Probing silence: Structural constraints on ellipsis

Abstract

This manuscript argues for a novel approach to the resolution of certain elliptical constructions which takes as its starting point the abstract morphological constraints the head licensing the ellipsis site has to satisfy. Several phenomena - for instance the relative acceptability of verbal ellipsis with nominal antecedents, voice alternations under ellipsis, differential island repairing properties of sluicing and complementary distribution between sluicing and local binding of pronouns - are given a narrowly syntactic account and are shown to follow from standard minimalist assumptions and interfaces effects.

Keywords: Ellipsis, sluicing, Agree, structural Case, islands.

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1 Introduction

Elliptical phenomenas raise remarkable questions for theoretical linguistics: they are cross-linguistically attested yet display subtle variations between languages, they have by definition no external manifestation yet obey delicate syntactical constraints, they are detectable only through their absence yet evidently pause no special acquisition problems. Among the many research directions that have been explored to account for these properties, two are of particular interest in this manuscript. The first one aims at explaining the properties of elliptical phenomena by appealing to their semantic features (see (Hankammer & Sag, 1976), (Darlymple, Schiebe, & Pereira, 1991), (Hardt, 1993), (Chung, Ladusaw, & McCloskey, 1995), (Ginzburg & Sag, 2000) for early and influential accounts along this line). The second argues that purely syntactic constraints, generally a requirement of syntactic identity or isomorphism between an antecedent site and the ellipsis site, bear on ellipses (see (Chomsky, 1965), (Ross, 1969), (Lobeck, 1995), (Chomsky & Lasnik, 1995), (Merchant, 2001), (Aelbrecht, 2010), (Merchant & Simpson, 2012) and references therein for examples). Within the framework of minimalist syntax, this latter approach has often been formulated under the so-called deletion under identity account of ellipsis: the ellipsis site contains an unpronounced copy of the syntactic structure of the antecedent site which guarantees syntactic (and a fortiori semantic) interpretation.
As noted *inter alia* in (Merchant, 2013), both these accounts face considerable empirical challenges in that the distribution of syntactic properties of elliptical constructions is often uneven: pairs with close or even identical semantic properties may differ sharply in acceptability, an unexpected feature in a primarily semantic account, and the range of morphological and syntactical variation allowed between the antecedent and ellipsis site is both wide and highly syntactically constrained, a combination of facts which is arguably problematic for both lines of inquiry (some of the main empirical challenges are recalled in section 2.1 below).

This manuscript argues within the general framework of minimalist syntax for a narrow syntactic account of ellipsis that dispenses with any syntactic operation that is not independently required. The analysis builds on the notion of feature sharing as in (Reuland, 2011) and on the fundamental idea of (Miyagawa, 2009) that probe/goal relations between functionals heads, and especially the record of such Agree relations, play a fundamental role in ensuring that narrow syntactic objects constructed by Merge are legible by the interfaces. A specific feature of the explanatory mechanism proposed, perhaps in contrast with most primarily syntactic accounts of ellipsis, is that it explains (and relies crucially on) both the location of the putative antecedent site and the syntactic structure of the ellipsis site. One of its desirable property is that it derives from first principles sophisticated properties, such as the interaction of long distance *wh*-movement with ellipsis (see subsection 2.1.3 for a statement of the problem and section 4.3 for the solution).

Section 2 recalls some of the main empirical and theoretical problems raised by elliptical constructions, especially for primarily syntax-based models. Section 3 then outlines a possible theoretical solution (what is copied is not a full sub-tree but the record of Agree relations on a functional head compared to the set of all possible such Agree relations) and shows that this solution is both compatible with general minimalist assumptions and derivable from first principles. The last section then shows that this theoretical solution not only accounts for but straightforwardly predicts the phenomena noted in section 2.1.
2 Challenges to syntactic accounts

2.1 Empirical challenges

This section reviews empirical problems that syntactic accounts of ellipsis have to face. Subsection 2.1.1 reviews surface phenomena which are theory-neutral, whereas subsections 2.1.2 and 2.1.3 recall empirical facts that present specific problems for the deletion under identity account.

2.1.1 Morphological and syntactic mismatch between antecedent site and ellipsis site

It is well-known that certain elliptical constructions tolerate extreme syntactic and morphological mismatches between the antecedent site and the ellipsis site ((Chung, 2006), (Merchant, 2013)). Here are recalled a few examples.

Active/passive and passive/active voice mismatch.

(1) (a) We also use the xpdf package in our examples, so you may want to install that now if it isn’t already.1
(b) This problem obviously had never been solved properly before and yet somehow we did.2
(c) This can be frozen. Please do.3

Verbal ellipsis with non-verbal antecedent.

(2) (a) Seeing Alcor with the naked eye in urban area is very hard but Aiden did.4
(b) Visiting my brother was part of our plan but in the end we didn’t.
(c) Controlling yourself under situation of stress is hard even if you have been trained to.
(d) Him denying the facts surprised me, but he did, so we’ll have to present material evidence.
(e) The Boston Zoo cheetah’s survival is unclear, but even if it does, it won’t be as magnificent as it once was.5
(f) Annie is a great laugher, and when she does, it’s infectious.6

1Example from (Merchant, 2013, Example (1j)) where it is credited to J.McCloskey.
2Adapted from (Merchant, 2013, Example (2e)).
3From (Johnson, 2004, Example (22)-(23)).
4Adapted from (Arregui, Clifton, Frazier, & Moulton, 2006, Example (9)).
5Adapted from (Miller & Pullum, 2012, Example (8))
6Adapted from You’ll never eat lunch in this town again as quoted in (Hardt, 1993, Example (111)).
Blucher’s timely arrival is held to have been the crucial factor in Napoléon’s defeat by many of his admirers. In fact, probably not much much would have changed if he hadn’t.

Morphological mismatch (verbal inflection, negation, modality, -ing to -en, -ing to would, -ing to to, -ing to verbal inflection).

3 (a) Cécile likes cheese but I don’t.
   (b) Marion didn’t bring any toy but Mathilde did.
   (c) Yanis will leave. Naïm has, already.
   (d) “I swear, the things she says, she’s going to drive me crazy.”
       “Maybe she has already.”
   (e) “You’re meeting Hermione Granger? Today?”
       “Yeah. Well, she asked me to, so I thought I would.”

4 (a) Decorating for the holidays is easy if you know how.
   (b) I remember meeting him, but I don’t remember when.

All these examples of morphological mismatches are sensitive to syntactical constraints. For instance, (1) above should be contrasted with the cross-linguistic impossibility of voice alternation in interrogative elliptical constructions as in

5 (a) *He was killed, but I don’t know who.
   (b) *Someone killed him, but I don’t know by who.

as well as with the impossibility of inchoative/transitive voice alternation as in

6 *This can freeze. Please do.

Likewise, the first items of (2) can be contrasted with their close counterparts in (7) below, (3) with (8) below, and (4) with (9) below.

7 (a) *Seeings of Alcor in urban area are very rare but Aiden did.

From You’ve been warned by J.Patterson and H.Roughan.
From chapter XXV of Harry Potter and the Order of the Phoenix by JK.Rowling.
It is sometimes claimed that voice alternation is possible in interrogative elliptical constructions (see for instance (Runner & Dozat, 2012)) and that examples are attested, as in

5 I think he was killed by someone, but I don’t know who or why.

from Mother Jones December 1976. In fact, this example is acceptable only because the explicit by-phrase in the antecedent clause allows the ellipsis site to be interpreted as a passive with a stranding of the by-phrase, so without voice alternation. All examples in (Runner & Dozat, 2012) may be reanalyzed in the same way, making the empirical conclusion of that article unsurprising.
(b) *The visit of my brother was part of our plan but in the end we didn’t.
(c) *Self-control under situation of stress is hard even if you have been trained to.
(d) *His denying of the facts surprised me, but he did, so we’ll have to present material evidence.

(8) (a) **“I swear, the things she says, she’s driven me crazy.” “Maybe she is right now.”
(b) **“You will meet Hermione Granger? Today?” “Yeah. I thought I would be.”

(9) (a) *Having to compromise is inevitable, but they have no idea who.
(b) *The message said to show up in the square at midnight, but it didn’t say who.

2.1.2 Violations of syntactic constraints in the ellipsis site

This subsection and the following one adopts for the sake of the argument the PF deletion under syntactic identity account of ellipsis as it may be formulated according to the general assumptions of minimalist syntax. This account is summed up as statement (10) below.

(10) The ellipsis site contains a copy of a sub-tree of the antecedent site which undergoes PF deletion.

See (Chomsky, 1965), (Ross, 1969), (Merchant, 2001), (Lasnik, 2007) and (Aelbrecht, 2010) for various theoretical formulations and arguments in favor of this analysis.

Under a strict interpretation of (10), the first ellipsis site of (3e) repeated below as (11)

(11) “You’re meeting Hermione Granger? Today?”
    “Yeah. Well, she asked me to, so I thought I would.”

should host an identical copy of the syntactic content of the putative antecedent site. If that is the case, spelling it out should yield

(12) *Well, she asked me to meeting Hermione Granger.

which is doubly faulty because of the aspectual mismatch and because of the local binding of the referential expression Hermione Granger by the pronoun she.

Moreover, the impossibility of

(13) **“You will meet Hermione Granger?” “Yeah. I thought I would be.”
and more generally the necessity of a progressive aspect antecedent if an English post-auxiliary ellipsis purports to elide a progressive indicates that the sub-tree encoding the syntax of the ellipsis site is rooted above the head encoding progressive aspect in English. The normal syntactic ordering of verbal aspects in English as in

(14) [T]hat poor fellow [⋯] is being carried down to the bottom of the sea.\(^\text{10}\)

suggests that the head encoding progressive aspect is higher than the head encoding voice. Putting everything together, it appears that the sub-tree giving the ellipsis site its syntax should on the one hand be rooted higher than the head encoding voice and should thus contain the sub-tree rooted on the voice head. On the other hand, the sub-tree in the ellipsis site should according to (10) be an identical copy of the sub-tree giving the antecedent verbal clause its syntactic clause. Hence, the voice heads in the antecedent site and the ellipsis site in a post-auxiliary ellipsis should always be identical, so voice alternation should be impossible in post-auxiliary ellipsis, contrary to the facts already noted in (1).

\section*{2.1.3 Violation of island constraints in the ellipsis site}

The so-called island repair phenomenon in elliptical interrogative constructions, which was first noticed in (Ross, 1969), is illustrated by (15) below.\(^\text{11}\)

(15) (a) *Which language do they want to hire someone who speaks?  
(b) *They want to hire someone who speaks a Balkan language but I don’t know which Balkan language they want to hire someone who speaks.  
(c) They want to hire someone who speaks a Balkan language but I don’t know which.

See (Chung et al., 1995) and (Merchant, 2001) for extensive discussions. This remarkable property of elliptical interrogative constructions has been considered especially puzzling for accounts relying on the deletion under identity principle (10). Indeed, if the \textit{wh}-word \textit{which} in (15c) has been base-generated in object position of the inflected verb \textit{speaks} in a full fledged interrogative structure then has been able to move through normal cyclic \textit{wh}-movement, as should presumably be assumed according to (10), then it is hard to understand why it could not do exactly the same in (15a) and (15b).

\(^{10}\text{From chapter XLV of Moby-Dick}\)

\(^{11}\text{All examples in this subsection are from J.Merchant.}\)
Beside, if it is believed that syntactic islands are PF phenomena or if a syntactic treatment of island is supplemented by the principle that wh-movement out of a syntactic island is possible as long as the island remains unpronounced (stipulations that would account for (15)), then it becomes hard to explain why the reading *which Balkan language Ben wants to hire someone who speaks* is impossible in (16) below.

(16) Amy wants to hire someone who speaks a Balkan language but I don’t know which Ben does [speak/*want to hire someone who speaks].

Finally, and even though several properties of elliptical interrogative constructions including semantic interpretation are cross-linguistically constant, island repair phenomena are sensitive to language variation, as (17) below illustrates.

(17) (a) I heard that Hanako met a person who gave Taroo something, but I don’t know what.

(b) (Japanese) *Hanako-ga Taroo-ni nanika-o ageta hito-ni atta sooda ga, watashi-wa nani ka shiranai.

Hanako-NOM Taroo-DAT something-ACC gave person-DAT met is said but, I-TOP what Q know.not.

(Intended) I heard that Hanako met a person who gave Taroo something, but I don’t know what.

Whatever mechanism is posited to explain the contrast between (15b) and (15c) on the one hand and the contrast between the possible and impossible readings of (16) on the other hand should also account for this variation between Japanese and English.

### 2.2 Theoretical challenges

According to the standard assumptions of minimalist syntax ((Chomsky, 1995, 1999)), which I henceforth assume without further discussion, linguistic objects are first built as narrow syntactic objects which are subsequently sequentially sent to the PF and LF interfaces. The early stage of syntactic computation - narrow syntax - consists of the creation and manipulation of binary arborescent structures through recursive applications of the binary operation *Merge* on syntactic items. It is commonly believed that, at this early level, the structure of atomistic syntactic items is extremely coarse - possibly nothing more than a single bi-valued feature of a very restricted type, *ϕ*-features and focus features for instance - and that the usual objects considered at higher level of representations (*N*, *D*, *V*, *v*, *T*, *C*...) are in fact bundle of such atomic elements.
Beyond Merge, the only supplementary operation supposedly accessible to narrow syntax is Agree, which consists of the co-valuation of the atomistic formal features described above between a Probe, which bears unvalued or uninterpretable formal features, and a Goal, which bears valued or interpretable formal features (this co-valuation operation is typically coupled with chain reduction, hence movement, to keep the record of the operation beyond narrow syntax). One of the fundamental logical consequences of these minimalist assumptions is that though functional heads with uninterpretable features might enter the construction of narrow syntactic objects (indeed, they must, if complex objects are to be built), their uninterpretable features must be valued at the point of transfer to LF. In other words, a Probe must probe, and it must find a Goal.

However, basic elliptical constructions as in (18) below (not to mention the much more sophisticated examples of section 2.1) apparently violate this fundamental condition.

(18) (a) I knew him, or I thought I did.
   (b) (French) Quelqu’un a terminé le gâteau. Ah oui ? Qui ?
   Someone finished the cake. Really? Who?

The $T$-head on the auxiliary did is expected to select for a $v$ and the nominative wh-element qui requires to be licensed a $T$-head able to assign it nominative structural Case. Neither elements are in sight, though.

Of course, elliptical constructions do exist, cross-linguistically, and their acquisition poses no special problem. Usual issues of learnability (here particularly appropriate since the syntactic property to be acquired is defined by a lack of data) therefore strongly suggest that the fundamental condition on valuation of uninterpretable features are indeed satisfied in (18) even though they don’t appear to be be, and more generally that heads licensing elliptical constructions have valued all their uninterpretable features in exactly the same ways as they would in non-elliptical ones.

If that is so, then it follows that, one way or another, Probes may probe the ellipsis site, or probe the antecedent site in search of goals for the benefit of the ellipsis site. In fact, they must do so.

3 Copying the Agree configuration

Building on the last observation of the previous section that Probes must probe the ellipsis site, this section outlines a theoretical mechanism which accounts for the antecedent selection in (some) elliptical constructions, de-
scribes the precise nature of the syntactic information copied from the an-
tecedent site to the ellipsis site, and explains how this copied information
is used to give a syntactic structure to the ellipsis site. This theoretical
mechanism is thus an alternative to the PF deletion under syntactic identity
account of ellipsis. I also argue that this theoretical mechanism - which I
call the copying of the Agree configuration - is independently required as a
narrow syntactic tool under usual assumptions on narrow syntax.

More empirically-minded readers may on first reading skip this section,
with the exception of statement (24), statement (28) and definitions 3.1 and
3.2, and proceed directly to the empirical predictions recorded in section 4.

3.1 The Agree configuration and formal features

A preliminary formalization of my main theoretical assumption is the fol-
lowing.

(19) The information available to a head $x$ at the point of transfer to the
interfaces is its Agree configuration, that is to say the identification of
the set of Agree relations $x$ entered in within the set of all possible such
relations.

Note that (19) states that no information exists beyond Agree relations but
crucially allows the comparison between the actual relations and the total
possible relations. In particular, the absence of an Agree relation between $x$
and a head $y$ in its complement is part of the information contained in the
Agree configuration.

Statement (19) cannot be the full story, though. To begin with, the
contrast between the first two items of (20) below indicates that the head $P$
has to enter into an Agree relation with its complement.

(20) (a) Naïm talked about Yanis.
(b) *Naïm talked Yanis.
(c) Who did Naïm talk about?

However, as argued extensively in (Abels, 2003), the head $P$ in (20a) is
not triggering the spell-out of its complement. To recall one argument, if
$P$ triggered the spelling-out of its complement, that $wh$-movement could
strand the preposition in (20c) would be very puzzling. On the other hand,
the impossibility of the co-referential reading

(21) Naïm talked about him$	extsubscript{s}$. \\

implies in the formalism of (Reuland, 2011) that the formal features of him
have moved at least as high as $v$ (in fact as high as $T$, but this plays no role
in the argument here) and so that the head v has had access to the Agree relation P entered in with its complement him. Putting all this together, I conclude that in (20a) a) P enters in Agree relations with elements in its complement and that b) at the point of transfer, the head v has access to the output of Agree relations between P and the elements in its complement.

In conclusion, thus, it is natural to assume that the full Agree configuration of a functional head is accessible to functional heads higher, and more specifically at least as high as the next phase head.

3.2 The Agree configuration and syntactic resolution of ellipsis

3.2.1 The Agree configuration record operation

This leads to a more precise version of (19), henceforth referred to as the Agree configuration record operation.

(22) The input available to a phase head at the point of transfer is the Agree configuration of its complement, that is to say the identification of the Agree relations between heads in its complements in the total possible space of such relations. A phase head keeps the record of having spelled-out its complement. Functional heads may recursively access the Agree configurations of functional heads in their complements (subject to standard locality conditions).

In particular, a narrow syntactic object is suitable for the interfaces only if it satisfies the following Distinct structural position condition below.

(23) The complement of a phase head x has to be unambiguously identified by the Agree configuration of x, as defined in (22).

I believe that the syntactic structure of the ellipsis site built through recursive application of the Agree configuration record operation, as expressed in principle (24) below.

(24) The algorithm providing a syntactic structure to the ellipsis site is as follows.

(i) A focus Probe/Goal relation is established between the head licensing the ellipsis and the core head within the antecedent site.

(ii) The Agree configuration of the antecedent core head is copied on the head licensing the ellipsis.
3.2.2 Application to post-auxiliary ellipsis and sluicing

Of course, only elliptical constructions which are syntactically, rather than pragmatically, controlled (those called surface anaphora in (Hankammer & Sag, 1976)) can possibly conform to hypothesis (24). In the remainder of this manuscript, I consider the case of (mostly English) post-auxiliary ellipsis (henceforth PAE) and the elliptical interrogative constructions called sluicing since (Ross, 1969).

Sluicing Sluicing is the cross-linguistically probably universal elliptical interrogative construction exemplified by (25) below.

(25) Someone came. Guess who?

The following definition recalls the fundamental licensing properties of sluiced constructions and makes clear how step (i) of the procedure of (24) obtains in that case.

**Definition 3.1.** The head licensing the ellipsis site in a sluiced construction is a wh-element with a +wh-feature and the core antecedent is an underspecified element entering in an agreeing focus Probe/Goal relation with the C-head of the antecedent clause (subject to standard relativized minimality) sharing a non-distinct Agree configuration with the licensing head.

As is well-known, implicit arguments and adjuncts are licit underspecified element and so are licit core antecedent in the sense of definition 3.1, as in (26) below for instance.

(26) She’s been reading but I don’t know what.

**English PAE** English PAE exhibits significant variation in its licensing condition. The following proposition - which builds on (Kertz, 2008), (Miller, 2011) and (Miller & Pullum, 2012) - is a tentative description of step (i) of the procedure of (24).

**Definition 3.2.** The head licensing the ellipsis site in a PAE is a verbal auxiliary (including to). An expected antecedent is a structural Case assigning v-head if the licensing head is an auxiliary verb distinct from be and a structural Case assigning be if the licensing head is the auxiliary be. A licit antecedent is any kind of expected antecedent (so a structural Case assigning v-head is a licit antecedent for an auxiliary verb distinct from be even though it is not an expected antecedent). The core antecedent is the structurally closest expected antecedent whose modality or subject is in contrastive focus with the licensing head if there is one. If there is no such
expected antecedent, then the core antecedent is the structurally closest licit antecedent whose polarity is in contrastive focus with the licensing head.

In the above, the notion of licit antecedent is introduced to allow for voice alternation.

3.3 Topological configurations and structural Case

This section explores more thoroughly the theoretical issues raised by the Agree configuration record operation (22) and the Distinct structural position condition (23). Its aim is to show that, far from being new stipulated properties of narrow syntax, they are closely related if not identical to well-known theoretical constraints. Subsection 3.3.1 below can be skipped on first reading, as it has little empirical consequences in the rest of the manuscript outside of section 4.1.6.

3.3.1 Topological configurations

According to the assumption reviewed at the beginning of section 2.2, and especially if one subscribes to the late insertion hypothesis of lexical items of Distributed Morphology (see for instance (Halle & Marantz, 1993, Section 2.2)), the information available to narrow syntax is radically impoverished. Despite this dearth of information, the structures narrow syntax produces are required to be legible by the logical and phonological interfaces and thus have to satisfy stringent conditions at the point of transfer. To name a few, the transferred object must admit a linear total ordering by asymmetric c-command to be pronounced (the Linear Correspondence Axiom of (Kayne, 1994)), undistinguishable bundle of features have to occupy structurally distinct nodes for lexical insertion (at least) to be non-ambiguous and bound variables have to respect the Θ-grid of the semantic elements involved.

In particular, structures like

\[
\varphi\{x\} \quad \varphi\{y\}, \quad \varphi\{x\} \quad \varphi\{y\} \quad \ldots
\]

(3.3.1)

with non-distinct \(\varphi\{x\}\) and \(\varphi\{y\}\) should be prohibited at the point of transfer. Note, however, that if an unvalued formal feature \(\varphi()\) on a Probe is merged above one of the prohibited structures of (3.3.1) and enters in a Agree relation with \(\varphi\{x\}\), then on the one hand, Probe and Goal then become indistinguishable with respect to \(x\) but on the other hand \(\varphi\{x\}\) and
\( \varphi_{\{y\}} \) have now become potentially distinguishable in (3.3.2)

because one has now entered in an Agree relation with \( \varphi_{\{x\}} \) and not the other. This can be stated generally in the following form.

(27) Unvalued formal features, or Probes, are the computational device used in narrow syntax to ensure that prohibited structures do not appear at the point of transfer. In other words, the operation Agree is a by-product of the need of phase heads to probe their complements in order to avoid forbidden topological configurations.\(^{12}\)

This is in essence very close to the observation of (Kayne, 1994) that the otherwise puzzling wealth of functional heads appearing in human language is probably due to the fact that “functional heads make landing sites available” once incorporated the principle that the only way functional heads have to trigger movement is via feature valuation. This close interaction between functional heads, Agree and movement is also explicitly the thesis defended in (Miyagawa, 2009): movement is the recording of otherwise inexpressible functional relations.\(^{13}\)

In conclusion, the position of the Agree configuration of a functional head with the respect of the set of all possible Agree relations is an independently required computational tool of narrow syntax: without it, phase heads would at the very least have no way to prohibit forbidden topological configuration at the point of transfer to the interfaces. Here, I record the following observation: independently of any information, any binary tree has a number of unambiguously identified leaves, namely the highest and lowest ones in the structure. This elementary mathematical observation has some empirical significance below.

\(^{12}\)Note that this should not in anyway be construed as departing from the formalization of Agree as the means to record functional relation and thus enhance the expressive power of human language advocated for in (Miyagawa, 2009). Indeed, bare topological structures like binary trees encoding rich and complex messages will necessarily feature many forbidden topological configurations, so that the two requirements should be understood as two complementary aspects of the same fundamental idea.

\(^{13}\)In fact, (Miyagawa, 2009) explicitly points out the fact that first merging probes at phase heads seems to help keeping phases as small as possible, presumably for computational efficiency reason. This remark, there attributed to (Chomsky, 2007), is virtually identical to the approach of this manuscript. See also footnote 12.
3.3.2 Structural Case

The Distinct structural position condition (23) is an abstract requirement, yet I believe it has a surface manifestation.

(28) The property for a binary structure containing DP heads to be unambiguously identified by its Agree configuration, so to satisfy the Distinct structural position condition, is equivalent to structural Case assignment.

This hypothesis aims at capturing the essence of structural Case in the original sense of Vegnaud's 1977 letter (reprinted in (Vergnaud, 2008)): a structural condition for the licensing of syntactic items.

Condition (23), however, is distinct from and strictly weaker than common formalizations of structural Case assignment as the valuation of an unvalued Case feature on DP as reflex of co-valuation of uninterpretable ϕ-features on the Case assigning head (T or v, typically): condition (23) allows for the possibility of a syntactic item to be distinguished by not entering in an Agree relation, whereas equating structural Case assignment with valuation of formal features in an actual Agree relation would seem to preclude this possibility.\(^{14}\)

Since Probe/Goal relations understood as in (27) and the Agree configuration record operation (22) deal with topological conditions, equating the Distinct structural position condition on DP with structural Case assignment implies the existence of a narrow correlation (ideally, a bijection) between the structural position of a DP - and more specifically the Agree relations in which its formal features have entered compared to the set of all such possible relations -, the phase head responsible for spelling out the DP and the nature of the structural Case it received.

I claim that such a correlation indeed obtains. Genitive structural Case is assigned to DP staying very low in the structure: those staying below the head called vn in (Rouveret, 2012) in Irish, as in (29a) or objects of nominalized verb, as in (29b) or (29c).

\(^{14}\)This greater flexibility has desirable empirical consequences. To name just one, several polysynthetic languages tolerate perfectly well the movement of a locative expression to the canonical pre-verbal subject position with ϕ-agreement and this movement triggers verbal agreement (see for instance (Baker & Collins, 2006) for Kinande). In these constructions, the grammatical subject DP has not entered in an Agree relation with T and yet seems to have received structural Case (interestingly, and in perfect agreement with the Distinct structural position condition, when this construction is applied to a transitive verb, an extra agreeing head usually appears in between the post-verbal subject and the direct object).
Accusative and nominative structural Case are assigned to the DP whose position is unambiguously identified by the Probe $v$ and $T$ respectively. Note that the *Distinct structural position condition* (23) on a DP is satisfied even in the absence of movement of this DP to the specifier of functional probing head (for instance Spec $TP$) provided it is unambiguously topologically identified by the Agree configuration. In the absence of movement, this may be presumably achieved by movement of formal features, as in expletive constructions, or through a rich verbal morphology.

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15Example from (Rouveret, 2012, Example (27a)).

16From (Alexiadou & Anagnostopoulou, 2007, Example (19))
1SG.
I heard that a specific robber raided the village.

(32) (a) (Japanese) Kinoo Ayumi ga katta hon.
    Yesterday Ayumi-NOM buy-PST book.
    The book which Ayumi bought yesterday.

(b) (Japanese) Kinoo Ayumi no katta hon.
    Yesterday Ayumi-GEN buy-PST book.
    The book which Ayumi bought yesterday.

In addition, elements whose formal features move higher than \( T \) are apparently interpreted as more specific. This is evident in (31) and (32) but generalizes (non-agreeing pre-verbal subjects in Kinande must be definite, Scandinavian object shift target only definite object, pre-verbal subject are interpreted as more definite than post-verbal ones in Russian...). The parallelism between the fact that DP whose formal features stay very low (below \( v \) ) and those whose formal features move very high (above \( T \) ) both tend to sport genitive marking and the fact, already noted at the end of section 3.3.1, that very low and very high leaves are always unambiguously topologically identified in a binary tree is in my opinion not a coincidence, but rather a concrete manifestation of the fact that structural Case marking is closely linked with topological conditions on DPs. In section 4.1.6 below, I derive an empirical consequence of this parallelism between very high and very low DPs.

4 Empirical consequences

I derive empirical consequences of (24) as mechanism for the resolution of PAE and Sluicing. Because this mechanism is novel, I first check that familiar properties of these elliptical constructions indeed follow from the purported explanation, then show that the more delicate properties noted in section 2 as well as heretofore unnoticed or neglected phenomena are also accounted for (in fact, straightforwardly predicted).

4.1 Fundamental properties

4.1.1 Fundamental cases and strict semantic isomorphism

Because the mechanism 24 happens strictly in narrow syntax, it entails in particular the strict identify of meaning between antecedent site and ellipsis site.
Consider for instance a basic case of English PAE.

(33) [T]he bookbinder’s Quarto volume in its dimensioned form does not preserve the shape of the Folio volume, but the Octavo volume does.\textsuperscript{17}

The head licensing the ellipsis is the auxiliary does. According to (24) as supplemented by definition 3.2, this head triggers a focus Probe on C which looks for an expected antecedent, that is a structural Case assigning v-head. This mechanism locates preserve (note that the ellipsis-licensing inflected head differs in polarity from the core antecedent, supplying the probed focus feature). Hence, the Agree configuration of preserve is copied on does. As the v-head assigned accusative structural Case to the shape of the Folio volume, the ellipsis site has a copy of this structural Cas assignment, so the ellipsis site is interpreted in the expected way.

Likewise, in a basic sluiced construction like

(34) Structural Case will play a role in this manuscript. Guess which?

the ellipsis-licensing head which triggers a focus Probe on C which looks for an underspecified element. This mechanism locates a role, which has entered in an Agree relation with the v-head play, which has entered in an Agree relation with the T-head in will, which has entered in an Agree relation with the DP structural Case.

As is well-known, an apparent counter-example to the strict identity of meaning between ellipsis and antecedent site is the so-called phenomenon of vehicle change ((Fiengo & May, 1994)) as in (35a) below or in the first ellipsis site of (3e) repeated below as (35b)

(35) (a) Adrien is very worried about his career, but Solal isn’t [worried about Solal’s career/worried about Adrien’s career].

(b) “You’re meeting Hermione Granger? Today?” “Yeah. Well, she asked me to [meet her/*Hermione], so I thought I would.”

As the Agree configuration record operation (22) applies to valuation of formal features, this apparent counter-example is in fact entirely expected. At the level of narrow syntax, the ellipsis-licensing head isn’t in (35a) may copy the agree relation the antecedent head is entered in with the subject DP Adrien, or it could rely on its own subject DP Solal to satisfy its selection property. Narrow syntax makes no distinction between this two DPs, so both construction of the ellipsis site are licit and ambiguity ensues (of course, pragmatic factors can suppress it). Likewise, in (35b), the formal relation between she, the T-head −ed, the v-heads ask and meet and the

\textsuperscript{17}From chapter XXXII of Moby-Dick by H.Melville.
DP object of *meet* is at the level of narrow syntax just co-valuation of formal features and the record of Agree operations. At this level, thus, no principle C violation may happen (a conceptually very similar argument is made in (Aoun & Nunes, 2007)).

4.1.2 Probing for the antecedent

The first step of (24) is the location of the antecedent, specifically of a functional head whose Agree configuration can then be copied, and the assumption is that this is achieved by a focus Probe at C targeting the relevant functional head. In support for this contention, note that radically underspecified elements - the prime targets of Sluicing - are often formed by fusion of an indefinite existential or *wh*-marked word (in italics) and a pro-form as in the English *someone*, French *quelqu’un*, German *etwas* (from the Old Germanic root *edd*, any), Chinese *Mou Ren*, Bengali *keu*, or Japanese *dareka*. Hence, there are morphological hints that they may be probed by a focus Probe at C. The general thesis of this manuscript being that this process happens entirely within narrow syntax, it is expected that this Probe/Goal relation should be sensitive to focus intervention (relativized with respect to the nature of the antecedent). This prediction is borne out.

First, recall that (Beck, 2006) argues that negative quantifiers trigger the strongest intervention effects. As expected, they prevent sluicing.

(36) *It’s not the case that Yanis didn’t meet with a friend, but I still wonder who.*

Beside, there are good empirical reasons to believe appositive constructions involve an Agree relation between the appositive clause and C, and thus that appositive clauses are marked with a focus feature probed by C. For instance, appositive constructions trigger intervention effects for *wh*-questions *in situ*.

(37) (Japanese) *Henna tomodachi ga iru Ayumi ha nani o katta i ka shiranai.*

Strange friend-NOM is Ayumi-TOP what-ACC bought Q not know.

(Intended) Ayumi, who has strange friends, doesn’t know what they bought.

Moreover, appositive constructions in Old Japanese are overtly marked with a focus particle which triggers a special form of agreement of the main verb.

(38) (Old Japanese) Ikito shi ikeru mono, izure ka uta-o yomazarikeru.

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18Example from (AnderBois, 2011, Example (2)).
19Example and explanation from (Miyagawa, 2009, Section 5.3).
All living thing, which FOC poem-ACC compose-FOC/AGR.
Every living creature sings.

This focus feature on appositive clauses is thus predicted to trigger an intervention effect. In particular, indefinites in appositive clauses as in (39) are predicted not to be licit antecedent for sluicing. This is borne out.

(39) *Joe, who once killed a man in cold blood, now doesn’t even remember who.

4.1.3 Connectivity effect

It is a common observation going back to (Ross, 1969) that the wh-element licensing a sluiced construction has to bear the case marking it would bear if it had been base-generated in the antecedent site. This has been considered a strong argument in favor of the existence of syntactic material in the ellipsis site.

Within the formalism of this manuscript, this has to be true almost by definition: if the structural Case assignment properties of the licensing head match no antecedent object, the very first step of (24) (or more specifically of definition (3.1)) fails. It also follows directly from (24) that no resolution is possible if the structural Case assignment properties of the licensing head do not allow the unambiguous location of the core antecedent head, that is to say if there are more than one possible antecedent head exhibiting the same structural Case assignment properties. This explains the contrast between the radical unacceptability of

(40) (French) *Quelqu’un décrit quelqu’un, mais je ne sais pas qui qui.
Someone describes someone but I not know who who.

in languages with poor case morphology like French (or English), despite the transparent semantic interpretation, and the perfect acceptability of all logically possible alternatives in a language with richer case morphology like Polish or Bengali below.

(41) (a) (Bengali) Keu karoke bornona korche, kintu ke ami jani na.
Someone-NOM someone-ACC description doing, but who-NOM I know not.
Someone is describing someone, but I don’t know who [is doing the describing].

(b) (Bengali) Keu karoke bornona korche, kintu kake ami jani na.
Someone-NOM someone-ACC description doing, but who-ACC I know not.
Someone is describing someone, but I don’t know who [is being described].

(c) (Bengali) Keu karoke bornona korchhe, kintu ke kake ami jani na.
Someone-NOM someone-ACC description doing, but who-NOM who-ACC I know not.
Someone is describing someone, but I don’t know who [is describing] who(m).

Japanese provides natural empirical tests, as it allows many seemingly close pairs which differ in grammaticality.\(^{20}\)

(42) (a) (Japanese) Sensei-o hihanshita gakusei-ga koko-ni oozei iru kedo
dare-ga dare-o oboeteinai.
Teacher-ACC criticized student-NOM here-P crowd is but who-NOM who-ACC remember not.
Many students here criticized many teachers but I don’t remember who [criticized] who.

(b) (Japanese) *Sensei-ga suki-na gakusei-ga koko-ni oozei iru kedo
dare-ga dare-ga suki-ka oboeteinai.
Teacher-NOM liked student-NOM here-P crowd is but who-NOM who-NOM remember not.
(Intended) Many students here like many teacher but I don’t remember who.

(c) (Japanese) *Sensei no koto-ga suki-na gakusei-ga koko-ni oozei iru
dedo dono gakusei-ga dono sensei no koto-ga ka oboeteinai.
Teacher of side-NOM liked student-NOM here-P crowd is but which student-NOM which teacher of side-NOM remember not.
(Intended) There are here many students who show appreciation towards their teachers but I don’t remember which towards which.

In (42a), but crucially neither in (42b) nor in (42c) even though the latter is actually semantically non ambiguous, the two \textit{wh}-words \textit{dare} are differentially marked by Case so correspond unambiguously to antecedent heads.
Interestingly, my informant (Y.Kito-Neubronner) spontaneously offered

(43) Sensei-ga suki-na gakusei-ga koko-ni oozei iru kedo dare-ga dare-o suki-
ka oboeteinai.
Teacher-NOM liked student-NOM here-P crowd is but who-NOM who-ACC remember not.
Many students here like many teacher but I don’t remember who whom.

\(^{20}\)The examples (42) are from (Richards, 2010).
as a technically ungrammatical (the object of *suki* has to bear the nominative case-marking particle *ga*, not the accusative case-marking particle *o*) but marginally acceptable (and with attested close counterparts) spoken alternative to (42b), indicating that native speakers apparently could tolerate incorrect case assignment if this allows for meaning recovery.

4.1.4 Binding

As mentioned in subsection 3.1 above, the copying mechanism involved in (22) is assumed to be the same as the mechanism involved in chain formation in (Reuland, 2011). This entails that sluiced construction should be in complementary distribution with reflexives. This empirical prediction, which seems to have been heretofore unnoticed, is borne out.

(44) (a) Alan Greenspani often speaks about him$_{si}$ in a flattering way.
    (b) He often speaks about someone but I don’t know who.

(45) (a) (French) Alain Deloni parle souvent de lui$_{si}$ de manière flatteuse.
    Alain Delon speaks often of him of manner flattering.
    Alain Delon often speaks about himself in a flattering way.
    (b) (French) Il parle souvent de quelqu’un mais je ne sais pas *(de) qui.$^{21}$
    He speaks often about someone but I know not *(of) who.

In the formalism of (Reuland, 2011), the licit co-indexation in (45a) implies that no copying of the Agree configuration of the P-head *de* in *de lui* is available to the v-head *parle*, in agreement with the hypothesis that Agree configurations are copied to the phase head but no further and with the proposal of (Abels, 2003) that P is a phase in French. Hence, the bare *qui* in (45b) bears no structural Case assignment properties compatible with an antecedent and cannot license a sluiced construction. Exactly the converse holds for (44a) and (44b).

Moreover, and more strikingly, the surprisingly licit co-indexation in

(46) (Frisian) Willemi wasket him$_{si}$.
    Willem washes him.
    Willem washes himself.

implies that *wasket* does not assign structural Case to its direct object, and so that the Frisian equivalent of

(47) Willem washed someone but I don’t know who.

$^{21}$The grammatical judgment reported here is that of written French.
should not be well-formed. This prediction is borne out, as sluicing constructions in Frisian are actually analogous to cleft constructions (see (van Craenenbroeck, 2004)); therefore, firstly, lacking accusative Case and, secondly, requiring the extra demonstrative *dat* (the second property following from the first one within our framework if recoverability is to be maintained).

### 4.1.5 Ellipsis in Maliseet

Maliseet is an endangered dialect of the Algonquian language. According to (Richards, 2008), from which all the examples and data of this section are drawn, Maliseet allows post-auxiliary ellipsis. According to this article moreover, transitive verbs in Maliseet assign structural Case to grammatically inanimate direct objects but oblique case to grammatically animate object, as can be seen from the appearance of the particle *-l* and the suffix *-ol* glossed as OBV below (and taking into account the fact that dolls are classified as grammatically animate).

(48) (a) (Maliseet) Skinuhsis ’- kisi- sunhom-on ponapsq.
    Boy 3 PERF paint TI INAN rock.
    The boy painted a rock.

(b) (Maliseet) Skinuhsis ’- kisi- sunh -a -l amsqocheckan -ol.
    Boy 3 PERF paint TA DIR OBV doll OBV.
    The boy painted a doll.

Consequently, Maliseet behaves with respect to PAE like Frisian behaves with respect to Sluicing: Maliseet transitive verbs have an unexpected property, which should be reflected in the syntactic construction of the ellipsis site according to (24) and (28), just like the fact that formal features of direct object do not raise to *v* in Frisian prevented Sluicing of direct object.

In remarkable agreement with these two principles, Maliseet indeed seems to allow ellipsis of a transitive clause when the object of the transitive verb is classified as inanimate, as in (49) below

(49) (Maliseet) Skinuhsis ’- kisi- sunhom-on ponapsq; nil-ote -na n-kis -ehtu-n.
    The boy painted a rock, and I did too.

but not when the object is classified as animate, as in (50) below.

(50) (Maliseet) *Skinuhsis ’- kisi- sunh -a -l amsqocheckan -ol; nil-ote -na n-kis- ehl -a.
    The boy painted a doll, and I did too.
The formalism of this manuscript would further predict that Sluicing in Maliseet should be sensitive to the animacy class of the direct object, namely that sluicing of an inanimate object should be unrestricted whereas sluicing of an animate object should be impossible unless oblique case appears explicitly. Unfortunately, I haven’t been able to confirm or disconfirm this prediction.

4.1.6 Topology and free Sluicing

Building on the findings of sections 3.3.1, 3.3.2, 4.1.2 and 4.1.4, I record here an easy but subtle empirical consequence of the theoretical formalism of this manuscript, which leads to an empirical generalization which appears to hold.

If hypotheses (22) and (28) are correct, the target of Sluicing must be an unambiguously located underspecified element and the role of Case is to help disambiguate between possible locations (as in (41a) for the subject and object position). Since very low and very high leaves in a binary tree are unambiguously located, one would thus expect that Sluicing could freely target these positions - where freely here means without the help of Case. More precisely, since antecedent location requires the establishment of a focus Probe/Goal relation between C and an underspecified element, the possibility of Case-free Sluicing, that is of a sluiced construction whose licensing head Case marking has no counterpart in the antecedent clause, should be possible as long as the underspecified element is very low or very high in the structure and as long as there is no intervention effect between C and the Goal.

I discuss first the case of a very low DP, that is of a silent complement of a noun. Based on the structure of DP of (Longobardi, 2003), it seems likely that in language with obligatory definiteness marking (like French), DP contain a D layer which is in an intervener for this Probe/Goal relation. Whether this is the case can be empirically tested: if the formal features of N can move higher than D, then there is no D intervener. If however they can’t, then there is one.

Putting everything together, the following generalization emerges: the following three apparently unrelated properties should all be true or all be false for a given language L.

(1) Possessive anaphora: The language L has a possessive anaphora.

(2) No definiteness marking: DPs in L have no obligatory definiteness marking.
Case-Free Sluicing: Sluicing may be freely licensed by a wh-element whose Case-marking does not appear in the antecedent clause provided its target is very low in the structure (that is a silent complement of N).

Indeed, if L has a possessive anaphora, then the formal feature of N can raise at least as high as v, so there is no D phase head, and L has no obligatory definiteness marking. If L has no obligatory definiteness marking, then C may probe a very low element, which is then unambiguously located, so may be the target of Sluicing. If, finally, Case-free sluicing of noun complements obtains, then the formal features of N must be able to raise high and so L must have a possessive anaphora to prevent invalid co-indexation. As we have seen, DP elements licensed very low in the structure typically surface with genitive Case marking.

In support for this correlation, I mention the following Russian and Japanese examples; two languages which don’t mark definiteness, which consider sluicing of noun complement perfectly normal (with the expected genitive Case marking on the ellipsis-licensing head) and which have a possessive anaphor.

(51) (a) (Japanese) Kagi o mitsuketa kedo dare-no ka shiranai.
   Key-ACC find-PAST but who-GEN Q know-NEG
   They found keys but they don’t know whose.

(b) (Russian) Natacha vidit avtomobil no ia ne znau tchey.
   Natacha sees car but I not know who-GEN.
   Natacha sees a car but I don’t know whose.

The English counterpart of (51) is valid only if the DP lacks a definite article.

(52) (a) They found keys but they don’t know whose.

(b) *They found the keys but they don’t know whose.

Finally, French is a language at the other extreme end of the spectrum: nouns always require a definite or indefinite article, the translations of (51a) and (51b) require the insertion of the case-marking item celle de and third person possessive pronouns are always ambiguous between a bound or free reading.

Finally, the fact that very high leaves in a binary tree are also unambiguously identified should imply the possibility of free Sluicing of element very high in the structure. This is broadly what is observed: why-licensed sluiced constructions seem to be fairly unrestricted. However, Case-free Sluicing of underspecified DPs very high in the structure is as far as I know not attested, for a somewhat tautological reason: as we have seen, DPs which raise higher
than \( T \) tend to be highly definite. Interestingly, languages which allows indefinite to raise high through left-dislocation, like contemporary spoken French, also seem to disallow Sluicing of these indefinite and to opt for same strategy already noted for Frisian: interrogative clefts. This for instance attested in (53).

(53) (a) (Spoken French) Quelqu’un, il a disliké mais je sais pas c’est qui alors.
Someone, he downvoted but I don’t know that is who then.
Someone voted down but I don’t know who.
(b) (Spoken Frech) Quelqu’un, y m’a dit de venir vous voir mais chais plus c’est qui.
Someone, he told me to come see you but I don’t know that is who.
Someone told me to come see you but I don’t remember who.

4.2 Morphological mismatch

I now review the problem of morphological mismatches between antecedent and ellipsis site and show that PAE and Sluicing behave as expected with respect to them if it is the Agree configuration record which is copied and which gives its syntactic structure to the ellipsis site.

4.2.1 Voice alternations

It follows directly from the structural Case assignment mismatch and hypotheses (24) and (28) that voice alternations in sluiced constructions like that of (5) repeated below as (54) are prohibited.

(54) (a) *He was killed, but I don’t know who.
(b) *Someone killed him, but I don’t know by who.

Indeed, no underspecified head in the antecedent clause has an Agree configuration non-distinct from that of the licensing \( wh \)-element.

English PAE is much more subtle. First note than in the derivation of an inchoative clause, the inchoative verb is never in the position to assign structural Case to the grammatical subject. Hence (24) and (28) correctly exclude inchoative/transitive alternations as in (6) repeated below as (55).

(55) *This can freeze. Please do.

In agreement with definition 3.2, the lack of an expected antecedent is alleviated by the salient polar contrast allowing for the location of a licit antecedent (this expresses the findings of (Kertz, 2008) that voice alternations
require aux-focus, in the terminology of (Miller, 2011). For active/passive alternations like (56) below

(56) We also use the xpdf package in our examples, so you may want to install that now if it isn’t already.

the recursive process (24) stops with the location of the core antecedent, so arguably hypothesis (28) is vacuously satisfied. Passive/active alternations like

(57) This problem obviously had never been solved properly before and yet somehow we did.

are much more problematic, as the direct object of the active ellipsis site needs to be licensed, something which seems to require that the v-head of a passive construction assigns accusative structural Case to the object before it moves to subject position and receives nominative structural Case (and accusative structural Case is then superseded, making passive constructions instances of case-stacking constructions, in the sense of (Richards, 2012)). This has been independently argued for several times in the literature, for instance by J-Y.Pollock for low subjects in French and generally in (Marantz, 2000), which gives as example Japanese adversee passives as in (58) below, in which subjects may surface with accusative case.

(58) (Japanese) Hanako-ga doroboo-ni kuruma-o torareta.

Hanako-NOM thief-BY car-ACC steal-PASS-PAST.

The car was stolen by the thief from Hanako.

Under the assumption that v indeed assigns structural Case to the grammatical subject in the course of the derivation, passive/active alternations fit hypotheses (24) and 28.

4.2.2 Non-verbal antecedent

The contrast noted in section 2.1.1 between (2) and (7) repeated below as (59) and (60) is entirely expected under hypotheses 24 and 28. The crucial fact to notice within the formalism of this manuscript is that in all the examples above, either the non-verbal head still retains the faculty to license a DP, so can be safely assumed to contain structural Case assigning v-head (this is the case for (59a), (59b), (59c) and (59d)), or the recursive construction of the syntactic material in the ellipsis site stops with the location of the core antecedent (this is the case for (59e), (59f) and (59g)).

(59) (a) Seeing Alcor with the naked eye in urban area is very hard but Aiden did.
(b) Visiting my brother was part of our plan but in the end we didn’t.
(c) Controlling yourself under situation of stress is hard even if you have been trained to.
(d) Him denying the facts surprised me, but he did, so we’ll have to present material evidence.
(e) The Boston Zoo cheetah’s survival is unclear, but even if it does, it won’t be as magnificent as it once was.
(f) Annie is a great laugher, and when she does, it’s infectious.
(g) Blucher’s timely arrival is held to have been the crucial factor in Napoléon’s defeat by many of his admirers. In fact, probably not much much would have changed if he hadn’t.

As soon as the non-verbal putative antecedent looses the capability to assign structural Case, or in other words to license DPs, ellipsis becomes impossible.

(60) (a) *Seeings of Alcor in urban area are very rare but Aiden did.
(b) *The visit of my brother was part of our plan but in the end we didn’t.
(c) *Self-control under situation of stress is hard even if you have been trained to.
(d) *His denying of the facts surprised me, but he did, so we’ll have to present material evidence.

Note also that, in agreement with (28), acceptability is sensitive to different structural Case assignment properties even when the morphology is superficially identical.

(61) (a) Loathing yourself won’t do you any good, so don’t.
(b) *Self-loathing won’t do you any good, so don’t.
(c) Obama probably didn’t expect Romney’s campaign self-annihilating over his remarks at a fund-raiser dinner, but he must have been very happy when it did.

The nouns self-annihilating and self-loathing both exist, and the former is the apparent antecedent of the PAE in (61c), but the intransitive verb self-annihilate exists whereas the intransitive verb self-loathe does not, explaining the contrast between (61b) and (61c).

4.2.3 Aspectual mismatch

According to (24), the syntactical properties of the ellipsis site are the properties encoded in the licensing head and those obtained by the recursive
copying of Agree relations in the antecedent site. This predicts that aspectual features in the ellipsis site may appear only if they are encoded in the antecedent site or if they are encoded in an Agree relation probed by the licensing head; the latter possibility implying that they are uninterpretable (for only interpretable features can surface on the licensing head).

Among such uninterpretable features which may be licensed by the ellipsis licensing head are verbal inflection pieces (agreeing with interpretable $\varphi$-features on the head), negative polarity items (agreeing with interpretable negation operators on the head), -en (whose uninterpretable nature can be deduced from its lack of semantic content and the fact that it is not repeated in fronted predicates constructions; see (Collins, 2005, Statements (24) and (25)) and (Rouveret, 2012, Section 5.4) for further discussions), or finiteness on T (agreeing with interpretable finiteness features on C). These features are thus predicted to be able to appear in the ellipsis site even if they absent in the antecedent site.

Conversely, excluded interpretable features include the interpretable features on T, such as modality or -ing (bearing an interpretable progressive feature). If hypothesis (24) is correct, there is thus an asymmetry between the ellipsis site, as an interpretable feature can of course be deleted, but can never appear. Note also that according to hypothesis (24), interpretable feature absent from the antecedent site cannot appear in the ellipsis site not so much because it impossible to delete them (this would be the usual deletion under identity formalization of ellipsis) - indeed, no deletion takes place according to the proposal of this manuscript - but rather because interpretable features cannot enter in agreeing relation with the licensing head.

There is broad empirical support for the predictions above: acceptable aspectual mismatches below precisely follow the theoretical outline above.

(62) (a) Cécile likes cheese but I don’t.
   (b) Marion didn’t bring any toy but Mathilde did.
   (c) Yanis will leave. Naïm has, already.

(63) (a) “I swear, the things she says, she’s going to drive me crazy.”
   “Maybe she has already.”
   (b) “I swear, the things she says, she’s driving me crazy.” “Maybe she
   has already.”
   (c) *“I swear, the things she says, she’s driven me crazy.” “Maybe she
   is right now.”

(64) (a) “You’re meeting Hermione Granger? Today?”
      “Yeah. Well, she asked me to, so I thought I would.”
(b) **"You will meet Hermione Granger? Today?" “Yeah. I thought I would be.”**

(65) (a) Decorating for the holidays is easy if you know how.
(b) I remember meeting him, but I don’t remember when.
(c) *Having to compromise is inevitable, but they have no idea who.
(d) *The message said to show up in the square at midnight, but it didn’t say who.

4.3 Island repair

Finally, I turn to the phenomenon of island repair in English Sluicing, and its lack of counterpart in English PAE and Japanese Sluicing. To recall the main facts, the aim is to explain the distribution of possible and impossible constructions in

(66) (a) *Which language do they want to hire someone who speaks?
(b) *They want to hire someone who speaks a Balkan language but I don’t know which Balkan language they want to hire someone who speaks.
(c) They want to hire someone who speaks a Balkan language but I don’t know which.
(d) They want to hire someone who speaks a Balkan language but I don’t know which Ben does [speak/*want to hire someone who speaks].

and

(67) (a) I heard that Hanako met a person who gave Taroo something, but I don’t know what.
(b) *(Japanese)* Hanako-ga Taroo-ni nanika-o ageta hito-ni atta sooda ga, watashi-wa nani ka shiranai.
Hanako-NOM Taroo-DAT something-ACC gave person-DAT met is said but, I-TOP what Q know.not.
(Intended) I heard that Hanako met a person who gave Taroo something, but I don’t know what.

I claim that these facts all follow from (24) and (28), once it is remembered that the recursive copying of Agree configuration is subject to locality conditions and proceed recursively starting from the core antecedent. I take the fact that a single general principle can explain with no extra stipulation the three asymmetries a) normal construction compared to sluiced constructions
(as in (66b) compared with (66c)) b) English sluicing compared to English PAE (as in (66c) compared with (66d)) and c) English sluicing compared to Japanese sluicing (as in (67a) compared with (17b)) as a strong empirical point in favor of (24) as an account of the syntactic construction of the ellipsis site.

Let us examine first the resolution of (66c). The licensing head which finds the indefinite DP a Balkan language as core antecedent. Henceforth, the recursive copying of Agree configuration proceeds from the bottom up and all relations involved are local relations of structural Case assignment or selection: a Balkan language is licensed by speak which is licensed by -s which selects the indefinite someone. At this point, the copied Agree configuration guarantees that all relevant uninterpretable features have been valued and the structure of the ellipsis site is valid in terms of narrow syntax.

However, the putative resolution of (66d) yielding the island-repairing interpretation would start with the core antecedent want and would proceed by selection and structural Case assignment relations down to the indefinite a Balkan language. At this point, the full Agree configuration of the core antecedent T-head on want has been copied, and yet none of the Agree relations that have been copied have licensed the wh-word which before the ellipsis site. Indeed, that the indefinite a Balkan language cannot do it is exactly what makes (15b) a syntactic island. Of course, this derivation having crashed, the alternative selection of the core antecedent speak proceeds with no difficulty.

Note, thus, that the exact same mechanism is at play in the syntactic resolution of (66c) and of (66d), namely recursive copying of Agree relations starting with the core antecedent. The asymmetry between these two cases is then seen to be entirely due to the different structural positions of the core antecedent. In a Sluicing, the copying of the Agree configuration relies exclusively on local operations, whereas in the case of PAE, there is a non-local operation. Note moreover that this non-local operation is precisely the same as in the non-elliptical case.

But why then isn’t the island repaired in (17b)? In the English case, the resolution starts with the licensing head what, which finds the core antecedent something, which has entered in an Agree relation with gave, which has entered in an Agree relation with who, which has entered in an Agree relation with a person, at which point all relevant uninterpretable features have been valued and the structure of the ellipsis site is valid in terms of narrow syntax. In Japanese, the resolution should proceed from the core antecedent nanika-o, which has been assigned structural Case assignment
by *age*- which has been selected by the **T**-head -*ta*. The difference between English and Japanese is that there are good independently required empirical and theoretical reasons to believe that there is no local relation between this **T**-head and the DP *hito* parallel to the one mediated by *who* between *someone* and *speaks* in (15c), and hence that the copying of the Agree configuration fails at this point. On the empirical side, notice that the reflexive anaphor *zibun* cannot be bound by an antecedent in a noun complement phrase. As seen in subsection 4.1.4, this indicates that the formal features of *zibun* do not move as high as the DP.

(68) (Japanese) *Tatsuki*-ga totta *zibun* no shashin.  
Tatsuki-NOM take-PAST himself-GEN picture.

(Intended) The picture of himself that Tatsuki took.

General theoretical considerations explain why this might be so. Japanese lacks a functional head **D**. According to the derivation of a Japanese noun complement phrase given in (Fukui & Takano, 2000), the N node *hito* consequently immediately dominates (and thus does not c-command) the TP as in the structure below shows.

```
NP
  └── TP
      └── *hito*

  └── v
      └── -*ta*

      └── PP
          └── *vn*

          └── Trace

      └── *vn*

      └── *nanika-o*

      └── *age-*

      └── *Taroo ni*

      └── *Tatsuki*-ni
```

Hence, *hito* does not c-command -*ta*. In contrast with the case of its English counterpart (17a) then, the **T**-head -*ta* is not licensed by *hito* in (17b). This is enough to prevent the proper construction of the ellipsis site and consequently to prevent the sluiced construction.

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22Example adapted from (Hoji, 1985).
5 Conclusion

Principle (24) accounts in a narrow syntactical way for several apparently unrelated empirical properties of elliptical constructions, including some - such as the complementary distribution of local binding of pronouns and sluicing, the differential acceptability of non-verbal antecedents in VP ellipsis or differential island effects between English, English sluicing and Japanese sluicing - that have been deemed mysterious both in semantic accounts of ellipsis and in the deletion under identity account of ellipsis. There are thus strong empirical reasons to believe that functional heads can keep the record of the recursive Agree relations they enter into. Parsimony and issues of learnability suggests that this record-keeping operation, the Agree configuration record operation, is a fundamental one in narrow syntax, rather than a specialized one exclusive to elliptical constructions. Both theoretical arguments and empirical observations - such as connectivity properties, verbal ellipsis with non-verbal antecedents, voice alternations and Case-free Sluicing of empty noun complement - suggest that the Agree configuration record operation is closely linked with structural Case assignment. This hypothesis in turns predicts attested subtle properties of elliptical constructions, such as the impossibility of Sluicing of direct objects in Frisian or the correlation between languages allowing Case-free Sluicing and languages with possessive anaphora.

References


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