Conditions on argument drop

Sigurðsson, Halldor Armann

Published in:
Linguistic Inquiry

DOI:
10.1162/LING_a_00042

2011

Conditions on Argument Drop

Halldór Ármann Sigurðsson

This article pursues the idea that null arguments are derived without any statement or parameter, instead following ''naturally'' from 3rd factor principles and effects (in the sense of Chomsky 2005). The article thus contributes to the program of eliminating statements in grammar in favor of general factors. More specifically, it develops a theory of C/edge linking in terms of syntactically active but silent C-features, where all referential definite arguments, overt and silent, must match these features in order to be successfully C/edge-linked (interpreted). On the approach pursued, radically silent arguments—such as Germanic zero topics and controlled 3rd person null subjects in Finnish—commonly raise across a lexical C (a complementizer or a verb-second (V2) verb) into the edge of the C-domain for the purpose of successful C/edge linking (circumventing C-intervention), thereby showing Ā-behavior not observed for other types of arguments (including the Romance type of pro). Silent arguments are universally available in syntax, whereas their C/edge linking is constrained by factors (such as Germanic V2) that may or may not be present or active in individual languages and constructions.

Keywords: argument drop, C/edge linking, context linking, intervention, pro, topic drop

1 Introduction

Three types of referential null subjects are often distinguished (C.-T. J. Huang 1984, 1989, 1991 and many works since, such as Holmberg 2005, Neeleman and Szendrői 2007):

This article elaborates on ideas that have also been discussed in joint work with Joan Maling (Sigurðsson and Maling 2007, 2008). I am indebted to Joan for her support. I am also grateful to thorough reviewers, who helped me improve the presentation of my ideas substantially. For help with data and useful comments and discussions, I thank Christer Platzack, Elenore Brandner, Elisabet Engdahl, Hans Broekhuis, Idan Landau, Juan Uriagereka, Ken Hiraiwa, Jim Huang (C.-T. J. Huang), Josef Bayer, K. V. Subbarao, Liliane Haegeman, Mara Frascarelli, Marcel den Dikken, Massimo Piattelli-Palmarini, Matthew Dryer, Ora Matushansky, Ur Shlonsky, Valentina Bianchi, Valéria Molnár, Verner Egerland, and, especially, Anders Holmberg and Terje Lohndal.

Parts of this work have been presented on a number of occasions: Workshop on Null Subjects and Parametric Variation (Reykjavik, June 2003), GLOW 28 (Geneva, March/April 2005), Grammatik i Fokus (GIF 20; Lund, February 2006), IGG XXXII (Florence, March 2006), Workshop on Partial Pro-Drop Languages (Cambridge, June 2006), Università Ca' Foscari Venezia and Università degli Studi di Siena (March 2007), LISSIM 2 (Dharmkot, Himachal Pradesh, September 2007), the NORMS Workshop on Subjects and Architecture of Grammar (Trondheim, September 2008), Università degli Studi Roma Tre (November 2008), ScandiaSyn Grand Meeting (Älvdalen, August 2009), the GRIMM Seminar (Lund, October 2009), NYU Linguistics Department Colloquium (November 2009). I thank the organizers of these events for their hospitality and the audiences for welcome comments and discussions.

The research for this work was supported by a grant from the Swedish Research Council, VR 421-2006-2086.

Linguistic Inquiry, Volume 42, Number 2, Spring 2011
267–304

A. The Romance *pro drop* type, conditioned by agreement
B. The Germanic *topic drop* type, conditioned by an empty Spec,C
C. The Chinese *discourse drop* type, not clause-internally constrained[1]

In addition, Finnish, Hebrew, and a number of other languages have controlled pro in subordinate clauses that shares 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.'')

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

(2) Kommer tillbaks imorgon. *Swedish*
come.ø-AGR back tomorrow Empty Spec,C, 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,C*. 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,C (see sections 4 and 5). Following Sigurðsson and Maling (2007, 2008), I refer to this restriction as the *Empty Left Edge Condition*.

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,C. This is exemplified in (5)–(7). The Pashto example in (5) and the Chinese example in (7) are modeled on examples from 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.3SG.F Object-verb agreement
'I ate it.' (e.g., the apple)

[1] The ''Chinese type'' is particularly common in East and Southeast Asia, whereas the ''Romance type'' is highly frequent in most other parts of the world (see Dryer 2005b).

(6) Såg 'ja igår. *Swedish*
saw.∅-AGR I yesterday Empty Spec,C, reduced subject,
'I saw [it/her, etc.] yesterday.' but no agreement

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

In C.-T. J. Huang's approach (1984, 1989), and in other Government-Binding (GB) Theory approaches inspired by his work (e.g., P. Cole 1987, Cardinaletti 1990, Sigurðsson 1993), a lexical (featural) distinction was drawn between Romance *pro* drop and Germanic *topic* drop (see section 2). The Chinese type of discourse drop, in turn, was analyzed as involving subject pro or PRO, but zero object topics.

Here, I will explore and argue for a unified minimalist approach to referential null arguments, where all types of (overt and silent) definite arguments require *C/edge linking* (see shortly). Even so, it is necessary to distinguish between ϕ-agreement types of argument drop (Romance, Pashto, etc.) and ϕ-silent types (Germanic, Finnish, Chinese, etc). Romance null subjects have much the same distribution and referential properties as weak pronouns in languages like English and the Germanic verb-second (V2) languages (Cardinaletti and Starke 1999), and I will thus adopt an analysis (Alexiadou and Anagnostopoulou 1998, Platzack 2004, Holmberg, Naydu, and Sheehan 2009, Roberts 2009) where verbal agreement in languages like Italian *is* a pronoun, incorporated into T, henceforth $\emptyset$–T_ϕ (cf. the notion ''I-subject'' in Borer 1986, 1989).[2] Being ϕ-visible or ϕ-overt, Romance $\emptyset$–T_ϕ does not instantiate true null anaphora, nor does licensing (in the sense of Rizzi 1982, 1986) distinguish between it and Germanic weak pronouns (see also Frascarelli 2007). Indeed, as we will see in section 4, Romance $\emptyset$–T_ϕ behaves like overt weak subject pronouns and not like ϕ-silent anaphora with respect to C/edge linking.

The leading ideas I pursue are as follows: First, I suggest that Universal Grammar does not contain any null-subject parameter, licensing of null arguments instead following from general factors (in the spirit of Chomsky 2005). Second, any definite argument, overt or silent, positively matches at least one *C/edge linker* in its local C-domain, where C/edge linkers include Top(ic) features and speech participant features (''speaker,'' ''hearer'').[3] I refer to this as the *C/Edge-Linking Generalization* (see (30) in section 4) and argue that C/edge linking is a computational, syntactic phenomenon. Third, however, like any other syntactic phenomenon, C/edge linking must be interpretable at the interfaces. Radically ϕ-silent arguments differ from ϕ-overt arguments (including Romance $\emptyset$–T_ϕ) in that their C/edge linking is invisible, hence uninterpretable across

[2] In this language type, nonincorporated subjects, like *Io* in *Io parlo islandese*, are not in Spec,T (see, e.g., Alexiadou and Anagnostopoulou 1998, Cardinaletti 2004, 2009).

[3] In contrast, impersonal generic arguments are not C/edge-linked (see section 5), and the same is true of most other indefinite arguments. For reasons of space, I will not discuss full NPs here (but see Sigurðsson 2010 for a discussion of the relationship between Person and definiteness).

a spelled-out intervener in the C-system. However, such *C-intervention* can in certain cases be circumvented by movement of the null argument. Thus, Germanic null topics are interpretable when they have raised across the finite verb, into the C-domain (and this is only possible when Spec,C is not lexicalized by internal Merge). Finally, I will speculate (and present some evidence) that languages like Chinese do not display any clause-internal restrictions on pro drop because they lack lexical C categories in their clausal left periphery, thus not showing any C-intervention effects on C/edge linking.

The analysis pursued here is based on the hypothesis that C/edge linking is syntactic, interacting with rather than merely boiling down to pragmatics.[4] C-intervention, in contrast, applies in PF, blocking C/edge linking from being visible and successfully interpreted in the case of a true (ϕ-silent) null argument, whereas it does not affect the C/edge linking interpretation of overt arguments (these being ϕ-visible in PF). The well-formedness of a structure thus depends on both the syntactic derivation and its PF interpretation (hence its processing); that is, it can crash in PF even when it is perfectly well derived in syntax. A still stronger view, which I adopt here, is that a structure can *only* crash in PF, syntax itself being crash-proof (cf., e.g., Frampton and Gutmann 2002, Putnam 2010).

I adopt the Strong Minimalist Thesis and hence the single-cycle hypothesis (Chomsky 2000, 2001, 2005, 2007, 2008), namely, the hypothesis that the syntactic computation proceeds in a single cycle, deriving a representation that is legible to both the interfaces (albeit in different terms, semantic vs. expressive). No generally received approach to null-argument phenomena has been developed within the Minimalist Program, so I start out, in section 2, by briefly laying out the GB Theory approach to Romance pro drop and Germanic topic drop, arguing that an alternative minimalist analysis must be developed. In section 3, I present and discuss a number of facts illustrating that agreement is not the key factor in argument drop phenomena, even though it affects argument identification. In section 4, I define the notion of C/edge linking, pursuing the idea that successful C/edge linking is the crucial factor that identifies radically silent arguments. In section 5, I discuss intervention effects on C/edge linking in Germanic; and in section 6, I tentatively extend the C/edge-linking approach to controlled pro in Finnish and to the Chinese type of discourse drop.

2 On the Government-Binding 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 objects can be dropped in Germanic, as illustrated in (6). Another, related reason was that Germanic topic

[4] In its broadest sense, C/edge linking extends to spatial and temporal anchoring, but for reasons of space I will not discuss this here. In this article, I will thus only discuss C/edge linking of overt and silent arguments. For a recent, more general minimalist discussion of C/edge linking (context linking), see Sigurðsson 2010 and Sigurðsson and Maling 2010.

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,C). This is further illustrated in (8)–(9) for Germanic subject topic drop; the dash indicates the Spec,T position, whereas the initial position is Spec,C.[5]

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

(9) 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, e.g., C.-T. J. Huang 1984, 1989, 1991, P. Cole 1987, Sigurðsson 1989, 1993, Cardinaletti 1990, Haegeman 1990, 1996) was that the silent argument is either an empty operator in Spec,C or an NP that has been moved into Spec,C and deleted from there.

(10) a. $[_{CP}\ Op_i \ldots [_{TP}\ e_i \ldots$
b. $[_{CP}\ \sout{NP}_i \ldots [_{TP}\ t_i \ldots$ (e.g., ~~Ich~~ kenne ____ das nicht)

The empty Spec,T position (then referred to as Spec,IP) could thus be analyzed as being both identified and licensed under Ā-binding from Spec,C. In Italian examples like (1) (*Parlo*/*Parli islandese*), on the other hand, the silent Spec,T subject was taken to be licensed and identified by the rich agreement morphology of T (Infl) in languages of this sort (Rizzi 1986).

(11) $[_{CP} \ldots [_{TP}\ pro_i\ T/Agr_i \ldots$

The Spec,T subject was thus an empty variable in (10) but a pro(noun) in (11), in accordance with the classification of overt and covert NPs in GB Theory (Chomsky 1982:78–79; see also Y. Huang 2000:17).

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

[5] The examples in (8) and (9) are from Sigurðsson 1993:254–255; see also Y. Huang 2000:79–80. Largely the same applies to Dutch (see Haegeman 1996, Ackema and 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 for weak pronouns over null pronouns in certain cases where a null pronoun would be the natural option in, say, German (Hans Broekhuis, Marcel den Dikken, pers. comm.). 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).

It followed that the Romance type of null subject 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 argument was predicted to obey Condition C (saying that R-expressions/variables are A-free). Accordingly, the Germanic type was expected to be subject to island constraints and crossover effects in much the same manner as overt Ā-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, P. 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 1995:217n53). Thus, the binding conditions cannot be stated in terms of indices, hence not in terms of the GB Theory sense of binding. In addition, the binding conditions are conditions on representational levels (basically D-Structure), which are nonexistent in the Minimalist Program, and they cannot be stated in any alternative derivational terms without resorting to either lookahead 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 nonexistent 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 (e.g., Landau 2000, 2004, 2008, Hornstein 2001, Reuland 2001, Kayne 2002, Zwart 2002, Heinat 2006).

If binding is nonexistent in syntax, the different properties of null-argument types cannot be syntactically analyzed in terms of binding or the binding conditions. In addition, the notions ''anaphor'' and ''pronominal,'' which were supposed to be the very defining features of pro versus variables (see (12)), do not have any content or reference outside of GB Theory; that is, they only describe the distribution of anaphoric items in GB Theory 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] and [−anaphor, −pronominal] have no status or meaning other than 'obeys Condition B versus Condition C of the GB binding theory'. In particular, they do not have any status as lexical primitives (see Safir 2004b).

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.[6] Claiming that different types of null

[6] I largely put bound variable readings aside here, though (but for some remarks, see footnotes 26 and 27).

arguments differ in ''variability'' amounts to claiming that they have different referential properties, but that seems to be incorrect. The typical Ā-/A-distinctions between GB Theory variables and nonvariables are real, but they arise not because of inherent feature differences between individual items (cf. Safir 2004b), but because different items typically take part in different types of dependencies (TP-bounded A-dependencies vs. TP-external Ā-dependencies).

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 subject. This is not particularly abstract or radical—phonological zeros commonly represent complex semantic/syntactic structures.[7] In fact, much generative work on null anaphora, including the work of 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 crosslinguistic availability of +Topic PRO (see Landau 2000, 2004, 2008, Sigurðsson 2008). Second, the assumption or claim that Germanic null arguments are somehow more topical than Romance null subjects is unfounded. First and 2nd person arguments are inherently C/edge-linked, and it has been meticulously demonstrated that Italian 3rd person null subjects must be aboutness topics, as will be discussed in more detail in sections 3 and 4. I will thus argue that both types of null argument are pronouns, hence in need of being successfully C/edge-linked. Radical (ϕ-silent) null arguments of the Germanic type, however, must raise into the C-domain in order for their C/edge linking to be interpretable, thereby showing Ā-behavior not observed for ϕ-visible pronouns, including Italian $\emptyset$–T_{ϕ}.

Chomsky (2005:6) distinguishes among ''three factors that enter into the growth of language in the individual'':

- The language- and species-specific *1st factor* (roughly corresponding to the faculty of language in the narrow sense, FLN, in Hauser, Chomsky, and Fitch 2002)
- The *2nd factor* of experience, leading to variation
- The *3rd factor* of ''principles [of biological and computational systems] not specific to the faculty of language''

The 3rd factor includes ''language-independent principles of data processing, structural architecture, and computational efficiency'' (Chomsky 2005:9), whereas the 1st factor or FLN, according to Hauser, Chomsky, and Fitch (2002:1573), ''comprises only the core computational mechanisms of recursion as they appear in narrow syntax and the mappings to the interfaces,'' that is to say, unbounded Merge, yielding ''a discrete infinity of structured expressions'' (Chomsky 2007:5).

[7] The references here being copious, I mention only Chomsky 1981, 1995, Merchant 2001, Sigurðsson and Egerland 2009.

Thus, ''much of the complexity manifested in language derives from complexity in the peripheral components . . . [i.e., 3rd factor components], especially those underlying the sensory-motor (speech or sign) and conceptual-intentional interfaces, combined with sociocultural and communicative contingencies'' (Hauser, Chomsky, and Fitch 2002:1573).

Adopting this general approach, I propose that the language faculty does not contain any wired-in parametric instructions, the desirable goal being to analyze language variation in terms of interacting general 2nd and 3rd factor effects and principles. One such effect is incorporation. It can be formulated as a simple statement saying ''Incorporate Y into X.'' One instantiation of this general architectural operation is ''Incorporate ϕ into X,'' yielding Ø–X_{ϕ} (e.g., Ø–T_{ϕ}, as in Italian). The other options are ''Copy ϕ onto X,'' yielding ϕ . . . X_{ϕ} (as in French, German, Icelandic), and the null option of not operating on or tampering with ϕ (yielding ϕ . . . X, as in Chinese, Japanese, Mainland Scandinavian). For expository ease, one may wish to refer to these options as ''parametric.'' However, it is not clear that there are any further options here, so enriching the model of Universal Grammar by postulating a special biologically wired-in statement yielding these trivial options would seem to be redundant. In addition, it is unclear, to say the least, how such a statement could be explained from an evolutionary point of view (see Boeckx, to appear).

Narrow syntax comprises not only the 1st factor but also 3rd factor components. While ϕ-features are presumably language-specific, the operations ''Incorporate Y into X'' and ''Copy Y onto X'' are not.[8] Regardless of how we conceive of these options, it is in any case clear that language does not contain any primitive statement saying ''Do/Do not spell out your subjects''; that is, the null-subject phenomenon is an epiphenomenon that cannot be described or stated in terms of the notion ''null subject'' (the notion ''subject'' itself is not a primitive of language; see Chomsky 1981:10). In addition, languages of the Italian type cannot be said to have null subjects in any meaningful sense. As we will see, Italian Ø–T_{ϕ} behaves like a ϕ-overt weak pronoun in for instance the Germanic languages.

In the next section, I will demonstrate that agreement is not the key factor in argument drop phenomena. In subsequent sections, I discuss the notion of C/edge linking (and intervention blocking of C/edge linking).

[8] Which is not to say that the Romance type of ϕ-incorporation is a ''nonlinguistic'' phenomenon. Incorporation is just not *specific* to language. It is frequently found in the biological world, outside of language. As Juan Uriagereka (pers. comm.) puts it, ''In the 'classical' biological world, you have various forms, ranging from parasitism to even more direct forms of dependency (e.g. bacteria in digestive systems) that clearly lead to stable forms of mutual dependency among organisms. This sort of reasoning was pushed dramatically by Lynn Margulis' 'endosymbiotic theory.' . . . These days the logic has been amplified to viral dependencies too, and for instance the RAG genes (relevant of adaptive immunity) seem to have been the result of some sort of incorporated virus, which rather than being eliminated got coopted in our common ancestor with sharks.'' Massimo Piattelli-Palmarini (pers. comm.) further explains: ''Instances of incorporation of genetic material into genomes is ubiquitous (horizontal transfer, Transposable Elements). 45% of our genome has that origin, though only a few are still active. Carl Woese, the one who has discovered and labeled the third kingdom, the archaea, questions neo-Darwinism on that basis. The longest time of evolution has witnessed horizontal transfer. See the attached [Woese 2002, Woese and Goldenfeld 2009].''

3 On the Role of Agreement

Reconsider the Pashto object drop example in (5), repeated here as (13).

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

As Pashto is a split ergative language, it can be shown that dropped arguments, both subjects and objects, have to agree with the verb.[9] C.-T. J. Huang (1984:535–536) demonstrates this very clearly, and I will not repeat his arguments here (see also Y. Huang 2000:55, Neeleman and Szendrői 2007:672). Even so, it is evident that the referent of the object must *also* be identified or recovered from the context, like the referent of regular overt pronouns. There is no way of knowing that the dropped object in (13) 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 by Frascarelli (2007).[10] I quote one of Frascarelli's examples and her discussion around it (2007:703–704):

> 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 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[ubject] 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 a 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

[9] In this respect, Pashto differs from Hindi/Urdu, which can drop nonagreeing arguments under control (see Butt and King 1997), like Chinese.

[10] Related observations have been independently made for a number of languages by M. D. Cole (2009).

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.

Notice in passing that overt weak subject pronouns in Germanic must be maintained aboutness (-shift) topics in much the same manner as Italian $\emptyset$–T_{ϕ} (if a different aboutness topic is to be established, a shift must be made from a weak pronoun like *he* to a different lexical item like *the other man, the former*, etc.). As Italian $\emptyset$–T_{ϕ} is ϕ-overt, this parallelism with overt weak pronouns is expected. Frascarelli's study indicates that ϕ-visible arguments in general require contextual identification, regardless of ϕ-incorporation (see further below).

Other facts also suggest that the role of agreement for licensing and identifying of null arguments, whether ϕ-silent or ϕ-visible, has been commonly misjudged in the generative literature. One such fact is that Icelandic generally lost subject drop in subordinate clauses and in main clauses with a lexicalized Spec,C without any concomitant change of grammar—in particular, without any relevant weakening of its robust agreement morphology (commonly with five distinct verb forms (see (18)); Sigurðsson 1993, Thráinsson 2007). The change accelerated in the eighteenth century, and very few examples 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:[11]

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

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

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

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

Oevdalian or Övdalian (''Älvdalsmålet'') is a Scandinavian language, spoken by around 2,500 people in the northwestern part of Dalarna in Sweden (see Garbacz 2010). It is closely related to Icelandic and shares many typological traits with it, but differs from it in having referential pro drop in the 1st and 2nd person plural, as illustrated in (16)–(17). The Oevdalian examples in (16) are modeled on examples in Rosenkvist 2006.[12]

(16) 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.'

(17) a. . . . ef *(við) er*um* heima. *Icelandic*
. . . if *(we) are.1PL home
b. . . . ef *(þið) er*uð* heima.[13]
. . . if *(you) are.2PL home

This difference is remarkable in view of the fact that 1st and 2nd person plural endings are distinct in person/number from all other verb endings in both languages. Consider the present indicative paradigm in (18) of the verb meaning 'bite' (see Rosenkvist 2006:147).

(18) *Oevdalian*

SG			PL		
	1	bait		1	bait-*um*
	2	bait		2	bait-*ið*
	3	bait		3	bait-a

Icelandic

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

There can be no question that the Icelandic 1st and 2nd person plural forms give unambiguous person/number information about their subjects, just like Oevdalian 1st and 2nd person plural forms and like the 1st person plural form *sáum* '(we) saw' in (14). This is confirmed by the fact that these forms are used in subjectless exhortatives like (19a–b).

[12] The ''Romance similar'' type of argument drop is confined to 1st and 2nd person plural in Oevdalian. Both may drop in subordinate clauses, as in (16), and 2nd person plural may also drop rather freely in main clauses, in the Romance style. In contrast, 1st person plural drops in the Germanic style only in main clauses, that is, in the presence of an empty Spec,C. See Rosenkvist 2009a,b. See also M. D. Cole 2009 for a more general discussion of split or mixed argument drop systems.

[13] The general 2nd person plural ending is *-ið*, just as in Oevdalian. The verb *vera* 'be' is exceptional in applying *-uð* instead.

(19) 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 and interrogatives in (20)–(21).

(20) 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
c. *Ger*um* ____ eitthvað annað?
do.1PL something else

(21) 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
c. *Ger*ið* ____ eitthvað annað?
do.2PL something else

Plainly, something more than just unambiguous person and number marking is involved in null-subject interpretation. In sections 4–6, I will argue that the crucial factor is successful C/edge linking.[14]

The marginal crosslinguistic importance of agreement is seen even more clearly with 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 2001:144–145).[15] 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 (22) for three such languages (all lacking general object agreement); the underlined matrix subjects in (22b–c) are obligatorily antecedents of the null objects.

[14] As (20c) and (21c) show, topic drop is impossible in direct questions, even though they have a (segmentally) silent Spec,C, and this holds true across Germanic (except perhaps in some echo questions). See further the discussion in sections 5 and 6.

[15] It should be noted, however, 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.).

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

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

c. Juzi nin Marya ____ juyanata. *Imbabura Quechua*
Juzi says Marya (him) will.love
'*Juzi* says that Marya will love *him*.'
(P. Cole 1987:600)

In languages of this sort, the silent object is *discourse-linked*, as in (22a), or *controlled* (antecedent-linked), as in (22b) and (22c). Other languages that have clause-externally conditioned referential object drop include Chinese, Japanese, Korean, Thai, Malayalam, Chamorro, and Hungarian (Y. Huang 2000:85ff.). Some object drop languages, such as Chinese, allow only discourse-linked null topics, whereas Old Norse, for example, had both discourse-linked and controlled object drop (see Hjartardóttir 1987:56ff.).[16]

Germanic topic drop is obviously not preconditioned by agreement. Even within Germanic, however, agreement *constrains* identification. We can see this by comparing, for example, Swedish (no agreement) and Icelandic (agreement). Consider the Swedish clauses in (23), where the dashes indicate silent Spec,C and Spec,T.

(23) a. ____ Ligger ____ bara på stranden. *Swedish*
lie.ø-AGR just on beach.the

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 1st person singular. Given the right context, however, the null subjects can be interpreted as 1st, 2nd, or 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.

[16] According to the description of Finnish in Y. 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, pers. comm.).

(24) A: Var är Anna? *Swedish*
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.'

Depending on the verb form, each of the Swedish clauses in (23) gets four different 1st and 3rd person translations in Icelandic (and three different 1st and 3rd person translations in, for example, German). The 1st and 3rd person Icelandic translations of (23a) are given in (25).

(25) a. ____ Ligg ____ bara á ströndinni. 1SG *Icelandic*
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 the null subjects in (25a) and (25c), for example, as anything else than 'I' and 'we', respectively. Even so, Icelandic null subjects of this sort are like Swedish null subjects in requiring access to Spec,C, generally showing distributional properties very similar to those of null subjects in the other V2 Germanic topic drop languages (as shown in Sigurðsson 1989:145ff., 1993; see also Mörnsjö 2002).

It is thus evident 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 (26) (see also Sigurðsson 1993:254–255); as indicated, the subject pronoun is unstressed and (at least phonologically) cliticized onto the verb, a fact I will return to.

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

Much like dropped subjects, dropped objects in V2 Germanic usually must have access to an empty Spec,C. Compare (26) with (27)–(28).[17]

[17] For a discussion of more object drop types in the Scandinavian languages, illustrating that object drop is commonly conditioned by phonological reduction of the subject, see Sigurðsson and Maling 2007, 2008. Nonetheless, there are exceptional cases with a dropped −human object and a weak clause-initial subject, like the Swedish clause in (ia), acceptable to at least some speakers (Verner Egerland, pers. comm.).

(i) Rapporten har kommit. *Swedish*
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* by internal mail tomorrow.'

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

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

All these facts suggest that C/edge linking of null arguments is a crucial factor. I consider this issue in more detail in the next section.

4 C/Edge Linking

Frascarelli (2007) and Frascarelli and Hinterhölzl (2007) distinguish among *aboutness-shift topics*, *contrastive topics*, and *familiar topics*, arguing that each type heads its own projection in the broad C-domain, as sketched in a simplified manner in (29) (where other categories in the C-domain are not shown).

(29) [. . . [$_{\text{ShiftP}}$ . . . [$_{\text{ContrP}}$ . . . [$_{\text{FamP}}$ . . .

Following Holmberg, Naydu, and Sheehan (2009), I 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 *Fam-Top(ics)*.[18]

As mentioned and partly illustrated above, Frascarelli presents thorough and convincing evidence that Italian 3rd person null subjects always match a maintained A-Top feature, which, she proposes, is ''base-generated in the C-domain'' (2007:697).[19] I adopt her analysis in this respect, assuming, in addition, that the C-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,b, 2010.[20] Generalizing, we can refer to these logophoric features and the Top features as *C/edge-linking* features or *C/edge linkers* (*CLn*) and state the *C/Edge-Linking Generalization* in (30).

[18] See also Cardinaletti 2009 (but for a somewhat different understanding, see Neeleman et al. 2007). Bianchi and Frascarelli (2009) refer to Fam-Top as *Given topic* (G-topic).

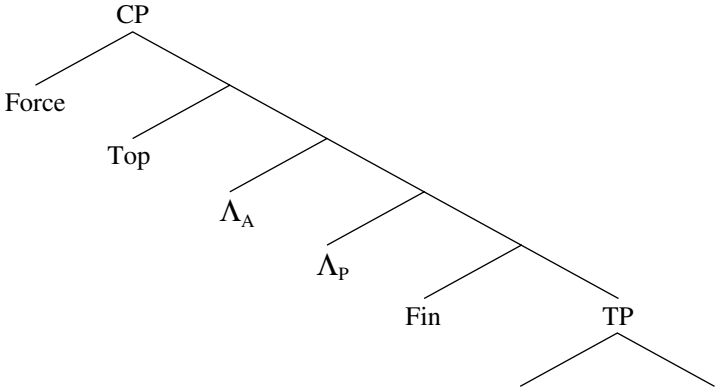
[19] Overt Italian pronouns, in turn (as well as some overt pronouns in other languages), may match either C-Top or Fam-Top.

[20] For related ideas, see Bianchi 2006. This approach is conceptually close to the performative hypothesis (Ross 1970), but technically different from it (importantly, it is embedded in a general feature-matching theory, and it does not involve any performative null predicate, thus escaping the inherent circularity problem of Ross's approach). It is largely adopted in Frascarelli 2007, Baker 2008, and Holmberg, Naydu, and Sheehan 2009; see further Holmberg 2010. Similar approaches have been developed in semantic terms in earlier works, including Sigurðsson 1990 and the influential study by Schlenker (2003) (see also Hill 2007 and Giorgi 2010 for a somewhat different take on this).

(30) *C/Edge-Linking Generalization*
Any definite argument, overt or silent, *positively* matches *at least one* CLn in its local C-domain, CLn $\in \{\Lambda_A, \Lambda_P, \text{Top}, \ldots\}$.

I adopt the cartographic approach, inspired by the work of Rizzi (1997 et seq.), Cinque (1999 et seq.), Cardinaletti (2004), and others. I will not discuss this approach in any detail here, as the C/edge linkers (''speaker,'' ''hearer,'' ''X-Topic'') are the only C-features that matter for my purposes. For the sake of explicitness, however, in (31) I sketch the CP structure that I am assuming (abstracting away from left-dislocated constituents, Foc(us), and different Top types).

(31)



For further discussion, see Sigurðsson 2010. Throughout, I also assume the approach in, for example, Sigurðsson 2006, 2010 and in Sigurðsson and Holmberg 2008, where movement tucks in to the right of its probe rather than adding structure to its left.[21]

Matching takes place under Agree (see Chomsky 2001, Landau 2004), where a goal *positively* matches a probe if it gets positively valued in relation to it. Thus, a 1st person argument in the T-domain positively matches the ''speaker'' feature in the C-domain, thereby being valued as $[+\Lambda_A, \ldots]$; a 2nd person argument is $[+\Lambda_P, \ldots]$; and a definite 3rd person argument is [+Top, . . .] ([+A-Top, . . .] in the contexts discussed here). Indefinite arguments, in contrast, do not usually positively match the C/edge linkers.[22]

Any finite C-domain has its own set of C/edge linkers, Λ_A, Λ_P, Top, . . . ,[23] either independently valued, as in prototypical main clauses, or valued in relation to 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, in relation to the matrix arguments, *he* and *Mary*, as sketched in (32) (where, for reasons of space, I do not show the Top feature, positively matched by *he* in the

[21] However, 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 (but for arguments against specifiers, see Chomsky 2010, Lohndal, in preparation).

[22] In Sigurðsson 2010, I argue that NPs match a Person head in the T-domain, Pn (T_ϕ in Chomsky 2001), as being either +Pn or −Pn, and that NPs that are valued as +Pn further positively match some of the C/edge linkers, whereas NPs valued as −Pn do not usually match any C/edge linkers and are thus commonly exempted from (high) A-movement.

[23] Root and nonroot CPs differ in other respects, an issue I put aside here.

matrix clause); the curly brackets indicate that a category is silent (the indices are used for expository purposes only, to indicate identity matching).

(32) a. He said to Mary, ''I will help you.''
b. $[_{CP} \ldots \{\Lambda_A\}_i \ldots \{\Lambda_P\}_j \ldots [_{TP} \ldots he_k \ldots Mary_l \ldots [_{CP} \ldots \{\Lambda_A\}_k \ldots \{\Lambda_P\}_l \ldots$
$[_{TP} \ldots I_k \ldots you_l \ldots$

While the 3rd 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 1st and 2nd person pronouns in the subordinate clause are positively valued in relation to one of their local speaker/hearer features, $\{\Lambda_A\}_k$ and $\{\Lambda_P\}_l$, which in turn inherit their reference under distant 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 C/edge linkers as *CLn*, unless further specification is called for.

The deictic switch seen in direct speech is in part a syntactic phenomenon, and not merely a matter of pragmatics, just as the deictic switch in questions and answers, as in (33), is partly a syntactic phenomenon.

(33) a. Hey, John, are *you* invited? $John_l \ldots [_{CP} \ldots \{\Lambda_P\}_l \ldots [_{TP} \ldots you_l \ldots$
b. No, Sandra, but *you* are. $Sandra_k \ldots [_{CP} \ldots \{\Lambda_P\}_k \ldots [_{TP} \ldots you_k \ldots$

That deictic switch of this sort is partly syntactic is further evidenced by the fact that the same kind of switch is found in regular subordination in many languages,[24] yielding the type in (34).

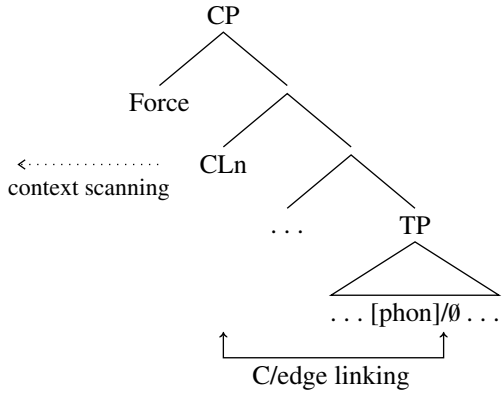
(34) /he Mary told that *I you* help will/
= He told Mary that *he* would help *her*.

To understand facts of this sort, it is necessary to distinguish between *reference* and C/edge linking. While arguments are ϕ-computed under CLn matching in narrow syntax, their definite reference is decided by clause-external *context scanning*, either under distant Agree/control, as in (32) and (34), or by extrasyntactic means. Together, CLn matching and context scanning yield *context linking*,[25] as informally sketched for referential arguments in (35).

[24] Including Zazaki and Slave (Anand and Nevins 2004), Amharic, Donno Sɔ, Navajo, Kannada, Tamil, Kurdish, Persian, and Punjabi (see Sigurðsson 2004b:235–236, 246n40, and the references cited there). This is a common trait of Indo-Aryan and Dravidian languages (K. V. Subbarao, pers. comm.).

[25] Compare the (less precise) notion of Discourse-linking or D-linking in Pesetsky 1987 and much subsequent work. The crucial distinction made here between context scanning and intraclausal C/edge linking was not observed in Sigurðsson and Maling 2007, 2008. I will not discuss the nature of context scanning here, interesting as it is. Informally put, there can be many potential ''yous,'' ''shes,'' ''theys'' (etc.) in a given context, and to decide which ''you,'' ''she'' (etc.) is being referred to, the context must be scanned; but, regardless of which ''you'' (etc.) is being scanned, its ϕ-features must be computed clause-internally, under C/edge linking. Does the argument positively match Λ_P, for instance? If so, it is 2nd person, regardless of who or what it may refer to (which is not to say that its reference is arbitrary, a complex issue that I cannot discuss here; cf., e.g., Safir 2004a).

(35) *Context linking (= C/edge linking + context scanning) of referential arguments*



This approach thus formalizes the assumption that referential arguments, overt or covert, link to or match their linguistic and/or deictic context, and it also makes the reasonable claim that they do so via their C-domain.[26]

There is much confusion regarding these issues. A popular view is that argument interpretation is exclusively ''pragmatic'' or extrasyntactic in some other sense (see Y. Huang 2007 and the references cited there). However, this view is refuted by the deictic switch facts just discussed. Assuming, for instance, that the speaker/hearer features are just redundantly given in each speech or utterance event makes the prediction that 1st and 2nd person singular pronouns should invariably refer to the actual speaker and addressee, contrary to fact; and assuming that they can be copied under overt antecedent control is off the track, as best seen in cases like (32) and in speaker shift contexts. The computation of the CLn values ($+\Lambda_A$, etc.) must be completed in syntax, prior to

[26] A reviewer remarks that ''the standard view in formal semantics [is] that interpretations are assigned relative to a domain of individuals, a possible world, and a context of utterance,'' correctly pointing out that my claim ''goes beyond this [in that] the context of utterance can only be accessed via a syntactic channel.'' In my view, there can be no doubt that this is an important step forward (as suggested and supported by the facts discussed in this section and the next), compatible with cyclicity and locality and in fact forced by the single-cycle hypothesis, where syntax ''feeds'' both the interfaces. Moreover, my approach does not contradict formal semantics, instead being entirely compatible with it, bridging a long-standing and troublesome gap between it and syntax (by ''cooperation'' of C/edge linking with context scanning). It does not follow, of course, that all semantics and pragmatics are syntactically channeled or even syntactically related, a big issue that I cannot address here (but for a general discussion of the relation between syntax and semantics, see Chomsky 2007, 2008).

For simplicity, I limit the text discussion to plain ''minimal pronouns.'' Intriguing problems are raised by a number of phenomena, including bound variable readings (see Rullmann 2004, Kratzer 2009). A bound variable reading of a pronoun (including a fake indexical) arises when the pronoun enters an Agree chain that includes the subordinate (positively or negatively matched) Λ-features and its matrix antecedent while excluding the root Λ-features (which, if included, would yield a referential, deictic reading). That is, in a clause like *Only* I_1 *got a question that* I_2 *understood* = [. . . Λ_1 . . . only I_1 . . . [. . . Λ_2 . . . I_2 . . .]], the subordinate subject I_2 either enters a chain that includes Λ_2 (yielding $+\Lambda_A$/ $-\Lambda_P$) and the matrix subject *only* I_1, excluding the Λ_1 of the root (the bound variable reading), or enters a chain that includes Λ_1 (the deictic reading). Recalcitrant problems also arise in the interaction of number and inclusiveness with person as well as in the ϕ-resolution in coordinated NPs. I have to put these issues aside here.

Spell-Out; if it were not, correct overt pronoun forms could not be derived or produced.[27] Also, given the basic minimalist single-cycle hypothesis adopted here, the intraclausal computation of CLn values must be purely syntactic, and not, say, the result of a mixed syntactic + pragmatic computation, pragmatics being extrasyntactic on this view of language. However, as stated above, *context linking* involves not only CLn matching but also pragmatic/semantic context scanning (about which I have nothing much to say here). It is also worth underlining that developing a full-fledged theory of how clauses merge with and fit their context is a nontrivial task, beyond the scope of this article. What matters for our purposes is, first, that clause-internal C/edge linking is a prerequisite for clause-context Merge (as for instance evidenced by indirect discourse shift as in (32)), and, second, that C/edge linking accounts for the distribution of ϕ-silent arguments, as I will demonstrate.

Given the C/Edge-Linking Generalization, a regular, overt subject pronoun in, say, Germanic enters an Agree relation with a CLn feature, as sketched in (36).

(36) a. $[_{CP}$ . . . (Then) . . . $[_{TP}$ he said to her . . . *English*, etc.

b. $[_{CP}$ . . . {CLn} . . . *(X)* . . . $[_{TP}$ pronoun T . . .

As indicated, the presence or absence of an overt element, X (here, *then*), in Spec,C 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 C-domain in the former, to a position between X and Spec,T (the V2 effect).

Adopting the hypothesis that Italian agreement morphology is a pronoun, incorporated into T,[28] we can analyze Italian null-subject clauses in a parallel fashion, as illustrated in (37). The en dash between Ø and T_ϕ indicates that the two make up one phonological unit.[29]

(37) $[_{CP}$ . . . {CLn} . . . *(X)* . . . $[_{TP}$ Ø–T_ϕ . . . *Italian*

Since 1st and 2nd person are inherently C/edge-linked, this simply says that Italian Ø–T_ϕ must either be a 1st or 2nd person pronoun or be a C/edge-linked (A-Top-linked) 3rd person pronoun, which is precisely the claim made by Frascarelli (2007) (see also Butt and King 1997, Grimshaw and Samek-Lodovici 1998, M. D. Cole 2009).

Much as in the Germanic structure in (36b), the presence or absence of an overt element, X, in Spec,C does not affect the grammaticality of the subject (Ø–T_ϕ) in the Italian structure in (37). This is illustrated in (38).

[27] This includes bound variable readings. The semantic (conceptual-intentional) interface must be able to ''read off'' such readings from the syntactic computation; that is, the exclusion of the root Λ-features (the crucial factor in bound variable readings) must take place in syntax or at least be compatible with the syntactic computation.

[28] The formal properties of the incorporation are immaterial for my purposes, and I will accordingly not discuss them here (but for several slightly different analyses, see Platzack 2004, Holmberg 2005, Holmberg, Naydu, and Sheehan 2009, Roberts 2009).

[29] Spec,T should thus be invisible to the interfaces (see Alexiadou and Anagnostopoulou 1998, Platzack 2004). For arguments in favor of a visible Spec,T in Finnish null-subject clauses, see Holmberg 2005.

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

Like an ordinary pronoun, Italian Ø–T_ϕ is also identifiable across clause boundaries, as in (39).

(39) 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)
Credo che parli islandese.
believe.1SG that speak3.SG Icelandic
'(Yesterday, I saw Paolo.) I believe that *he* speaks Icelandic.'

Given the C/Edge-Linking Generalization in (30), the clauses in (39) receive the analysis in (40).

(40) $[_{CP} \ldots \{CLn\} \ldots [_{TP} \ldots [_{CP} \ldots \{CLn\} \ldots [_{TP}$ Ø–T_ϕ

In (39a), the positively matched CLn feature is Λ_A (the speaker feature), whereas it is A-Top in (39b). Notice that the overt matrix subject in (39a) does not intervene, as it is featurally distinct from the subordinate Ø–T_ϕ and the relevant CLn features (Λ_A and A-Top). In Frascarelli's (2007) terms, it is a familiar topic (on a neutral, noncontrastive reading), thus matching a Fam-Top feature in its local C-domain (not indicated in (40)).[30]

In all relevant respects, then, Italian Ø–T_ϕ behaves like regular weak pronouns do in, for example, the Germanic languages (see Cardinaletti and Starke 1999, Roberts 2009), thus bearing on the nature and behavior of ϕ-overt pronouns, rather than of null pronouns (in the present approach as well as in the approach in, for example, Holmberg, Naydu, and Sheehan 2009, Roberts 2009). 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 subject highlights the fact that not only ϕ-silent arguments but also Ø–T_ϕ and other ϕ-visible pronouns need to be successfully C/edge-linked.

Germanic null topics have a more limited distribution than weak pronouns. Thus, a lexical element in Spec,C generally renders a Germanic null subject ungrammatical, as we saw in (4) and (8)–(9) and as further illustrated for Icelandic in (41) (compare it with (38)).

[30] Notice that C/edge 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 that I cannot go into here (some such indications are briefly mentioned in, for example, Landau 2008 and Sigurðsson 2010).

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

These facts can be analyzed as in (42) (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; see Sigurðsson and Holmberg 2008 and the references cited there).

(42) $[_{CP} \ldots \{CLn\} \ldots (*X) \ldots \emptyset_i \ldots Agr_i \ldots$ *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 (43) (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).

(43) $[_{CP} \ldots \{CLn\} \ldots (*X) \ldots \emptyset \ldots Agr_\emptyset$ *Mainland Scandinavian*

In the Icelandic configuration in (42), the C/edge-linking relation has to be featurally nondistinct from Agr_i, as discussed above, whereas there is no such constraining parallelism in the Mainland Scandinavian languages and Afrikaans. Common to all V2 Germanic topic drop is the condition that Spec,C be empty; that is, successful C/edge linking is the central condition on V2 Germanic topic drop, as seen in (42)–(43), and as further discussed shortly.

Before we proceed, however, notice that the Spec,C position in question is not the absolutely highest Spec,C 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.[31] This is illustrated for Icelandic in (44)–(45) (but these observations apply to V2 topic drop Germanic in general).

(44) a. Nei, ____ hef ____ ekki séð hann lengi. *Icelandic*
no have.1SG not seen him for.long
'No, I have not seen him for a long time.'
b. Nei, Jóhann, ____ hef ____ ekki séð hann.
no Johann have.1SG not seen him
'No, Johann, I have not seen him.'

[31] On dislocation in Icelandic, see Thráinsson 1979, 2007, Rögnvaldsson and Thráinsson 1990.

(45) a. *Nei, *nú* hef ____ ekki séð hann lengi. *Icelandic*
no now have.1SG not seen him for.long
b. *Nei, Jóhann, *hann* hef ____ ekki séð.
no Johann him have.1SG not seen

Discourse particles and left-dislocated elements (LDEs) thus seem to occupy structurally higher positions than {CLn}, hence not intervening between {CLn} and Ø, as sketched in (46).[32]

(46) a. . . . LDE . . . {CLn} . . . Ø . . . LDEs do not intervene

b. *. . . (LDE) . . . {CLn} . . . X_i . . . Ø . . . $\not{X}_i$ Fronted elements intervene

Recall that topicalized or fronted constituents do not (of course) render weak pronouns ungrammatical. In contrast to radical null arguments of the Germanic type, overtly ϕ-specified referential pronouns, including Italian Ø–T_ϕ, are obviously PF-visible/interpretable, regardless of overt elements in the clausal left periphery. Germanic null arguments, on the other hand, cannot be interpreted as ϕ-specified unless they are locally C/edge-linked; that is to say, they have to be able to escape the intervention effect in (46b). In the next section, I present evidence that they do so by raising into the C-domain.

5 C/Edge Linking, C-Intervention, and the Empty Left Edge Condition

As mentioned in section 2, it has commonly been assumed (e.g., C.-T. J. Huang 1984, Cardinaletti 1990, Haegeman 1990, 1996) that the silent argument in Germanic topic drop can be analyzed as either a silent operator in Spec,C, binding an empty argument position, or an NP that has been moved into Spec,C and deleted from there. Either way, the fact that Germanic topic drop clauses cannot have Spec,C lexicalized by movement (internal Merge) has been commonly assumed to follow from a ban on doubly filled Spec,C in the Germanic languages (containing a lexical element + the dropped argument). However, the appeal of such an approach is diminished, first, by the fact that it is only descriptive (or at least not obviously principled), and, second, by the fact that discourse particles and left-dislocated elements do not block topic drop; that is, there is no simple surface ban on more than one phrase occurring in front of the finite verb in C. In addition, as we will see, Germanic topic drop clauses show a number of properties that do not follow from a doubly filled Spec,C filter. In this section, I will analyze these properties in terms of C/edge linking and minimality.

[32] In the ''privilege of the root'' approach (e.g., Rizzi 2006; also see Kayne 2006), the complement but not the specifier of a phase head is sent to Spell-Out. 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 C/edge linking. The facts in (44) suggest that discourse particles and left-dislocated constituents are in some sense ''outside the root.''

The only elements that are readily and generally dropped are pronominal arguments—more precisely, subjects, direct objects, and complements of prepositions (Mörnsjö 2002:56ff.).[33] Consider the following Swedish example:

(47) *Ofta* har kungen träffat drottningen på stan. *Swedish*
often has king.the met queen.the in town
'Often the king has met the queen downtown.'

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

(48) *____ Har kungen träffat drottningen på stan. *Swedish*
has king.the met queen.the in town

This restriction is not predicted by a doubly filled Spec,C prohibition. It is not incompatible with such a filter, but the putative filter does not bear on it in any obvious way. That is, the ungrammaticality of (48) has another explanation, namely, that a silent adverbial like {often} differs from null arguments in that it cannot be identified under C/edge linking (plus context scanning).

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

(49) a. *Kungen* har ofta träffat drottningen på stan. *Swedish*
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 1st person singular is the most salient interpretation of the dropped argument in (49b), but other pronominal interpretations are available, given the right context. Crucially, a nonpronominal reading is always excluded. Reference to 'the king' is not excluded, but it must be interpretable as a (null-)pronominal reference; that is, '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 downtown]'. This restriction as well is independent of a putative doubly filled Spec,C prohibition.

Topic drop is subject to fine-grained constraints, not observed for overtly Ā-moved constituents. As discussed by Cardinaletti (1990) and Mörnsjö (2002), dropped objects (of verbs and prepositions) are normally possible *in the 3rd person only*. In view of the fact that dropped subjects are not constrained in the same fashion, rather the opposite, this is a remarkable restriction; call it the *Cardinaletti puzzle*.

As a matter of fact, most of the dropped objects Mörnsjö found in her careful study of Swedish corpora referred not to arguments but to propositions, as overt *det* 'it, that' commonly does. One of Mörnsjö's examples (2002:57) is (50).

[33] Indirect objects and anaphoric light adverbials (*there*/*here* and *then*) can also be dropped, albeit somewhat reluctantly. In contrast, nominal genitives are never dropped (at least not in the Scandinavian languages; Dutch seems to be less clear-cut in this respect).

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

However, null objects with nominal reference can be found (Mörnsjö 2002:59), and there do not in fact seem to be any absolute blockings in grammar of a null object with some special type of reference (see Mörnsjö 2002:70ff. on Swedish). Rather, it seems that the *Relative Specificity Constraint* in (51) holds.

(51) *Relative Specificity Constraint*
The dropped object *cannot be more specific* than the subject.

—where 1st and 2nd person are more specific than 3rd person, and where +human is more specific than −human.[34] Thus, dropping a 1st or 2nd person object ''across'' a 3rd person subject clitic is sharply unacceptable, as in (52).[35]

(52) [Context: ''That is Johnson over there, the new manager. We should say hello to him.'']
*—— Vill'an säkert inte prata med nu. *$Ø_{1P}$ . . . 3P
(us/me) wants'(h)e certainly not talk with now *Swedish*

Dropping a referential 3rd person +human pronoun is often awkward (in the Scandinavian languages), but the following example is much better than (52):

(53) [Context: ''That is Johnson over there, the new manager. He wants to say hello to you.'']
?—— Vill'ja inte prata med nu. ?$Ø_{3P}$ . . . 1P
(him) want'I not talk with now *Swedish*
'Him, I don't want to talk to now.'

Similarly, a −human object can be dropped across a +human subject, but not vice versa.

(54) [Context: ''Yes, this is very interesting. You heard Johnson's talk the other day. He is knowledgeable about this. What does he say about it?'']
—— Vill'an inte uttala sig om. $Ø_{-hum}$ . . . +hum
(that) wants'(h)e not express himself about *Swedish*
'That, he does not want to express himself about.'

[34] I am making the fairly uncontroversial assumption that a feature value is the more specific the more marked it is in the sense of general markedness theory, where positive values are marked in relation to absent or negative values (see, e.g., the discussion in Bresnan 2001). Given this understanding, the Relative Specificity Constraint makes more predictions than those discussed in the text; but as the speaker intuitions are delicate, I will not go into further details here.

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

(55) [Context: ''Yes, this is very interesting. You heard Johnson take a stand on this the other day. What does that tell us about him?'']
*____ Kan'de inte säga nåt om. *Ø$_{+\text{hum}}$ . . . −hum
(him) can'it not say anything about *Swedish*

The very same answer, in (55), 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 C/Edge-Linking Generalization in (30), it can be analyzed as a minimality violation, that is, an intervention effect. The reason why this is so is that not only the dropped argument but also the subject must be C/edge-linked.

Consider this more closely. In case the subject is a full pronoun, object drop is often degraded, as shown in (56b).[36]

(56) a. ____ Kan'ja inte veta. *Swedish*
(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 (56b) is that the (structurally high) subject is too strong an intervener, the vP- or Agr$_O$P-internal zero object thus being unable to match CLns across the subject.

(57) ??[$_{CP}$ . . . {CLn} . . . [$_{TP}$ subj . . . Ø(obj) . . .

If the subject is phonologically cliticized, as in (56a), it evidently becomes invisible as an intervener. This can be accommodated if we assume that Germanic null topics can only be C/edge-linked under *strict locality* (for a more precise formulation in terms of intervention, see shortly). If this assumption is correct, the zero object has to move across the subject into the C-domain. However, it cannot easily do so unless the (structurally high) subject is a phonological clitic, in

[36] 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! *Swedish*
(that) can well not I know
'Well, that *I* cannot know!'
(Anders Holmberg, pers. comm.)

The late subject is structurally low. Possibly, the null object can ''escape'' across it by vP-adjunction (or via a Spec,Agr$_O$P-like position), subsequently being free to move into the C-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 scrutinizing 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 Norwegian (Terje Lohndal, pers. comm.) and Icelandic as well.

which case it is prosodically parasitical on the verb in the V2 position.[37] This gives rise to the structure in (58) (where the arrows indicate only CLn matching, movement in contrast being indicated with indices); the en dash between the null argument and the finite verb indicates that the two make up a phonological unit (much like Italian Ø–T_ϕ).

(58) $[_{CP} \ldots \{CLn\} \ldots Ø(obj)_i\text{–}V_{Fin} + clitic_k \ldots [_{TP} \, t_k \ldots t_i \ldots$

As indicated, not only the zero object but also the subject clitic matches CLns. In (56a), for instance, the zero object matches A-Top positively and the speaker/hearer features (Λ_A and Λ_P) negatively, whereas the subject matches the speaker feature (and the Fam-Top feature) positively and other CLn features negatively.[38]

We now have a natural account of the Relative Specificity Constraint: the dropped object cannot be featurally ''bigger'' than the subject clitic because it would then intervene between {CLn} and the clitic, thereby violating Relativized Feature Minimality (cf. Rizzi 2001, Starke 2001).

It does not obviously follow that Germanic null subjects must also move into the C-domain, like Germanic null objects. That is, subject drop clauses like (49b) ('____ Has often met the queen downtown') are structurally ambiguous between the long-distance linking analysis in (59) and the movement analysis in (60) (again, the arrow indicates only CLn matching, the movement in (60) instead being indicated with indices). Anticipating the discussion below, I mark the structure in (59) as unacceptable.

(59) *$[_{CP} \ldots \{CLn\} \ldots V_{Fin} \ldots [_{TP}$ Ø(subj) $\ldots$ Illicit long-distance linking

(60) $[_{CP} \ldots \{CLn\} \ldots Ø(subj)_i\text{–}V_{Fin} \ldots [_{TP} \, t_i \ldots$ Successful C/edge linking

An important indication that the structure in (59) is not available comes from *extraction drop*. Null arguments can be extracted from subordinate clauses, as in the following examples (see Sigurðsson 1989:156–157):

(61) 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

[37] Alternatively, the subject can be in a structurally low position, as in (i) in footnote 36.

[38] Multiple matching of CLns is not a theoretical assumption; it is just a fact that must be accommodated in any theory of C/edge linking.

(62) a. ____ Viss'é ekki [að ____ væri bannað]. *Icelandic*
knew'I not that was forbidden
b. *Þá viss'é ekki [að ____ væri bannað].
then knew'I not that was forbidden

The example in (50) (from Mörnsjö 2002) is also of this extraction drop type. As the (b) clauses in (61) and (62) illustrate, 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 interpreted as the meager *det*/*detta* 'it, this, that' in Swedish and the corresponding *það*/*þetta* in Icelandic; that is, it obeys the Relative Specificity Constraint in (51).[39] Extraction subject drop can thus be analyzed as in (63).

(63) $[_{CP} \ldots \{CLn\} \ldots \emptyset_i\text{–}V_{Fin} + clitic_k \ldots [_{TP}\ t_k \ldots [_{CP} \ldots t_i \ldots [_{TP}\ t_i \ldots [_{vP}\ t_i \ldots$

Presumably, the null subject moves cyclically within the matrix TP, although this is not shown in (63). 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 C-domain, the analysis in (59) being excluded, (60) instead being on the right track. We will see further evidence in favor of this conclusion shortly.

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,C blocks topic drop, regardless of its feature content. This is illustrated for Swedish in (64)–(65).

(64) a. ____ Skulle'ja troligen vilja se ____ ofta, i så fall. *Swedish*
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. I så fall skulle jag troligen vilja se **(det)* ofta.

(65) a. ____ Skulle ____ troligen vilja se det ofta, i så fall. *Swedish*
'I would probably want to see it often, in that case.'
b. Det skulle **(jag)* troligen vilja se ofta, i så fall.
c. Troligen skulle **(jag)* vilja se det ofta, i så fall.
d. I så fall skulle **(jag)* troligen vilja se det ofta.

[39] Given that the Relative Specificity Constraint can and should be reformulated in terms of ''$NP_k \ldots NP_i$'' instead of ''object . . . subject.''

That is, regardless of the grammatical content of Spec,C, the spelling out of its phonological matrix, [phon], leads to unacceptability of null-argument structures. Parallel facts are found in the other V2 Germanic topic drop languages.

It might seem simple enough to accommodate these facts by assuming the putative doubly filled Spec,C ''filter,'' mentioned at the beginning of this section. However, as also mentioned, topic drop clauses with initial discourse particles and left-dislocated elements (as in (44)) show that there is no simple surface ban on having more than one phrase in front of the finite verb in C. It thus seems more promising to assume that it is movement (internal Merge) of more than one constituent across the finite verb in C that is blocked (for reasons that remain to be explicated; see the discussion in Poletto 2000, Cardinaletti 2004, 2009). Either way, null arguments are blocked from moving into the C-domain in the presence of a lexical Spec,C. If long-distance linking is also excluded, as indicated for extraction drop in (59), the only well-formed option in (66) is (66c).

(66) a. *$[_{CP}$ . . . {CLn} . . . (XP) . . . V_{Fin} . . . $[_{TP}$ . . . Ø . . . Illicit long-distance linking

b. *$[_{CP}$ . . . {CLn} . . . $Ø_i$–XP . . . V_{Fin} . . . $[_{TP}$ . . . t_i . . . Illicit raising across a filled Spec,C

c. $[_{CP}$ . . . {CLn} . . . $Ø_i$–V_{Fin} . . . $[_{TP}$ . . . t_i . . . Successful C/edge linking

I hypothesize that the long-distance C/edge linking in (66a) is blocked by C-intervention. That is, the null argument cannot successfully match CLn across V_{Fin} in C (regardless of whether or not Spec,C is lexicalized; see the ungrammatical subject drop V1 questions in (20)–(21)).

6 On Controlled Pro and Discourse Drop

In this section, I discuss facts from Finnish and Chinese as well as further facts from Germanic, suggesting that radically empty arguments are generally blocked by C-intervention but also commonly able to circumvent the intervention by raising into the C-domain, across a lexical C.

Finnish definite 3rd person null subjects must be antecedent-linked or controlled, as illustrated in (67) (based on Holmberg 2005:539; as also illustrated by Holmberg, the same restriction is found in the plural).

(67) a. **(Hän)* puhuu englantia. *Finnish*
he/she speak.3SG English

b. Pekka$_i$ väittää että ——$_{i/*j}$ puhuu englantia hyvin.
Pekka claims that —— speak.3SG English well

c. Pekka$_i$ väittää että *hän$_{i/j}$* puhuu englantia hyvin.
Pekka claims that he speak.3SG English well

Much the same facts are found in, for example, Brazilian Portuguese (Holmberg 2005:553, Holmberg, Naydu, and Sheehan 2009), Russian (e.g., Matushansky 1998, Cabredo Hofherr 2006), and Hebrew (e.g., Borer 1989, Shlonsky 2009).

As has been widely discussed (e.g., Den Besten 1983, Platzack 1986), complementizers share properties with the finite verb in V2 Germanic. Presumably, the V2 verb and complementizers like Finnish *että*, English *that*, and Hebrew *še* lexicalize Fin in the low C-domain, whereas CLn features are situated higher in the C-domain (see (31) and the approach in, for example, Rizzi and Shlonsky 2007, Sigurðsson 2010). If so, the Germanic null-subject structure in (68) parallels the Finnish null-subject structure in (67b), sketched in (69) (where, by and large, I adopt the Agree model of control developed by Landau in, for example, 2000, 2004, 2008).

(68) $[_{CP} \ldots \{CLn\} \ldots \emptyset_i\text{–}V_{Fin} \ldots [_{TP}\ t_i \ldots$ *V2 Germanic*

(69) NP $\ldots [_{CP} \ldots \{CLn\} \ldots \emptyset_i\text{–}että \ldots [_{TP}\ t_i \ldots$ *Finnish*

''control''

In both cases, the null subject has to move across a lexical C (otherwise, C intervenes between it and CLn, rendering its C/edge linking invisible/uninterpretable). The null arguments are thus silent proclitics, behaving in a manner similar to object clitics in Romance (as described in Kayne 1975 and many works 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 nonraising analysis of the null subject). However, the analysis gains support from V2 Germanic extraction drop (briefly mentioned above; see (61)–(62)). Consider the Icelandic examples in (70) (see also Sigurðsson 1989:156).[40]

(70) a. $\emptyset_i$–Vissi'é [að t_i mundi gerast]. *Icelandic*
knew'I that would happen
'This, I knew would happen.'
b. *Ég vissi [$\emptyset_i$–að t_i mundi gerast].
I knew that would happen

As these examples show, the silent subject cannot drop from the subordinate C-domain, instead having to raise all the way into the matrix C-domain; that is, this is the reverse of the Finnish facts in (67a–b). The same facts are found in Swedish, and the two languages show parallel behavior with respect to object drop (see Sigurðsson 1989:156–157). The object drop facts are illustrated for Swedish in (71).

(71) a. $\emptyset_i$–Visste'ja att du skulle säga t_i. *Swedish*
knew'I that you would say
'This, I knew you would say.'
b. *Jag visste $\emptyset_i$–att du skulle säga t_i.
I knew that you would say

[40] Some speakers frown upon examples like (70a), when confronted with them, but all speakers I have consulted agree that (70a) is much better than (70b).

This ‘‘polarized’’ behavior of Finnish versus Icelandic and Swedish is puzzling at first sight. However, there is a common generalization behind these facts, stated in (72).

(72) a. Ø has to raise across all lexical Cs.
b. Ø cannot raise into the C-domain unless it has a lexical C-head to adjoin to.

Languages like Chinese, which do not have lexical Cs, are obviously exempted from this generalization (see shortly).

Now, consider the fact that C/edge linking of the null subject is unsuccessful in the Finnish matrix clause in (67a), **Puhuu englantia* ‘speak.3SG English’. Two different analyses of this fact come to mind, but they are evidently both ill formed, as sketched in (73).

(73) a. *[$_{CP}$ . . . {CLn} . . . [$_{TP}$ Ø . . .
b. *[$_{CP}$ . . . {CLn} . . . Ø$_i$ . . . [$_{TP}$ . . . t_i

While (73b) is ruled out by (72b), it is not immediately obvious why (73a) is unavailable in Finnish (as opposed to Chinese; see below). Its ill-formedness is accounted for if there is a requirement to the effect that definite zero arguments either always or never raise in a given language. However, I will not pursue this further.

Since impersonal null subjects need not be C/edge-linked, instead receiving impersonal readings by default, we expect that such null subjects need not raise into the C-domain and hence are grammatical in main clauses. This is borne out, as shown in the Finnish (74), from Holmberg 2005:540.

(74) Täällä ei saa polttaa. *Finnish*
here not.3SG may smoke
‘One can’t smoke here.’

Indeed, Holmberg (2005) argues that Finnish impersonal pro differs from definite pro in not raising out of vP. I assume that CLn features are not activated in examples of this sort (none of them being positively matched), their relevant structure thus being as sketched in (75).

(75) [$_{CP}$ . . . [$_{TP}$ . . . [$_{vP}$ Ø-subject . . .

Now, consider the function or effect of ‘‘control’’ in (67b)/(69). It is arguably not a licensing condition on antecedent-linked null arguments in Finnish (or elsewhere). First, as discussed by Holmberg (2005) 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 2005:540n4)

In other words, it seems that the null subject, by context scanning, picks up the reference of the structurally and semantically ‘‘most prominent’’ antecedent in its immediate linguistic context,

raising into the C-domain for this purpose. If no such ''plausible'' antecedent is found, the null subject does not raise and gets an indefinite, nonreferential 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 (74) that ''control'' is not required to license the null subject. Rather, it is only the C/edge-linked, ϕ-specified definite reading of the null subject that requires definite control; that is, the antecedent linking is an interpretational strategy rather than a licensing strategy. That makes sense if the acceptability of definite (as opposed to indefinite) null arguments boils down to successful C/edge linking.

Icelandic has a parallel impersonal construction, as illustrated in (76), where the dash indicates Spec,T.

(76) a. Hér má ____ ekki reykja. *Icelandic*
here may.3SG not smoke
'One can't smoke here. / It is not allowed to smoke here.'
b. Má ____ ekki reykja hér?
may.3SG not smoke here
'Can one not smoke here? / Is it not allowed to smoke here?'

The fact that the impersonal null subject is possible both in declarative clauses with a filled Spec,C, as in (76a), and in questions, as in (76b), illustrates that it is not subject to the C/edge-linking requirements met by zero topics (cf. (20)–(21)).[41]

Finally, let us consider Chinese, if only tentatively and briefly. It differs from Finnish in allowing definite 3rd person null subjects in both main and subordinate clauses. Compare (77) (= (3)) and (78) (both examples are modeled on examples in C.-T. J. Huang 1989:187).

(77) ____ Kanjian ta le. *Chinese*
see.ø-AGR him PERF.ø-AGR
'[He/She, etc.] saw him.'

(78) Zhangsan$_i$ shuo [____$_i$ hen xihuan Lisi]. *Chinese*
Zhangsan say.ø-AGR very like.ø-AGR Lisi
'*Zhangsan* said that *he* liked Lisi.'

That is, the main-clause null subject in (77) differs from the Finnish null subject in (67a)/(73) in being successfully C/edge-linked. There is more than one way of conceiving of this fact (either

[41] However, much like overt impersonals in many languages, impersonal null subjects in both Finnish and Icelandic are commonly ambiguous, having either generic, arbitrary, or more specific readings (e.g., speaker-inclusive ones). See the discussion in Sigurðsson and Egerland 2009. A reviewer raises the good question of why zero impersonals are not generally licensed in English (or universally). Possibly, an EPP (Extended Projection Principle) or a ''nexus'' requirement on the finite verb is involved in languages like French and English; note the contrast between *(It is) nice to be here* and **(It) is nice to be here*. The constraint is somehow lifted or circumvented in environments that allow or require null subjects (e.g., *As (*it) will be shown, this gains support from English*).

in terms of C/edge linking or in terms of raising of the null argument). I tentatively assume that Chinese null subjects can match CLn under distant Agree, hence do not have to raise into the C-domain for the purpose of successful C/edge linking (nor can they raise, given (72b)).[42] If so, the structure in (79), without any lexical material in the C-domain, is well formed (or ''well interpreted'') in Chinese, as opposed to Finnish and V2 Germanic. For ease of comparison, the relevant Finnish and V2 Germanic structures are given in (80) and (81).

(79) $[_{CP} \ldots \{CLn\} \ldots [_{TP} \ldots [_{vP}\ \emptyset \ldots$ *Chinese*

(80) $[_{CP} \ldots \{CLn\} \ldots \emptyset_i\text{–}V_{Fin} \ldots [_{TP}\ t_i \ldots$ *V2 Germanic*

(81) $NP \ldots [_{CP} \ldots \{CLn\} \ldots \emptyset_i\text{–}että \ldots [_{TP}\ t_i \ldots$ *Finnish*

''control''

Traditional Chinese does not have a declarative *that*-type complementizer, nor does it, of course, have verb raising to C in main clauses. Thus, Chinese null arguments are exempted from C-intervention, as formulated in (82).

(82) A zero argument cannot match C/edge linkers (and hence it cannot be context-linked) across a lexical C.

Zero arguments in SOV discourse drop languages like Japanese and Korean (with right-hand lexical complementizers) are also exempted from C-intervention, whereas Finnish and V2 Germanic circumvent it by raising their zero arguments into the C-domain.[43]

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 (83) (C.-T. J. Huang, pers. comm.).

(83) a. Zhangsan mengjiang shuo ta kanjian-le Mali. *Chinese*
Zhangsan dream 'say' he see-PERF Mali
'Zhangsan dreamed that he saw Mali.'
b. *Zhangsan mengjiang shuo ____ kanjian-le Mali.
Zhangsan dream 'say' see-PERF Mali

We have an account of the ungrammaticality of (83b) if *shuo* is a barrier to raising of Ø as well as to its C/edge linking in Chinese, whereas lexical Cs do not block Ø-raising in Finnish and V2

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

[43] In addition, of course, overt verb agreement does not constrain or interfere with the identification of zero arguments in the Asian discourse drop languages, in contrast to many of the European languages considered here (as pointed out by Rizzi (1986)). Recall, however, that this also applies to Afrikaans and the Mainland Scandinavian languages.

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 V2 Germanic, allowing Ø-raising.[44]

7 Concluding Remarks

In this article, I have discussed and analyzed various types of argument drop phenomena. My central claim is that all types of definite arguments, including Romance pro (Ø–T_ϕ), German null topics, Chinese discourse drop, and Finnish/Hebrew controlled pro, must be successfully C/edge-linked, in accordance with the C/Edge-Linking Generalization in (30), repeated here.

(30) Any definite argument, overt or silent, *positively* matches *at least one* CLn in its local C-domain, CLn $\in \{\Lambda_A, \Lambda_P, \text{Top}, \ldots\}$.

—where Λ_A, Λ_P, Top are speaker, hearer, and topic features.

While Romance Ø–T_ϕ is like a regular weak pronoun in being able to match CLn features across lexical categories, overt C-intervention blocks the necessary C/edge linking of radically null (ϕ-silent) arguments from being visible and successfully interpreted. In case ϕ-silent arguments can raise across C, however, they circumvent intervention.[45]

On the present approach, null arguments, being bundles of active but silent features, are universally available in syntax, whereas their distribution is constrained by surface factors (V2, lexical complementizers, etc.), acting as interpretive limitations. While these factors are linguistic, without obvious parallels outside of language, the blocking effects they exert are plausibly general architectural (3rd factor) phenomena.

References

Ackema, Peter, and Ad Neeleman. 2007. Restricted pro drop in Early Modern Dutch. *Journal of Comparative Germanic Linguistics* 10:81–107.

Alexiadou, Artemis, and Elena Anagnostopoulou. 1998. Parametrizing Agr: Word order, V-movement and EPP-checking. *Natural Language and Linguistic Theory* 16:491–539.

Anand, Pranav, and Andrew Nevins. 2004. Shifty operators in changing contexts. In *Proceedings of SALT 14*, ed. by Kazuha Watanabe and Robert B. Young, 20–37. Ithaca, NY: Cornell University, CLC Publications.

Baker, Mark C. 2001. *The atoms of language*. Oxford: Oxford University Press.

Baker, Mark C. 2008. *The syntax of agreement and concord*. Cambridge: Cambridge University Press.

[44] Interesting problems remain. Thus, I have not developed any analysis of the fact that neither Chinese, Italian, nor modern V2 Germanic allows definite controlled 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 references there). Also, unless somehow augmented, the present approach would seem to suggest that English and French should have the Finnish type of controlled null subjects. However, these languages have an exceptionally strong ''subject coercion'' (cf. Dryer 2005b), perhaps (as mentioned in footnote 41) as a result of a special EPP or ''nexus'' requirement on the finite verb. I must put these issues aside here.

[45] Given that the C-system values the features of the T-system, this is a rather natural restriction (see also Richards 2007 and Chomsky 2007, 2008, where it is assumed that T ''inherits'' features from C).

Belletti, Adriana. 1999. Italian/Romance clitics: Structure and derivation. In *Clitics in the languages of Europe*, ed. by Henk van Riemsdijk, 543–579. Berlin: Mouton de Gruyter.

Besten, Hans den. 1983. On the interaction of root transformations and lexical deletive rules. In *On the formal syntax of the Westgermania*, ed. by Werner Abraham, 47–138. Amsterdam: John Benjamins.

Bianchi, Valentina. 2006. On the syntax of personal arguments. *Lingua* 116:2023–2067.

Bianchi, Valentina, and Mara Frascarelli. 2009. The dark side of the phase: Cyclic access isn't 'blind'. Ms., Università degli Studi di Siena and Università degli Studi Roma Tre. [Presented at the 32nd GLOW Colloquium, 2009, Nantes.]

Boeckx, Cedric. To appear. Approaching parameters from below. In *Biolinguistic approaches to language evolution*, ed. by Anna Maria Di Sciullo and Cedric Boeckx. Oxford: Oxford University Press.

Borer, Hagit. 1986. I-subjects. *Linguistic Inquiry* 17:375–416.

Borer, Hagit. 1989. Anaphoric Agr. In *The pro-drop parameter*, ed. by Osvaldo Jaeggli and Kenneth J. Safir, 69–109. Dordrecht: Reidel.

Bresnan, Joan. 2001. Explaining morphosyntactic competition. In *The handbook of contemporary syntactic theory*, ed. by Mark Baltin and Chris Collins, 11–44. Oxford: Blackwell.

Butt, Miriam, and Tracy Holloway King. 1997. Null elements in discourse structure. Ms., Universtät Konstanz and Palo Alto Research Center.

Cabredo Hofherr, Patricia. 2006. 'Arbitrary' pro and the theory of pro-drop. In *Arguments and agreement*, ed. by Peter Ackema, Patrick Brandt, Maaike Schoorlemmer, and Fred Weerman, 230–257. Oxford: Oxford University Press.

Cardinaletti, Anna. 1990. Subject/Object asymmetries in German null-topic constructions and the status of SpecCP. In *Grammar in progress: GLOW essays for Henk van Riemsdijk*, ed. by Joan Mascaró and Marina Nespor, 75–84. Dordrecht: Foris.

Cardinaletti, Anna. 2004. Towards a cartography of subject positions. In *The cartography of syntactic structures*. Vol. 2, *The structure of CP and IP*, ed. by Luigi Rizzi, 115–165. Oxford: Oxford University Press.

Cardinaletti, Anna. 2009. On a (*wh*-)moved topic in Italian, compared to Germanic. In *Advances in comparative Germanic syntax*, ed. by Artemis Alexiadou, Jorge Hankamer, Thomas McFadden, Justin Nuger, and Florian Schäfer, 3–40. Amsterdam: John Benjamins.

Cardinaletti, Anna, and Michal Starke. 1999. The typology of structural deficiency: A case study of the three classes of pronouns. In *Clitics in the languages of Europe*, ed. by Henk van Riemsdijk, 145–233. Berlin: Mouton de Gruyter.

Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.

Chomsky, Noam. 1982. *Some concepts and consequences of the theory of government and binding*. Cambridge, MA: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: The framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. by Roger Martin, David Michaels, and Juan Uriagereka, 89–155. Cambridge, MA: MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In *Ken Hale: A life in language*, ed. by Michael Kenstowicz, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 2005. Three factors in language design. *Linguistic Inquiry* 36:1–22.

Chomsky, Noam. 2007. Approaching UG from below. In *Interfaces + recursion = language? Chomsky's minimalism and the view from syntax-semantics*, ed. by Hans-Martin Gärtner and Uli Sauerland, 1–30. Berlin: Mouton de Gruyter.

Chomsky, Noam. 2008. On phases. In *Foundational issues in linguistic theory: Essays in honor of Jean-Roger Vergnaud*, ed. by Robert Freidin, Carlos P. Otero, and Maria Luisa Zubizarreta, 133–166. Cambridge, MA: MIT Press.

Chomsky, Noam. 2010. Restricting stipulations: Consequences and challenges. Paper presented at the University of Stuttgart, 24 March 2010.
Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. Oxford: Oxford University Press.
Cole, Melvyn D. 2009. Null subjects: A reanalysis of the data. *Linguistics* 47:559–587.
Cole, Peter. 1987. Null objects in Universal Grammar. *Linguistic Inquiry* 18:597–612.
Dryer, Matthew S. 2005a. Position of interrogative phrases in content questions. In *World atlas of language structures*, ed. by Martin Haspelmath, Matthew S. Dryer, David Gil, and Bernard Comrie, 378–381. Oxford: Oxford University Press.
Dryer, Matthew S. 2005b. Expression of pronominal subjects. In *World atlas of language structures*, ed. by Martin Haspelmath, Matthew S. Dryer, David Gil, and Bernard Comrie, 410–413. Oxford: Oxford University Press.
Frampton, John, and Sam Gutmann. 2002. Crash-proof syntax. In *Derivation and explanation in the Minimalist Program*, ed. by Samuel David Epstein and T. Daniel Seely, 90–105. Oxford: Blackwell.
Frascarelli, Mara. 2007. Subjects, topics and the interpretation of referential pro: An interface approach to the linking of (null) pronouns. *Natural Language and Linguistic Theory* 25:691–734.
Frascarelli, Mara, and Roland Hinterhölzl. 2007. Types of topics in German and Italian. In *On information structure, meaning and form*, ed. by Susanne Winkler and Kerstin Schwabe, 87–116. Amsterdam: John Benjamins.
Garbacz, Piotr. 2010. Word order in Övdalian: A study in variation and change. Doctoral dissertation, Lund University.
Giorgi, Alessandra. 2010. *About the speaker: Towards a syntax of indexicality.* Oxford: Oxford University Press.
Grimshaw, Jane, and Vieri Samek-Lodovici. 1998. Optimal subjects and subject universals. In *Is the best good enough?*, ed. by Pilar Barbosa, Danny Fox, Paul Hagstrom, Martha McGinnis, and David Pesetsky, 193–219. Cambridge, MA: MIT Press.
Haegeman, Liliane. 1990. Understood subjects in English diaries. *Multilingua* 9:157–199.
Haegeman, Liliane. 1996. Verb second, the split CP and null subjects in early Dutch finite clauses. *GenGenP (Geneva Generative Papers)* 4:133–175.
Hauser, Marc D., Noam Chomsky, and W. Tecumseh Fitch. 2002. The faculty of language: What is it, who has it, and how did it evolve? *Science* 298:1569–1579.
Heinat, Fredrik. 2006. Probes, pronouns and binding in the Minimalist Program. Doctoral dissertation, Lund University.
Hill, Virginia. 2007. Vocatives and the pragmatics-syntax interface. *Lingua* 117:2077–2105.
Hjartardóttir, Thóra Björk. 1987. Getið í eyðurnar. Master's thesis, University of Iceland. [Published 1993 in Reykjavik: University of Iceland, Institute of Linguistics.]
Holmberg, Anders. 2005. Is there a little pro? Evidence from Finnish. *Linguistic Inquiry* 36:533–564.
Holmberg, Anders. 2010. Referring to yourself in self-talk. In *Structure preserved: Studies in syntax for Jan Koster*, ed. by Jan-Wouter Zwart and Mark de Vries, 185–192. Amsterdam: John Benjamins.
Holmberg, Anders, Aarti Naydu, and Michelle Sheehan. 2009. Three partial null-subject languages: A comparison of Brazilian Portuguese, Finnish and Marathi. *Studia Linguistica* 63:59–97.
Hornstein, Norbert. 2001. *Move! A minimalist theory of construal.* Oxford: Blackwell.
Huang, C.-T. James. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15: 531–574.
Huang, C.-T. James. 1989. *Pro*-drop in Chinese: A generalized control theory. In *The null subject parameter*, ed. by Osvaldo Jaeggli and Kenneth J. Safir, 185–214. Dordrecht: Kluwer.
Huang, C.-T. James. 1991. Remarks on the status of the null object. In *Principles and parameters in comparative grammar*, ed. by Robert Freidin, 56–76. Cambridge, MA: MIT Press.

Huang, Yan. 2000. *Anaphora: A cross-linguistic study*. Oxford: Oxford University Press.
Huang, Yan. 2007. *Pragmatics*. Oxford: Oxford University Press.
Kayne, Richard S. 1975. *French syntax: The transformational cycle*. Cambridge, MA: MIT Press.
Kayne, Richard S. 2002. Pronouns and their antecedents. In *Derivation and explanation in the Minimalist Program*, ed. by Samuel David Epstein and T. Daniel Seely, 133–166. Oxford: Blackwell.
Kayne, Richard S. 2006. On parameters and on principles of pronunciation. In *Organizing grammar: Linguistic studies in honor of Henk van Riemsdijk*, ed. by Hans Broekhuis, Norbert Corver, Riny Huybregts, Ursula Kleinhenz, and Jan Koster, 289–299. Berlin: Mouton de Gruyter.
Kratzer, Angelika. 2009. Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40:187–237.
Landau, Idan. 2000. *Elements of control: Structure and meaning in infinitival constructions*. Dordrecht: Kluwer.
Landau, Idan. 2004. The scale of finiteness and the calculus of control. *Natural Language and Linguistic Theory* 22:811–877.
Landau, Idan. 2008. Two routes of control: Evidence from case transmission in Russian. *Natural Language and Linguistic Theory* 26:877–924.
Lohndal, Terje. In preparation. Without specifiers: Phrase structure and events. Doctoral dissertation, University of Maryland, College Park.
Matushansky, Ora. 1998. Partial pro-drop in Hebrew and Russian. In *Langues et grammaire 3, Syntaxe: Communications présentées au colloque Langues et grammaire III (Paris 1997)*, ed. by Patrick Sauzet, 145–162. Paris: Université Paris 8, Département SDL.
Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
Mörnsjö, Maria. 2002. *V1 declaratives in spoken Swedish*. Lund: Studentlitteratur.
Neeleman, Ad, and Kriszta Szendrői. 2007. Radical pro drop and the morphology of pronouns. *Linguistic Inquiry* 38:671–714.
Neeleman, Ad, Elena Titov, Hans van de Koot, and Reiko Vermeulen. 2007. A syntactic typology of topic, focus and contrast. Ms., University College London.
Pesetsky, David. 1987. *Wh*-in-situ: Movement and unselective binding. In *The representation of (in)definiteness*, ed. by Eric Reuland and Alice G. B. ter Meulen, 98–129. Cambridge, MA: MIT Press.
Platzack, Christer. 1986. COMP, INFL, and Germanic word order. In *Topics in Scandinavian syntax*, ed. by Lars Hellan and Kirsti Koch Christensen, 185–234. Dordrecht: Reidel.
Platzack, Christer. 2004. Agreement and the person phrase hypothesis. *Working Papers in Scandinavian Syntax* 73:83–112.
Poletto, Cecilia. 2000. The left-periphery of V2-Rhaetoromance dialects: A new view on V2 and V3. In *Syntactic microvariation*, ed. by Sjef Barbiers, Leonie Cornips, and Susanne van der Kleij, 214–242. Meertens Institute Electronic Publications in Linguistics (MIEPiL) 2. Amsterdam: Meertens Institute. Available at http://www.meertens.knaw.nl.
Putnam, Michael, ed. 2010. *Exploring crash-proof grammars*. Amsterdam: John Benjamins.
Reuland, Eric J. 2001. Primitives of binding. *Linguistic Inquiry* 32:439–492.
Richards, Marc. 2007. On feature inheritance: An argument from the Phase Impenetrability Condition. *Linguistic Inquiry* 38:563–572.
Rizzi, Luigi. 1982. *Issues in Italian syntax*. Dordrecht: Foris.
Rizzi, Luigi. 1986. Null objects in Italian and the theory of *pro*. *Linguistic Inquiry* 17:501–557.
Rizzi, Luigi. 1997. The fine structure of the left periphery. In *Elements of grammar: Handbook in generative syntax*, ed. by Liliane Haegeman, 281–337. Dordrecht: Kluwer.
Rizzi, Luigi. 2001. Relativized minimality effects. In *The handbook of contemporary syntactic theory*, ed. by Mark Baltin and Chris Collins, 89–110. Oxford: Blackwell.

Rizzi, Luigi. 2006. Phase theory and the privilege of the root. In *Organizing grammar: Linguistic studies in honor of Henk van Riemsdijk*, ed. by Hans Broekhuis, Norbert Corver, Riny Huybregts, Ursula Kleinhenz, and Jan Koster, 529–537. Berlin: Mouton de Gruyter.

Rizzi, Luigi, and Ur Shlonsky. 2007. Strategies of subject extraction. In *Interfaces + recursion = language? Chomsky's minimalism and the view from syntax-semantics*, ed. by Hans-Martin Gärtner and Uli Sauerland, 115–160. Berlin: Mouton de Gruyter.

Roberts, Ian. 2009. A deletion analysis of null subjects. In *Parametric variation: Null subjects in minimalist theory*, ed. by Theresa Biberauer, Anders Holmberg, Ian Roberts, and Michelle Sheehan, 58–87. Cambridge: Cambridge University Press.

Rögnvaldsson, Eiríkur, and Höskuldur Thráinsson. 1990. On Icelandic word order once more. In *Modern Icelandic syntax*, ed. by Joan Maling and Annie Zaenen, 3–40. San Diego, CA: Academic Press.

Rosenkvist, Henrik. 2006. Null-subjects in Övdalian. *Working Papers in Scandinavian Syntax* 78:141–171.

Rosenkvist, Henrik. 2009a. Null referential subjects in Germanic. Ms., Lund University.

Rosenkvist, Henrik. 2009b. Null referential subjects in Oevdalian. Ms., Lund University.

Ross, John R. 1970. On declarative sentences. In *Readings in English transformational grammar*, ed. by Roderick Jacobs and Peter Rosenbaum, 222–277. Waltham, MA: Ginn.

Rullmann, Hotze. 2004. First and second person pronouns as bound variables. *Linguistic Inquiry* 35:159–168.

Safir, Ken. 2004a. Person, context and perspective. *Italian Journal of Linguistics* 16:107–153.

Safir, Ken. 2004b. *The syntax of anaphora*. Oxford: Oxford University Press.

Schlenker, Philippe. 2003. A plea for monsters. *Linguistics and Philosophy* 26:29–120.

Shlonsky, Ur. 2009. Hebrew as a partial null-subject language. *Studia Linguistica* 63:133–157.

Sigurðsson, Halldór Ármann. 1989. *Verbal syntax and case in Icelandic*. Lund. [Republished 1992 in Reykjavik: University of Iceland, Institute of Linguistics.]

Sigurðsson, Halldór Ármann. 1990. Long-distance reflexives and moods in Icelandic. In *Modern Icelandic syntax*, ed. by Joan Maling and Annie Zaenen, 309–346. San Diego, CA: Academic Press.

Sigurðsson, Halldór Ármann. 1993. Argument-drop in Old Icelandic. *Lingua* 89:247–280.

Sigurðsson, Halldór Ármann. 2004a. Meaningful silence, meaningless sounds. *Linguistic Variation Yearbook* 4:235–259.

Sigurðsson, Halldór Ármann. 2004b. The syntax of person, tense, and speech features. *Italian Journal of Linguistics* 16:219–251.

Sigurðsson, Halldór Ármann. 2006. Agree in syntax, agreement in signs. In *Agreement systems*, ed. by Cedric Boeckx, 201–237. Amsterdam: John Benjamins.

Sigurðsson, Halldór Ármann. 2008. The case of PRO. *Natural Language and Linguistic Theory* 26:403–450.

Sigurðsson, Halldór Ármann. 2010. On EPP effects. *Studia Linguistica* 64:158–189.

Sigurðsson, Halldór Ármann, and Verner Egerland. 2009. Impersonal null-subjects in Icelandic and elsewhere. *Studia Linguistica* 63:158–185.

Sigurðsson, Halldór Ármann, and Anders Holmberg. 2008. Icelandic dative intervention. In *Agreement restrictions*, ed. by Roberta D'Alessandro, Susann Fischer, and Gunnar Hrafn Hrafnbjargarson, 251–279. Berlin: Mouton de Gruyter.

Sigurðsson, Halldór Ármann, and Joan Maling. 2007. On null arguments. In *Proceedings of the ''XXXII Incontro di Grammatica Generativa,''* ed. by M. Cecilia Picchi and Alan Pona, 167–180. Florence: Edizioni dell'Orso.

Sigurðsson, Halldór Ármann, and Joan Maling. 2008. Argument drop and the Empty Left Edge Condition. *Working Papers in Scandinavian Syntax* 81:1–27.

Sigurðsson, Halldór Ármann, and Joan Maling. 2010. Silent heads. In *Functional heads: A festschrift for Guglielmo Cinque*, ed. by Laura Bruge, Anna Cardinaletti, Giuliana Giusti, Nicola Munaro, and Cecilia Poletto. Oxford: Oxford University Press.

Starke, Michal. 2001. Move dissolves into Merge: A theory of locality. Doctoral dissertation, University of Geneva.

Thráinsson, Höskuldur. 1979. *On complementation in Icelandic*. New York: Garland.
Thráinsson, Höskuldur. 2007. *The syntax of Icelandic*. Cambridge: Cambridge University Press.
Woese, Carl R. 2002. On the evolution of cells. *Proceedings of the National Academy of Sciences USA* 99/13:8742–8747.
Woese, Carl R., and Nigel Goldenfeld. 2009. How the microbial world saved evolution from the Scylla of molecular biology and the Charybdis of the modern synthesis. *Microbiology and Molecular Biology Reviews* 73/1:14–21.
Zwart, C. Jan-Wouter. 2002. Issues relating to a derivational theory of binding. In *Derivation and explanation in the Minimalist Program*, ed. by Samuel David Epstein and T. Daniel Seely, 269–304. Oxford: Blackwell.

SOL, Centre for Languages and Literature
Lund University
Box 201
221 00 Lund
Sweden

halldor.sigurdsson@nordlund.lu.se