The whole picture:
Disentangling locality, logophoricity and subjecthood in Picture Noun Anaphora*

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Since Warshawsky (1965) coined the term *picture nouns* to refer to phrases headed by representational nouns like *picture* or *story*, the behavior of anaphors within such phrases has remained an outstanding issue for theories of binding. In particular, reflexives and reciprocals in picture noun phrases (henceforth, *Picture Noun Anaphors* or *PNAs*) seem to routinely disobey the locality conditions imposed by Condition A of Binding Theory, as illustrated in (1)-(2).

(1) Tom$_i$ believes that there is a picture of himself$_i$ hanging in the post office.
(Jackendoff 1972: 133)

(2) [The men]$_i$ knew that there were pictures of [each other]$_i$ on sale.
(Pollard & Sag 1992: 267)

This type of observation led many (starting with Postal 1971[1] – see also Bouchard 1984, Rooryck & Vanden Wyngaerd 2011, among many others) to assume that PNAs form an exceptional class of anaphors. Drummond, Kush & Hornstein's (2010: 401) assumption is representative in this respect: "a reflexive within a picture noun phrase that is bound from outside its containing noun phrase is not a true reflexive subject to principle A. Rather, it is a pronominal with special logophoric requirements. This follows a long tradition of analysis [...]".

A closer look at the literature reveals that the two main theories of anaphor licensing do not, however, assign a specific status to PNAs. First, Chomsky (1981, 1986) supposes that just like any anaphor, PNAs obey Condition A of Binding Theory, and must thus be bound within the smallest phrase containing them and a subject distinct from them.[2] Chomsky further posits the possible presence of a PRO-like implicit subject within DPs to account for the fact that anaphors like *each other* in (3) (vs. (4)) are not in complementary distribution with pronouns as expected under the classical Binding Theory (see further discussion in section 1.1.1.3); the contrast between (3) and (4) derives from the meaning difference between *tell* and *hear*.

(3) a. They$_i$ heard stories about [each other]$_i$.
b. They$_i$ heard [PRO$_k$ stories about them$_i$]. (Chomsky 1986: 166-167)

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[1] Postal (1971: 12, fn. 6) explicitly argues that PNAs are not ordinary reflexives, so that their behavior should not motivate reformulation of the reflexivization rule (Lees & Klima's 1963 rule or any other version). This assumption contrasts with Jackendoff (1972) or Ross (1967, 1970), who (implicitly) suggest that PNAs should fall under the scope of the reflexivization rule, thus setting up the debate about PNAs until today.

[2] The formulation of Condition A provided in the text is a paraphrase of Chomsky (1981, 1986). The requirement for the binding domain of the anaphor to contain a subject distinct from the anaphor is introduced by the notion of accessible subject (where a subject is not accessible if the i-within-i filter is violated) in Chomsky (1981: 213-214, 1986: 173-174). This point is meant to explain the grammaticality of *each other* in sentences like (i), which involve an anaphor bound from outside the subject of an embedded clause. See fn. 12 for further discussion about this point.

(i) [The children]$_i$ thought that pictures of [each other]$_i$ were on sale. (Chomsky 1986: 173)

(4) a. They$_i$ told [(PRO$_i$) stories about [each other]$_i$].
b. *They$_i$ told [PRO$_i$ stories about them$_i$]. (Chomsky 1986: 166-167)

Second, predicate-based theories (henceforth PBTs – see Pollard & Sag 1992, Reinhart & Reuland 1993, and subsequent versions thereof) do not treat PNAs as a special class either. Unlike Chomsky, they argue that PNAs in possessorless DPs are exempt from Condition A, which they redefine as obligatory coargument binding (see further discussion in section 1.1.1.2). But in this respect, PNAs are no different from all other instances of anaphors lacking a coargument, such as (5)a (vs. (5)b). Exempt PNAs also pattern with other exempt anaphors in being subject to perspective-related discourse conditions: *himself* in (5)a, for example, is licensed by the fact that the clause containing it represents the point of view of the referent of its antecedent, *Max*.

(5) a. Max$_i$ boasted that the queen invited Lucie and himself$_i$ for a drink.
b. *Max$_i$ boasted that the queen invited himself$_i$ for a drink.
(Reinhart & Reuland 1993: 670)

On the other hand, PNAs in possessed DPs are assumed to be subject to Condition A (at least under early PBT versions treating possessors as subjects, see further discussion in section 1.1.2.1); in cases like (6)b, the PNA must therefore be bound by the possessor. According to PBTs, this explains the reported contrast between (6)a and (6)b.

(6) a. Lucie$_i$ liked a picture of herself$_i$.
b. */? Lucie$_i$ liked <u>your</u> picture of herself$_i$. (Reinhart & Reuland 1993: 682)

Thus, PNAs are consistently treated as *plain anaphors* (in Charnavel & Sportiche's 2016 terminology) under the Chomskian theory, while under PBTs, PNAs divide into plain anaphors in possessed DPs and *exempt anaphors* (in Pollard & Sag's 1992 terminology) in possessorless DPs. In both cases though, their occurrence within phrases headed by the descriptive class of picture nouns does not translate into a specific behavior.[3]

The nevertheless persistent idea of PNA exceptionalism may come from the failure of both theories to capture the full behavior of PNAs. As we will see, Chomsky's theory is indeed unable to predict the contrast between PNAs under different perspectival conditions. For example, his PRO-based hypothesis should presumably imply that *himself* will have the same status in (7) and in (1) as long as the author of the picture is the same in both sentences (see further discussion in

[3] Even if we will conclude that picture nouns do not analytically form a natural class for our purposes, we will nevertheless keep using the expressions *picture noun phrases* and *picture noun anaphors* (PNAs) throughout the article in a descriptive way. Further note that even descriptively, the class of picture nouns is not fully well defined. Warshawsky (1965) includes any noun referring to some form of "intellectual, creative or sensory activity" involving "a sense of communication", whether it is a nominalization (e.g. *description* or *comment*) or not (e.g. *picture* or *book*), and whether it takes the preposition *of* (e.g. *description* or *picture*) or *about* (e.g. *comment* or *book*). In the subsequent literature, it is however not always clear whether nominalizations are meant to be included in picture nouns. Conversely, nouns taking other prepositions than *of* or *about* (e.g. *agreement with* in Pollard & Sag 1992) seem to be sometimes included in the class of picture nouns. It also remains unclear whether anaphors that are not the direct object of the noun but occupy another position within the NP like the possessor position (e.g. *each other's pictures* in Pollard & Sag 1992) or the indirect object position (e.g. *letter to himself* in Ahn 2015) descriptively count as PNAs. For our purposes, it will be sufficient to focus on stereotypical PNAs whenever possible (e.g. *picture of herself* or *book about herself*) and discuss descriptively borderline cases (e.g. *letter to herself*) when analytically relevant.

section 2.2.3): in both, *himself* should only be acceptable if John took the picture, whether or not his point of view is represented in the clause, contrary to fact.

(7) *Mary said about John$_i$ that there was a picture of himself$_i$ in the post office.
(Kuno 1987: 126)

Such sensitivity of PNAs to point of view (argued by Kuno 1972, 1987; Cantrall 1974; Keenan 1988; Zribi-Hertz 1989; i.a.) is what motivated PBTs to develop a theory of exemption, under which *himself* in (1) and (7) is not subject to Condition A, but to perspective-based discourse conditions. But conversely, PBTs thereby fail to predict the different grammaticality status of PNAs under different syntactic conditions as shown (for French) by Charnavel & Sportiche (2016): in particular, the inanimate *elle-même* in (8), which lacks a coargument, should under PBTs be excluded in both (8)a and (8)b regardless of the position of its antecedent, given that inanimates cannot take perspective.

(8) a. [Cette loi]$_i$ a entraîné la publication d'un livre sur elle$_i$-même et sur son auteur.
'[This law]$_i$ led to the publication of a book about itself$_i$ and about its author.'
b. *[Cette loi]$_i$ est si importante que les journalistes prédisent la publication d'un livre sur elle$_i$-même et sur son auteur.
'*[This law]$_i$ is so important that the journalists predict the publication of a book about itself$_i$ and about its author.' (Charnavel & Sportiche 2016: 49)

The goal of this article, which will concentrate on English reflexives (leaving the investigation of reciprocals and crosslinguistic anaphors for future research), is to solve the long-standing puzzle of PNAs by integrating these various perspectives. As we will see, each of these theories provides valuable insight into the puzzle, but misses at least one crucial aspect of it. Instead, we propose a new combination of mostly existing ingredients that leads to a full solution to the PNA puzzle without assigning an exceptional status to PNAs.

In line with Chomsky (vs. PBTs), we argue that PNAs, just like any anaphor, are uniformly subject to Binding Theory: Condition A suffers no exception (and is antecedent-based). We also agree with PBTs (vs. Chomsky) that, descriptively speaking, anaphors exhibit a heterogeneous behavior, being either plain or exempt. To resolve this apparent paradox, we adopt Charnavel's (2020a-b) hypothesis that the descriptive heterogeneity of anaphors can be reduced to the heterogeneity of their local binders. In particular, besides standardly postulated binders, anaphors – including PNAs – can take covert logophoric binders, which syntactically represent the locally relevant perspective center. Thus, anaphors that are descriptively exempt in fact covertly comply with Condition A.

Charnavel's logophoric A-binder solution is not sufficient to fully solve the PNA puzzle, however. As we will see, there is another factor at stake – hinted at by both Chomsky and PBTs, albeit in very different ways – which further complexifies the superficial behavior of PNAs: as shown by (5)b (vs. (5)a), English anaphors cannot always be logophorically bound even under appropriate discourse conditions. We will attribute this fact to an independent constraint, which, descriptively, blocks logophoric binding in the presence of a coargument subject. The theoretical relevance of subject coargumenthood for English reflexives – outside PBTs – is demonstrated in

Ahn (2015), which distinguishes anaphors that are bound by a coargument subject from other anaphors on the basis of prosody-based diagnostics. To explain the blocking of logophoric binding in sentences like (5)b, we propose to complement this insight with a strong/weak competition hypothesis à la Cardinaletti & Starke (1994/1999): the apparent competition between some binders (i.e. logophoric binder and coargumental subject) in fact results from a competition between some possible bindees (strong *herself* vs. weak *herself* and weak *her*), which falls under a general competition principle between weaker and stronger forms. This hypothesis thus partly reintegrates in the account of PNAs both the relevance of coargumenthood, which is at the root of PBTs, and the possible presence of implicit PRO-like subjects within nominals, which is crucial to the Chomskian theory.

In sum, the seemingly heterogeneous distribution of the descriptive class of PNAs illustrates how the interaction between simple and general principles – Condition A, logophoricity, weak/strong competition – can yield superficially complex behaviors. Such apparent complexity, in our opinion, does not warrant a relaxation of parsimony or rule generality, but a disentanglement of the various interacting factors.

The outline of the paper is as follows. The first part will consist in unifying the descriptively double (plain/exempt) behavior of PNAs by adapting to English PNAs Charnavel's (2020a-b) logophoric A-binder hypothesis, which reduces exempt to plain behavior (as roughly represented in (9)b as compared to (9)a).

(9) a. ... [$_{XP}$ DP_i X ... picture of herself$_i$ ...]
b. ... (DP_i) ... [$_{XP}$ $pro_{log\text{-}i}$ DP_k X ... picture of herself$_i$ ...]

This will require re-examining the various properties purported to distinguish between plain and exempt anaphors and determining which of these properties actually characterize PNAs in various syntactic contexts. In particular, we will need to independently determine the definition of the local domain relevant to Condition A (schematized as XP in (9)), as well as the notion of logophoricity relevant to apparent exemption. To this end, we will mainly follow – and thus support – Charnavel & Sportiche (2016)'s and Charnavel (2020a-b)'s proposals.

In the second part of the paper, we will investigate the blocking of logophoric binding by the presence of (overt or covert) coargument subjects (i.e. explore the conditions of application of cases (10)a vs. (10)b).

(10) a. ... (DP_i) ... [$_{XP}$ $pro_{log\text{-}i}$ DP_k X [$_{NP}$ ... picture of herself$_i$ ...]]
b. ... (DP_i) ... [$_{XP}$ ... [$_{NP}$ DP_i/$pro_{subj\text{-}i}$ picture of herself$_i$ ...]]

To establish the generalization, we will first concentrate on the verbal domain, where the obligatory overtness of subjects removes a complicating factor. The generalization will be explained using Ahn's (2015) discovery about the prosodically special behavior of coargument subject bound anaphors and Cardinaletti & Starke's (1994/1999) general principle of competition between weaker and stronger forms. We will then come back to the nominal domain where we will explore the consequences of this competition when the possible implicitness of nominal subjects is added to the general picture.

1. Unifying plain and exempt PNAs: the logophoric A-binder hypothesis

PNAs have received specific attention in the literature because, unlike other anaphors, they seem to be generally exempt from the structural conditions of locality defined by Condition A of Binding Theory. The goal of this section is to challenge this claim on both descriptive and analytical levels. Descriptively (section 1.1), PNAs can in fact be plain or exempt; we reach this conclusion by re-examining their distribution using a criterion independent of Condition A (i.e. Charnavel & Sportiche's 2016 inanimacy-based tool) to distinguish between plain and exempt instances of anaphors. Analytically (section 1.2), PNAs are in fact never exempt, but consistently obey Condition A; we obtain this result by adopting Charnavel's (2020a-b) logophoric A-binder hypothesis, which reduces exempt behavior to local binding by an implicit logophoric binder. This hypothesis correctly predicts the descriptively dual behavior of PNAs without, crucially, postulating any kind of homophony or restricting the scope of Condition A.

1.1. The descriptively dual behavior of Picture Noun Anaphors (PNAs)

1.1.1. PNAs in possessorless DPs

In this section, we concentrate on the prototypical case of PNAs, namely reflexives in picture noun phrases that lack a possessor (henceforth *possessorless PNAs*), and we show that descriptively, they are neither uniformly plain anaphors as implied by the Chomskian theory, nor uniformly exempt anaphors as implied by predicate-based theories, but exhibit a dual behavior. Recall that by *plain* anaphors, we mean anaphors that standardly obey Condition A and by *exempt* anaphors, anaphors that seem to disobey Condition A; as we will see, the content of these terms thus depends on the definition of Condition A, and the bulk of our argumentation challenging the earlier literature will consist in finding a way of defining Condition A and exemption independently in order to avoid any circularity.

1.1.1.1. Possessorless PNAs as exempt under the classical view of exemption

As previewed in Table 1 and detailed below, possessorless PNAs are usually claimed to exhibit four distributional properties that distinguish them from plain anaphors (see Bouchard 1984, Lebeaux 1984, i.a.). It is generally assumed that possessorless PNAs are not unique in this respect, but share these characteristics with other instances of anaphors, in particular those within a conjoined DP (e.g. *Mary and herself*), within *like*-phrases (e.g. *physicists like herself*), within *as for*-phrases (e.g. *as for herself*) or within exceptive constructions (e.g. *no one but herself*) (see Ross 1970; Kuno 1972, 1987; Keenan 1988; i.a.).

	possessorless PNAs (and other exempt anaphors)	**plain anaphors**
local binding	non-obligatory	obligatory
split antecedents	possible	impossible
strict readings	possible	impossible
complementarity with pronouns	non-obligatory	obligatory

Table 1- Purported specific distributional properties of possessorless PNAs

First, as mentioned at the start, it has been observed that possessorless PNAs need not be locally bound (see Helke 1970, Ross 1970, Jackendoff 1972, Cantrall 1974, Lebeaux 1984, Bouchard 1984, Kuno 1987, Zribi-Hertz 1989, Pollard & Sag 1992, Reinhart & Reuland 1993, i.a.). Example (11) below shows that *himself* need not be c-commanded by its antecedent; example (1) above illustrates that the antecedent of *himself* does not have to be in the smallest clause containing it, and example (12) that the antecedent does not even have to be within the same sentence. These reflexives thus appear to escape the locality conditions on anaphors under any definition of locality.

(11) The picture of himself$_i$ in Newsweek dominated John$_i$'s thoughts.
(Pollard & Sag 1992: 278)

(12) John$_i$ was going to get even with Mary. That picture of himself$_i$ in the paper would really annoy her, as would the other stunts he had planned. (Pollard & Sag 1992: 274)

Importantly, these examples remain apparent exceptions to Condition A even if we extend Chomsky's PRO-based solution to them.[4] Recall that in (3)-(4) above, Chomsky assumes that the DP containing the picture noun can include a PRO-like subject that can serve as binder of the anaphor. Applying this hypothesis to examples like (1), (11) or (12) would imply that it is the referent of the antecedent of the reflexive that took the picture.[5] But crucially, these examples do not require this type of interpretation: for instance, (11) is perfectly acceptable in a context where John is not the author of the picture (this is in fact the most natural interpretation). That is not to say that Chomsky's hypothesis must be abandoned without further discussion. We will see in section 2.2.3 that it is in fact part of the solution. But the acceptability of these examples under a non-agentive interpretation of the antecedent shows that an extension of Chomsky's hypothesis is not sufficient to account for all instances of non-locally bound PNAs. The aim of this first part of the paper is to investigate the cases that cannot fall under the Chomskian explanation; unless otherwise stated, all examples should therefore be read under the aforementioned non-agentive interpretation.

Second, possessorless PNAs are claimed to contrast with plain anaphors in allowing split antecedents (see Helke 1970, Lebeaux 1984, Bouchard 1984, Pollard & Sag 1992, i.a.).

(13) a. John$_i$ told Mary$_k$ that there were some pictures of themselves$_{i+k}$ inside.
b. *John$_i$ told Mary$_k$ about themselves$_{i+k}$. (Lebeaux 1984: 346)

Third, it is often assumed that possessorless PNAs can trigger sloppy or strict readings in ellipsis contexts, while plain anaphors only exhibit sloppy readings (see Bouchard 1984, Lebeaux 1984, Reinhart & Reuland 1993, Kiparsky 2002, Runner et al. 2002, i.a.).

[4] This point, which is sometimes overlooked, was made explicitly (in passing) by e.g. Lebeaux (1984: 347-348), Kuno (1987: 170-172), Pollard & Sag (1992: 268-269) and Reinhart & Reuland (1993: fn. 29).

[5] Chomsky's discussion of examples (3)-(4) implies that he takes PRO within nominals to be interpreted as an agent of the predicate denoted (or implied) by the noun (e.g. the teller of the story in (3)-(4)). This assumption remains widespread in the subsequent literature. See further discussion in sections 2.2.2-2.2.3.

(14) John$_i$ thought that there were some pictures of himself$_i$ inside, and Bill did too.
a. Bill thought that there were some pictures of himself inside too.
b. Bill thought that there were some pictures of John inside too. (Lebeaux 1984: 346)

(15) John$_i$ hit himself$_i$, and Bill did too.
a. Bill hit himself too.
b. #Bill hit John too. (Lebeaux 1984: 346)

Finally, it is commonly supposed that possessorless PNAs, unlike plain anaphors, are in free variation with pronouns (see Jackendoff 1972, Lebeaux 1984, Chomsky 1986, i.a.).

(16) a. John$_i$ knew that there were some pictures of {himself$_i$/him$_i$} inside.
b. John$_i$ likes {himself$_i$/*him$_i$}. (Lebeaux 1984: 346)

1.1.1.2. Possessorless PNAs as exempt under PBTs' account of exemption

These four purported distributional properties of PNAs and other instances of anaphors, which are properties of pronouns, have caused a widespread and persistent assumption that PNAs are in fact not real anaphors, but pronouns (see Bouchard 1984, Safir 2004, Drummond, Kush & Hornstein 2010, Rooryck & Vanden Wyngaerd 2011, i.a.). However, this hypothesis implies some kind of lexical ambiguity or homophony: English *herself* would have two – related – lexical entries, one for plain behavior, one for exempt behavior. This assumption clearly goes against parsimony, especially since the generalization holds cross-linguistically: it is not just in English, but also in many other unrelated languages like Chinese, Korean or Turkish, that reflexives exhibit a dual behavior (see review in Charnavel 2020a).

Instead of postulating homophony between an anaphor *herself* and a pronoun *herself*, PBTs (Pollard & Sag 1992, Reinhart & Reuland 1993, i.a.) develop a theory of exemption that restricts the scope of Condition A. Under this proposal, Condition A, which is redefined as a condition on predicates rather than a condition on antecedence, requires that anaphors be bound by a syntactic coargument.[6] Crucially, this implies that anaphors lacking a coargument, such as possessorless PNAs that are the only argument of the picture noun, are exempt from Condition A. Such exempt anaphors, PBTs argue, are only subject to discourse conditions related to perspective.[7] Indeed, it has long been observed that possessorless PNAs and other exempt anaphors are licensed in clauses expressing the point of view of their antecedent (Kuroda 1965, 1973; Kuno 1972, 1987; Cantrall

[6] This paraphrase of PBT Condition A glosses over some differences across accounts. In particular, Pollard & Sag (1992: 287) hypothesize that only less oblique coarguments are relevant; this implies that subject anaphors (e.g. *each other's pictures*) are exempt, contrary to what is predicted by Reinhart & Reuland (1993). Conversely, Reinhart & Reuland (1993: 678) assume that coargumenthood is only relevant in syntactic predicates, which must contain a subject; this implies that anaphors with an object coargument but no subject coargument (e.g. *a letter to John about himself*) are exempt, contrary to what is predicted by Pollard & Sag (1992). These variations in predictions will be taken into consideration when relevant to the argumentation.

[7] More specifically, Pollard & Sag (1992: 271-279) assumes both processing (i.e. intervention) and discourse (i.e. point of view) constraints on exempt anaphors, while Reinhart & Reuland (1993: 672-673) supposes that the main (but non-exhaustive) uses of exempt anaphors (*logophors*, in their terms) are perspective and focus uses. Based on the rest of the literature on the discourse constraints on exempt anaphors (see review in Charnavel 2020a and references therein, some of which are mentioned in the text above), we subsume intervention under perspectival constraints and exclude focus uses: as argued in Charnavel (2020a: 36-39), focus is neither sufficient nor necessary for exemption.

1969, 1974; Clements 1975; Sells 1987; Zribi-Hertz 1989, i.a.). This generalization, exemplified by the contrast between (1) and (7) above, is also illustrated by the contrast between (12) and (17).

(17) Mary was quite taken aback by the publicity John$_i$ was receiving. That picture of him(*self$_i$) in the paper had really annoyed her, and there was not much she could do about it. (Pollard & Sag 1992: 274)

PBTs thus directly account for the first distributional property of possessorless PNAs mentioned above: possessorless PNAs need not be locally bound since, in the absence of a coargument, they are exempt from Condition A. The second property of PNAs, namely the acceptability of split antecedence, also follows from PBTs, according to Pollard & Sag (1992: 270): exempt anaphors, which are not subject to Condition A, are free to refer to a group entity formed in the discourse, regardless of whether this entity is expressed as a single DP in the syntax. The availability of strict readings, Reinhart & Reuland (1993: 674) claim, is also accounted for under their theory (complemented with Rule I, see e.g. Grodzynsky & Reinhart 1993): possessorless PNAs, which are exempt from Condition A, can be related to their antecedent either by variable binding or by coreference, whereas anaphors with a coargument, which obey Condition A and must thus be coindexed with a coargument, can only be interpreted by variable binding. As for non-complementarity between PNAs and pronouns, it is also predicted by PBTs: given that PBT Condition B forbids pronouns from being bound by coarguments, it follows that exempt anaphors, which by definition lack a coargument, can alternate with pronouns (under appropriate discourse conditions). Furthermore, the distinction between syntactic and semantic coarguments made by Reinhart & Reuland (1993) explains the contrast between (3), where the PNA alternates with the pronoun, and (4), where it does not: in sentences like (4), the pronoun, unlike the reflexive, is ruled out by the semantic representation of the agent role associated with the picture noun, because only Condition B (vs. Condition A) is sensitive to semantic co-argumenthood.[8]

1.1.1.3. Possessorless PNAs as plain or exempt under Charnavel & Sportiche's 2016 approach to exemption

Because PBTs redefine Condition A as obligatory coargument binding, the core property held to be responsible for the exempt behavior of possessorless PNAs is their lack of a coargument. But PBTs thereby use the same criterion – namely coargumenthood – both to define Condition A and to determine exemption from it. As argued in detail in Charnavel & Sportiche (2016) based on French anaphors, this approach, which presents a risk of circularity, is empirically incorrect; we confirm this conclusion below on the basis of English PNAs. Instead, Charnavel & Sportiche (2016) propose a criterion independent of Condition A to descriptively tease apart plain and exempt anaphors, namely inanimacy. Their reasoning is based on the widespread observation (also adopted by PBTs) that, cross-linguistically, exempt reflexives are subject to logophoric conditions, i.e. their clause must express the point of view of their antecedent (see aforementioned references).

[8] Reinhart & Reuland's (1993: 685-686) solution is thus in some sense similar to Chomsky's (1986) PRO-based solution mentioned above: instead of positing the syntactic presence of a PRO subject in the subject of picture nouns complements of verbs like *tell* (*a story*) or *take* (*a picture*), they assume (inspired by Williams 1985) that the agent role of these nouns in these configurations is present semantically although it is not syntactically realized.

Given the controversial and often imprecise definition of logophoricity (see review in Charnavel 2020a), this notion cannot be directly used to detect exempt anaphors. But non-logophoricity, Charnavel & Sportiche (2016) argue, can conversely be used to identify plain anaphors. Specifically, they hypothesize that inanimate anaphors cannot be logophoric, as by nature they lack a mental state, which is required to take perspective under (virtually[9]) all definitions of logophoricity, and therefore are not eligible for exemption.

This inanimacy-based tool can be used to re-examine the distributional properties of possessorless PNAs. It reveals that, contrary to the predictions of PBTs, possessorless PNAs do not consistently exhibit an exempt behavior. First, inanimate possessorless PNAs do obey locality conditions:[10] unlike *himself* in (1), (11) or (12) above, *itself* must be bound within the smallest tensed TP or within the smallest XP with a subject distinct from it, as illustrated in (18).[11] This matches the generalization that Charnavel & Sportiche (2016) formulate on the basis of French inanimate anaphors in general (not just PNAs), which leads them to redefine Condition A as obligatory binding within the spellout domain of the anaphor.[12]

(18) a. [The witty play]$_i$ inspired a parody of itself$_i$.
b. *[The witty play]$_i$ inspired {many theaters/Bob} to present a parody of itself$_i$.
c. *The controversies surrounding [the witty play]$_i$ inspired a parody of itself$_i$.

Second, inanimate possessorless PNAs must be exhaustively bound. For example, unlike animate *themselves* in (13) and (19)b, inanimate *themselves* in (19)a cannot take a split antecedent.

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[9] One type of perspective does not require a mental state, namely spatial perspective, which only relies on physical location and orientation. Spatial perspective is sometimes subsumed under logophoricity as in Sells (1987: 456), which defines one logophoric roles (i.e. Pivot) as the center of deixis "in a very physical sense", even if inanimates are not discussed. But Charnavel (2020ab) demonstrates that pure deictic perspective is in fact not sufficient for exemption, which requires mental perspective (i.e. attitude or empathy, as will be discussed in section 1.2.1). Here, we will simply avoid contexts involving spatial perspective.

[10] The few examples of inanimate PNAs mentioned in the literature (by e.g. Minkoff 1994, 2000, 2004; Postal 2006) support this generalization.

(ii) *That ugly picture of itself$_i$ hurt [the car]$_i$'s steering wheel (by falling on it). (Minkoff 1994: 127)

(iii) a. [Winston Q. Felix]$_i$ insisted that any criticisms of himself$_i$ would be based on prejudice.
b. [*The Nature of It All*]$_i$ insisted that any criticisms of it$_i$(*self) would be based on prejudice.
c. [Winston Q. Felix]$_i$ rejected in advance future criticisms of himself$_i$.
d. [*The Nature of It All*]$_i$ rejected in advance future criticisms of it$_i$(self). (Postal 2006: 11)

Note though that the antecedent of *itself* in Postal's (2006) examples is not strictly inanimate: the choice of verbs (*insist*, *reject*) suggests that *The Nature of It All*, which is meant to be the title of a book, could arguably stand for its author. Such cases raise interesting questions about the notion of inanimacy, which we leave for future research. Here, we simply avoid these cases by restricting ourselves to inanimate anaphors with clearly non-mental antecedents.

[11] Unless otherwise noted, examples are our own and the judgments indicated reflect those of several native speakers of American English including the second author. As is standard, we use 'ok/*' to indicate contrasts in acceptability rather than absolute grammaticality judgements.

[12] Charnavel & Sportiche's (2016) generalization differs in only one respect from Chomsky's (1986): according to them, anaphors in tensed TPs must be bound within that TP whether or not the subject is distinct from the anaphor. This predicts that anaphors in sentences like (i) in fn. 2 are descriptively exempt from Condition A contrary to Chomsky's predictions. This modification, which is empirically motivated by the fact that inanimate anaphors are unacceptable in that configuration, allows them to appeal to the notion of spellout domain to formulate Condition A.

(19) a. *After the renovation of [the castle]$_i$, [the museum next to it]$_k$ had pictures of themselves$_{i+k}$ printed.
b. After John$_i$ graduated high school, [his mom]$_k$ had pictures of themselves$_{i+k}$ printed.

These distributional differences between inanimate and animate possessorless PNAs are not predicted by PBTs. According to them, all possessorless PNAs should be exempt from Condition A, whether animate or not, since they all lack a coargument. Certainly, PBTs argue that exempt anaphors are subject to perspective-related discourse conditions, which could presumably rule out examples (18)b-c and (19)a as we will in fact argue in section 1.2.1). But crucially, examples like (18)a (see also (21)-(22) and (24) below) should similarly be ruled out under PBTs since they also contain non-perspectival anaphors without coarguments. Application of the inanimacy-based tool to possessorless PNAs thus reveals that the dividing line between plain and exempt anaphors should not be based on coargumenthood. In fact, all the observations above also hold for all other types of anaphors without coarguments, as shown in (20), for example.

(20) a. [The witty play]$_i$ refers to itself$_i$ and its author.
b.*[The witty play]$_i$ led {Bob / newspapers} to provide information about itself$_i$ and its author.

The correct generalization, then, should be formulated as follows: all inanimate anaphors must be locally and exhaustively bound, but some animate anaphors (i.e. perspectival ones, see section 1.2.1) need not be locally or exhaustively bound. Possessorless PNAs are not special in any way, but exhibit this dual plain/exempt behavior accordingly.

With respect to the remaining two purported specific distributional properties of exempt anaphors, inanimate possessorless PNAs pattern with animate ones: as illustrated in (21)-(22), they can trigger strict readings and alternate with pronouns. As we show below, this fact does not indicate that possessorless PNAs are exempt, but rather, that these two properties do not accurately distinguish exempt from plain anaphors.

(21) [The castle]$_i$ contains more replicas of itself$_i$ than the museum does [*contain replicas of it$_i$*].
(22) [This mysterious ruin]$_i$ inspires many legends about it$_i$(self).

First, it is not the case that plain anaphors only trigger sloppy readings, whether we adopt a predicate-based or a Chomskian version of Condition A. Pollard and Sag (1992: 270, fn.9) themselves argue that a strict interpretation is favored in examples like (23), even if *himself* has a coargument (see more such examples in Dahl 1973, Sag 1976, Fiengo & May 1994, Hestvik 1995, Kehler 2002, Büring 2005, as well as in recent experiments like Frazier and Clifton 2006, Kim & Runner 2009, Ong & Brasoveanu 2014 or McKillen 2016).[13]

[13] Reinhart & Reuland (1993: 674-675) attempts to account for such examples by appealing to focus as a licensing factor for exemption: according to them, it is because they are focused that the anaphors in such examples can trigger strict readings despite the presence of a coargument. However, as argued in Charnavel (2020a: 36-39), focus is neither sufficient or necessary for exemption. That said, Reinhart & Reuland's empirical observation may be relevant to accounting for the availability of strict readings in some cases. As we will show in section 2, descriptively exempt anaphors must be strong due to weak/strong competition independent of Condition A. Given that such competition only arises if the interpretation remains the same, the possibility of strict readings in ellipsis may license a strong form

(23) If John$_i$ doesn't prove himself$_i$ to be innocent, I'm sure that the new lawyer he$_i$ hired will [*prove him$_i$ to be innocent*].

Furthermore, the same observation crucially holds with inanimate anaphors as shown in (24). This reveals that the availability of strict readings in examples like (23) is not due to the anaphor being in fact exempt (from Chomskian Condition A) due to their perspectival potential.

(24) Mercury$_i$ attracts itself$_i$ less than silver does [*attract it$_i$*].

Charnavel & Sportiche's (2016) inanimacy-based tool thus reveals that exemption is irrelevant to the availability of strict readings (though what factors are relevant remains to be found).

Second, it is not the case either that plain anaphors are in complementary distribution with pronouns – neither under PBTs, nor under Charnavel & Sportiche's (2016) proposal. Inanimate anaphors, whether or not they have a coargument, can alternate with pronouns, as illustrated in (25) (see more examples in Cantrall 1974, Minkoff 2000, Charnavel 2020a, i.a.).

(25) [That magnet]$_i$ attracts paper clips to it$_i$(self). (Minkoff 2000: 584-585)

In sum, only two distributional properties reliably distinguish exempt from plain anaphors, as summarized in Table 2.

	exempt anaphors (including some possessorless PNAs)	**plain anaphors (including some possessorless PNAs)**
local binding	non-obligatory	obligatory
non-exhaustive binding	possible	impossible

Table 2- Distributional properties distinguishing exempt from plain anaphors

Crucially, in contrast with the predictions of both Chomsky (1986) and PBTs, possessorless PNAs can behave as plain or exempt with respect to these two properties. The descriptive generalization we have reached in this section is thus the following:

(26) <u>*Descriptive generalization about possessorless PNAs*</u>:
Inanimate PNAs must be locally and exhaustively bound within their spellout domain, whereas some animate PNAs need not be.

1.1.2. PNAs in possessed DPs

1.1.2.1. Locality constraints of possessed PNAs in previous studies

As mentioned above, the distribution of PNAs is typically discussed in configurations in which the reflexive is the only phrase within the DP. In particular, overt possessors are usually excluded from examples involving PNAs because it is traditionally assumed that only possessorless PNAs exhibit an exceptional behavior. In fact, Chomsky's solution for (3)-(4) relies on a comparison with (27)-(28), which contain an overt possessor and are treated as baseline examples. Under the Chomskian theory, the presence of an overt possessor (in the specifier of DP) restricts the binding domain of a PNA to the DP containing it; PNAs in possessed DPs (henceforth, *possessed PNAs*) can thus only be bound by the possessor as in (29).

where it is usually not licensed and thus give rise to the illusion that focus licenses exemption. Thus, our findings ultimately suggest a way to account for the ellipsis facts, but a full exploration is beyond the scope of this article.

(27) a. *They$_i$ heard [my stories about [each other]$_i$].
b. They$_i$ heard [my stories about them$_i$]. (Chomsky 1986: 166)
(28) a. *They$_i$ told [my stories about [each other]$_i$].
b. They$_i$ told [my stories about them$_i$]. (Chomsky 1986: 166-167)
(29) They$_i$ {heard/told} [their$_i$ stories about [each other]$_i$].

Possessed PNAs have received more attention in PBTs. In early versions of the theory (Pollard & Sag 1992, Reinhart & Reuland 1993), possessed PNAs are treated as plain anaphors (just like under the Chomskian theory) on the basis of reported contrasts like (6)a vs. (6)b above or (30)a vs. (30)b below. These contrasts are predicted under PBTs by the hypothesis that the possessor is a subject of the nominal predicate.[14]

(30) a. John$_i$'s description of himself$_i$ was flawless.
b. *The fact that Mary$_k$'s description of himself$_i$ was flawless was believed to be disturbing John$_i$. (Pollard & Sag 1992: 265)

But these contrasts are not robust, as already suggested by Reinhart & Reuland (1993: 683, citing Ben-Shalom & Weijler 1990 and speculating that NPs may thus in fact never contain a subject, as proposed by Williams 1985[15]). In fact, many experimental studies (Keller & Asudeh 2001, Asudeh & Keller 2001; Runner, Sussman & Tanenhaus 2002, 2003, 2006; Jaeger 2004; Runner & Kaiser 2005; i.a.) have since found that possessed PNAs can be bound from outside their picture NP. For example, the magnitude estimation technique used by Keller & Asudeh (2001: 7) reveals no significant acceptability difference between (31)a and (31)b, which are both highly acceptable.

(31) a. Hannah$_i$ found Peter$_k$'s picture of herself$_i$.
b. Hannah$_i$ found Peter$_k$'s picture of her$_i$. (Keller & Asudeh 2001: 5)

According to these experimental studies, the empirical observations in (31) do not challenge PBTs, but the status PBTs assign to the possessor. Building on Williams (1985) and Barker (1995), Asudeh & Keller (2001) argues that the possessor is not an argument of the head noun (cf. Keller & Asudeh 2001, Runner & Kaiser 2005, i.a.). Under that revised assumption, possessed PNAs do not have any coarguments. They are thus predicted to be exempt and, therefore, able to take an antecedent outside their DP (under appropriate discourse conditions).

[14] Depending on the specific account (see fn. 6), this prediction results from Pollard & Sag's (1992: 266) hypothesis that the possessor is the least oblique argument within an NP, or from Reinhart & Reuland's (1993: 682-683) hypothesis that the presence of a subject in the NP causes the noun to form a syntactic predicate. These two versions of PBT also make different predictions about anaphors that are themselves the possessor: they are exempt anaphors in Pollard & Sag (1992: 264-266), but plain anaphors in Reinhart & Reuland (1993: fn. 4, 39; but see fn. 15). We predict that English possessive anaphors like *her/his/its own* and *each other's* exhibit a dual (plain/exempt) behavior (cf. French *son propre* in Charnavel & Sportiche 2016), but a detailed investigation of this prediction is beyond the scope of this article, which focuses on PNAs in the narrow sense.

[15] Under that revised assumption, possessed PNAs are thus exempt and the variation in judgments, Reinhart & Reuland (1993: 683) further suggests, may be due to the discourse accommodation required by logophors (cf. Kuno 1987: 75, 169). Pollard & Sag (1992: 278) also mention some examples of possessed PNAs bound from outside their DP, which are discussed in Zribi-Hertz (1989) and attested in the works of various British writers; according to them, the acceptability of these anaphors is to be related either to differences among varieties of English with respect to Condition A or to the possibility of relaxing Condition A in highly stylized narrative.

Inspired by Reinhart & Reuland (1993: fn. 49) and Runner (2007), Reuland (2011: 254) presents another solution to the issue, which relies on a modification of PBT Condition A: obligatory coargument binding only applies to eventive predicates.[16] What this hypothesis predicts for PNAs depends on the extent to which (some) picture nouns can be treated as eventive. Reuland (2011: 254-255, 381-382 fn.7-8) does not investigate in detail the question, but suggests three possibilities. Under the first option, nouns never have an eventive role, which makes the same prediction as the previous hypothesis: all possessed PNAs are exempt. Under the second option, only Grimshaw's (1990) complex event nominals are eventive; this predicts that possessed PNAs are generally exempt, except for anaphors in complex event nominals. This prediction is supported by the contrast between sentences like (31)a and sentences like (32)a-b.

(32) a. *Jill$_i$ found Matt$_k$'s fear of herself$_i$ surprising.
b. *Joanna$_i$ was irritated by Mark$_k$'s pride in herself$_i$.
(Runner 2007: 83, Sturgeon 2002: 508, fn. 10)

Under the third option, only concrete nominals, which denote a physical object, lack an event role. Concrete nominals contrast with both complex event nominals and result nominals, which denote the informational content of the object (see Davies & Dubinsky 2003). This hypothesis predicts that only possessed PNAs in concrete nominals are exempt. Reuland (2011) mentions as support for this hypothesis the contrast between (33)a and (33)b, noted in Runner (2007: 83).[17]

(33) a. ✓/? Joe$_i$ destroyed Harry$_k$'s book about himself$_i$.
b. ?/* Joe$_i$ wrote Harry$_k$'s book about himself$_i$. (Runner 2007: 84)

In sum, while the Chomskian theory and early PBTs predict possessed PNAs to be obligatorily bound by the possessor due to Condition A, later PBTs consider either all possessed PNAs (Keller & Asudeh 2001, Runner & Kaiser 2005, i.a.) or only non-eventive possessed PNAs (Runner 2007, Reuland 2011, i.a.) to be exempt from Condition A.

1.1.2.2. Re-examining the locality constraints of possessed PNAs

The difficulty in pinning down the status of possessed PNAs is due to the controversy surrounding several variables simultaneously: the definition of Condition A, the potential conditions for exemption from it, the status of the so-called possessor. As in the case of possessorless PNAs, Charnavel & Sportiche's (2016) inanimacy-based tool can be used to at least partially settle the

[16] Reuland (2011: 255) speculates that having an eventive role and projecting a subject may be two sides of the same coin. In that case, the revised formulation of Condition A based on predicates with an eventive role is equivalent to the original formulation based on predicates with a subject, and the discussion in the text amounts to the following question: to which extent do (some) picture nouns have a subject? Note that we will reexamine this question in section 2.2 from a different angle.

[17] According to Runner (2007) (reinterpreting Davies & Dubinsky's 2003 proposal that takes result nominals to have non-argument participants and concrete nominals to have no participants), these two different interpretations of picture nouns correlate with two different argument structures: result nominals, but not concrete nominals, take arguments. Under his version of PBT Condition A (requiring binding by a higher coargument as in Pollard & Sag 1992), this predicts (just like Reuland's 2011 third hypothesis discussed in the text) that only possessed PNAs within concrete nominals are exempt. As we will discuss in section 2.2.4, example (33)b, which is supposed to confirm the prediction, presents a crucial confound: it involves the creation verb *write*.

issue by providing a criterion independent of Condition A to tease apart plain and exempt anaphors.[18]

Specifically, the inanimacy-based tool can be used to test late PBTs' hypothesis that possessed PNAs are (at least sometimes) exempt. Given that, as we saw, inanimates are non-perspectival and thus ineligible for exemption, this hypothesis predicts that inanimate possessed PNAs should never be acceptable. But the contrast between (34) and (35) shows that this prediction is not borne out: only inanimate possessed PNAs that are bound across the possessor are unacceptable. This is true even in concrete nominals ((34)b vs. (35)b), contrary to the most conservative prediction of Reuland (2011).

(34) a. *[The castle]$_i$ looks very different from Mary's replica of itself$_i$.
b. *[The castle]$_i$ collapsed on Mary's replica of itself$_i$.
(35) a. Mary was impressed by [the castle]$_i$'s replica of itself$_i$.
b. Mary polishes [the castle]$_i$'s replica of itself$_i$.

Note that Reuland's (2011) hypothesis further implies that animate possessed PNAs pattern differently in eventive and in non-eventive picture nouns. Under his suggestion that result nominals, but not concrete nominals, are eventive, this hypothesis incorrectly predicts a contrast between (36)a and (36)b.[19]

(36) a. Ben$_i$ said that he liked Amanda$_k$'s picture of himself$_i$.
b. Ben$_i$ said that he destroyed Amanda$_k$'s picture of himself$_i$.

Hence, the locality constraints on possessed PNAs do not depend on the nature of the noun predicate, as implied by the latest PBTs, but on the (perspectival vs. non-perspectival) interpretation of the reflexive: just like possessorless PNAs, possessed PNAs exhibit a dual (plain vs. exempt) behavior irrespective of the interpretation of the picture noun. Specifically, plain possessed PNAs like *itself* in (34)-(35) must be bound by the possessor, while exempt possessed PNAs like *himself/herself* in (31)a, (33)a and (36) need not be bound by the possessor. This observation supports the Chomskian notion of locality revisited by Charnavel & Sportiche (2016): the presence of a so-called possessor does turn the DP into a binding domain. This is not due to the argumental status of the possessor as implied by early PBTs (and correctly questioned by late PBTs; see discussion in section 2.2.2). Rather, formation of a binding domain follows from the position of the possessor in the specifier of DP, which entails the formation of a spellout domain (see Charnavel & Sportiche 2016).

[18] There has been a previous attempt to use the notion of perspective in order to clarify the status of possessed PNAs: to test the hypothesis that possessed PNAs are uniformly exempt, Kaiser et al. (2009) aim to check whether possessed PNAs preferably refer to sources, rather than perceivers of information. But the results of this experiment are inconclusive for two reasons: first, it uses a choice task rather than a grammaticality judgment task; second, Charnavel (2020a: 153-154) shows that the notion of source of information is in fact irrelevant to the notion of perspective that licenses exemption.

[19] This hypothesis also wrongly predicts that only non-eventive possessorless PNAs can be exempt: under the assumption that only concrete picture nouns are non-eventive, this incorrectly predicts that picture nouns interpreted as result nominals cannot be exempt (but see e.g. (6), (11) or (12)). Further note that Reuland's hypothesis incorrectly rules out possessive anaphors in eventive nouns (see Charnavel 2020a: 17)).

This conclusion about the dual behavior of possessed PNAs is further supported by the observation that non-exhaustive binding of possessed PNAs is only possible with animates.[20] While examples (37)a-b (cf. Helke 1970: 116) show that possessed PNAs can behave as exempt anaphors by licensing split antecedents, examples (38)a-b containing inanimate anaphors reveal that possessed PNAs can also exhibit plain behavior by requiring exhaustive binding: whether the picture noun is interpreted as a result nominal (as in a) or a concrete nominal (as in b), split antecedents are ruled out.

(37) a. Mary$_i$ looks like Sue$_k$ in the library's picture of themselves$_{i+k}$.
b. Mary$_i$ will soon buy Sue$_k$'s sculpture of themselves$_{i+k}$.
(38) a. *[The museum]$_i$ looks like [the castle]$_k$ in the library's picture of themselves$_{i+k}$.
b. *[The castle]$_i$ will soon contain [the museum]$_k$'s replica of themselves$_{i+k}$.

Thus, possessed PNAs are no different from possessorless PNAs in displaying both plain and exempt behavior (see generalization (26)) as summarized in Table 3 below.

	exempt anaphors (including some possessorless and some possessed PNAs)	**plain anaphors (including some possessorless and some possessed PNAs)**
local binding	non-obligatory	obligatory
non-exhaustive binding	possible	impossible

Table 3- Distributional properties distinguishing exempt from plain anaphors

1.2. The analytically uniform behavior of PNAs

In section 1.1, we showed that just like any anaphor, both possessorless and possessed PNAs can descriptively behave as plain or exempt anaphors. We obtained this result by applying Charnavel & Sportiche's (2016) inanimacy-based tool, which allowed us to determine the distributional properties distinguishing exempt from plain anaphors in a reliable way (i.e. independently of the controversial definitions of Condition A and logophoricity). This result challenges all previous theories: first, contrary to Chomskian predictions, PNAs can superficially be exempt from Condition A even under non-agentive interpretations, that is, when the referent of the anaphor is not the author of the picture; second, contrary to PBTs, the dividing line between plain and exempt anaphors does not lie in the presence of a coargument (whether the possessor counts as such or not), but in the perspectival interpretation of the anaphor (i.e. only perspectival anaphors can be exempt, whether they have a coargument or not); finally, contrary to the pervasive assumption represented by Drummond et al.'s (2010) claim above that PNAs are logophoric pronouns

[20] As we demonstrated in section 1.1.1.3 on the basis of inanimate anaphors, neither the availability of strict readings, nor non-complementarity with pronouns distinguish exempt from plain anaphors. This finding invalidates Runner et al.'s (2002, 2003, 2006) and Runner & Kaiser's (2005) argument, which contends that the availability of strict readings for possessed PNAs corroborates the hypothesis that they are systematically exempt. Furthermore, the literature's lengthy discussion about pronouns in possessed picture noun phrases is therefore not directly relevant to us, but pertains to the definition of Condition B, which remains beyond the scope of this paper. In particular, the following observation cannot be used to determine the status of possessed PNAs: several experimental studies (Keller & Asudeh 2001, Runner et al. 2003, Jaeger 2004, Runner & Kaiser 2005, i.a.) show that while anaphors can be bound across the possessor, pronouns must be disjoint from the possessor (cf. Lebeaux 1984: 346).

(homophonous with anaphors), PNAs do not uniformly display pronominal properties, but can behave like plain anaphors.

The goal of the present section is to explain this apparently dual behavior of PNAs without appealing to homophony or restricting the scope of Condition A. We will reach this goal by adopting Charnavel's (2020a-b) logophoric A-binder hypothesis – thereby further supporting it by demonstrating that it also makes correct predictions for English PNAs. In the spirit of Chomsky (1986), this hypothesis retains the general applicability of Condition A by assuming the possible presence of implicit binders for anaphors. However, it introduces a new type of covert binder, which, unlike PRO, does not entail an agentive interpretation, but derives the perspective-based contrasts observed above. Just as in section 1.1, we will first concentrate on possessorless PNAs in section 1.2.1, before applying the analysis to possessed PNAs, which raise further challenges, in section 1.2.2.

1.2.1. Possessorless PNAs

According to Charnavel's (2020a-b) hypothesis, descriptively exempt anaphors are in fact not exempt from Condition A, but are locally bound by a covert logophoric pronoun. Thus, the properties that characterize descriptively exempt anaphors do not come from the anaphors themselves, but derive from the nature of their binder.

Specifically, Charnavel (2020a-b) hypothesizes that each spellout domain can contain a verb-like logophoric operator OP_{LOG} introducing a logophoric pronoun pro_{log} as its subject. This is represented in (39)a, which also involves a PNA. While pro_{log} refers to the locally relevant logophoric center, OP_{LOG} imposes the first-person perspective of that center on its complement α, as formulated in (39)b. This hypothesis codes the intuition that the locally relevant perspective center, which is independently determined by a combination of syntactico-semantic and discourse factors, can be syntactically represented in each phase.

(39) a. $(DP_i)\ldots$ [$_{\text{SPELLOUT DOMAIN}}$ … [$_{\text{LogP}}$ $pro_{log\text{-}i}$ OP_{LOG} [$_{\alpha}$ … picture of herself$_i$ …]]]
b. $[\![OP_{LOG}]\!] = \lambda\alpha.\lambda x.\ \alpha$ from x's first person perspective

(adapted from Charnavel 2020b: 679)

Charnavel's hypothesis is inspired by the literature on logophoric operators and perspectival projections (see Koopman & Sportiche 1989, Kinyalolo 1993, Jayaseelan 1998, Speas & Tenny 2003, Adesola 2006, Anand 2006, i.a.), but differs from it in two main respects. First, it builds on Sells (1987) and Oshima (2006) in proposing a specific definition of logophoricity as first-person mental perspective (encompassing *de se* attitude and empathy) on the basis of anaphora-independent tests such as the epithet test for *de se* attitude shown in (40) and the French possessive *cher* test for empathy adapted to English in (41); this methodology circumvents the aforementioned issue regarding how to characterize the notion of logophoricity.

(40) <u>*Epithet Test for detecting attitude holders in their attitude contexts*</u>:
To simultaneously check whether a given DP_1 is in an attitude context and who the relevant attitude holder is, replace DP_1 with an epithet and determine its referential possibilities in unmarked situations (i.e. without using non-*de se* scenarios). If there is

a DP_2 that does not locally-c-command the epithet but which the epithet cannot take as antecedent, then the epithet (and DP_1 it replaced) are in an attitude context and the referent of DP_2 is the attitude holder of that context. (cf. Charnavel 2020a: 146)

(41) *Possessive* dear *Test for detecting empathy loci in their empathy contexts*:
To identify the possible empathy loci in a context containing a given DP, replace this DP with a possessive DP containing *dear* and determine its referential possibilities. If *her dear* is acceptable, its referent can be construed as the empathy locus of the context of the DP. Otherwise, only the speaker can be interpreted as the empathy locus. (cf. Charnavel 2020a: 169)

Second, it makes two modifications to the syntactic representation of logophoricity by restricting logophoric domains to spellout domains (instead of full propositions as previously assumed) and by treating OP_{LOG} as a verb-like operator introducing a subject (pro_{log}); this twofold innovation crucially entails that pro_{log} can serve as an A-binder for anaphors.

Under Charnavel's hypothesis, apparently exempt anaphors like *herself* in (39)a are thus in fact bound locally (i.e. within their spellout domain) by the implicit logophoric pronoun pro_{log}. This predicts that descriptively exempt anaphors must be logophorically interpreted, and thus derives (instead of postulating) the correlation between logophoricity and exemption observed in many unrelated languages (see aforementioned references and review in Charnavel 2020a).

1.2.1.1. Testing for the logophoric interpretation of exempt PNAs

Coming back to our specific case study, Charnavel's (2020a-b) hypothesis entails that descriptively exempt PNAs should be logophorically interpreted (under a non-agentive interpretation[21]) in the sense explained above. As we saw, this correctly predicts that inanimate PNAs that are not locally bound by an overt binder are unacceptable, since due to the incompatibility between inanimacy and mental perspective, they cannot take pro_{log} as an antecedent. As we will now illustrate with possessorless PNAs, this also correctly predicts that animate PNAs that lack an overt local binder can only occur in phrases expressing the first-person mental perspective of their antecedents.

This first means that they must pass the tests described in (40)-(41). For example, neither *himself* in the complement of the attitude verb *believe* in (1) (repeated as (42)a), nor *himself* in the intended Free Indirect Discourse in (12) (repeated as (43)a) can be replaced with a coreferential epithet, as shown in (42)b-(43)b; this demonstrates that the antecedents of these anaphors are relevant attitude holders in the clause containing them.

(42) a. Tom_i believes that there is a picture of $himself_i$ hanging in the post office.
b. *Tom_i believes that there is a picture of $[\text{the idiot}]_i$ hanging in the post office.

(43) a. $John_i$ was going to get even with Mary. That picture of $himself_i$ in the paper would really annoy her, as would the other stunts he had planned.
b. #$John_i$ was going to get even with Mary. That picture of $[\text{the idiot}]_i$ in the paper would really annoy her, as would the other stunts he had planned.

[21] Recall from section 1.1.1.1 that in this first part of the paper, we set aside the agentive interpretation of descriptively exempt anaphors, which can be captured by Chomsky's (1986) PRO-based hypothesis. The whole discussion in this section thus excludes agentive interpretations, to which we will return in section 2.2.3.

Himself in (11) (repeated as (44)a) can however be replaced by an epithet, as shown in (44)b, but also by a possessive DP containing *dear* as in (44)c; this reveals that its antecedent John cannot be construed as an attitude holder, but can be construed as the empathy locus in the phrase containing *himself*. However, *himself* in (7) (repeated as (45)a), which is unacceptable, can alternate with a coreferring epithet, but not (under a non-ironic reading) with a possessive DP including *dear* (see (45)b-c); this shows that the antecedent of *himself* neither refers to an attitude holder, nor to an empathy locus, which makes *himself* non-logophoric and unable to be bound by pro_{log}.

(44) a. The picture of himself$_i$ in Newsweek dominated John$_i$'s thoughts.
b. The picture of [the idiot]$_i$ in Newsweek dominated John$_i$'s thoughts.
c. The picture of his$_i$ dear son in Newsweek dominated John$_i$'s thoughts

(45) a. *Mary said about John$_i$ that there was a picture of himself$_i$ in the post office.
b. Mary said about John$_i$ that there was a picture of [the idiot]$_i$ in the post office.
c. Mary said about John$_i$ that there was a picture of his$_i$ (*dear) son in the post office.

Second, the phrase containing exempt PNAs must express the first-person perspective of their antecedent. For instance, this predicts that *himself* in (42)a, which refers to an attitude holder, must be read *de se*, as confirmed by (46).

(46) <u>*Context*</u>*: As a joke, Tom ran for a local election. Unexpectedly and unbeknownst to him, he got elected. What he knows is that the picture of the elected candidate, which he thinks is one of the other (serious) candidates, hangs in the post office.*
Tom$_i$ believes that there is a picture of him$_i$(#self) hanging in the post office.

Similarly, this implies that John's act described in (43) must be considered as a stunt by John himself; for example, the sentence is infelicitous if only the speaker considers this act as a stunt, but John considers it as an act of kindness.

1.2.1.2. Deriving the distributional properties of exempt PNAs

Charnavel's (2020a-b) logophoric A-binder hypothesis furthermore derives all the distributional properties that descriptively distinguish exempt from plain PNAs. As already explained in (39), the absence of locality constraints for exempt PNAs is an illusion resulting from the implicitness of their binder pro_{log}, which like any pronoun need not be locally bound nor even take an overt antecedent in the sentence. Similarly, the availability of non-exhaustive binding for exempt PNAs is an illusion due to the pronominal nature of their binder. As shown in (47), *themselves* in example (13), which descriptively takes a split antecedent (*John* and *Mary*), is in fact exhaustively bound by pro_{log}. The pronominal nature of pro_{log}, however, allows it to take a non-exhaustive antecedent; the Ewe example in (48) independently confirms that logophoric pronouns do not differ from other pronouns in this respect. Apparent non-exhaustive binding of the anaphor is thus analyzed as non-exhaustive antecedence of the exhaustive binder of the anaphor.

(47) John$_i$ told Mary$_k$ that $pro_{log\text{-}i+k}$ there were some pictures of themselves$_{i+k}$ inside.

(48) Kofi kpɔ be yewo-do go.
Kofi see COMP LOG-PL-come out
"Kofi$_i$ saw that they$_{i+k}$ had come out." (Sells 1987: 449)

In sum, Charnavel's (2020a-b) logophoric A-binder hypothesis reduces exempt PNAs to plain anaphors and derives all their properties from the nature of their binder pro_{log}.

1.2.1.3. Further independent arguments for the logophoric A-binder hypothesis

To support her hypothesis, Charnavel (2020a-b) provides additional arguments independent of the properties of descriptively exempt anaphors. We show below that these arguments, which she uses to account for the distribution of French exempt anaphors, also apply to the case of English PNAs, thus further supporting the logophoric A-binder analysis.

First, just like exempt anaphors in French (see Charnavel 2020a-b) or Mandarin (see Pan 1997, Huang & Liu 2001, Anand 2006, i.a.), we observe that locally co-occurring exempt PNAs must exhaustively corefer. For example, (49) shows that even if *himself* (in a) and *themselves* (in b) can be descriptively exempt, they cannot co-occur in the same clause in (49)c.

(49) a. John$_i$ told Mary that there was a story about himself$_i$ in the newspaper.
b. John$_i$ told Mary$_k$ that there were some pictures of themselves$_{i+k}$ in the newspaper.
c. *John$_i$ told Mary$_k$ that there were some pictures of themselves$_{i+k}$ and a story about himself$_i$ in the newspaper.

This ban on non-exhaustive coreference between locally co-occurring exempt PNAs directly follows from the logophoric A-binder hypothesis. Under that hypothesis, recall that descriptively exempt PNAs are in fact plain anaphors and must thus be exhaustively bound within their spellout domain (as we showed in section 1.1.1.3 on the basis of inanimate PNAs, which cannot be descriptively exempt). Given that there is only one possible binder in the spellout domain (TP) containing *themselves* and *himself*, namely pro_{log}, both *themselves* and *himself* must be exhaustively bound by pro_{log}, which entails that they must exhaustively corefer.[22] Whether pro_{log} syntactically references John as the logophoric center in the embedded clause as in (51)a (cf. (50)a) or the sum of John and Mary as in (51)b (cf. (50)b), one of the anaphors will not be able to be exhaustively bound (namely, *themselves* in (51)a and *himself* in (51)b), thus ruling out the sentence.

(50) a. John$_i$ told Mary that $pro_{log\text{-}i}$ there was a story about himself$_i$ in the newspaper.
b. John$_i$ told Mary$_k$ that $pro_{log\text{-}i+k}$ there were some pictures of themselves$_{i+k}$ in the newspaper.

[22] The same result would obtain under the assumption that *themselves* and *himself* can occupy two different spellout domains (e.g. the DP containing them, if one supposes, contra Charnavel & Sportiche (2016), that spellout domains are not restricted to phrases with subject – recall indeed from fn. 21 that we do not consider DPs with PRO-like subjects in this section). As shown in (50), either John or the sum of John and Mary can be syntactically represented as the relevant logophoric center in the domain (Mary would be a third option). But as argued in Charnavel (2020a-b), this does not imply that they could be represented simultaneously. Several logophoric pronouns co-occurring in the same clause can syntactically reference different logophoric centers only if the relevant discourse conditions are met, e.g. if the syntactico-semantic conditions introduce a new logophoric center between the two logophoric pronouns; this is exemplified in (iv) where the report about the content of Paul's granddaughter's diary introduces her as a new logophoric center within the attitude clause (which has Paul's daughter as attitude holder).

(iv) [La fille de Paul]$_i$ explique que [$_{TP}$ $pro_{log\text{-}i}$ l'étrange <u>journal</u> de [sa$_i$ propre fille]$_k$ rapporte [$_{DP}$ $pro_{log\text{-}k}$ les ignobles remarques des médias sur elle$_k$- même]].
'[Paul's daughter]$_i$ explains that [$_{TP}$ $pro_{log\text{-}i}$ [her$_i$ own daughter]$_k$'s strange <u>diary</u> relates [$_{DP}$ $pro_{log\text{-}k}$ the media's horrible remarks about herself$_k$]].' (Charnavel 2020a: 225)

(51) a. *John$_i$ told Mary$_k$ that pro$_{log\text{-}i}$ there were some pictures of themselves$_{i+k}$ and a story about himself$_i$ in the newspaper.
b. *John$_i$ told Mary$_k$ that pro$_{log\text{-}i+k}$ there were some pictures of themselves$_{i+k}$ and a story about himself$_i$ in the newspaper.

Note that alternative hypotheses discussed above cannot explain this exhaustive coreference constraint. For example, under the hypothesis that PNAs are in fact logophoric pronouns subject to discourse requirements, ban on disjoint exempt anaphors in the same domain could presumably derive from a pragmatic principle ruling out perspective conflicts (cf. Pan 1997, Huang & Liu 2001, i.a.). But this explanation cannot hold for (49)c, which does not involve disjoint, but partially coreferential anaphors, and thus does not necessarily entail perspective conflict, as attested by the perfectly viable direct discourse counterpart in (52).

(52) John told Mary: "There were some pictures of us and a story about me in the newspaper".

This coreference constraint cannot derive either from another version of this alternative hypothesis, according to which PNAs would be logophoric pronouns that must be bound by a logophoric operator (cf. Anand 2006) and at most one logophoric operator per clause can be present (cf. Koopman & Sportiche 1989). As mentioned above, nothing should prevent a logophoric pronoun from being partially bound; in fact, Adesola (2006) explicitly allows non-exhaustive binding by a logophoric operator. The restriction of one logophoric operator per clause does not therefore entail any ban on partially coreferring logophoric pronouns within the same clause.

Second, the logophoric A-binder hypothesis predicts a Condition C effect if a descriptively exempt PNA locally co-occurs with an overt DP that refers to the logophoric center anteceding the anaphor. The contrast between (53)a and (53)b, adapted to English PNAs from Charnavel's (2020a: 228) French examples, indicates that this prediction is borne out. As shown in (54), *herself* is licensed by the presence of pro$_{log}$ in its spellout domain (the bracketed DP), which syntactically represents the logophoric center (more specifically, empathy locus) Lucy; the presence of the DP *Lucy* in the same domain therefore entails a Condition C violation.[23]

(53) a. [(Friends') posts about herself$_i$ on her$_i$ blog] hurt Lucy$_i$'s feelings.
b. *[(Friends') posts about herself$_i$ on Lucy$_i$'s blog] hurt her$_i$ feelings.
(54) [pro$_{log\text{-}i}$ (Friends') posts about herself$_i$ on {her$_i$/*Lucy$_i$'s} blog] hurt {Lucy$_i$'s/her$_i$} feelings.

To wrap up, both anaphora-based and anaphora-independent arguments thus motivate the hypothesis that the possible syntactic representation of implicit logophoric pronouns, which can serve as A-binders, is responsible for the illusion of PNA exemption. This hypothesis parsimoniously reduces apparently exempt PNAs to plain anaphors subject to a fully general Condition A.

[23] The absence of condition B effect with *her*, however, is not surprising. As mentioned in fn. 20, the investigation of Condition B remains beyond the scope of this paper, but the facts motivating Chomsky's (1986) definition of Condition B (inspired by Huang 1983) are sufficient to show that the domain relevant for Condition B is smaller than the domain for Condition A. On the basis of such facts and further French examples, Charnavel (2020a: 228-230) argues that covaluation with pro$_{log}$ can never violate Condition B.

1.2.2. Possessed PNAs

1.2.2.1. The logophoric A-binder hypothesis applied to possessed PNAs

So far, we have applied the logophoric A-binder analysis to possessorless PNAs. Given that one of its motivations (and consequences) is to unify all instances of anaphors, it is also meant to apply to possessed PNAs as illustrated in (55) and (56) (repeating (31)a and (37)a, respectively). Just as in the case of possessorless PNAs, the acceptability of the descriptively exempt anaphor in these cases derives from the presence of pro_{log} with an appropriate reference in its spellout domain, namely in the possessed DP; the relevant interpretation relies on whether the discourse conditions allow the intended antecedent of the anaphor to be construed as the logophoric center in the DP (e.g. as empathy loci in (55)-(56)).

(55) Hannah$_i$ found [$pro_{log\text{-}i}$ Peter$_k$'s picture of herself$_i$].
(56) Mary$_i$ looks like Sue$_k$ in [$pro_{log\text{-}i+k}$ the library's pictures of themselves$_{i+k}$].

Note that the logophoric center that is syntactically represented in a domain need not be the closest available one in the sentence, as shown by examples like (57) (containing an English exempt anaphor) or (58) (including an Ewe logophoric pronoun). Therefore, the presence of a disjoint animate possessor in sentences like (55) does not necessarily create an intervention effect (but may be responsible for some variability in judgments about possessed PNAs[24]).

(57) John$_i$ asked Bill$_k$ who he$_k$ thought had stolen the picture of himself$_i$.
(Cantrall 1974: 95)

(58) Kofi x-ɔe se be Ama gblɔ be yè-*f*u-i
Kofi receive-PRO hear COMP Ama say COMP LOG-beat-PRO
"Kofi$_i$ believed that Ama$_k$ said that he$_i$ beat her$_k$." (Clements 1975: 173)

1.2.2.2. A remaining outstanding issue

The logophoric A-binder hypothesis thus seems to mostly solve the problem of picture noun anaphora: (60) derives generalization (26) updated in (59).

(59) <u>*Descriptive generalization (for all English anaphors including PNAs)*</u>:
Non-perspectival anaphors must be locally and exhaustively bound within their spellout domain, whereas perspectival anaphors appear not to have to.
(60) <u>*Universal Condition A*</u>: All anaphors (including PNAs) obey Condition A. Possible A-binders include overt DPs and covert ones such as PRO or pro_{log}.

But the picture is not complete yet: a closer look at the data suggests that this solution is not sufficient. Specifically, we observe that in some configurations, possessed PNAs cannot be logophorically bound even under the appropriate discourse conditions; we will henceforth refer to this observation as the *Logophoric Blocking Effect* or *LBE*. This is first the case of PNAs in

[24] Even if pro_{log} need not refer to the closest logophoric center, the presence of a closer logophoric center may make some readings harder to access and therefore apparently ungrammatical for some speakers. Under this view, the logophoric potential of the possessor is an important factor, which depends on two variables: the nature of the DP occupying the possessor position (whether or not it can – in principle and in the context – be construed as a logophoric center; inanimates never can, for example) and the nature of the head noun (whether or not it can make its possessor a logophoric center in its complement; nouns like *opinion* or *belief* can, for instance).

complements of creation verbs[25] such as *himself* in (61)b (repeating (33)b, cf. (28)a); the particular behavior of reflexives and pronouns (as in (62)) in this type of syntactic contexts has been long noticed in the literature (Jackendoff 1972: 166-168, Chomsky 1986: 166-167, Williams 1987: 155-156, Reinhart & Reuland 1993: 685, Runner 2002, Davies & Dubinsky 2003: 25-27, i.a.) and has more recently been experimentally investigated (Keller & Asudeh 2001, Jaeger 2004, Bryant & Charnavel 2020, i.a.).

(61) a. ✓/? Joe$_i$ destroyed Harry$_k$'s book about himself$_i$.
b. ?/* Joe$_i$ <u>wrote</u> Harry$_k$'s book about himself$_i$.
(62) a. *John$_i$ <u>took</u> Mary's pictures of him$_i$.
b. John$_i$ found Mary's pictures of him$_i$. (Williams 1987: 156)

The logophoric A-binder hypothesis is too weak to account for the contrast in (61): just like in (55) above, it predicts that *himself* in (61)b can be bound by pro$_{log}$, which should be able to refer to Joe as implied by (61)a. Another constraint must thus be responsible for ruling out (63).

(63) *Joe$_i$ wrote Harry$_k$'s pro$_{log\text{-}i}$ book about himself$_i$.

LBE also affects possessed PNAs in deverbal noun phrases like (64) or (65) (repeating (30)b and (32)a), which cannot be ruled out by the logophoric A-binder hypothesis.

(64) *The fact that Mary$_k$'s description of himself$_i$ was flawless was believed to be disturbing John$_i$.
(65) *Jill$_i$ found Matt$_k$'s fear of herself$_i$ surprising.

Finally, novel experimental findings by Bryant & Charnavel (2020) illustrated in (66) reveal that possessed PNAs cannot be logophorically bound either when they stand as the goal argument of the noun.

(66) *Chelsey$_i$ found Brandon$_k$'s letter <u>to</u> herself$_i$. (Bryant & Charnavel 2020: 11-12)

In our view, these three types of data fall under the same category and demonstrate that an explanatory factor is yet to be added to the logophoric A-binder hypothesis to reach a full resolution of the picture anaphora puzzle. The goal of the second and last part of the paper is to specify the nature of this additional factor that interacts with the logophoric A-binder hypothesis.

To give a preview, the additional factor that gives rise to LBE does not specifically target possessed PNAs: we hypothesize that the unacceptability of (63)-(66) results from the same constraint as the unacceptability of (5)b (vs. (5)a) repeated in (67)b (vs. (67)a), which involves a reflexive as direct object of the verb. The ungrammaticality of examples like (67)b, which seems to be responsible for the widespread assumption of PNA exceptionalism, remains another crucial outstanding issue that appears to undermine the logophoric A-binder hypothesis beyond PNAs.

[25] Like Davies & Dubinsky (2003) or Jaeger (2004), we hypothesize that the relevant category here is the class of creation verbs. This is not the only hypothesis entertained in the literature: in particular, Jackendoff (1972) characterizes this problematic group of verbs as verbs marking their subject with the thematic relation Agent, while Keller & Asudeh (2001) treat them as [+existence] accomplishment verbs. Jackendoff's (1972) hypothesis seems to be too broad in incorrectly including verbs like *destroy* in (61)a. Keller & Asudeh's (2001) hypothesis seems to be empirically equivalent, but attributes the effect to the aspect of the verb, which does not seem to be the relevant factor (see further discussion in section 2.2.4).

(67) a. Max_i boasted that the queen invited Lucie and $himself_i$ for a drink.
b. *Max_i boasted that the queen invited $himself_i$ for a drink.
(Reinhart & Reuland 1993: 670)

Recall indeed from section 1.1.1.1 that typically, English anaphors can be descriptively exempt only under some configurations: in particular, when they are within picture noun phrases (e.g. *picture of himself*), as well as within a conjoined DP (e.g. *Lucie and himself* as in (67)b), within *like*-phrases (e.g. *physicists like herself*), within *as for*-phrases (e.g. *as for herself*) or within exceptive constructions (e.g. *no one but himself*). This observation is what motivated the development of PBTs, which tie exemption to the absence of coarguments. Now, we have explained at length (especially on the basis of inanimate anaphors) why it is empirically incorrect to base the dividing line between plain and exempt anaphors on coargumenthood. We therefore certainly do not intend to reincorporate the notion of coargumenthood in our account of apparent exemption from Condition A. But we will show that at least descriptively, this notion does indirectly play some role in the licensing conditions on reflexives.

Specifically, we will conclude that the factor descriptively responsible for LBE in (67)b is the presence of a coargumental subject: *the queen* blocks logophoric binding in (67)b, but not in (67)a, because it is a subject coargument with *himself* only in (67)b. And the reason why the presence of a coargumental subject excludes logophorically bound *himself* is because it licenses alternative pronominal elements that are weaker and yield the same interpretation. We will thus hypothesize that LBE falls under a general principal of competition between weaker and stronger forms à la Cardinaletti & Starke (1994/1999), which is fully independent of Condition A or exemption.

(68) *Logophoric Binding Effect (LBE)*: *himself* cannot be logophorically bound in the presence of a coargumental subject.
(69) *Weak/strong competition (Cardinaletti & Starke 1994/1999)*: weaker forms exclude stronger forms if they can yield the same intrpretation.

Crucially, we will see that the same principle of competition can derive LBE for PNAs in examples such as (63)-(66) once we clarify two issues specific to the nominal domain, namely the distinction between subjects of NP and other sources for possessors, and the conditions on implicit projection of nominal subjects. We will conclude that the ungrammaticality of (63)-(66) ultimately results from the obligatory presence of an implicit subject in NP in those cases. Besides solving the PNA puzzle, this investigation of LBE will thus provide a new probe into the controversial argument structure of NPs.

2. Deriving the logophoric blocking effect: the weak/strong competition hypothesis

This second part of the paper aims at explaining why the empirical scope of the logophoric A-binder hypothesis seems to be restricted, namely why logophoric binding is impossible in some configurations (e.g. (63)-(66), (67)b) in spite of favorable discourse conditions. First, we will explore in section 2.1. such *Logophoric Blocking Effects* (LBEs) in the verbal domain (e.g. (67)b): we will build on Ahn (2015) to establish the empirical generalization capturing the conditions under which LBEs arise for anaphors in verbal complements, and we will derive this generalization

from a weak/strong principle of competition inspired by Cardinaletti & Starke's (1994/1999) work. Only then will we be in a position to examine the consequences of this hypothesis in the nominal domain where it interacts with additional factors: in section 2.2, we will examine its predictions for both possessorless and possessed PNAs and thus solve the remaining cases of LBEs (e.g. (63)-(66)). We will thereby open new avenues for the investigation of nominal structures.

2.1. The logophoric blocking effect in the verbal domain

The goal of this section is to derive LBEs in the verbal domain (i.e. outside PNAs), where the generalization that will ultimately be relevant to PNAs is easier to establish in the absence of complicating factors specific to the nominal domain. In a nutshell, we will show, using prosody as a diagnostic, that logophorically bound *herself* is necessarily a strong pronominal form; due to a principle of competition between weaker and stronger forms, LBEs therefore arise when anaphors occur in positions that can host weak elements, typically in positions with a coargumental subject.

2.1.1. Empirical generalization

2.1.1.1. Ahn's (2015) empirical discovery: two types of plain anaphors

To understand why logophoric binding is blocked in examples like (67)b, we will reexamine the behavior of plain anaphors through a different lens than Condition A, namely prosody as done in Ahn (2015) (cf. Spathas 2010: chapter 3[26]). Specifically, Ahn (2015) observes that English plain reflexives fall into two classes: those that exhibit exceptional prosodic behaviors, and those that do not. To test the prosodic behavior of reflexives, Ahn examines them in linear positions where other elements bear phrasal stress in neutral contexts (i.e. in context in which they are neither given, nor contrastively focused), as illustrated in (70)-(72).[27]

(70) *What happened in the kitchen?*
a. Remy accidentally burned ***Maríe***.
b. #Remy$_i$ accidentally ***búrned*** Marie. (Ahn 2015: 42)

(71) *What happened in the kitchen?*
a. #Remy$_i$ accidentally burned ***himsélf$_i$***.
b. Remy$_i$ accidentally ***búrned*** himself$_i$. (Ahn 2015: 42)

(72) *What happened in the kitchen?*
a. Remy$_i$ accidentally burned Maríe and ***himsélf$_i$***.
b. #Remy$_i$ accidentally burned ***Maríe*** and himself$_i$. (cf. Ahn 2015: 62)

[26] Ahn (2015) and Spathas (2010) independently establish very similar empirical generalizations about the prosody of English reflexives. While these facts lead Ahn (2015) to posit a reflexive voice (as we will explain in the rest of the section), Spathas (2010) concludes from them that English (vs. Greek) plain reflexives (under PBTs' theory of the plain/exempt distinction) should be treated as reflexivizing functions rather than variables. Although both theories correctly derive the main prosodic facts, we here adopt (a modified version of) Ahn's theory because it is compatible with the logophoric A-binder hypothesis (see Ahn 2015: 186-188 for further advantages of Ahn's theory over Spathas'). Spathas' theory, however, explicitly posits homophony between coargument bound reflexives and the other reflexives since this analysis implies that they must have a different semantics.

[27] In these examples, we follow Ahn's (2015) notation in indicating the locus of phrasal stress with bolded underlined italics, and infelicity due to information structure (question-answer congruence) with the sign #.

Irrelevant details aside, English neutral phrasal stress, which can be elicited by maximally broad-focus questions (e.g. *what happened?*), typically falls on the rightmost word of the phrase (e.g. on *Marie* in (70)). However, stress must not fall on *himself* in (71), even if it is the rightmost word. Ahn calls anaphors that exhibit such exceptional prosodic behavior *extrametrical*. Not all anaphors are extrametrical though, as illustrated in (72), in which *himself*, which occurs in a coordinated structure, bears neutral final stress. This immediately excludes the null hypothesis that reflexives never bear phrasal stress because they are given as a result of necessitating an antecedent.

Crucially, we can already notice a link between prosodic behavior and logophoric behavior: the configurations that license logophoric binding (e.g. (67)a) resemble the configurations that exclude extrametrical anaphors (e.g. (72)); conversely, the configurations that exclude logophoric binding (e.g. (67)b) resemble the configurations that can host extrametrical anaphors (e.g. (71)). Ahn (2015) does not discuss logophoric anaphors; as we will see, it in fact leads to wrong predictions about them. We will nevertheless see that Ahn's proposal ultimately provides the crucial clue to derive LBEs: logophorically bound anaphors cannot be extrametrical.

As a first step to analyze the contrast between (71) and (72), Ahn (2015) observes that the extrametricality of English anaphors is tied up in their syntactic context. Specifically, he identifies three types of configurations in which anaphors are not extrametrical.[28] First, English anaphors bear neutral phrasal stress when they are separated from their antecedent by an island boundary. This was the case for *himself* in (72), which occurs in a coordinated structure. This is also the case for *himself* in (73), which appears in a complex NP island.[29]

(73) *What is the setup for the show?*
a. Louis plays a character like his ***bróther***.
b. #Louis plays a character ***líke*** his brother.
c. Louis$_i$ plays a character like ***himsélf$_i$***.
d. #Louis$_i$ plays a character ***líke*** himself$_i$. (Ahn 2015: 50)

Second, English anaphors cannot be extrametrical when their antecedents are derived subjects. This includes both subjects of passives as in (74) and subjects of raising verbs as in (75).

(74) *What happened at the meeting?*
a. Liz$_i$ was accidentally assigned to ***hersélf$_i$***.
b. #Liz$_i$ was accidentally ***assígned*** to herself$_i$. (cf. Ahn 2015: 53, 106)
(75) *Tell me something about Jack.*
a. [He seems to ***Náncy***] [to have ***chánged***].
b. #[He ***séems*** to Nancy] [to have ***chánged***].

[28] Another apparent case of non-extrametricality occurs in double object constructions, where subject-bound direct object reflexives bear phrasal stress in broad focus contexts.
(v) Kevin will show Constance ***himsélf***. (Ahn 2015: 56, cf. 126)
But Ahn (2015: 127-129, 194-195) argues (based on REAFR facts discussed in fn. 31) that such reflexives should in fact be analyzed as extrametrical reflexives (i.e. they move to Reflexive Voice, see section 2.1.1.2), but prosody-specific constraints impose stress on them in those cases (because the direct object of a double object construction forms its own prosodic domain).
[29] This example is inspired by an utterance attested in NPR. More generally, Ahn (2015) bases his empirical observations on both intuitive judgments and examples from NPR broadcasts.

c. [He seems to ***himsélf***$_i$] [to have ***chánged***].
d. #[He$_i$ ***séems*** to himself$_i$] [to have ***chánged***]. (cf. Ahn 2015: 107)

Third, English anaphors bear neutral phrasal stress if their antecedent is not the subject as shown in (76)c-d vs. (76)a-b.

(76) *What happened at the meeting?*
a. #Liz$_i$ assigned Danny to ***hersélf***$_i$.
b. Liz$_i$ assigned ***Dánny*** to herself$_i$.
c. Liz$_i$ assigned Danny$_k$ to ***himsélf***$_k$.
d. #Liz$_i$ assigned ***Dánny***$_k$ to himself$_k$. (cf. Ahn 2015: 52, 63)

2.1.1.2. Ahn's (2015) account

To account for these findings, Ahn (2015) is inspired by the similar behavior of the French reflexive clitic *se* and Sportiche's (2014) analysis of it, as will become clearer in section 2.1.2.1. Specifically, Ahn posits the presence of a Reflexive Voice head (REFL), which is endowed with an EPP feature that attracts a reflexive argument (thus mimicking reflexive clitic movement). In a sentence like (71)b, *himself* must thus move to the specifier of the reflexive voice projection as shown in the simplified representation in (77).

(77) Remy$_i$ [$_{VoiceP}$ ~~himself~~ REFL [$_{vP}$ accidentally burned himself]]. (cf. Ahn 2015: 96)

Under Ahn's structure-based model of phrasal stress, this hypothesis directly derives the extrametricality of *himself* in sentences like (71)b. On the basis of anaphora-independent data, Ahn (2015: 86) argues that phrasal stress is received by the most deeply embedded constituent in a spellout domain, where depth of embedding is determined by the highest occurrence of a constituent, thus entirely dissociating phrasal stress from linearization.[30] *Himself* in (71)b is thus predicted not to bear phrasal stress as it undergoes 'covert overt' movement to the specifier of VoiceP and is therefore not the most deeply embedded constituent in its spellout domain.[31]

Ahn's hypothesis also derives why anaphors are not extrametrical in the three types of configuration illustrated in (72)-(76), under the assumption (which we detail below) that reflexives can also be licensed in structures lacking a reflexive voice. First, the movement requirement of

[30] More precisely, Ahn (2015: 294) claims that a syntactic object, X, is more deeply embedded than some other syntactic object, Y, provided that no copy of X c-commands all copies of Y. To support the hypothesis that structure, not linear order, is the input for determining the locus of phrasal stress, Ahn (2015: 78-81) examines several phenomena independent of reflexivity that show dissociation between linearization and phrasal stress.

[31] This hypothesis is further supported, Ahn (2015: chapter 4) argues, by the fact that though felicitous answers to subject-*wh* questions generally involve focus on the subject, this is impossible for answers with reflexives, as illustrated in (vi) (cf. Spathas 2010) Assigning the descriptive term *REAFR* (*Realizing External Argument Focus on a Reflexive*) to this special pattern, Ahn further observes that the same constraints on extrametrical reflexives (subject orientation, exclusion from islands, passive and raising constructions) also apply to REAFR. The VoiceP-theory can derive all these facts: in REAFR contexts, REFL (which is a semantic reflexivizer, see fn. 33) is what is under focus, thus inducing stress on the reflexive (see Spathas 2010 for an alternative theory of these facts, as mentioned in fn. 26).

(vi) *Who defended Liz?*
a. #***Líz*** defended herself.
b. Liz defended ***hersélf***.

extrametrical reflexives explains why they cannot be separated from their antecedent by an island boundary. Because *himself* in (72)-(73) occurs in an island, it cannot move to VoiceP[32] and, therefore, only the derivation without reflexive voice is viable. *Himself* remains the most embedded constituent of its spellout domain in these examples and thus bears phrasal stress.

Second, the obligatory presence of reflexive voice for licensing extrametrical reflexives accounts for why they cannot be anteceded by a derived subject. For example, the passive and raising constructions in (74)-(75) rely on another voice than the reflexive voice (i.e. passive, raising; see Ahn 2015: 106-108). Given that only one voice can be merged per clause, there is no reflexive voice to which *himself* can move in these sentences, and *himself* thus qualifies as the most embedded, stress-bearing constituent.

Third, the height of the reflexive voice derives the subject orientation of extrametrical reflexives, under the assumption that the subject is the only DP within the relevant spellout domain that outscopes the reflexive voice projection.[33] Thus, the reflexive in (76) can only take the subject *Liz* as antecedent after movement to VoiceP; binding of *himself* by the object *Danny* is only possible in a derivation without reflexive voice.

As this brief description of his account makes clear, Ahn (2015) thus distinguishes between two types of reflexive constructions, which can be diagnosed by their prosody: those that involve a reflexive voice (where the reflexive is extrametrical) and those that do not (where the reflexive may bear phrasal stress). Given the restrictions on voice merging and movement to voice, the former are only possible in contexts of local subject-oriented reflexivity (or *LSOR*, in Ahn's terms). The latter are possible in the complement set of these contexts. This hypothesis entails that the dividing line between LSOR and non-LSOR anaphors does not rely on the type of position occupied by reflexives. Certainly, there are some positions which systematically exclude LSOR reflexives (e.g. conjunct within a coordinated structure excluding the antecedent, as in (72)) and others that systematically exclude non-LSOR reflexives (e.g. direct object of a verb as in (71)). But crucially, there are also some positions that are compatible with both LSOR or non-LSOR reflexives, such as the indirect object position in configurations like (76); in those cases, the difference between LSOR and non-LSOR anaphors is interpretive: weak reflexives are subject-oriented, while strong reflexives are object-oriented.

To capture this division of roles, Ahn (2015: 290) proposes a pragmatic rule, Rule J, that requires comparing derivations and choosing the more constrained one: according to Rule J, reflexive voice must be merged if (i) its presence is grammatically possible and (ii) its presence does not change the interpretation. Clause (i) correctly predicts the complementary distribution of LSOR and non-LSOR anaphors in configurations like (71) vs. (72)-(73) (where the stress pattern

[32] Recall that even if this movement does not feed linearization, this is not LF movement, but movement happening in the narrow syntax, since it feeds prosody; this is why Ahn (2015: 265) talks about 'covert overt' movement. Therefore, this movement is subject to island constraints.

[33] More precisely, Ahn (2015: 177-180) assumes that REFL instantiates an identity function, which coidentifies two arguments. The first argument is the reflexive, since it is remerged in the specifier of VoiceP. The second argument is the local subject, under the assumption (inspired by Bowers 2001) that all subjects pass through the same phase-internal position in PredP before reaching their surface position in SpecTP.

depends on the presence of islands) or (71) vs. (74)-(75) (where the stress pattern depends on the type of voice). Clause (ii) correctly predicts the availability of both LSOR and non-LSOR anaphors in configurations like (76) (where the stress pattern depends on the orientation of the anaphor).

2.1.1.3. Ahn's overgeneration of logophoric anaphors

Returning now to our main goal, Rule J makes specific predictions about logophoric anaphors, even if Ahn (2015) does not discuss them. Ahn's hypotheses imply that logophorically bound reflexives in examples like (67)a (repeated below as (78)a) are not extrametrical. As shown in (78)b, such structures cannot involve a reflexive voice since just like in (72)a, the reflexive sits in an island (the coordinated structure) excluding its antecedent.

(78) a. Max$_i$ boasted that the queen invited Lucie and himself$_i$ for a drink.
b.*Max$_i$ boasted that the queen [$_{VoiceP}$ ~~himself~~$_i$ REFL [$_{vP}$ invited Lucie and himself$_i$]]

However, the predictions Rule J makes are too weak for (67)b (repeated below as (79)a). As shown in (79)b the derivation with reflexive voice is grammatical. But as per clause (ii), it does not exclude the derivation without reflexive voice in (a) because it does not trigger the same interpretation (cf. (76)b-c). Contrary to facts, *himself* in (79)a is thus predicted to be acceptable under neutral phrasal stress.

(79) a. Max$_i$ boasted that [the queen]$_k$ invited himself$_i$ for a drink.
b. Max$_i$ boasted that [the queen]$_k$ [$_{VoiceP}$ ~~herself~~$_k$ REFL [$_{vP}$ invited herself$_k$]]

This option is not explored in Ahn (2015), which limits discussion to descriptively plain anaphors. Given that only derivations that overtly comply with Condition A are examined, the possibility that non-local DPs could serve as antecedents is ignored. Specifically, in the examples considered in Ahn's analysis,[34] if a reflexive voice is merged, only the local subject can bind the anaphor because it is the only DP above the reflexive voice that sits within the spellout domain; and if the reflexive voice cannot be merged, only subjects and objects within the spellout domain are potential antecedents. But crucially, the logophoric A-binder hypothesis adds a further option by introducing pro$_{log}$ as a new potential binder within the spellout domain. Given that in configurations like (79), antecedence by pro$_{log}$ and antecedence by the local subject yield different interpretations, both are predicted to be available, since Rule J does not force the merging of the reflexive voice if a derivation without it does not give rise to the same meaning.[35] Thus, Ahn's (2015) account cannot derive LBEs arising in sentences like (79)a. As we will explain in the next section, Ahn's proposal nevertheless provides a crucial key to solving the LBE issue.

[34] We have only examined cases involving subjects and objects within verbal phrases so far, but we will discuss other types of phrases (esp. small clauses, DPs) in section 2.2.1.

[35] An alternative way to integrate the logophoric A-binder hypothesis to Ahn's (2015) account would be to hypothesize that pro$_{log}$ sits above the reflexive voice and can thus serve as antecedent for extrametrical reflexives. This would also wrongly predict (79)a to be grammatical. We only discuss the option under which logophorically bound *herself* is not associated with the reflexive voice because this is ultimately the correct one: as we will see, logophorically bound reflexives are not extrametrical. What needs to be refined is the kind of competition introduced by Rule J.

2.1.2. The weak/strong competition hypothesis

2.1.2.1. Insight from French

While the logophoric A-binder hypothesis unifies descriptively plain and exempt anaphors, Ahn's (2015) hypothesis distinguishes between two types of plain reflexives in English depending on their syntactic configurations. In this section, we will explain how this distinction can help us understand why the distribution of descriptively exempt anaphors is restricted in English. To this end, comparison with French facts will be crucial in providing a missing ingredient of the solution.

In effect, Ahn (2015) proposes that English reflexives come in two varieties: a weak form and a strong form, which we will henceforth note *'erself* and *herself*, respectively. As we saw, the prosodic difference between the two forms only surfaces in some configurations. *Herself* and *'erself* prosodically differ in broad focus contexts when they are the rightmost elements in their spellout domain (i.e. when they are in a linear position where other elements would bear phrasal stress). But otherwise, *herself* can be weak, i.e. when if it is not the most embedded element of its spellout domain or when it is given, for instance when contrastive focus targets another element in the sentence. Conversely, *'erself* can be strong under narrow focus, in case of REAFR (see fn. 31), or when it is the direct object in double object constructions (see fn. 28). For that reason, Ahn (2015) uses prosody only as a diagnostic and argues that the actual difference between the two types of reflexives is structural: weak *'erself* is associated with a reflexive voice head to which it is attracted, but strong *herself* is not associated with any head. Moreover, the availability of weak *'erself* blocks the presence of strong *herself* under the same interpretation.

Strikingly, the same type of contrast is more transparently observed in French, where the difference need not be diagnosed by prosody as it is morphologically marked: French distinguishes between a weak reflexive form *se* – a clitic – and a strong reflexive form *elle-même*. As noticed in Charnavel & Sportiche (2016: 54-55), the reflexive clitic *se* blocks the strong reflexive *elle-même* in broad focus contexts as illustrated in (80)-(81) (cf. (71)-(72)).[36]

(80) *What happened in the kitchen?*
a. Remy$_i$ s$_i$' est brûlé.
Remy SE is burned
b. *Remy$_i$ a brûlé lui$_i$-même.
Remy has burned himself
'Remy burned himself.'

(81) *What happened in the kitchen?*
a. Remy$_i$ a brûlé Marie et lui$_i$-même.
Remy has burned Marie and himself
b.*Remy$_i$ s$_i$' est brûlé et Marie.
Remy SE is burned and Marie
'Remy burned Marie and himself.'

Furthermore, the distribution of French *se* is very similar to that of English *'erself* since it requires a local, deep subject as antecedent. It is therefore ungrammatical in the three types of

[36] To facilitate presentation, we gloss the strong reflexive *lui-même* as *himself* and the reflexive clitic as SE, and we place an index on *se* as if it stood for an argument (but we do not take a stand on its actual role, see Labelle 2008, Sportiche 2014, i.a. for discussion). Further note that the presence of *se* obligatorily induces the auxiliary *be*.

configuration identified in Ahn (2015) to require *herself* (vs. *'erself*).[37] First, *se* cannot occur in islands excluding its antecedent as in (81). This directly follows from the fact that *se* undergoes overt clitic movement. Second, *se* is incompatible with passive and raising constructions as shown in (82)-(83) (cf. (74)-(75)).[38] Under Sportiche's (2014) hypothesis, this restriction is explained by the intrinsic properties of a Voice associated with *se* (cf. Labelle 2008).

(82) *What happened at the meeting?*
a. Liz$_i$ a été assignée à elle$_i$-même (par Jean).
Liz has been assigned to herself by John
b. *Liz$_i$ s$_i$' est eu assignée (par Jean).
Liz SE is had assigned by John
'Liz was assigned to herself (by John).'

(83) *Tell me something about Jack.*
a. ?Il$_i$ semble avoir changé à lui$_i$-même.
he seems have changed to himself
b. *Il$_i$ se$_i$ semble avoir changé.
he SE seems have changed
'He seems to himself to have changed.'

Finally, French *se* is subject oriented, just like *'erself*, as illustrated in (84) (cf. (76)): *se* can stand for the indirect object only if anteceded by the subject, in which case *elle-même* is ruled out (unless it is focused, see fn. 37); antecedence by the object requires the use of *elle-même*.[39]

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[37] Even if the difference between the weak and the strong reflexive in French is not prosodically, but morphologically marked, we keep working in broad focus contexts here, in order to show minimal pairs with English and to avoid additional complications. For example, the French counterpart of stressed *'erself* under narrow focus is clitic doubling as illustrated in (vii)a (to be compared with (80) and (71)) and (vii)b (to be compared with (84) and (76)).

(vii) a. *Who did Remy burn?*
Remy$_i$ s$_i$' est brûlé lui$_i$-même.
Remy SE is burned himself
'Remy burned HIMSELF.'
b. *Who did Liz assign Danny to?*
Liz$_i$ s$_i$' est assigné Danny à elle$_i$-même.
Liz SE is assigned Danny to herself
'Liz assigned Danny to HERSELF.'

The presence of *se* here supports the hypothesis that the reflexive voice is involved in English in these cases, even if narrow focus induces strong prosody on *'erself*. Further note that clitic doubling is not obligatory in (vii)b (vs. (vii)a). According to Kayne (2000), the version without clitic doubling is an instance of topicalization (which is more available with datives than with accusatives) and is therefore irrelevant to our purposes (see further discussion in fn. 47).

[38] In (82)b, the addition of the parenthesis is meant to make sure that the sentence is interpreted as a passive (an alternative, irrelevant interpretation is otherwise available, i.e. *Liz assigned herself*); also, the choice of the auxiliary reflects the only possible combination of auxiliaries possible with *se* (see Charnavel 2008). Furthermore, the experiencer is right-extraposed in (83)a because this is the only position where it can be acceptable in French; it is not perfect though because non-clitic experiencers are generally degraded in French.

[39] Further note that *se* must be present (doubled with *elle-même*, cf. fn. 37) in cases of REAFR discussed in fn. 31:

(viii) *Who defended Liz?*
Liz s'est défendue elle-même.
'Liz defended ***hersélf***.'

(84) *What happened at the meeting?*

a. Liz$_i$ s$_i$' est assigné Danny.
Liz SE is assigned Danny

b. #Liz$_i$ a assigné Danny à elle$_i$-même.
Liz has assigned Danny to herself
'Liz assigned Danny to herself.'

c. *Liz$_i$ s$_k$'est assigné Danny$_k$.
Liz SE is assigned Danny

d. Liz$_i$ a assigné Danny$_k$ à lui$_k$-même.
Liz has assigned Danny to himself
'Liz assigned Danny to himself.'

As we mentioned, the striking parallel between the distribution of *se* and *'erself* inspired Ahn (2015) to analyze *'erself* as undergoing a clitic-like movement to a reflexive voice. Similarly, the competition between *elle-même* and *se* should serve as a basis, we suggest (cf. Charnavel & Sportiche 2016: 57-58), for analyzing the division of roles between *herself* and *'erself*. Specifically, Charnavel & Sportiche (2016: 53-57) claims that the blocking of *elle-même* by *se* falls under a generalization proposed by Cardinaletti & Starke (1994/1999): all else (relevant) equal, if a weaker form of the target element is available, it must be used (and thus blocks the use of a stronger form). This kind of competition is fully independent of Condition A; in fact, it does not only affect reflexive elements, but also pronouns and adverbs across languages. For instance, Charnavel & Sportiche (2016: 55-56) shows that in French, strong pronouns like *elle* are also blocked by clitics, just like strong reflexives. We thus hypothesize that similarly, strong *herself* is blocked by weak *'erself*, thus recasting Ahn's (2015) Rule J as one particular subcase of a very general principle of competition between weaker and stronger forms.

2.1.2.2. Accounting for LBEs

We are now in a better position to account for LBEs. Only assuming competition between *herself* and *'erself,* as implied by Ahn's (2015) Rule J, remains insufficient under Cardinaletti & Starke (1994/1999). They do not explicitly take into account interpretation, but their proposal implies that competition should only arise if the weak form can induce the same interpretation as the strong form. The unavailability of logophoric *herself* in (79) thus requires enrichment of the set of competitors involved. Crucially, it is shown in Charnavel & Sportiche (2016) that in French, the strong reflexive *elle-même* is not only blocked by the reflexive clitic *se*, but also by accusative and dative clitics.[40] Thus, *lui-même* in (85)b (cf. *himself* in (67)b) is not ruled out by the availability of *se*, which yields a different interpretation (see (85)c), but by that of the accusative clitic *le* (see (85)a).

[40] As mentioned in Charnavel & Sportiche (2016: fn. 30, 33), *elle-même* is however not in competition with the prepositional clitics *en* 'of it/her/him' or *y* 'at/to it/her/him' because *en* and *y* incorporate case information that *elle-même* does not (and thus qualify as PPs rather than DPs). The fact that *en/y* does not induce competition is independently shown by their lack of competition with the pronoun *elle*.

(85) a. Max$_i$ se vante du fait que la reine va l$_i$' inviter.
Max SE boasts of_the fact that the queen is_going him to_invite
b. *Max$_i$ se vante du fait que la reine va inviter lui$_i$-même.
Max SE boasts of_the fact that the queen is_going to_invite himself
c. Max$_i$ se vante du fait que [la reine]$_k$ va s$_{k/*i}$'inviter.
Max SE boasts of_the fact that the queen is_going SE to_invite
'Max$_i$ boasts that the queen will invite him$_i$.'

Conversely, *lui-même* in (86)a (cf. *himself* in (67)a) is acceptable because none of the reflexive, accusative or dative clitics are.

(86) a. Max$_i$ se vante du fait que la reine va inviter Lucie et lui$_i$-même.
Max SE boasts of_the fact that the queen is_going to_invite Lucie and himself
b. *Max$_i$ se vante du fait que la reine va l$_i$' inviter et Lucie.
Max SE boasts of_the fact that the queen is_going him to_invite and Lucie
c. *Max$_i$ se vante du fait que la reine va lui$_i$ inviter et Lucie.
Max SE boasts of_the fact that the queen is_going him to_invite and Lucie
d. *Max$_i$ se vante du fait que la reine va s$_i$' inviter et Lucie.
Max SE boasts of_the fact that the queen is_going SE to_invite and Lucie
'Max$_i$ boasts that the queen will invite Lucie and himself$_i$.'

We propose to extend this line of analysis to English: the strong reflexive *himself* in (67)b (repeated below as (87)b) is not blocked by the weak reflexive, which yields a different interpretation (see (87)c repeating (79)b[41]), but by the weak pronoun *'im* as shown in (87)a (cf. French (85)a). Just as non-reflexive clitics appear in the same environments as reflexive clitics in French, weak pronouns in English have indeed been shown to be confined to the environments that host weak reflexives (cf. Zwicky 1986, Wallenberg 2007, i.a.).

(87) a. Max$_i$ boasted that the queen invited 'im$_i$ for a drink.
b. *Max$_i$ boasted that the queen invited himself$_i$ for a drink.
c. Max$_i$ boasted that [the queen]$_k$ invited 'erself$_k$ for a drink.

However, the strong reflexive *himself* is acceptable in (67)a (repeated as (88)a) because the LSOR reflexive is ungrammatical and the weak pronoun is infelicitous in broad focus contexts.[42]

(88) a. Max$_i$ boasted that the queen invited Lucie and himself$_i$ for a drink.
b.*Max$_i$ boasted that [the queen]$_k$ invited Lucie and 'erself$_k$ for a drink.
c. #Max$_i$ boasted that the queen invited Lucie and 'im$_i$ for a drink

Thus, the addition of the weak pronoun, alongside the weak reflexive, as a competitor to the strong reflexive, solves the LBE issue in the verbal domain.

Before coming back to the nominal domain and PNAs, some clarifications are in order. First, it is worth noting that the reflexive morpheme (i.e. French *-même*, English *-self*) is not taken into account when evaluating the weight of competing elements. Strong reflexives (French *elle-même*;

[41] Recall from example (76)a that variation in gender as such is irrelevant to competition (e.g. *himself* does in principle compete with *'erself*), but the interpretive change it induces implies the absence of blocking.
[42] Weak prosody on the pronoun is however acceptable if another pair of people including Max is given in the context (i.e. if Lucie is contrastively focused). The same holds for the reflexive: (72)b is felicitous in a context where another pair of people including Remy is salient (thus making *himself* relatively given in the sense of Wagner 2006). That's why we must keep working with maximally broad focus contexts, as we mentioned at the start.

English *herself*) behave like strong pronouns (French *elle*; English *her*) with respect to weak/strong competition: as shown in Table 4, they do not compete with each other, and both compete with clitics and weak pronouns (see Charnavel & Sportiche 2016: 55-56). We will not try to provide an account for this observation here, which is not directly relevant to our purposes: through morphological distinctions, French unambiguously shows that *elle-même* and *elle* behave similarly with respect to competition; it is sufficient to extend this empirical generalization to English.

	Strong forms	**Weak forms**
French	strong pronoun *elle* strong reflexive *elle-même*	accusative clitic *la* dative clitic *lui* reflexive clitic *se*
English	strong pronoun *her* strong reflexive *herself*	weak pronoun *'er* weak reflexive *'erself*

Table 4 - Classes of competing pronominal elements in French and English

Second, it is also worth noting that while adopting the same parsimony-based approach as in the previous section, we have done so in reverse. In section 1, we started from the widespread observation that plain and exempt anaphors exhibit some systematic differences in their distribution, which have led some to postulate homophony; we then unified them by hypothesizing that the differences in their behavior do not come from their lexical entries, but derive from the nature of their binder (esp. overt binders vs. implicit pro_{log}). In this section, we conversely started with the null hypothesis that English plain reflexives form a homogeneous class; based on Ahn's (2015) discovery, we then showed that they actually exhibit systematic differences in their prosody. Just as before, we do not want to imply that *herself* and *'erself* are homophonous: the particular behavior of *'erself* comes from the presence of another implicit element (Ahn's reflexive voice), which, due to its properties, can only occur in some syntactic configurations in which it can yield prosodic effects. Thus, we assume that neither plain *herself* and exempt *herself*, nor weak *'erself* and strong *herself,* have different lexical entries. This does not mean though that other languages cannot display different lexical entries for marking similar differences. Morphological distinction between plain and exempt anaphors seems to be documented in some languages (e.g. *zichzelf* vs. *hemzelf* in Dutch, see Rooryck & Vanden Wyngaerd 2011), which implies that some anaphors may be lexically specified with respect to (non)logophoricity. We take the morphological distinction between French *se* and French *elle-même* to suggest a similar pattern: association with the reflexive voice is lexically marked in French *se*, unlike in English *'erself*.

Finally, as should have been clear, we use the weak/strong terminology (and the *'er(self)/her(self)* notation) in the same way with pronouns and with reflexives. The prosodic difference between the pronouns *her* and *'er*, just like that between *herself* and *'erself*, only surfaces when they are in a syntactic position requiring phrasal stress in neutral contexts. Otherwise, strong *her,* like *herself*, can surface as weak (e.g. when it is given); conversely, weak *'er,* like *'erself*, can surface as strong (e.g. when it is focused[43]). This hypothesis raises the question of the source of the difference between *her* and *'er*. It cannot rely on movement to a specific voice head as Ahn

[43] Cardinaletti & Starke (1994: 49-50) similarly mention that deficient pronouns can bear contrastive stress as long as they refer to an entity that is already prominent in the discourse.

(2015) argues for reflexives, but we similarly hypothesize that the difference is structural and can be specified in the light of French. In French, even if only *se* is associated with a reflexive voice, accusative *la* and dative *lui* also qualify as clitics. We likewise assume (cf. Wallenberg 2007) that weak *'er*, unlike strong *her*, but like *'erself*, undergoes some clitic-like movement corresponding to the kind of movement that Cardinaletti & Starke (1994/1999) hypothesize for weak pronouns; they indeed propose a three-way distinction between strong pronouns, weak pronouns and clitics, which correlates with a three-way distinction between various movement spans.[44] Fully motivating this hypothesis is beyond the scope of this article, but we will provide some additional support for it in section 2.2.1.

In sum, LBEs arise from the fact that logophorically bound *herself* cannot occur in positions that can host weak pronominal elements – just like French logophorically bound *elle-même* cannot occupy cliticizable positions (cf. Italian *se* in Napoli 1979). And this fact derives from the hypothesis – fully independent from Condition A – that due to a general principle of competition between weaker and stronger forms, *herself* is systematically excluded from configurations in which a weaker form (*'erself* or *'er*) is acceptable and can yield the same interpretation.

Due to Condition B ruling out pronouns in some local configurations, plain *herself* (cf. French *elle-même*) can sometimes appear in positions that can in principle host weak elements, when none of the weak elements can give rise to the relevant interpretation; this is for example the case when *herself* is an indirect object bound by the object, as shown in (76)c repeated as (89)a.

(89) a. Liz$_i$ assigned Danny$_k$ to <u>himself$_k$</u>.
b. *Liz$_i$ assigned <u>Dánny$_k$</u> to ’imself$_k$.
c. *Liz$_i$ assigned <u>Dánny$_k$</u> to ’im$_k$.

Logophorically bound *herself*, however, can never appear in such positions, as shown in (90), because *her* and *'er* cover the full range of non-local interpretations that exclude descriptively plain *herself*: an anaphor whose only potential local binder is pro$_{log}$ can always alternate with a pronoun.[45] When the alternating pronoun is weak (as in (90)c), the logophorically bound anaphor is excluded. Therefore, logophorically bound anaphors are acceptable only in positions excluding weak elements.

(90) a. *Liz$_i$ said that they assigned Danny$_k$ to <u>herself$_i$</u>.
b. *Liz$_i$ said that they assigned Danny$_k$ to <u>’erself$_i$</u>.
c. Liz$_i$ said that they assigned Danny$_k$ to <u>’er$_i$</u>.

2.2. The logophoric blocking effect in the nominal domain

Recall that we have made a detour and delved into LBEs in the verbal domain in order to ultimately return to our main goal consisting in explaining the behavior of PNAs. In this section, we will examine the consequences of the weak/strong competition in the nominal domain, which will

[44] This three-way distinction is relevant to French itself, in which deficient subject pronouns seem to be weak pronouns rather than clitics (see Cardinaletti & Starke 1994/1999).

[45] As we mentioned in fn. 23, even if the exact definition remains to be specified, it is clear that the binding domain relevant for Condition B is smaller than that relevant for Condition A; consequently, if pro$_{log}$ is the only potential binder for the purposes of Condition A, there is no overt antecedent that could trigger Condition B effects.

allow us to provide a full picture of the PNA behavior. By further specifying the set of positions that exclude logophorically bound *herself*, we will break the similarity between French and English and (descriptively) reintegrate the notion of coargumenthood into the picture.

2.2.1. Refining the reflexive projection associated with *'erself*

In the previous section, we concluded that logophorically bound anaphors are blocked by clitic-like elements under the same interpretation. Using again French as a clue for understanding English, it seems that such blocking effects should be irrelevant in the nominal domain. Reflexive, accusative and dative clitics are indeed all banned from the nominal domain as they need to move to a position in the tense field. Assuming that weak pronominal elements in English are similar to French clitics, as suggested by the facts so far, it should follow that neither *'erself*, nor *'er* should be licensed within DPs, thus never blocking logophorically bound *herself*.

As shown in Ahn (2015: 129-132), this is incorrect: even when they are the rightmost element in a broad focus context, DP-internal anaphors need not bear phrasal stress (cf. Helke 1970: 114, 126-128). This fact alone is not sufficient to question the comparison between French and English though, as shown by (91)-(92) (cf. (6)a).

(91) *Tell me something about Lucie*.
She$_i$ likes pictures of 'erself$_i$.

(92) *Tell me something about Lucie*.
a. Elle$_i$ aime les photos d' elle$_i$-même.
She likes the pictures of herself
b. *Elle$_i$ aime les se$_i$ photos.
She likes the SE pictures
c. *Elle$_i$ s$_i$'aime les photos.
She SE likes the pictures

In (91), *'erself* is acceptable within the picture noun phrase, unlike the French reflexive clitic in (92)b. Note that this does not imply that *'erself* moves to a DP-internal reflexive voice. Given that *'erself* does not sit in an island, as shown by (93) below, movement to the verbal reflexive voice is possible and it is predicted to induce weak prosody on *'erself*. In other words, the clitic counterpart to a DP-internal weak reflexive should not necessarily appear within the DP, but could also be a clitic appearing in its standard position. The reason why this option is also unavailable in French, as shown by (92)c, is due to an independent difference between French and English pertaining to constraints on extraction illustrated in (93)-(94): extraction out of the picture noun phrase requires pied-piping of the preposition in French, unlike in English.

(93) Who does she like pictures of?

(94) a. De qui aime-t-elle les photos?
of who likes she the photos
b. *Qui aime-elle les photos de?
who likes she the photos of

But crucially, Ahn shows that DP-internal *'erself* can also exhibit weak prosody even when movement to the verbal reflexive voice is impossible. This is for example the case in (95)-(96): (95) cannot involve movement to the main clause VoiceP since the binder of the reflexive is the

object, not the subject; a derivation including the verbal reflexive voice is also excluded in (96) since it is a passive construction.[46] Ahn (2015: 131) concludes from these facts that the binder of *'imself* must be some DP-internal local subject here, and that a reflexive voice can therefore be present within DPs. This hypothesis is further supported, according to him, by the interpretation of such reflexives: for instance, (97) entails Jack writing the letter.

(95) *Tell me something about Lucie.*
She$_i$ showed Pete$_k$ pictures of 'imself$_k$. (cf. Ahn 2015: 131)

(96) *Tell me something about Pete.*
He$_k$ was shown pictures of 'imself$_k$. (cf. Ahn 2015: 131)

(97) Jack$_i$ found a letter to 'imself$_i$. (Ahn 2015: 131)

To account for the distributional differences between English *'erself* and French *se*, Ahn (2015) in effect proposes that the reflexive voice has a broader distribution in English than in French. According to him, facts such as (95)-(97) above entail that the reflexive voice can occur within DPs; facts in (98)-(99) below further imply that it can appear within small clauses, even non-verbal ones unlike in French (see (100)-(101)).

(98) *What happened during the writer's meeting yesterday?*
a. #Jenna made Patrice proud of ***himsélf***.
b. Jenna made Patrice ***próud*** of himself. (Ahn 2015: 120)

(99) *What happened during the writer's meeting yesterday?*
a. #Pete saw Liz burn ***hersélf***.
b. Pete saw Liz ***búrn*** herself. (cf. Ahn 2015: 119)

(100) *What happened during the writer's meeting yesterday?*
a. Jenna a rendu Patrice fier de lui-même.
Jenna has made Patrice proud of himself
b. *Jenna a rendu Patrice se fier.
Jenna has made Patrice SE proud

(101) *What happened during the writer's meeting yesterday?*
a. *Pete a vu Liz brûler elle-même.
Pete has seen Liz burn herself
b. Pete a vu Liz se brûler.
Pete has seen Liz SE burn

In both (98)-(99), the English reflexive, which is bound by the small clause subject, is extrametrical. However, French *se* is only available within verbal small clauses such as (101). Other types of small clauses, such as the adjectival small clause in (100), can only host strong reflexives. The parallel between French *se* and English *'erself* thus seems to break down here. Instead of assuming an idiosyncratic distribution for the English reflexive voice, we take these facts to reveal that the head attracting *'erself* can't literally be a voice head, which associates only with verbs; it must be a reflexive head compatible with adjectives and nouns.

Such a head is more transparently relevant in another English construction. Reflexivity within nominals or within small clauses does not always require the weak reflexive *'erself* as in (95)-(98)

[46] The original examples in Ahn (2015) involve *letter to* instead of *picture of*. We modified the examples to avoid the complication introduced by goal arguments, which we will discuss in section 2.2.3.

above, but in some lexically restricted cases, it can be expressed with a different kind of element, namely *self-*, as illustrated in (102)-(103). We thus hypothesize that the head attracting *'erself* is similar to that associated with *self-* and we will henceforth call it SELF. Movement to SELF within nominals is illustrated in (104) representing (97).

(102) What happened during the writer's meeting yesterday?
Jenna made Patrice self-critical.

(103) Tell me something about Lucie.
She showed Pete his self-portrait.

(104) Jack found a [~~himself~~ SELF [letter to himself]].

Our hypothesis is that *'erself* must move to an abstract head SELF, which like *self-*, can be present in verbal, nominal and adjectival domains, and unlike *self-*, is not restricted lexically. In other words, our head SELF remains similar to Ahn's (2015) reflexive voice in many respects, but it is crucially not a voice head, which accounts for its broader distribution than French *se* outside the verbal domain.

At the same time, we argue that by replacing REFL Voice with SELF, we do not lose the explanation for the restricted distribution of *'erself* in the verbal domain, namely its deep subject orientation as well as its exclusion from islands (see (73)-(76)). To understand why, the comparison with French is again revealing. French also has a head that, like *self-*, can express reflexivity within nominals or within adjectives in some lexically restricted cases, namely *auto-* (see Labelle 2008, Sportiche 2014, i.a.) as illustrated in (105)-(106).

(105) *What happened during the writer's meeting yesterday?*
Jenna a rendu Patrice **auto**-critique.
Jenna has made Patrice self-critical
'Jenna made Patrice self-critical.'

(106) *Tell me something about Lucie.*
Elle a montré à Pete son **auto**-portrait.
she has shown to Pete his self-portrait
'She showed Pete his self-portrait.'

Crucially, when this head occurs in the verbal domain, it is obligatorily associated with the reflexive clitic *se* as shown in (107).

(107) *Tell me something about Lucie.*
a. Elle s' autocritique souvent.
she SE self-criticizes often
b. *Elle autocritique souvent.
she self-criticizes often
'She often criticizes herself.'

Therefore, all distributional properties observed with *se* directly apply to *auto-*, as illustrated in (108)-(110) (cf. (81), (82) and (84), respectively).

(108) *Tell me something about Lucie.*
*Elle s' autocritique et Pete souvent.
she SE self-criticizes and Pete often
'She often criticizes herself and Pete.'

(109) *What happened at the meeting?*
*Liz$_i$ s$_i$' est eu autoassignée (par Jean).
Liz SE is had self-assigned by John
'Liz was assigned to herself (by John).'

(110) *What happened at the meeting?*
a. Liz$_i$ s$_i$' est autoassigné Danny$_k$.
Liz SE is self-assigned Danny
'Liz assigned Danny to herself.'
b. *Liz$_i$ s$_k$'est autoassigné Danny$_k$.
Liz SE is self-assigned Danny
'Liz assigned Danny to himself.'

We do not here aim at explaining such obligatory association of *auto-* with *se*, which is beyond the scope of this article (for some discussion, see Labelle 2008, Sportiche 2014, i.a.). But we take it as a clue explaining the distribution of English *'erself*: *'erself* exhibits a distribution that is similar to *se* in the verbal domain, but broader otherwise, because it must move to a head, SELF, that is not a voice head itself, but directly interacts with voice in the verbal domain. We leave the details for future research, but will henceforth assume, as summarized below, that SELF is similar to *(se)auto* in entailing local deep subject orientation and not being restricted to the verbal domain.

(111) <u>*Relevant properties of the reflexive head* SELF</u>:
a. Obligatorily attracts *'erself* and *self-*;
b. Entails local deep subject orientation;
c. Can appear in verbal, adjectival and nominal domains.

This hypothesis has a further welcome consequence. Recall that under our hypothesis, *herself* competes not only with *'erself*, but also with *'er*, so that understanding the distribution of weak pronouns is crucial to predict the distribution of logophorically bound *herself*. As a first pass, we compared *'er* with French accusative and dative clitics *la/lui*, whose distribution is similar to that of *se* in the sense that they all originate from non-nominative structurally case-marked positions.[47] As suggested by our examples so far, this generalization applies to *'er* in the verbal domain. But crucially, the distribution of *'er* in small clauses and DPs raises the same issue as *'erself* as shown in (112)-(115).

[47] Kayne (2000) strengthens this generalization by claiming that in French, pronominal arguments that are structurally case-marked must be doubled by a clitic, whether they are silent (as in examples of the text) or not (see fn. 37). He further suggests that this approach could replace Cardinaletti & Starke's economy-based (1994/1999) approach, which requires comparing derivations. To explain why pronominal dative elements do not always require a clitic, whether they are stressed or not (see (84)), he hypothesizes that the configurations without clitics are instances of topicalization, which independently applies more readily to datives than to accusatives. The issue of this hypothesis is to explain why in the absence of contrastive focus, such topicalization is only available (or at least much better) when there is no clitic-doubled version yielding the same interpretation (see (84)d vs. (84)b). It thus seems that assuming some kind of competition is after all necessary to capture all the facts.

(112) Pete$_i$'s colleagues made his wife proud of 'im$_i$.
(113) His$_i$ wife showed us pictures of 'im$_i$.
(114) *What happened during the writer's meeting yesterday?*
a. Jenna a rendu Patrice fier de lui.
Jenna has made Patrice proud of him
b. *Jenna a rendu Patrice {le / lui} fier.
Jenna has made Patrice him him proud
(115) *Tell me something about Lucie*.
a. Elle$_i$ aime les photos d' elle$_i$.
she likes the pictures of her
b. *Elle aime les {la / lui} photos.
she likes the her her pictures
c. *Elle {la / lui} aime les photos.
she her her likes the pictures

While *la/lui* are excluded from non-verbal small clauses (e.g. (114)) and from DPs (e.g. (115)), *'er* is available in both (e.g. (112)-(113)). The distribution of *'er* is thus similar to that of *'erself* in displaying the same kind of distribution as clitics in the verbal domains, but in also appearing outside the verbal domain. Of course, the solution cannot rely on SELF itself, which is only associated with reflexive interpretations, just like the distribution of *la/lui* does not rely on the reflexive voice associated with *se*. But we assume that *'er* belongs to the same paradigm as *'erself* just like *la/lui* belong to the same paradigm as *se*, and each paradigm is associated with a certain type of movement: clitic movement for *se/la/lui*, weak pronoun movement for *'er/'erself*. Recall indeed from section 2.1.2.2 that Cardinaletti & Starke (1994/1999) assumes a three-way distinction between strong pronouns, weak pronouns and clitics, and propose that weak pronouns undergo a shorter movement than clitics. This hypothesis is fully compatible with the English facts reviewed so far (cf. Zwicky 1986, Wallenberg 2007), and allows us to understand both the similarities and the differences between French *la/lui/se* and English *'er/'erself*. In sum, we hypothesize that *'er* and *'erself* are weak forms rather than clitics, and thus undergo shorter movements, which explains why they can occur not only in the verbal domain, but also in nominal and adjectival domains.[48] But in all domains, the distribution of *'er/'erself* is similar to that of *la/lui/se* in being restricted to non-nominative structurally case-marked positions (where, for our descriptive purposes, we take genitive positions to be structurally case-marked).

(116) <u>*Weak vs. strong pronouns in English*</u>:
a. English pronouns divide into strong forms – *her* and *herself* – and weak forms – *'er* and *'erself*.
b. Unlike strong forms, weak forms undergo short movements, which restricts them to non-nominative structurally case-marked positions.

We are thus now in a position to partly reintegrate the notion of coargumenthood into the picture. Recall from section 1 that defining Condition A and exemption from it based on the notion

[48] More specifically, one possible analysis for the movement of weak pronouns is to assimilate it to A-scrambling. This is consistent with Wallenberg's (2007) analysis of English weak pronouns as object shift and Angelopoulos & Sportiche's (to appear) analysis of clitic movement as a two-step movement: A-movement followed by A-bar movement.

of coargumenthood, as PBTs do, is not tenable. But the discussion above reveals that at least descriptively, the notion of coargumenthood is partly relevant to understanding contrasts like (67)a-(67)b, which motivated PBTs. Logophorically bound *herself* is blocked by *'er/'erself*, which can only appear in non-nominative structurally case-marked positions. It follows that logophorically bound *herself* is excluded from positions with syntactic coargumental subjects, since positions with a syntactic coargumental subject are necessarily non-nominative structurally case-marked positions.[49] The relevance of coargumenthood to reflexives is thus twofold: on the one hand, plain *'erself* must be bound by a syntactic coargumental subject; on the other hand, exempt *herself* is ruled out in the presence of a syntactic coargumental subject. Crucially though, the relevance of coargumenthood to the distribution of reflexives is fully independent of Condition A and exemption from it, unlike what PBTs argue. First, the coargumental subject orientation of *'erself* certainly entails compliance with Condition A, but it is distinct from Condition A, since plain *herself* (unlike *'erself*) is not subject to this requirement, but only to Condition A. Second, the blocking of exempt *herself* by the presence of a coargumental subject derives from competition with weak forms, which falls under a general principle of competition fully independent of Condition A.

In fact, note that French shows even more transparently that the notion of coargumenthood is only descriptively and only partly relevant to the distribution of reflexives. Just as in the case of *'erself*, the binder of *se* is always a syntactic coargument. But crucially, it is neither the case that all syntactic coarguments qualify as binders of *se*, nor that all positions with syntactic coargumental subjects exclude logophorically bound *herself*. One of Charnavel & Sportiche's (2016) arguments against PBTs rely on this fact, illustrated in (117)-(120).

(117) a. Marie$_i$ dépend d' elle$_i$-même.
Mary depends of herself
b. *Marie$_i$ se$_i$ dépend.
Mary SE depends
'Mary$_i$ depends on herself$_i$.' (Charnavel & Sportiche 2016: 55)

(118) Marie$_i$ s' inquiète souvent du fait que ses enfants dépendent d' elle$_i$-même.
Mary SE worries often of_the fact that her children depend of herself
'Mary$_i$ is often worried that her children depend on herself$_i$.'
(Charnavel & Sportiche 2016: 52)

(119) a. *Marie$_i$ s$_i$' est fière
Mary SE is proud
b. Marie$_i$ est fière d' elle$_i$-même.
Mary is proud of herself
'Mary$_i$ is proud of herself$_i$.'
(cf. Bouchard 1984: 19, Zribi-Hertz 1995: 348-349, Charnavel & Sportiche 2016: 57)

[49] Non-nominative structurally-marked positions, however, do not necessarily have a coargumental subject: this is not the case with verbs like *seem* or *bother* that lack a subject. We correctly predict that logophorically bound *herself* is excluded from complements of such verbs as shown in (ix). But we will not further delve into such cases as nominal counterparts of such verbs (e.g. *possibility* in fn. 55) do not descriptively qualify as picture noun phrases.

(ix) *He$_i$ thinks it bothered himself$_i$ that S. (Chomsky 1981: 214)

(120) Marie$_i$ se demande si ses collaborateurs sont fiers d' elle$_i$-même.
Mary SE asks if her coworkers are proud of herself
'Mary$_i$ wonders if her coworkers are proud of herself$_i$.'
(Charnavel & Sportiche 2016: 52)

Although Marie is a coargumental subject of the reflexive in (117) and (119), it cannot antecede *se*, and although there is a coargumental subject in (118) and (120), *elle-même* can be logophorically bound. This is unexplained under PBTs but directly follows from our hypothesis, given that complement positions of prepositional verbs or adjectives like *dépendre de* 'depend on' or *fier de* 'proud of' cannot host the clitics *se/la/lui*.[50]

The facts are different in English, where these positions host weak elements like *'erself* (see (121)-(122)) and thus exclude logophorically bound *herself* (see (123)-(124)).

(121) Mary$_i$ is proud of 'erself$_i$.
(122) Mary$_i$ depends on 'erself$_i$.
(123) Mary$_i$ is often worried that her children depend on {'er$_i$/*herself$_i$}.
(124) Mary$_i$ wonders if her coworkers are proud of {'er$_i$/*herself$_i$}.

This difference again correlates with different constraints on extraction in French and in English (cf. (93)-(94)): pied-piping of the preposition is obligatory in French (e.g. (127)-(128)) unlike in English (e.g. (125)-(126)).

(125) Who is Mary proud of?
(126) Who does Mary depend on?
(127) a. *Qui Marie est-elle fière de ?
who Mary is she proud of
b. De qui Marie est-elle fière ?
of who Mary is she proud
(128) a. *Qui Marie dépend-elle de ?
who Mary depends she of
b. De qui Marie dépend-elle?
of who Mary depends she

These observations confirm that the notion of coargumenthood as such is irrelevant to the distribution of reflexives, even if it is descriptively useful in stating the generalizations pertaining to the distribution of *'erself* and logophorically bound *herself* summarized in (129).

(129) <u>*The descriptive relevance of coargumenthood for English reflexives*</u>:
a. LSORs: *'erself* must be bound by a syntactic coargument subject.
b. LBEs: logophorically bound *herself* is ruled out in the presence of a syntactic coargument subject.

2.2.2. Consequences for possessed PNAs (first pass)

Now that we have established a precise generalization about LBEs and showed that they derive from a competition principle fully independent of Condition A, we can explore the consequences

[50] They can however host the prepositional clitic *en*, as expected by the contrast between (127)a and (127)b. But recall from fn. 40 that *en* does not compete with *elle(-même)*. Further note that the impossibility for adjectival small clauses like (100) to host clitics directly follows from this fact.

for the distribution of PNAs. In section 1, we have shown that PNAs, just like any other anaphor, can be bound by any local binder, including the possessor (if present) and pro_{log} (under the appropriate discourse conditions) as exemplified in (130)-(133) (repeating (18), (35)b, (1) and (55), respectively).

(130) **[**[The witty play]$_i$ inspired a parody of itself$_i$**]**.
(131) Mary polishes [the castle]$_i$'s replica of itself$_i$.
(132) Tom$_i$ believes that **[**$pro_{log\text{-}i}$ there is a picture of himself$_i$ hanging in the post office**]**.
(133) Hannah$_i$ found **[**$pro_{log\text{-}i}$ Peter$_k$'s picture of herself$_i$**]**.

Now, the empirical generalizations in (129) have a twofold implication: if the PNA has a coargumental subject, it must be bound by it and cannot be logophorically bound; neither holds if the PNA lacks a coargumental subject. This gives new importance to the discussion in section 1.1.2 about the status of the possessor. Recall that while the Chomskian theory uniformly treats the possessor as a binding domain boundary, different versions of PBTs make different claims about the argumental status of the possessor, which make different predictions about the plain/exempt status of PNAs. Further recall that the inanimacy-based tool supported the Chomskian view, in that the acceptability of possessed PNAs does not depend on the status of the possessor (and therefore not on the type of noun head, as implied by late PBT versions), but on its perspectival properties as predicted by the logophoric A-binder hypothesis. But now, the argumental status of the possessor becomes relevant again since LBEs depend on it in the nominal domain: according to (129), LBEs in picture noun phrases should only arise if the possessor counts as a coargumental subject for the PNA in the relevant sense.

In our view, the controversy about the status of the possessor results from a confusion. As stated in (134), the so-called possessor, which we will henceforth call *genitive* to avoid any further confusion, can correspond to various underlying positions: the subject of NP or any other source (object of NP, possessor, etc), which end up in the same surface position in English (see Stowell 1989, Giorgi & Longobardi 1991, Longobardi 2001, i.a.).

(134) <u>*Ambiguity of the genitive in English*</u>:
In English, a genitive DP realizes the subject of NP or other types of (quasi)arguments (complements, possessor).

Only the subject of NP qualifies as a coargumental subject for PNAs. The relevant question is thus to determine whether the genitive counts as the subject of NP or not. The interpretation of the genitive, we hypothesize, can provide a crucial clue: if it specifically depends on the denotation of the noun (just like the interpretation of a verbal subject depends on the interpretation of the verb), it can be a subject of NP; it cannot if it stands in some other relation (e.g. possession) to the noun.

This hypothesis makes the same prediction as Grimshaw (1990) for nominalizations. When the nominalization (e.g. *examination*) denotes a process (cf. Grimshaw's complex event nominals), the genitive is construed as the specifically relevant actor of the process (e.g. the examiner) and thus qualifies as an argument, i.e. the subject, of the noun. But when the nominalization denotes a result (cf. Grimshaw's result nominals), the genitive is compatible with several modifier readings (e.g.

the possessor, author or taker of the exam) and thus does not qualify as the subject of the noun. This hypothesis accounts for LBEs in examples like (30)b/(64) or (32)a/(65) repeated below.

(135) *The fact that Mary$_k$'s description of himself$_i$ was flawless was believed to be disturbing John$_i$.
(136) *Jill$_i$ found Matt$_k$'s fear of herself$_i$ surprising.

In (135), Mary is intended to be interpreted as the agent of the act of describing John. Under our hypothesis, this implies that Mary originates as the subject of NP, thus blocking the logophoric binding of *himself*.[51] Similarly, Matt in (136) is construed as the experiencer of the feeling of fear and thus counts as the subject of NP, which gives rise to a LBE for *herself*.

Conversely, PNAs in result nominals are predicted to be licensed by logophoric binding as confirmed by (137), which contrasts with (135).

(137) John confessed that the media's descriptions of himself are always disturbing to him.

In (137), the noun *description* is pluralized, which according to Grimshaw, is incompatible with the process reading. This implies that the NP lacks a subject here, so that logophoric binding is possible. As its antecedent *John* is appropriately construed as the logophoric center in (137) (vs. (135), see fn. 51), *himself* is thus correctly predicted to be licensed.

Returning now to PNAs in the narrow sense (recall fn. 3), we hypothesize in (138) that the genitive can qualify as the subject of NP when it is interpreted as the creator (cf. Chomsky 1986, Asudeh & Keller 2001, Davies & Dubinsky 2003, Jaeger 2004, Ahn 2015, i.a.), thus implying that picture nouns can count as complex event nominals in the sense of Grimshaw (1990). By creator, we mean the agent responsible for the entity denoted by the noun, such as a photographer or painter (in the case of e.g. *picture* or *portrait*) or an author, writer or teller (in the case of e.g. *book* or *story*), for example. We further hypothesize (*pace* Davies & Dubinsky 2003) that this holds whether the picture noun is interpreted as concrete or abstract (see discussion in fn. 76 and 81).

(138) <u>*Subject of picture nouns*</u>:
The subject of a picture noun phrase must be interpreted as the creator of the entity denoted by the noun.

This hypothesis is not sufficient to account for the contrast in (61) repeated below in (139).

(139) a. ✓/? Joe$_i$ destroyed Harry$_k$'s book about himself$_i$.
b. ?/* Joe$_i$ <u>wrote</u> Harry$_k$'s book about himself$_i$.

The creator interpretation of *Harry* is possible only in (139)a given that the creator must be Joe in (139)b due to the presence of the creation verb. Under our current hypothesis, we would thus expect the contrast to go in the other direction: the logophoric interpretation of *himself* as Joe could be blocked by the subject interpretation of *Harry* only in (139)a, not in (139)b. As we will see in section 2.2.4, the actual contrast is due to several additional factors interacting with our hypothesis:

[51] (135) is degraded also under a result reading because two factors disfavor the logophoric construal of John: the passive *was believed to* and the possessor *Mary* introduce two potentially intervening logophoric centers. By contrast, the logophoric construal of John is favored in (137) by the use of the attitude verb *confessed* and the non-specificity of the possessor *the media*.

the possible implicitness of subjects of NP, the obligatoriness vs. optionality of subjects of NP depending on the environment, and the fact that in English, a subject of NP and a possessor cannot be realized simultaneously if they are disjoint. To explain these factors, we first need to examine the consequences of the generalizations in (129) for possessorless PNAs.

2.2.3. Consequences for possessorless PNAs

At the beginning of section 2, we mentioned that we would start with LBEs in the verbal domain because the nominal domain presents additional complexities. One is the ambiguity of the genitive (as subject of NP or not) discussed in the previous section. A second one is the availability of silent subjects in NPs, which has no counterpart in the (finite) verbal domain in English. Recall that we have so far circumvented the issue (which we briefly discussed in connection with Chomsky's (1986) PRO-based hypothesis at the beginning of section 1.1.1.1) by avoiding agentive interpretations of possessorless PNAs, i.e. interpretations under which they refer to the creator of the entity denoted by the picture noun. We are now in a position to tackle the issue.

Under the hypothesis that the subject of NP can be covert – which we will henceforth call pro_{subj}[52] – generalizations (129)a-b entail that in the presence of pro_{subj}, pro_{subj} must bind the PNA, thus blocking any other binding, in particular by pro_{log}.[53] In other words, the presence of pro_{subj} forces the PNA to be weak *'erself* referring to the creator of the entity denoted by the picture noun; a possessorless PNA can only be strong *herself* referring to a non-creator in the absence of pro_{subj}.

Thus, generalization (129)a first predicts that a possessorless PNA that is descriptively exempt can be acceptable even if it is not logophoric, as long as it refers to the creator of its picture noun. This prediction is borne out in example (140).

(140) The picture of itself_i shows $[\text{the Mars rover}]_i$ at the base of a steep hill.

Here, *itself* lacks an overt local binder and cannot be logophorically bound since it is inanimate. (140) is nevertheless acceptable in contrast to all previous examples of inanimate possessorless PNAs without an overt local binder in section 1.1.1.3. This directly follows from the hypothesis that *itself* is locally bound by pro_{subj}, which denotes the creator as represented in (141).[54]

(141) The $pro_{subj\text{-}i}$ picture of itself_i shows $[\text{the Mars rover}]_i$ at the base of a steep hill.

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[52] We remain agnostic about the precise identity of pro_{subj}, i.e. whether it should be treated as *PRO* as in e.g. Chomsky (1986) or as *pro* as in e.g. Sichel (2009) (see review in Landau 2013: 208-213). Nothing hinges on this issue in our argumentation.

[53] Recall that under our hypothesis, such blocking is due to the fact that logophorically bound *herself* cannot occur in positions that can host weak elements because it competes with *'erself* and *'er* under identical interpretations. Here, *herself* is blocked by *'er* as *'erself* would yield a different interpretation. This relies on the conclusion reached in the verbal domain (see discussion above (112)) that object pronouns must be weak (i.e. undergo weak pronoun movement) when there is a coargumental subject.

[54] This implies that apparent exemption is not always due to logophoricity as generally assumed (see references mentioned in section 1). Recall that this assumption forms the basis of Charnavel & Sportiche's (2016) inanimacy-based tool, used in section 1. But we avoided the issue by excluding non-agentive interpretations in that section. Further note that fortunately, the claims made in Charnavel & Sportiche (2016) and earlier work are not affected either as on closer inspection of their examples, it turns out that agentive interpretations are usually not intended.

The contrast between (140) and previous examples with inanimate possessorless PNAs thus corroborates previous independent arguments of the literature to support the hypothesis that NPs can have silent subjects that must denote the agent (cf. Chomsky 1986, Roeper 1987, Giorgi & Longobardi 1991, Landau 2013, Ahn 2015, i.a.; *pace* Williams 1985, i.a.).[55]

Under this hypothesis, generalization (129)b furthermore predicts LBEs within nominals. But the details of the prediction are complicated by another difficulty specific to the nominal domain: it is often assumed that subjects of NP do not systematically project syntactically. For example, Chomsky's (1986) argument about (3)-(4) implies that pro_{subj} projects only optionally in expressions like *hear stories about* (i.e. *hear (pro_{subj}) stories about*). Under our hypothesis, LBEs only arise for possessorless PNAs in configurations where pro_{subj} obligatorily projects; logophoric binding should still be possible if pro_{subj} is only optionally present. The distribution of LBEs thus has the potential to clarify the conditions under which pro_{subj} is present.

In fact, the experimental findings by Bryant & Charnavel (2020) reveal two configurations forcing the projection of pro_{subj}: nouns with goal arguments (e.g. *letter to*) and complements of creation verbs (e.g. *write a book about*) as illustrated in (142)-(143) vs. (144).[56]

(142) a. *Context: While writing up her to-do list for the day, Lea accidentally bumped her glass of water.*
The water Lea_i splashed smeared the note to $herself_i$.
b. *Context: While reading a note her husband left for her on the dresser, Lea accidentally bumped her glass of water.*
*The water Lea_i splashed smeared the note to $herself_i$.
(cf. Bryant & Charnavel 2020: 11)

(143) $[Lea_i$'s brother$]_k$ painted the picture of {a. *$herself_i$ /b. $himself_k$}.
(cf. Bryant & Charnavel 2020: 12)

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[55] Most previous arguments of the literature were made on the basis of Condition C (see x) and control (see xi).

(x) a. The $PRO_{*i/k}$ knowledge that $John_i$ might fail bothered him. (Chomsky 1986: 167,
b. The possibility that John might fail bothered him. cf. Ross 1969: 195, Williams 1985: 298)

(xi) a. the PRO destruction of the city PRO to prove a point
b. *the city's destruction to prove a point (Roeper 1987: 280, cf. Chomsky 1986: 123)

In (xa), the impossibility of attributing the knowledge to John arguably results from a Condition C effect due to the presence of an implicit subject of *knowledge*; no such effect arises in (xb) given that *possibility* (like *be possible*) does not license a subject. In (xia), possible control into the adjunct clause suggests the presence of an implicit subject of *destruction*; the ungrammaticality of (xib), which involves nominal passivization, further suggests that this subject is syntactically represented: under the assumption that there is only one genitive position in English (see (134)), possessivization of the object is incompatible with the presence of a subject (see further discussion in Giorgi & Longobardi 1991, Landau 2013, i.a.). Other arguments involve secondary predicates (Safir 1987, Landau 2013, i.a.) or agreement facts (Landau 2013, i.a.). Of course, Condition A has also been used as an argument for the presence of an implicit subject in nominals (see Stowell 1989, Landau 2013, i.a.), but the argument is usually confounded by the lack of control for logophoricity or competition, as should be clear from our argumentation in the main text. Finally, note that the various arguments about the presence of an implicit subject in nominals are often made without controlling for the type of nominals, which as we saw complicates matters.

[56] Contrasts in Bryant & Charnavel (2020) reflect statistically significant differences in grammaticality judgments made by 108 native English speakers. We here slightly adjust some of their examples or contexts to make their pairs more minimal without affecting the relevant factors.

(144) *a. Context: While developing a photo she took, Lea accidentally bumped her glass of water.*
The water Lea_i splashed smeared the picture of $herself_i$.
b. *Context: While developing a couple of photos taken by her husband on their honeymoon, Lea accidentally bumped her glass of water.*
The water Lea_i splashed smeared the picture of $herself_i$.
(cf. Bryant & Charnavel 2020: 12)

In (142), *herself* is only acceptable if the referent of its antecedent, Lea, is interpreted as the creator, namely if Lea wrote the note; whether she is interpreted as the logophoric center or not is irrelevant (both contexts are compatible with this interpretation but do not force it). This follows from generalization (129)b if pro_{subj} obligatorily projects when the picture noun takes a goal argument as shown in (145)a-b representing (142)a-b respectively.[57]

(145) a. The water Lea_i splashed smeared [the ($pro_{log\text{-}i/k}$) $pro_{subj\text{-}i}$ note to '$erself_i$].
b. *The water Lea_i splashed smeared [the ($pro_{log\text{-}i}$) $pro_{subj\text{-}k}$ note to $herself_i$].

By contrast, *herself* is acceptable in (144)a-b under a logophoric reading whether or not antecedent is construed as the creator, as shown in (146)a-b (representing (144)a-b respectively). This follows from generalization (129)b if pro_{subj} only optionally projects when the picture noun takes a theme argument as represented.

(146) a. The water Lea_i splashed smeared [the ($pro_{log\text{-}i/k}$) ($pro_{subj\text{-}i}$) picture of (h)$erself_i$].
b. The water Lea_i splashed smeared [the $pro_{log\text{-}i}$ (*$pro_{subj\text{-}k}$) picture of $herself_i$].

The hypothesis of a difference between nouns with theme arguments and those with goal arguments with respect to pro_{subj} projection is further supported by the contrast between (147) and (148), which at first glance seems to involve local binding rather than logophoric binding.[58]

(147) a. *Context: Ellis wrote himself a letter filled with words of encouragement.*
$Ellis_i$ enjoyed the letter to $himself_i$.
b. *Context: Ellis's older sister wrote letters to everyone in their family.*
*$Ellis_i$ enjoyed the letter to $himself_i$.

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[57] The contrast holds even if *note* is construed as a concrete noun here (denoting the physical object). This observation argues against Runner's (2007) and Reuland's (2011) interpretation of Davies & Dubinsky's (2003) hypothesis briefly mentioned in section 1.1.2.1: according to their interpretation, concrete picture nouns systematically lack a syntactic subject, while abstract picture nouns (denoting the informational content) always project one. The irrelevance of this distinction to our purposes is further confirmed by the fact that the lack of contrast obtained in (144) under a concrete interpretation of *picture* extends to (xii) in which it is construed as an abstract noun.

(xii) a. *Context: Lea sent to the press several pictures she took.*
The public interview Lea_i gave popularized the picture of $herself_i$.
b. *Context: Lea sent to the press several pictures her husband took.*
The public interview Lea_i gave popularized the picture of $herself_i$. (cf. Bryant & Charnavel 2020: 13)

[58] Furthermore, this hypothesis correctly predicts that apparent exemption of inanimates is always possible when they express the goal of a noun if their antecedent can be construed as the subject of that noun. This is illustrated in example (xiii) adapted from google hits (cf. (140)).

(xiii) Examine [the requested page]$_i$ to be sure the link to $itself_i$ is displayed.

(148) a. *Context: Ellis took several photos at his family reunion.*
Ellis$_i$ liked the picture of himself$_i$.
b. *Context: Ellis's older sister painted portraits of everyone in their family.*
Ellis$_i$ liked the picture of himself$_i$.

Even if *Ellis* seems to superficially qualify as a local binder for the PNA, *himself* cannot be bound by it in (147)b when Ellis is not the creator. As shown in (149)a-b, this directly follows from the obligatory presence of pro$_{subj}$: as the presence of pro$_{subj}$ turns the picture noun phrase into the binding domain, *Ellis* is in fact not a possible local binder for *himself*; only pro$_{subj}$ and pro$_{log}$ are. But due to generalization (129)b, logophoric binding of *himself* is blocked. Thus, *himself* is only acceptable if it refers to the letter writer.

(149) a. Ellis$_i$ enjoyed [the (pro$_{log\text{-}i/k}$) pro$_{subj\text{-}i}$ letter to 'imself$_i$].
b. *Ellis$_i$ enjoyed [the (pro$_{log\text{-}i/k}$) pro$_{subj\text{-}k}$ letter to himself$_i$].

However, *himself* in (148) is acceptable whether or not its antecedent is interpreted as the creator as expected under representations (150)a-b.

(150) a. Ellis$_i$ liked [the (pro$_{log\text{-}i/k}$) (pro$_{subj\text{-}i}$) picture of (h)imself$_i$].
b. Ellis$_i$ liked [the (pro$_{log\text{-}i/k}$) (*pro$_{subj\text{-}k}$) picture of himself$_i$].

Example (143)a-b above (represented in (151)a-b below) further reveals that optionality vs. obligatoriness of pro$_{subj}$ projection does not only depend on the type of noun and arguments, but also on the broader syntactic context. Under our hypothesis, the contrast between (143)a and (143)b thus implies that a verb of creation like *paint* or *write* entails pro$_{subj}$ projection in its complement as shown in (151)a-b.

(151) a. *[Lea$_i$'s brother]$_k$ painted [the (pro$_{log\text{-}i/k}$) pro$_{subj\text{-}k}$ picture of herself$_i$].
b. [Lea$_i$'s brother]$_k$ painted [the (pro$_{log\text{-}i/k}$) pro$_{subj\text{-}k}$ picture of 'imself$_k$].

The reason why the PNA here must refer to Lea's brother is that the picture noun phrase obligatorily involves pro$_{subj}$ anteceded by the subject of the creation verb *painted*. Given generalizations (129)a-b, the PNA must therefore be bound by pro$_{subj}$ (*'imself* in (151)b); it cannot be logophorically bound (*herself* in (151)a).[59]

In sum, the results of our examination of LBEs in the verbal domain have allowed us to refine the empirical generalizations that we made about possessorless PNAs in section 1: we have added one further possible local binder for PNAs, namely pro$_{subj}$, and we have restricted the availability of logophoric binding (or any binding by a binder different from pro$_{subj}$) to configurations lacking pro$_{subj}$. We have thereby shed further light on the conditions under which subjects of NPs syntactically project in English as summarized in (152)-(153).

[59] This also explains the contrast in (xiv) below discussed in Chomsky (1995: 206) and Runner (2002): under the idiomatic reading of *take a picture* in (b), *himself* can only refer to Bill. Under our hypothesis, this follows from the obligatory presence of pro$_{subj}$ under that reading (where *take* is a creation verb), which is thus the only possible binder of *himself* given generalizations (129)a-b.

(xiv) a. John$_i$ wondered [which picture of himself$_{i/k}$] Bill$_k$ saw.
b. John$_i$ wondered [which picture of himself$_{\#i/k}$] Bill$_k$ took.

(152) <u>*Implicitness of subjects of NPs: the availability of pro$_{subj}$ in English*</u>:
Subjects of NPs can be implicit in English.

(153) <u>*Obligatoriness vs. optionality of subjects of NPs in English picture NPs*</u>:
a. Subjects of NPs must be syntactically represented in English when the noun takes a goal argument (e.g. *letter to*).
b. Subjects of NPs must be syntactically represented in English when the NP is the complement of a creation verb (e.g. *write a book about*).
c. Otherwise, the syntactic projection of subjects of NPs is not obligatory.

Exploring the referential constraints on PNAs thus provides a new probe into the argument structure of NPs. Space limits do not allow us to further use this probe here, but we hope that it will be done in future research.[60] We also have to leave for further investigation the analysis of the generalizations established in (152)-(153). But to close the examination of possessorless PNAs, note that preliminary experimental evidence from Conditions B and C independently support these generalizations.[61] In particular, generalization (153)a predicts that, if the goal of the noun is expressed by a pronoun, Condition B effects will occur only if the pronoun also refers to the letter writer; the contrast between (154)a and (154)b shows that the prediction is borne out.

(154) a. *Context: When Jack was young, he wrote a letter to his future self. His mom, Faye, kept the letter in her scrapbook of family mementos. Over the holidays, Jack looked through the scrapbook.*
*Jack$_i$ tore up the letter to him$_i$.
b. *Context: When Faye was young, she wrote a letter to her brother Jack. Their mom kept the letter in her scrapbook of family mementos. Over the holidays, Jack looked through the scrapbook.*
Jack$_i$ tore up the letter to him$_i$.

Similarly, if the goal of the noun is expressed by a proper name, Condition C effects are correctly predicted to arise only if it refers to the creator as shown by the contrast between (155)a and (155)b.

(155) a. *Context: When Jack was young, he wrote a letter to his future self. His mom, Faye, kept the letter in her scrapbook of family mementos. Over the holidays, Faye looked through the scrapbook.*
*Faye tore up the letter to Jack.
b. *Context: When Faye was young, she wrote a letter to her brother Jack. Their mom, kept the letter in her scrapbook of family mementos. Over the holidays, Faye looked through the scrapbook.*
Faye tore up the letter to Jack.

To wrap up, possessorless PNAs are licensed in the absence of an overt local binder in two cases: when they are bound by pro$_{subj}$ (and are thus interpreted as the creator) or when they are

[60] Among other issues, it would be interesting to use this probe to investigate other types of nouns, nouns with multiple objects, or nominal passives.
[61] The contrasts in (154) and (155) reflect statistically significant differences in grammaticality judgments, obtained in a survey involving 61 native English speakers recruited through Prolific. In the presentation and analysis of this survey, we used the same methodology as Bryant & Charnavel (2020), except that we added follow-up comprehension questions after each example in order to make sure that participants took into account the preceding context.

bound by pro_{log} (and are thus interpreted as the logophoric center); these two cases exclude each other as the presence of pro_{subj} forces the PNA to be bound by it.

2.2.4. Returning to possessed PNAs

All pieces are now in place to solve the remaining LBE issues in the nominal domain. Recall from section 2.2.2. that the hypothesis that the subject of picture noun phrases must be construed as the creator is not sufficient to explain contrasts like (156)a vs. b (repeating (139)a-b).

(156) a. ✓/? Joe_i destroyed $Harry_k$'s book about $himself_i$.
b. ?/* Joe_i <u>wrote</u> $Harry_k$'s book about $himself_i$.

But the conclusion we reached in (153)b about the obligatory projection of the subject in nouns complements of creation verbs provides the missing piece to the solution. Given the presence of the creation verb *wrote* in (156)b, (153)b entails that *book* must have a subject denoting the creator, namely Joe (the subject of *wrote*) as represented in (157). Given that the genitive position is occupied by *Harry*, this gives rise to a conflict due to the availability of only one genitive position in English (see (134); cf. Stowell 1989, Giorgi & Longobardi 1991, Longobardi 2001, i.a.).

(157) *Joe_i <u>wrote</u> [$Harry_k$'s $pro_{subj\text{-}i}$ book about $himself_{i/k}$].

Unlike what Runner (2007) and Reuland (2011) argue (see section 1.1.2.1), the ungrammaticality of (157) is thus not due to the restriction of exemption to concrete nouns (cf. fn. 57), but to the conflict between the creator and the possessor. In fact, this constraint also explains the ungrammaticality of examples like (62)a (repeated as (158)), which do not involve any reflexive.

(158) *$John_i$ <u>took</u> Mary's pictures of him_i. (Williams 1987: 156)

This hypothesis is further supported by the fact that *himself* in (157) cannot be bound by the genitive either, as shown by Bryant & Charnavel's (2020) similar example in (159).[62]

(159) *$Gordon_i$ <u>wrote</u> $Faye_k$'s $pro_{subj\text{-}i}$ book about $herself_k$. (Bryant & Charnavel 2020: 12)

By contrast, *himself* can be logophorically bound in (156)a (represented in (160)) because in the absence of a creation verb, the noun *book* need not have a subject. Consequently, *himself* can also be bound by Harry, whether it is interpreted as the creator or not.[63]

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[62] Nevertheless, Bryant & Charnavel (2020: 13) further observe that in the absence of a creation verb, logophoric binding is easier in concrete nouns (e.g. xvb, cf. (160)) than in abstract nouns (e.g. xva).

(xv) *Context: For a school assignment, Olivia took a series of photos depicting her everyday life. Afterward, she gave one of the photos to her boyfriend, Patrick.*
a. ?Olivia no longer likes Patrick's photo of herself.
b. Olivia shredded Patrick's picture of herself.

Given the lack of contrast in both (144) and (xii) discussed in fn.57, the contrast in (xv) cannot be due to the presence of pro_{subj} in (a), which we saw is optional in the absence of creation verb or goal argument. In fact, (xv)a, although degraded, remains crucially better than (157). The contrast in (xv) may instead suggest that in the case of abstract nouns, speakers tend to interpret the genitive as a creator (which is incompatible with the context here). Interestingly in this respect, most examples used in experimental studies to show that possessed PNAs can be bound from outside their DP include concrete nouns (see e.g. (31)a).

[63] Coreference of *himself* and *Joe* does not entail that Harry cannot be interpreted as the creator. As argued by Grimshaw (1990) for the case of nominalizations (see discussion in section 2.2.2), the possible creator interpretation

(160) Joe$_i$ destroyed [pro$_{log\text{-}i}$ Harry$_k$'s book about himself$_{i/k}$].

The same reasoning can be applied to derive the unacceptability of examples like (66) (specified below in (161)a-b) involving goal arguments.

(161) a. *Context: Chelsey gave Brandon a letter from her journal that she had written when they started dating.*
*Chelsey$_i$ found Brandon$_k$'s letter to herself$_i$.
b. *Context: As the first leg of a scavenger hunt designed for his daughter, Chelsey, Brandon hid a letter of instructions he wrote in the back of the pantry.*
*Chelsey$_i$ found Brandon$_k$'s letter to herself$_i$.

In context (a) implying that Brandon did not write the letter, the ungrammaticality of (161) results from a conflict between the genitive *Brandon* and pro$_{subj}$, which must be syntactically represented given (153)a and refer to the letter writer (i.e. Chelsey) given (138), as represented in (162)a. In context (b) in which Brandon did write the letter, no such conflict arises as *Brandon* originates as subject of NP, but logophoric binding of *herself* is blocked by the presence of the subject of NP as per generalization (129)b.

(162) a. *Chelsey$_i$ found [(pro$_{log\text{-}i/j}$) Brandon$_k$'s pro$_{subj\text{-}i}$ letter to 'erself$_i$].
b. *Chelsey$_i$ found [pro$_{log\text{-}i}$ Brandon$_k$'s ~~Brandon$_{subj\text{-}k}$~~ letter to herself$_i$].

This twofold explanation is supported by the contrast between (163)a and (163)b, which does not involve logophoric binding (cf. (159)), as shown in (164)a-b.

(163) a. *Context: Chelsey wrote a letter to Brandon when they started dating.*
*Chelsey$_i$ found Brandon$_k$'s letter to himself$_k$.
b. *Context: Brandon wrote a letter to himself without telling his girlfriend Chelsey.*
Chelsey$_i$ found Brandon$_k$'s letter to himself$_k$. (cf. Bryant & Charnavel 2020: 11)
(164) a. *Chelsey$_i$ found Brandon$_k$'s pro$_{subj\text{-}i}$ letter to himself$_k$.
b. Chelsey$_i$ found Brandon$_k$'s ~~Brandon$_{subj\text{-}k}$~~ letter to himself$_k$.

Thus, several factors must be taken into account to predict the acceptability of possessed PNAs: the underlying position of the genitive (subject of NP or not), the obligatoriness or optionality of the subject of NP, the interpretation of the reflexive (logophoric or not, creator or not). Logophoric binding is blocked if the genitive originates as subject of NP, and any type of binding is ungrammatical if the genitive is not the creator in configurations requiring a subject of NP.

3. Conclusion

In sum, so-called Picture Noun Anaphors do not form a natural class: they are neither special, nor exceptional, but just like any anaphor, they systematically obey Condition A, which is a fully general principle. The reason why some instances of PNAs – and other anaphors – seem to be exempt from it is that Condition A can be satisfied covertly. Furthermore, PNAs appear to exhibit

of the genitive does not necessarily imply that it is an argumental subject: the modifier reading can include the argument reading. Therefore, logophoric binding of *himself* in (156)a remains possible under the creator interpretation of Harry (i.e. Harry wrote the book) as long as *Harry* does not originate as the subject of NP. More generally, (138) only entails that the subject of a picture noun phrase must be interpreted as a creator, not that a genitive DP interpreted as a creator must have originated as subject of NP.

a particularly irregular behavior because the availability of implicit binders in picture nouns is conditioned upon various interacting factors, some of which are specific to the nominal domain. Specifically, the illusion of PNA exemption results both from the possible implicitness of subjects in NPs, which must serve as binders when co-occurring with PNAs, and from the possible absence of subjects in NPs, which licenses binding by an implicit logophoric pronoun. Such apparent complementarity between subject and logophoric binding is due to a general binding-independent principle of competition between weaker and stronger forms, which regulates the availability of various potential bindees. By restricting the scope of logophoric binding, this principle obscures binding behaviors, especially in English where the weak reflexive form, which requires a coargumental subject as binder, is morphologically identical to the strong reflexive form.

The interaction of all these factors gives rise to a complex set of binding possibilities for PNAs summarized in (165). In our view, the failure of previous theories results from overlooking at least one of these factors. In particular, ignoring the possible binding by a logophoric pronoun (pro_{log}) led many to incorrectly assume exemption or long distance binding; ignoring the obligatory binding by the subject of NP (overt DP or pro_{subj}) resulting from the weak/strong competition principle led PBTs to wrongly build coargumenthood into Condition A.

(165) <u>*Binding possibilities of PNAs*</u>:

a. If there is no genitive (whether overt or covert), the PNA can be bound by pro_{log} or by any other DP that is not separated from the PNA by a subject or a tense boundary:

$[_{XP}$ $\mathbf{DP_i}$ ... $[_{DP}$ $\mathbf{pro_{log\text{-}k}}$ $[_{NP}$... picture of $x_{i/k}$-self]]].

b. If there is no overt genitive, but a covert subject of NP, the PNA must be bound by that subject:

$[_{XP}$ DP_i ... $[_{DP}$ $pro_{log\text{-}j}$ $[_{NP}$ $\mathbf{pro_{subj\text{-}k}}$... picture of $x_{*i/*j/k}$-self]]].

c. If there is an overt genitive,

i. if the configuration requires a subject of NP that is disjoint from the overt genitive, the sentence is ungrammatical:

*$[_{XP}$ DP_i ... $[_{DP}$ $pro_{log\text{-}j}$ DP_k $[_{NP}$ $pro_{subj\text{-}m}$... picture of $x_{i/j/k/m}$-self]]].

ii. if the genitive originates as subject of NP, the PNA must be bound by it:

$[_{XP}$ DP_i ... $[_{DP}$ $pro_{log\text{-}j}$ $\mathbf{DP_k}$ $[_{NP}$ $\cancel{\mathbf{DP_k}}$... picture of $x_{*i/*j/k}$-self]]].

iii. if the genitive does not originate as subject of NP, the PNA can be bound either by that genitive or by pro_{log}.

$[_{XP}$ DP_i ... $[_{DP}$ $\mathbf{pro_{log\text{-}j}}$ $\mathbf{DP_k}$ $[_{NP}$... picture of $x_{*i/j/k}$-self]]].

In identifying all the various factors at play and specifying how they interact with each other, we hope to have solved the PNA puzzle in English without compromising on parsimony. For our investigation, we have used a tool kit inspired from the results of various recent works that could benefit future crosslinguistic studies about binding theory and beyond: for example, Charnavel & Sportiche's (2016) inanimacy-based tool, Ahn's (2015) prosodic diagnostics, Charnavel's (2020) logophoric tests, Bryant & Charnavel's (2020) contextual control of genitive interpretations.

Due to the number of factors relevant to the solution, our exploration had to leave many questions for further investigation. In particular, the pro_{log} hypothesis has many consequences for other perspectival elements beyond anaphors that would be interesting to explore. The competition

hypothesis raises several issues related to the analysis of weak pronouns and reflexives. The conclusions we reach about the conditions on subject projection in NPs would be worth further testing on the basis of anaphora-independent evidence. In sum, it seems to us that Picture Noun Anaphors still deserve specific attention, not as an exceptional class of elements, but as a probe into various questions such as the grammatical representation of perspective, the typology of pronominal elements, or the argument structure of nouns.

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