic configuration in (40), the context-linking relation has to be featurally non-distinct from Agr_i, as discussed above, whereas there is of course no such constraining parallelism in the mainland Scandinavian languages and Afrikaans. Common to all V2 Germanic topic drop is the condition that Spec,CP be empty, that is, *successful context-linking* is the central condition on V2 Germanic topic drop, as seen in (40)-(41), and as will be further discussed shortly.

Before proceeding, however, it should be noticed that the Spec,CP position in question is not the absolutely highest Spec,CP position. Thus, in contrast to fronted (internally merged) arguments and adverbials, high discourse particles and left dislocated elements do not induce

intervention between {CLn}and Ø.[19] This is illustrated for Icelandic in (42)-(43) (but these observations apply to V2 topic drop Germanic in general); the dashes indicate the Spec,IP position:

(42) a. Nei, __ hef __ ekki séð hann. *Icelandic*
no, have.1SG not seen him
'No, I have not seen him.'

b. Nei, Jóhann, __ hef __ ekki séð hann.
no, John, have.1SG not seen him
'No, John, I have not seen him.'

(43) a. * Nei, **hann** hef __ ekki séð. *Icelandic*
no, him have.1SG not seen

b. * Nei, Jóhann, **hann** hef __ ekki séð.
no, John, him have.1SG not seen

Discourse particles and left dislocated (LD) elements thus seem to occupy structurally higher positions than {CLn}, hence not intervening between {CLn}and Ø, as sketched in (44) for LD:

(44) a. ... LD ... {CLn} ... Ø ... LDs do not intervene
↑_____↑

b. * ... (LD) ... {CLn} ... $\mathbf{X_i}$ ... Ø ... ~~X_i~~ Fronted elements intervene
↑_____✳___↑

Recall that topicalized or fronted constituents do not render weak pronouns ungrammatical. Plausibly, overtly φ-specified referential pronouns, including Italian Ø–I_{φ}, are stronger identifiers ('information antennas') than the radical nulls found in Germanic topic drop, thereby overcoming the intervention effect in (44b).

A priori, one can conceive of approaches where identification by context-linking fails because of disturbances in either the syntactic derivation itself or in processing. The fact that dropped subjects trigger finite verb agreement in the Germanic languages that do have such agreement, as seen in (39a) above, shows that the syntactic φ-specification of the subject is successful, and the fact that an overt Spec,IP subject instead of Ø in (44b) is perfect further

[19] On dislocation in Icelandic, see Thráinsson (1979), Rögnvaldsson & Thráinsson (1990), Thráinsson (2007).

confirms that the derivation is flawless. Plausibly, then, the unacceptablity of (44b) is in part due to failing processing, an issue I will return to in section 7.[20]

5. On the nature of the intervention effect

As mentioned in section 2 above, it has commonly been assumed that the silent argument in Germanic topic drop can be analyzed as either a silent operator in Spec,CP, binding an empty argument position, or an NP that has been moved into Spec,CP and deleted from there. We may refer to this as the *A'-A approach*.[21] It accounts straightforwardly for the fact that Germanic topic drop clauses cannot have Spec,CP lexicalized by movement (internal merge), and, hence, I adopt the gist of it. However, Germanic topic drop clauses have further properties that need to be accounted for. In the following, I will analyze some of these properites in terms of context-linking and minimality.

The only elements that are readily and generally dropped are pronominal arguments, more precisely, subjects, direct objects and complements of prepositions (Mörnsjö 2002:56ff).[22] As most kinds of constituents can move to Spec,CP in V2 Germanic, this restriction is not predicted by the A'-A approach (but it is also not incompatible with it). Consider the following Swedish example:

(45) **Ofta** har kungen träffat drottningen på stan.
often has king.the met queen.the in town
'Often the King has met the Queen down town.'

Dropping the temporal adverbial (in this declarative clause) leads to ungrammaticality:

(46) *__ Har kungen sett drottningen på stan.
has king.the met queen.the in town

[20] In the 'privilege of the root approach' (Rizzi 2006, etc ., cf. also Kayne 2006), the complement but not the Spec of a phase head is sent to spell out. Empirically, this is largely compatible with my approach, the main difference being that I am making the specific claim that the 'privilege of the root' boils down to context-linking minimality. The facts in (42) suggest that discourse particles and LD constituents are in some sense 'outside the root'.

[21] It contradicts Chomsky's (2008) disjunction of A- and A'-chains (an issue that I will not discuss here, but see Sigurðsson & Holmberg 2008). If EPP or an active Edge Feature is the only relevant distinction between Agree and Agree + Move, the silent operator and the movement versions of the A'-A approach should be empirically equivalent. It is unclear whether this is borne out.

[22] Anaphoric light adverbials (*there*/*here* and *then*) can also be dropped. In contrast, indirect objects are not easily dropped and nominal genitives are never dropped (at least not in the Scandinavian languages; Dutch seems to be less clear cut in this respect).

The subject can be dropped, but the null can only get a pronominal reading:

(47) a. **Kungen** har ofta träffat drottningen på stan.
king.the has often met queen.the in town
b. __ Har ofta träffat drottningen på stan.
have(/has) often met queen.the in town

The first person singular is the most central interpretation of the dropped argument in (47b), but other pronominal interpretations are available, given the right context. Crucially, a non-pronominal reading is always excluded. Reference to 'the King' is not excluded, but it must (of course) be interpretable as a pronominal reference, i.e., 'the King' must be a maintained A-topic (regardless of whether 'the King' is overtly pronominalized as well, before being dropped): '… the King$_i$ … (he$_i$) … [$_{CP\ ...}$ {he$_i$} has often met the Queen down town].' This restriction is expected if the dropped subject has to be successfully context-linked in a parallel manner as overt weak pronouns (albeit in a different position, see below), rather than as definite, non-pronominal NPs.

Topic drop is subject to fine-grained constraints, not observable for overtly A'-moved constituents. As discussed by Cardinaletti (1990) and Mörnsjö (2002), dropped objects (of verbs and prepositions) are normally possible in the 3rd person only. As a matter of fact, most of the dropped objects Mörnsjö found in her careful study of Swedish corpora did not refer to arguments but to propositions, in a similar fashion as overt *det* 'it', 'that' commonly does. One of Mörnsjö's examples (2002:57):

(48) [Context: About throwing away something that someone has manufactured with hard work]
__ Tycker'ja är … okänsligt på nåt sätt.
(that) find'I is … insensitive in a way
'That, I find insensitive in a way.'

However, null-objects with nominal reference can be found (cf. Mörnsjö 2002:59), and there do not in fact seem to be any absolute blockings in grammar of null-objects with some special types of reference (see Mörnsjö 2002:70ff on Swedish). Rather, it seems that the *Relative Specificity Constraint*, RSC, in (49) holds:

(49) RSC: The dropped object must be *less specific* than the subject

– where 3rd person is less specific than the 1st and 2nd persons, –HUMAN is less specified than +HUMAN, etc. Thus, dropping a 1st and 2nd person object 'across' a 3rd person subject clitic is usually sharply unacceptable, as in (50):[23]

(50) [Context: "This is Peter over there, the new manager. We should say hello to him."]
*__ Vill'an säkert inte pata med nu.
(us/me) wants'(h)e certainly not talk with now

Dropping a referential 3rd person +HUMAN pronoun is often awkward (in the Scandinavian languages), but the following example is much better than (50):

(51) [Context: "This is Peter over there, the new manager. He wants to say hello to you."]
? __ Vill'ja inte prata med nu.
(him) want'I not talk with now
'Him, I don't want to talk to now.'

Similarly, a –HUMAN object can be dropped across a +HUMAN subject, but not vice versa:

(52) [Context: "Yes, this is very interesting. You heard Peter's talk the other day. He is knowledgeable about this. What does he say about it?"]
__ Vill'an inte uttala sig om.
(that) wants'(h)e not express himself about
'That, he does not want to express himself about.'

(53) [Context: "Yes, this is very interesting. You heard Peter take a stand on this the other day. What does that tell us about him?"]
* __ Kan'de inte säga nåt om.
(him) can'it not say anything about

The very same answer, in (53), is well-formed in contexts where the dropped argument can be understood as –HUMAN *det* 'it, that'.

The Relative Specificity Constraint is puzzling at first sight. However, given the Context-Linking Generalization in (31), it can be analyzed as a minimality violation, i.e., an intervention effect. The reason why this is so is that not only the dropped argument but also the subject must be context-linked.

Consider this more closely. In case the subject is a full pronoun, object drop is often degraded, as shown in (54b):[24]

[23] I use the term '(direct) object' to refer to both objects of verbs and prepositions (the facts discussed here do not suggest any relevant distinction between prepositional and direct verbal objects).

(54) a. __ Kan'ja inte veta.
(that) can'I not know
'That, I cannot know.'
b. ?? __ Kan jag inte veta.
(that) can I not know

Plausibly, the reason for the awkwardness of (54b) is that the (structurally high) subject is too strong an intervener, the vP- or AgrOP-internal zero object thus being unable to match CP context-linkers, across the subject:

(55) ??[$_{CP}$ ... {CLn} ... [$_{IP}$ subj ... Ø(obj) ...
↑_____??_____↑

If the subject is phonologically cliticized, as in (54a), it evidently becomes 'less visible' as an intervener. This can be accommodated if we assume that Germanic null-topics can only be context-linked under *strict locality* (this generalization will be slightly reformulated in section 6). If so, the zero object has to move across the subject into the CP domain. However, it cannot easily do so unless the (structurally high) subject is a phonological clitic, in which case it is prosodically parasitical on the verb in the V2 position.[25] This gives rise to the structure in (56) (where the arrows only indicate CLn matching, movement in contrast being indicated by indices); the n-dash between the null-argument and the finite verb indicates that the two make up a phonological unit (much as Italian Ø–I$_{\varphi}$):

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[24] This is at least commonly true when the subject is a familiar topic. If the subject is a contrastive topic, on the other hand, object drop across it is possible in certain cases. This is illustrated in (i) for a 'late' strong subject pronoun (such 'late' subject pronouns are found in Swedish and Norwegian as opposed to Icelandic and Danish):

(i) __ Kan väl inte **JAG** veta!
(that) can well not I know
'Well, that **I** cannot know!' (Anders Holmberg, p.c.)

The late subject is structurally low. Possibly, the null-object can 'escape' across it by vP adjunction (or via a Spec,AgrOP-like position), subsequently being free to move into the CP domain. Icelandic also allows object drop across contrastively stressed subjects, at least marginally, but disallows it across prosodically neutral subjects (neither weakly pronounced nor heavily stressed). It seems that German and Dutch are more liberal here than Icelandic and Swedish, allowing object drop across more types of subjects (but without a scrutiny of German and Dutch information structure and stress patterns, I cannot make any claim to this effect). The following description is limited to Swedish (largely applying to Icelandic and Norwegian as well).

[25] Alternatively, the subject can be in a structurally low position, as in (i) in footnote 24.

(56) $[_{CP}$ ... {CLn} ... $Ø(obj)_i$–V_{Fin}+$clitic_k$ ... $[_{IP}$ t_k ... t_i ...
↑_____↑
↑_____↑

As indicated, not only the zero object but also the subject clitic matches context-linkers. In (54a), for instance, the zero object matches A-Top positively and the speaker and hearer features (Λ_A and Λ_P) negatively, whereas the subject matches the speaker feature (and the F-Top feature) positively and other CLn features negatively.[26]

We now have a natural account of the Relative Specificity Constraint: The dropped object has to be featurally 'smaller' than the subject clitic because it would otherwise intervene between {CLn} and the subject, thereby violating Relativized Feature Minimality (cf. Starke 2001, Rizzi 2001).

It does not obviously follow that Germanic null-subjects must also move into the CP domain, like Germanic null-objects. That is, subject drop clauses like (47b) above ('__ *Has often met the Queen down town*') are structurally ambiguous between the distant Agree analysis in (57) and the movement analysis in (58) (again, the arrow indicates only CLn matching, the movement in (58) instead being indicated with indices):

(57) $[_{CP}$ ... {CLn} ... V_{Fin} ... $[_{IP}$ Ø(subj) ...
↑_____↑

(58) $[_{CP}$ ... {CLn} ... $Ø(subj)_i$–V_{Fin} ... $[_{IP}$ t_i ...
↑_____↑

However, subjects (as well as objects) can also be dropped from subordinate clauses, as in the following exmples (cf. Sigurðsson 1989:156f):

(59) a. __ Visste'ja inte [__ var förbjudet]. *Swedish*
knew'I not was forbidden
'That, I didn't know was forbidden.'
b. * Då visste'ja inte [__ var förbjudet].
then knew'I not was forbidden

(60) a. __ Viss'é ekki [að __ væri bannað]. *Icelandic*
knew'I not that was forbidden

[26] Multiple matching of context-linkers is not a theoretical assumption, it is just a fact that must be accommodated in any theory of context-linking.

b. * Þá viss'é ekki [að __ væri bannað].
then knew'I not that was forbidden

The example in (48) above (from Mörnsjö 2002) is also of this *extraction drop* type. As seen in the *b*-clauses in (59) and (60), extraction drop is subject to the (matrix) Empty Left Edge Condition, just like clause bounded topic drop (this is also true of extraction object drop). Moreover, the extracted argument is usually interpreted as the featurally 'meager' *det/detta* 'it, this, that' in Swedish and the corresponding *það/þetta* in Icelandic, that is, it obeys the Relative Specificity Constraint in (49). Extraction subject drop can thus be analyzed as in (61):

(61) $[_{CP} \ldots \{CLn\} \ldots \emptyset_i\text{–}V_{Fin}\text{+clitic}_k \ldots [_{IP} \ t_k \ldots [_{CP} \ldots t_i \ \ldots [_{IP} \ t_i \ \ldots [_{vP} \ t_i \ \ldots$
↑____↑

Presumably, the null-subject moves cyclically within the matrix IP, although this is not shown in (61). For simplicity, the CLn matching of the matrix subject clitic, across the 'meager' extracted null-subject, is not indicated either.

In view of these extraction facts, I conclude that V2 Germanic null-arguments always raise into the root CP domain, the analysis in (57) being excluded, (58) instead being on the right track. In section 6, I will show that this conclusion gets additional support from my analysis of controlled pro in Finnish and Chinese.

While Relativized Feature Minimality accounts nicely for the Relative Specificity Constraint, it does not account for the Empty Left Edge Condition, as *any* category that moves into Spec,CP blocks topic drop, regardless of its featural content. This is illustrated for Swedish in (62)-(63):

(62) a. __ Skulle'ja troligen vilja se __ ofta, i så fall.
would'I probably want see often, in such case
'That/It, I would probably want to see often, in that case.'
b. Jag skulle troligen vilja se ***(det)** ofta, i så fall.
I would probably want see *(it) often, in such case
c. Troligen skulle jag vilja se ***(det)** ofta, i så fall.
d. Varför skulle jag troligen vilja se ***(det)** ofta, i så fall?
why would I probably want see *(it) often, in such case

(63) a. __ Skulle __ troligen vilja se det ofta, i så fall.
'I would probaly want to see it often, in that case.'
b. Det skulle ***(jag)** troligen vilja se ofta, i så fall.
c. Troligen skulla ***(jag)** vilja se det ofta, i så fall.

d. Varför skulle ***(jag)** troligen vilja se det ofta, i så fall?

Parallel facts are found in the other V2 Germanic topic drop languages.

The traditional way of accommodating these facts (e.g. Cardinaletti 1990, Haegaman 1990, 1996) is to say that the CP domain (below Left Dislocation) cannot usually attract or contain more than one constituent, in addition to the finite verb. If so, null-arguments are blocked from moving into the CP domain in the presence of a lexical CP specifier, the resulting structure being the one in (64):

(64) *[$_{CP}$ ... {CLn} ... **X** ... V_{Fin} ... Ø-argument ...
↑_____*_____↑

Given the hypothesis that Germanic null-arguments must be context-linked under strict locality, it follows that the nulls cannot be successfully context-linked here, as indicated. This locality constraint is evidently not accounted for by grammatical feature minimality, as suggested by the fact that the grammatical content of the spelled-out Spec,CPs in (62)-(63) is irrelevant. Regardless of their grammatical content, the spelling out of their phonological matrix, *[ph]*, blocks context-linking of the null arguments. It would thus seem that the intervention effect in (64) is simultaneously structural and phonological (cf. the EPP approach argued for by Holmberg 2000). However, recall that overt pronouns, including Italian Ø–I_{φ} and Germanic pronouns, are (of course) grammatical in configurations like (64). This is illustrated in (65) for Italian and Swedish subject pronouns:

(65) a. Talvolta parl**iamo** islandese.
sometimes speak.1.PL Icelandic
b. Ibland talar **vi** isländska.
sometimes speak.Ø-AGR we Icelandic
'Sometimes we speak Icelandic.'

Thus, both the Italian Ø–I_{φ}, *parliamo*, and the Swedish subject pronoun, *vi*, are successfully context-linked under the conditions in (64). That is, there is arguably nothing syntactically wrong with (64). Rather, the spelled out Spec,CP induces phonological 'disturbance', leading to a break-down of the processing of radically silent arguments (i.e., of their context-linking), in contrast to overtly φ-specified pronouns. In other words, the φ-identification of the silent arguments seems to be unsuccessful in PF rather than in Narrow Syntax.[27]

[27] For further evidence that context-linking of null arguments is disturbed by phonological factors, see Sigurðsson & Maling (2007, 2008).

6. On controlled pro

Finnish definite 3rd person null-subjects must be antecedent-linked or controlled, as illustrated in (66) (based on Holmberg 2005:539; as also illustrated by Holmberg the same restriction is found in the plural):

(66) a.	***(Hän)**	puhuu	englantia.				
	he/she	speaks.3SG	English				
b.	Pekka$_1$	väittää että	__$_{1/*2}$	puhuu	englantia	hyvin.	
	Pekka	claims that	__	speaks.3SG	English	well	
c.	Pekka$_1$	väittää että	**hän**$_{1/2}$	puhuu	englantia	hyvin.	
	Pekka	claims that	he	speaks.3SG	English	well	

Much the same facts are found in e.g. Brazilian Portuguese (Holmberg 2005:553, Holmberg et al. 2008), Russian (e.g. Matushansky 1998, Cabredo Hofherr 2006), and Hebrew (e.g. Borer 1989, Shlonsky 2008).

As has been widely discussed (den Besten 1983, Platzack 1986, etc.) complementizers share properties with the finite verb in V2 Germanic. Presumably, the V2 verb and complementizers like Finnish *että*, English *that*, Hebrew *še*, etc., lexicalize Fin in the low CP domain, whereas CLn features are situated higher in the CP domain (cf. (32) above and the approach in e.g. Rizzi & Shlonsky 2007, Sigurðsson 2008b). If so, the Germanic null-subject structure in (58) above, repeated here, parallels the Finnish null-subject structure in (66b), sketched in (67) below (where I, by and large, adopt the Agree model of control developed by Landau (2000, 2004, 2008, etc.)):

(58) $[_{CP}$ ... {CLn} ... Ø(subj)$_i$–V_{Fin} ... $[_{IP}$ t_i ... *V2 Germanic*

↑_____↑

(67) NP … $[_{CP}$ ... {CLn} ... Ø(subj)$_i$–että … $[_{IP}$ t_i ... *Finnish*

↑_____↑↑_____↑

control

In both cases, the null-subject has to move across a lexical C. The nulls are thus silent pro-clitics, behaving similarly as object clitics in Romance (as described by Kayne 1975 and many since, e.g. Belletti 1999).

Since we are dealing with silent elements, it is not easy to find decisive evidence in favor of this analysis, excluding alternative analytical possibilities (such as a non-raising analysis of the null-subject). However, in the absence of counterevidence, I assume that (67)

is on the right track. If so, the reason why languages like Finnish and Hebrew, as opposed to V2 Germanic, do not allow 3rd person null-subjects in main clauses might be that the null-subject does not have a lexical (verbal) C-head to 'lean on' and form a phonological unit with. In other words, it seems that definite null-arguments in these languages cannot be processed (interpreted) unless they are unambiguously localized in the PF string (like Italian Ø–$I_{\varphi,}$). In addition, they have to be localized high in the clausal left periphery for the purpose of successful context-linking (unlike Italian Ø–$I_{\varphi,}$).

Consider the ungrammatical context-linking of the null-subject in the Finnish matrix clause in (66a), **Puhuu englantia*, 'speaks.3SG English', sketched in (68):

(68) *[$_{CP}$ ... {CLn} ... [$_{IP}$ Ø(subj)$_{3rdP}$ ...

↑____✳____↑

In view of the fact that an overt subject pronoun is perfectly grammatical in this configuration, there is evidently nothing syntactically wrong with it. Rather, as just stated, it seems that the null-subject cannot move into the CP domain for the purpose of successful context-linking unless the CP domain contains a lexical C head for the null-subject to 'lean on'. Since impersonal null-subjects need not be context-linked, instead getting impersonal (arbitrary/generic) reading, we expect that such nulls need not raise into the CP domain, and are hence grammatical in main clauses. This is borne out, as shown in the Finnish (69), from Holmberg (2005:540):

(69) Täällä ei saa polttaa.
here not may smoke
'One can't smoke here.'

Indeed, Holmberg (2005) argues, that the Finnish generic pro differs from definite pro in not raising out of vP. I assume that CLn features are not activated in examples of this sort, their relevant structure thus being as sketched in (70):

(70) [$_{CP}$ ... [$_{IP}$ ... [$_{vP}$ Ø-subject ...

Now, consider the function or effect of control in (66b)/(67). It is arguably not a licensing condition on antecedent-linked null-arguments in Finnish (or elsehwere). First, as discussed by Holmberg (2005, etc.) the null-subject-antecedent relation does not necessarily involve c-command. Rather, it:

> seems that the antecedent can have any syntactic function as long as it is the only possible antecedent in the next clause up … [but if] there are several arguments in that clause, then a

> hierarchy of accessibility applies … where the subject is the favored antecedent … [also] the antecedent must be in the next clause up (Holmberg 2005:540, fn. 4)

In other words, it seems that the null-subject picks up the reference of the structurally and semantically 'most prominent' antecedent in its immediate linguistic context, raising into the CP domain for this purpose. If no such 'plausible' antecedent is found, the null-subject does not raise and gets an indefinite, non-referential (non-φ-specific) interpretation (as a last resort, according to Holmberg).

Second, even if we take the liberty of referring to all overt antecedent-linking as 'control', regardless of c-command, it is clear from impersonal null-subject examples like (69) above that 'control' is not required to license the null-subject. Rather, it is only the context-linked, definite reading (the φ-specification) of the null-subject that requires definite φ-'control', i.e., the antecedent-linking is an intepretational strategy rather than a licensing strategy. That makes sense if the acceptability of definite null-arguments boils down to the availability of successful context-linking.

Chinese differs from Finnish in allowing definite null-subjects in both main and subordinate clauses. Compare (3) = (71), and (72) (both examples are modelled on examples in C.-T. J. Huang 1989:187):

(71) __ Kanjian ta le.
see.Ø-AGR him PERF.Ø-AGR
'[He/She, etc.] saw him.'

(72) Zhangsan$_1$ shuo [__$_1$ hen xihuan Lisi].
Zhangsan say.Ø-AGR very like.Ø-AGR Lisi
'*Zhangsan* said that *he* liked Lisi.'

That is, the main clause null-subject in (71) differs from the Finnish null-subject in (66a)/(68) in being successfully context-linked. There are more than one ways of conceiving of this fact. Chinese might for instance differ from Finnish and V2 Germanic in being able to raise nulls into the CP domain in the absence of lexical C support. I assume instead that Chinese null-subjects can match CLn under distant Agree, hence do not have to raise into the CP domain for the purpose of successful context-linking.[28] If so, the structure in (73), without any lexical material in the CP domain, is well-formed (or 'well-interpreted') in Chinese, as opposed to Finnish and Germanic; for ease of comparison, the relevant Finnish and V2 Germanic structures are repeated:

[28] This might relate to the fact that Chinese and many other discourse drop languages are *wh*-in-situ or at least non-initial *wh*-languages, but the correlation is not a strong one (see Dryer 2005a, 2005b).

(73) $[_{CP}$ ... {CLn} ... $[_{IP}$ ... $[_{vP}$ Ø(subj) ... *Chinese*

↑_____↑

(58) $[_{CP}$ ... {CLn} ... $Ø(subj)_i$–V_{Fin} ... $[_{IP}$ t_i ... *V2 Germanic*

↑_____↑

(67) NP … $[_{CP}$ ... {CLn} ... $Ø(subj)_i$–että … $[_{IP}$ t_i ... *Finnish*

↑_____↑↑_____↑

control

The fact that Chinese null-subjects do not need lexical 'C-support' would seem to relate naturally to the fact that such support is not available, as (traditional) Chinese does not have a declarative *that*-type complementizer, nor does it, of course, have verb raising to C in main clauses. In discourse-drop languages like Japanese and Korean, the main clause C is also silent (no V2 effect), whereas subordinate declarative clauses commonly have a lexical C. In contrast to Chinese, however, Japanese and Korean are strict SOV languages, with clause-final complementizers. Consider the Japanese examples in (74) and (75):[29]

(74) __ Siken-ni otita.
exam-DAT failed.Ø-AGR
'[He/She, etc.] failed the exam.'

(75) John-ga_1 [__$_1$ Mary-o nagutta **to**] itta.
John-NOM Mary-ACC hit.Ø-AGR that said.Ø-AGR
'John said that he hit Mary.'

Common to all the examples/structures in (71)-(75) is that the clause does not contain any lexical C material in its left periphery, neither a lexical complementizer nor a raised verb. Thus, the generalization in (76) suggests itself:

(76) A zero argument must raise across a lexical C or else C acts as an intervener, blocking the argument from being sucessfully context-linked[30]

[29] From Neeleman & Szendrõi (2007:672) and Zushi (2003:575), respectively.

[30] See the approach developed in Sigurðsson 2004c, 2006a, 2006b, and in Sigurðsson & Holmberg 2008, where intervention can in certain cases be circumvented by movement.

As a matter of fact, the verb *shuo* 'say' is in the process of being grammaticalized as a declarative complementizer in colloquial present-day Chinese. Interestingly, null-subjects are ungrammatical in its presence, as illustrated in (77) (C.-T. J. Huang, p.c.):

(77) a. Zhangsan mengjiang shuo ta kanjian-le Mali.
Zhangsan dream 'say' he see-PERF Mali
'John dreamed that he saw Mary.'

b. * Zhangsan mengjiang shuo __ kanjian-le Mali.
Zhangsan dream 'say' see-PERF Mali

We have an account of the ungrammaticality of (77b), if *shuo* is a barrier to raising of Ø as well as to its context-linking in Chinese, whereas lexical Cs do not block Ø-raising in Finnish and V2 Germanic. In view of the fact that *shuo* is still in the process of being grammaticalized as a declarative complementizer, one might speculate that it will gradually become more like Finnish *että* and the finite main clause verb in C2 Germanic, allowing Ø-raising..

7. Concluding remarks

In this paper I have discussed and analyzed various types of null argument phenomena. My central claim is that all types of argument drop, including Romance pro, German null-topics, Chinese null-subjects, and Finnish/Hebrew controlled pro, must be successfully context-linked, in accordance with the Context-Linking Generalization in (31):

(31) Any referential pronoun, overt or silent, positively matches at least one CLn in its local CP domain, CLn $\in \{\Lambda_A, \Lambda_P, \text{Top}, \ldots\}$.

While Italian subject pro ($Ø–I_\varphi$) is like a regular weak pronoun in being able to match CLn features across phonologically intervening categories, other 'more radically empty', null-argument types are uninterpretable in the presence of a phonological C intervener, blocking their matching of context-linking features in the CP domain, unless they can raise across the intervening category. Given that the C-system values the features of the T-system,[31] this seems to be a rather natural restriction. Simultaneously, however, it might seem to be paradoxical: The null-argument cannot match CLn features across an intervener, like the Finnish complementizer *että* 'that' and the finite main clause verb in V2 Germanic, but it can escape the intervention by raising across the potential intervener. However, this is not a contradiction if the context-linking and the concomitant φ-identification of the null-argument

[31] See Richards 2007, Chomsky 2007, 2008, for a different but a related understanding.

is in part a matter of processing, taking PF as its input (as would seem to be an unavoidable conclusion in any case). Grammaticality judgements are based on the 'final product', and it is clear that PF disturbances can (and often do) lead to unacceptability of structures that are well-formed in syntax. Reconsider the ungrammaticality of V2 Germanic examples like the ones in (78):

(78)	a.	* Manchmal	spreche	__	Schwedisch.	*German*
	b.	* Ibland	talar	__	svenska.	*Swedish*
	c.	* Stundum	tala	__	sænsku.	*Icelandic*
		sometimes	speak		Swedish	

These examples are perfect with a spelled-out subject pronoun: *Manchmal spreche <u>ich</u> Schwedisch* ('sometimes I speak Swedish'), etc., showing that the context-linking of the subject is unproblematic. The problem in (78) is thus not its syntax, but the processing of the null. If the null can move across the finite verb in C, as in (79), the processing problem disappears:

(79)	a.	__ Spreche	__	Schwedisch.	*German*
	b.	__ Talar	__	svenska.	*Swedish*
	c.	__ Tala	__	sænsku.	*Icelandic*
		speak		Swedish	

'I speak Swedish.'

Structurally, (78) and (79) are identical, apart from the fact that the null-argument matches CLn locally in (79), as sketched in (80) (= (58) above):

(80) $[_{CP} \ldots \{CLn\} \quad \emptyset(subj)_i\text{–}V_{Fin} \ldots [_{IP} \ t_i \ldots$
↑_____↑

On the present approach, null-arguments, being bundles of syntactically active but silent features, are universally available in syntax, without any special licensing requirements, whereas their distribution in individual languages is constrained by contexctual factors, acting as processing and (hence) learnability limitations. Such factors, as we have seen, may or may not be present or active in individual languages and constructions. Reasonably, " ... a pronoun is simply the 'spelling out' of … *pro*" (Chomsky 1982:86), narrow syntax being "oblivious to whether pronouns or inflectional affixes do or do not end up being pronounced" (Holmberg 2005:560).

Context-linking is a computational, syntactic phenomenon. Arguments that are context-linked under distant Agree are syntactically well-formed. If they are 'radically silent',

however, they have to meet the extra requirement that they be locally context-linked (i.e., not across a context-linking intervener), or else they cannot be successfully identified or localized in the PF representation of the clause, thus being impossible to process.[32]

Under the context-linking approach to anaphora pursued here, there is no need to assume 'lexical' differences between radically silent arguments across languages.

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[32] Interesting problems remain. Thus, I have not developed any analysis of the fact that modern V2 Germanic does not allow controlled null-subjects, as opposed to languages like Finnish, Hebrew, Russian and Old Norse (instead allowing extraction topic drop). It is also interesting that neither Chinese, Italian nor modern V2 Germanic allow definite controlled (antecedent-linked) zero objects, as opposed to e.g. Old Norse, Brazilian Portuguese, Hungarian, Chamorro, Imbabura Quechua, Japanese, Korean, Thai, and Burmese (see Y. Huang 2000:85 and the references there).

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