REMARKS ON OKU'S GENERALIZATION: ANTI-AGREEMENT AND SUBJECT ELLIPSIS IN SPANISH AND JAPANESE

ANDRÉS SAAB*

ABSTRACT

I focus on the so-called Oku's generalization in order to show: (i) that a main division among at least two types of *pro*-drop languages is irreducible, i.e., radical vs. consistent *pro*-drop (*pace* DUGUINE, 2013), and (ii) that the distinction can be understood in terms of two types of ellipsis, namely phrasal DP-ellipsis (Japanese) and head pronoun ellipsis (Spanish). Such a distinction follows from a general model for ellipsis within and across languages and does not have to be stipulated for the particular distribution of null subjects in Japanese and Spanish. Thus, the difference between radical and consistent *pro*-drop languages does not follow from the deep *vs.* surface anaphora distinction, but from the timing of ellipsis in each language. In addition, I conjecture that the lack of DP-ellipsis in Spanish, and consistent *pro*-drop languages in general, is due to the agreement-Case system. In this respect, my analysis is committed to the so-called *anti-agreement hypothesis*, according to which the availability of DP-ellipsis is connected to absence of morphological agreement. Finally, even when I dispense with the deep *vs.* surface distinction as a way of deriving Oku's generalization, I claim that null NP anaphora, a type of deep anaphora, is syntactically active at least in radical and partial *pro*-drop languages (BARBOSA, 2019).

Keywords: pro-drop languages, Spanish, Japanese, Ellipsis, Agreement

^{*} University of Buenos Aires, IIF-SADAF-CONICET. E-mail: andres.saab@uba.ar. The ideas I present in this paper have a long story. A first version was presented at the II Jornadas de Jóvenes Lingüistas (Buenos Aires, 2013) and at the Encuentro Iberoamericano de Historia y Filosofía de la Lingüística Generativa (Santa Fe, 2013). I have also presented parts of this research project at the workshop Sluicing+@50 (The University of Chicago, USA, 2019) and at the linguistic department of the University of Pennsylvania (USA, 2019). During these years, the project, which originally was born as a reaction to Duguine (2013), evolved as an attempt to integrate radical pro-drop phenomena, in particular Oku and Takahashi's observations regarding the interpretation of null arguments in Japanese and Spanish, into the general theory of ellipsis I have defended in Saab (2008), according to which traces, some types of null arguments and sub-phrasal ellipses are all particular instances of ellipsis operations applying in the syntax or at PF under conditions of those grammatical components. Different versions of this paper appeared in the first long versions of Saab (2016 and forthcoming), both available at *lingbuzz*. Editorial and rhetorical restrictions forced me to convert this into an independent paper. I am then extremely grateful to the editors of Caderno de Squibs: Temas em estudos formais da linguagem, Helena Guerra Vicente, Marcus Vinicius Lunguinho, Paulo Medeiros Junior, Elisabete Ferreira and Arion de Souza Cruz, for giving me the chance of finally publishing this material as an invited paper for Caderno de Squibs (6)1. I cannot imagine a better place to publish these ideas. Muito obrigado! I would also like to express my sincere gratitude to the audiences of the conferences already mentioned, in particular to Karlos Arregi, Fernando Carranza, David Embick, Anikó Lipták, Jason Merchant, Carlos Muñoz Pérez, Laura Stigliano, Matías Verdecchia and Masaya Yoshida. A special mention goes for Jairo Nunes, who was behind this project since its origins and has provided myriads of comments and criticisms at least during the last 15 years. Usual disclaimers apply.



Neste trabalho, enfoco a chamada generalização de Oku com o objetivo de mostrar: (i) que uma divisão principal entre pelo menos dois tipos de línguas pro-drop é irredutível, i.e., pro-drop radical vs. pro-drop consistente (pace DUGUINE, 2013), e (ii) que a distinção pode ser entendida em termos de dois tipos de elipse, a saber, elipse de sintagma-DP (japonês) e elipse de pronome núcleo (espanhol). Tal distinção advém de um modelo geral para a elipse intra- e translinguística e não precisa ser estipulada para a distribuição particular de sujeitos nulos em japonês e espanhol. Assim, a diferença entre línguas de pro-drop radical e de pro-drop consistente não advém da distinção entre anáfora profunda vs. anáfora de superfície, mas do momento em que ocorre a elipse em cada uma dessas línguas. Além disso, presumo que a ausência de elipse de DP no espanhol, e em línguas de pro-drop consistente em geral, deve-se ao sistema Caso-concordância. Nesse sentido, minha análise está comprometida com a chamada hipótese de anti-concordância, de acordo com a qual a possibilidade de elipse de DP está relacionada à ausência de concordância morfológica. Finalmente, mesmo dispensando a distinção "profundo" vs. "de superfície" como maneira de se derivar a generalização de Oku, afirmo que a anáfora de NP nulo, um tipo de anáfora profunda, é sintaticamente ativa pelo menos em línguas de *pro*-drop radical e parcial (BARBOSA, 2019).

Palavras-chave: línguas pro-drop, espanhol, japonês, elipse, concordância



INTRODUCTION 1

Oku (1998) first observed that Spanish and Japanese differ in nontrivial ways as far as the interpretative properties of null subjects are concerned. Thus, while the null subject in the Japanese example in (1) is ambiguous between a strict and a sloppy reading, according to which either John thinks that Mary's proposal will be accepted or his (= John) own proposal will, the null subject in (2) only admits the strict reading, according to which the empty subject can only refer to María's proposal and not to John's:

- (1) Japanese: strict reading OK, sloppy reading OK
 - Mary-wa [zibun-no teian-ga saiyo-sare-ru-to] omotteiru. a. Mary-TOP [self-GEN proposal-NOM accept-PASS-PRES-COMP] think 'Mary, thinks that her, proposal will be accepted.'
 - John-mo [e saiyo-sare-ru-to] omotteiru. b. John-also [e accept-pass-pres-comp] think Lit. 'John also thinks e will be accepted.'
- Spanish: strict reading OK, sloppy reading * (2)
 - María cree aceptada. que su propuesta será a. Maria believes that her proposal be.FUT accepted 'María believes that her proposal will be accepted.'
 - b. Juan también cree será aceptada. que e Juan also believes that it be.FUT accepted 'Juan also believes that it will be accepted.'

(OKU, 1998, p. 165)

With the exception of Duguine (2013), many researchers draw a fundamental division between Japanese and consistent null subject languages of the Spanish type (see, among others, SAITO, 2007; SENER; TAKAHASHI, 2010; TAKAHASHI, 2008a, 2008b, 2013, 2014). Concretely, since argument ellipsis is not attested in Spanish, it should be the case that this language and consistent pro-drop languages in general, are not amenable to an ellipsis analysis but only to a pro one. Put more generally, it seems that the division between Japanese and Spanish can be derived under the well-known distinction between surface and deep anaphora (HANKAMER; SAG, 1976): whereas Japanese null subjects are instances of surface anaphora (i.e, ellipsis), Spanish makes use of deep anaphora in subject position (i.e., pro):

- Japanese: [$_{IP}$... < DP $_{Subject}$ > ...] (<...> = elided material) Spanish: [$_{IP}$... $pro_{Subject}$...] (3) a.
 - b.

Tomioka (2003), in turn, famously proposed deriving the distribution of null arguments in Japanese through the postulation of an empty NP anaphora subjected to some semantic



(4) a. Japanese: $[_{TP} \dots nP_{Subject} T \dots]$ b. Spanish: $[_{TP} \dots T_{[D: index]} [_{VP} nP_{Subject} \dots]$

At any rate, as Tomioka first pointed out, his analysis does not take any particular stance with respect to whether null anaphora are derived by ellipsis or not (see TOMIOKA, 2003, p. 337). Indeed, the ellipsis status of NP-anaphora even in languages like English is a topic under debate (see ELBOURNE, 2001, 2008, 2013). So, the analysis in (4) is still compatible with an ellipsis derivation for the subjects both in Spanish and Japanese. Indeed, more robust evidence in favor of a strict surface anaphora analysis comes from another ambiguity in Japanese. As noted by Takahashi (2014), Japanese null arguments can be ambiguous between a quantificational and an E-type reading:

- (5) a. Sannin-no mahootukai-ga Taroo-ni ai-ni kita. three-gen wizard-nom Taroo-dat see-to came 'Three wizards came to see Taroo.'
 - b. [e] Hanako-ni-mo ai-ni kita. Hanako-dat-also see-to came Lit. 'e came to see Hanako, too.'

[e] = the set of wizards are coincident (E-type reading)
 [e] = the set of wizards can be divergent (Quantificational reading)

(TAKAHASHI, 2014, p. 93)

•1.

In principle, the quantificational reading in (5b) is not directly obtained by the operations which, according to Tomioka, are behind the distribution of null NP-anaphora, namely,



existential closure and type-shifting. In effect, for the quantificational reading to obtain we need a semantic axiom operating not only on property anaphora but also on the cardinality of the relevant set. The existential and *iota* operators do not give us the desired result, at least not in an obvious way.¹ Instead, the relevant reading, as argued by Takahashi at length, is directly derived under the DP ellipsis analysis:²

(6) <Sannin-no mahootukai-ga> Hanako-ni-mo ai-ni kita. three-gen wizard-nom Hanako-DAT-also see-to came

(quantificational reading for (5b))

- (i) a. Taroo-kara-no-tegami-ga kita-yo. T-from-gen-letter-NOM came 'The letter from Taroo arrived.'
 - b. Jiroo-kara-no-mo kita-yo. J-from-gen-also came. 'Also from Jiroo arrived.'

(Masaya Yoshida, p.c.)

Here, the problem is that we cannot know whether extraction takes place from an elided DP or from an elided NP, since Japanese also has NP-ellipsis (see Saab 2019 for extensive discussion on NP-ellipsis). A more informative example would involve an example of topic extraction, in which the remnant of the elliptical site does not show up in the genitive form but in a topic form:

- (ii) a. Tokyo-kara-no densha-ga kita-yo. Tokyo-from-gen train-Nom came. 'The train from Tokyo came.'
 - b. Kyoto-kara-wa (kita)?
 Kyoto-from-TOP came?
 'Did the train from Kyoto arrive?'

(Masaya Yoshida, p.c.)

Unfortunately, sub-extraction is still a poorly understood phenomenon in Japanese and beyond. I am thankful to Masaya Yoshida for the examples and discussion around them.

¹ A solution would consist in treating numerals as predicates and not as, say, generalized quantifiers. If this is the case, then the semantic derivation would construct a complex predicate with the numeral as a predicate and existential closure would close the entire open formula. This option is indeed implemented in Giannakidou & Merchant (1997) for deriving similar readings in contexts of indefinite object drop in Greek. Alternatively, numerals can be treated as identity partial function introducing cardinality presuppositions. I am not able to evaluate whether these analyses for numerals as predicates or as partial identity functions would be independently supported.

² A more conclusive test to distinguish a deep from a surface anaphora analysis for Japanese would come from sub-extraction from elliptical arguments. As pointed out to me by Masaya Yoshida (p.c.), it is not easy to construct examples that diagnose extraction from elided arguments indubitably. So consider the following example:

For the E-type reading, a null NP anaphora or other type of deep anaphora should be postulated in order to obtain the correct reading.

(7) **e**_{nP} Hanako-ni-mo ai-ni kita. Hanako-DAT-also see-to came

(E-type reading for (5b))

So, in principle both the ellipsis and the null NP-anaphora strategy could be at play in the same language, in the same way as other types of deep and surface anaphora live together in the same language.³

In Spanish, as expected, the quantificational reading is impossible:

(8)	a.	Tres three	magos wizards	vinieron came		a ver to see		a DOM	Juan. J.
	b.	[e]	Vinieron came	a ver to see		a DOM		Pedr P.	o también. also
		(only I	E-type rea	ding	g)				

Thus, null subjects in Spanish behave (again) as English weak pronouns:

- (9) a. Three wizards came to see Taroo.
 - b. They came to see Hanako, too.

(only E-type reading)

Even when I think that an analysis along the lines proposed by Barbosa can handle the basic patterns in Spanish, it does not handle in an obvious way the Japanese facts. Therefore, it seems that a division within and across languages is needed with independence of the theory one favors. At least some of the so-called radical *pro*-drop languages like Japanese seem to allow for a radical type of DP-ellipsis (i.e., argument ellipsis). As for consistent *pro*-drop languages, there is no evidence for argument ellipsis in subject position, so the language either makes use of *pro*, NP-anaphora or another type of ellipsis, depending on the many alternatives that can be found in the literature. In section 3, I will adopt a particular ellipsis approach to null subjects in Spanish that accounts for Oku's observation in a straightforward way.

³ Alternatively, we can get the two relevant readings through differences in the ellipsis size. Suppose, for instance, that Japanese projects a null D in the general case. Then, the E-type reading in (7) could be derived as a case of NP-ellipsis with a stranded D. As argued by Elbourne (2001), this will give rise to a definite description reading according to which we are talking about the salient set of three wizards. For the quantificational reading to obtain, DP-ellipsis applies in the same way as shown in (6). I am not particularly convinced about the arguments given by Elbourne in favor of a true ellipsis analysis for E-type anaphora in general, so I will assume a more conservative approach for the relevant E-type pronouns, according to which they are deep anaphora, as already proposed by Takahashi (2008a).



This broad view on null arguments contrasts with Duguine's (2013) uniform analysis, according to which null subjects in Japanese and Spanish are uniformly derived as cases of phrasal ellipsis. It is important then to show that the division discussed here holds. In the next section, I discuss Duguine's approach and show that it cannot be sustained empirically. Then, I will briefly introduce my own view on null subjects for consistent null subject languages in order to defend the thesis that consistent null subjects in consistent pro-drop languages are also derived by ellipsis, but only restricted to pronouns (section 3). In section 4, I propose an account of the difference between radical and consistent prodrop languages in terms of a version of the so-called *anti-agreement hypothesis*, according to which languages with rich agreement cannot have syntactic DP-ellipsis. Finally, I discuss Brazilian Portuguese, a language in which Oku's test gives rise to divergent results. The final picture is one in which null subjects across languages come in at least three guises: phrasal ellipsis (Japanese), pronominal ellipsis (Spanish) and NP-anaphora (Brazilian Portuguese, Japanese). In the concluding remarks, I leave open, at least as a theoretical option, the possibility for a third type of null argument, namely: argument traces. In effect, on the view to be defended here, traces are just the result of ellipsis, so at least in principle there is no reason to reject the thesis according to which some null subjects in hyper-raising contexts can be derived by movement as originally proposed in Ferreira (2000) and Rodrigues (2004) for Brazilian Portuguese.

2 A CRITICISM TO DUGUINE'S UNIFORM ANALYSIS

Duguine proposes a unified phrasal ellipsis theory of null subjects under which all cases of null subjects across languages are cases of phrasal ellipsis. Crucial to Duguine's analysis, of course, is the very nature of Oku's observation, because, if correct, her unified account would not be able to derive the attested patterns across languages. In other words, if all null subjects are elliptical DPs, then the absence of sloppy readings in Spanish for cases like (2) are not correctly ruled out in her system. This is the reason, I think, that leads Duguine to directly attack Oku's generalization. In effect, according to her this is a spurious observation. The point, she argues, is that adding an objective pronoun in the embedded clause in (2b) co-referential with the main subject makes the sloppy reading available (DUGUINE, 2013, p. 442).

- (10) A: María cree que [su propuesta le será aceptada (a ella)]. Maria believes that POSS proposal CL.3SG.DAT be.FUT accepted to her Lit. 'Maria believes that her proposal will be accepted to her.'
 - B: Juan también cree que [[e] le será aceptada (a él)]. Juan also believes that CL.3sg.DAT be.FUT accepted to him *Lit.* 'Juan also believes that [e] will be accepted to him.'

(sloppy reading OK)

In view of this fact, she proposes a new generalization on sloppy readings for null subjects in Spanish:

(11) Generalization on the sloppy reading in Spanish Possessive pronouns embedded within elided DPs fail to give rise to a sloppy reading when they do not have a local antecedent.

(DUGUINE, 2013, p. 441)

This observation does not seem to follow from any known constraint on sloppy readings in, for instance, well-known ellipsis contexts. Indeed, as Duguine acknowledges, the sloppy reading in (2b) automatically reappears whenever the embedded clause is part of an elliptical TP (see DUGUINE, 2013, p. 444, footnote 33). This fact is derived under the (rough) analysis in (12b) below, where *su propuesta*, which can be co-referential with the matrix subject, is not a null subject, but a full DP contained within the elliptical TP.

- (12) a. María cree que [su propuesta]_j será aceptada. Maria believes that her proposal be.FUT accepted 'Maria believes that her proposal will be accepted.'
 - b. Juan, también <[cree que **su**, **propuesta/e**, será aceptada]>. Juan also believes that his proposal be.FUT accepted 'Juan too <believes that it will be accepted>.'

Therefore, (12b) has nothing intriguing; it is just a typical case of sloppy reading under ellipsis. It would be puzzling only if we accepted that Spanish null subjects are elliptical phrases, as Duguine proposes. Therefore, what seems to be suspicious is not Oku's observation but the generalization in (11). Let's see why. First, for my consultants, but apparently not for Duguine's, it is important to have some contrast between the object DPs in parentheses. Without this contrast, the sloppy reading is clearly disfavored and, even thus, speakers' reactions are quite unstable. Duguine's consultants, instead, prefer a null DP object at least in very similar examples (see DUGUINE, 2013, p. 439, footnote 23). In any case, the judgments are not consistent among speakers. Second, speakers' judgments are entirely consistent in cases like the following ones, which do not allow for sloppy readings even when they observe the condition in (11):

- (13) A: él_.). Juan cree que [su novia] lo, ama (a J. believes that his girlfriend ACC him CL.ACC.MASC.SG loves 'Juan, believes that [his, girlfriend], loves him,.'
 - B: Pedro_k también cree que $[\mathbf{e}]_i$ Io_k ama (a él_k). P. also believes that $[\mathbf{e}]$ CL.ACC.MASC.SG loves (to him) 'Pedro_k also believes that she_i loves him_k.'



- (14) A: Juan, dice que [su, madre], lo, criticó (a él,). J. says that his mother cl.ACC.MASC.SG criticized (to him) 'Juan, says that [his, mother], criticized him,.'
 - B: María_k también dice que [e]_i la_k criticó (a ella_k). M. also says that CL.FEM.SG.ACC criticized (to her) 'María_k also says that she_i criticized her_k.'
- (15) a. A Juan_j le_j pegó [su_j madre]_i. to J. cl.3sg.dat hit his mother '[His_i mother]_i hit Juan_i.'
 - b. Pedro_k espera que [e] no le él₊. pegue a hopes that CL.3SG.DAT hits him Ρ. not to 'Pedro, hopes she, does not hit him,.'
- (16) A: Juan, cree que [su, madre], le, regaló un libro.
 J. believes that his mother cl.3sg.DAT gave a book
 'Juan, believes that [his, mother], gave him, a book.'
 - B: Pedro_k también cree que [e]_i le_k regaló un libro.
 P. also believes that CL.3sg.DAT gave a book 'Pedro_k also believes that she gave him, a book.'

((13)-(16): [e] = strict reading)

So far, it seems that Duguine's observation does not hold. However, there is still a set of data (those that pattern like the example in (10B)) that produces particular reactions in the speakers. But this, of course, does not lead us to generalize the worst case scenario, since it is well known that sloppy readings are also attested for deep anaphora (i.e., pronouns) under some particular conditions (see Merchant (2013) and the references therein). In effect, my own impression is that data like (10B) and similar ones suppose some type of pragmatic accommodation. The fact that some speakers react allowing a sloppy reading is due to the fact that the strict reading for those particular examples is at odds with our common sense that someone will accept John's proposal to Peter, although the relevant context can be constructed. Recall that my consultants prefer contrasting embedded objects, showing that we are talking about different alternatives for the variable in "x's proposals". For those speakers who accept the sloppy reading when the embedded indirect objects are null, it seems that they have constructed a previous background according to which we were talking about different proposals (John's, Peter's and so on) to be accepted. Alternatively, we can think of this process as the reinterpretation of the null pronoun as a *pronoun of*

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More robust data against Duguine's uniform analysis come from the additional observation made in the previous section that while null subjects in Japanese can be ambiguous between a quantificational and an E-type reading (see TAKAHASHI 2008a, 2008b, 2014), Spanish does not. I repeat here examples (5) and (8) for convenience:

(17)	a.	Sannin-no mahootukai-ga Taroo-ni ai-ni kita. three-gen wizard-nom Taroo-dat see-to came 'Three wizards came to see Taroo.'												
	b.	[e] Hanako-ni-mo ai-ni kita. Hanako-DAT-also see-to came Lit. 'e came to see Hanako, too.'												
		[e] = the set of wizards are coincident (E-type reading).[e] = the set of wizards can be divergent (quantificational reading)												
(18)	a.	Tres magos vinieron a ver a Juan. three wizards came to see Acc J.												
	b.	[e] Vinieron a ver a Pedro también. came to see дом Р. also												

(only E-type reading)

Therefore, Duguine's uniform analysis overgenerates quantificational readings in contexts where they are clearly impossible.

A final piece of evidence in favor of the distinction between phrasal DP ellipsis and head ellipsis (or pronoun ellipsis) comes from another consistent *pro*-drop language like Hungarian. Consider first examples like (19), in which only the strict reading is possible:⁵

⁴ Tomioka introduces the possessor into the resolution of the variable. Then, *iota* type-shifting applies and gives rise to the correct reading. Alternatively, we can resolve the anaphora without the possessor variable and let iota operate over a mono-argumental predicate (i.e., IX. Proposal(X)). In this case, the possessor dative would locally bind an implicit possessor within the null argument. Indeed, Spanish is a language that allows for binding of a non-overt possessor like in *Juan levantó la mano*, *Lit.* 'Juan raised the hand'. On this alternative, it seems that we need a more articulated structure for projecting the implicit argument anyway. At any rate, nothing depends on this particular alternative.

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⁵ Thanks to Anikó Lipták for the examples and discussion on Hungarian.



As for Takahashi's observation, note now that only the E-reading is grammatical:

- (20) A: Három varázsló meglátogatta Jánost. three wizard visited.3sg János.Acc 'Three wizards visited János.'
 - B: Meglátogatták Pétert is. visited.PL Péter.Acc too 'They visited Péter, too.'

As Anikó Lipták (p.c.) points out, the conjugation on the verb in (20B) has to be plural. In (20A) it is singular, because the noun *varázsló* ('wizard') is singular (after numerals, Hungarian requires singular nouns). In (20B), however, singular agreement is impossible, because the reference is plural:

(21) *Meglátogatta Pétert is. visited.sg Péter.acc too 'He visited Péter, too.'

This pattern is compatible with the *pro* or other ellipsis analyses for consistent *pro*-drop languages, but not with Duguine's uniform analysis in terms of DP-ellipsis. Concretely, under a DP-ellipsis analysis like (22), (21) should be grammatical with a singular verb because the elliptical subject is singular:

(22) * < Három varázsló> meglátogatta Pétert is. three wizard visited.sg Péter.acc too

I conclude then that a uniform analysis is not sustained by empirical evidence and that Oku's observation holds together with other empirical differences between radical and consistent *pro*-drop languages discussed above.

3 SURFACE ANAPHORA ALL-THE-WAY-DOWN: AN ALTERNATIVE TO CONSISTENT *PRO*-DROP LANGUAGES

I would like to briefly sketch now the proposal in Saab (2008, 2016) with the modifications in Saab (forthcoming). In broad terms, the theory I adopt pertains to a family of theories whose main thesis is that (at least some) null subjects are derived by ellipsis (PERLMUTTER, 1971; HOLMBERG, 2005, 2010a; ROBERTS, 2010; among others). According to the particular version of this general approach I asssume here, ellipsis is an all-the-way phenomenon that consists of an operation which deletes the triggers for vocabulary insertion (as this operation is understood in Distributed Morphology). Depending on the component of the grammar in which ellipsis applies, it affects phrases (when it applies in the syntax) or heads (when it applies at PF). In Saab (forthcoming), I assume what Embick (2015) calls a *replacive* view on vocabulary insertion. On this view, phonological content is added to terminal

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nodes by replacing a variable, called *Q*, with the corresponding vocabulary item. If there is no *Q* feature in the terminal node, vocabulary insertion just does not apply. The model has the following general form:



FIGURE 1 – ELLIPSIS ALL-THE-WAY-DOWN

Source: elaborated by the author.

Head ellipsis, which is at the core of the present analysis, obeys morphological locality conditions. The operation is defined as follows:⁶

(23) Head ellipsis (under Q-deletion)

Given a morphosyntactic word MWd, delete every *Q*-feature contained in MWd if and only if:

(i) There is an identical antecedent contained in a morphosyntactic word MWd',

(ii) MWd is adjacent or immediately local to MWd'.

Null subjects of the Spanish type instantiate a case of head ellipsis in the morphology under strict adjacency. In order to get the gist of the proposal, suppose then that null subjects are pronominal DPs that move to Spec,TP in the syntax. At PF, a dissociated morpheme is added to the T node on the basis of the inflectional information encoded in the subject DP. Once linearization takes place, the conditions for *Q*-deletion at PF are met and the pronominal subject is consequently deleted:⁷

(24) Spanish null subjects as head ellipsis



6 Embick & Noyer (2001, p. 574):

- (i) At the input to Morphology, a node X⁰ is (by definition) a *morphosyntactic word* (MWd) iff X⁰ is the highest segment of an X⁰ not contained in another X⁰.
- (ii) A node X⁰ is a *subword* (SWd) if X⁰ is a terminal node and not an MWd.

7 I am assuming that roots are mere indexes in the syntax. In the tree in (24), the number 3 stands for such an index.



This analysis for consistent null subject languages automatically accounts for the fact that Spanish does not allow sloppy readings in examples like (2), repeated below:

- (25) a. María cree que su propuesta será aceptada. Maria believes that her proposal be.FUT accepted 'Maria believes that her proposal will be accepted.'
 - b. Juan también cree que *e* será aceptada. Juan also believes that it be.FUT accepted 'Juan also believes that it will be accepted.'

The sole syntactic object that morphological agreement allows "eliding" is the ϕ -set on the D head of which agreement itself is a mere copy. But note now that a ϕ -set can only be a pronoun and nothing else. Thus, absence of sloppy readings in sentences like (2) follows without any further ado.

In sum, while Japanese argument drop is a case of phrasal ellipsis in the syntax, Spanish null subjects are derived by head ellipsis at PF. In this respect, the analysis makes no difference with the rough analysis in (3) according to which the distinction between Japanese and Spanish boils down to the distinction between surface and deep anaphora:

(26) a. Japanese: [_{IP} ... DP_{Subject} ...]
 b. Spanish: [_{IP} ... pro_{Subject} ...]

However, under closer inspection, it turns out that the basic facts are directly accounted for under the *Q*-deletion system with some beneficial consequences. In particular, the *Q*-deletion approach predicts that some "null" subjects in consistent null subject languages must be pronounced for morphological well-formedness conditions. For instance, as shown in Saab (2008), subwords cannot be deleted if the MWd containing it is not deleted as well. This is called the *Subword Deletion Corollary*. Here is an informal formulation.

(27) Subword Deletion Corollary (informal)

Every terminal node contained in a non-elliptical MWd is subject to Vocabulary Insertion. (A non-elliptical MWd is a MWd to which head ellipsis has not been applied.)

North Italian dialects, a variety of consistent null subject languages, confirm this point. Consider the case of Trentino, a language with free inversion of referential subjects but with some obligatory clitic subjects:

(28) Trentino

a. *el* Mario el magna. the Mario he-eats 'Mario eats.' REMARKS ON OKU'S GENERALIZATION: ANTI-AGREEMENT AND SUBJECT ELLIPSIS IN SPANISH AND JAPANESE

- b. *el* magna. he-eats 'He eats.'
- c. *magna. eats
- d. magna el Mario. eats the Mario 'Mario eats.'

(SAFIR, 1986, p. 336)

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Suppose that the clitic subject incorporates to T by Local Dislocation (LD) at PF. Then, the clitic becomes a subword of a non-elliptical MWd. In order to comply with (27), a *Q*-feature is added on D, but there are other possible implementations (ordering, syntactic incorporation, etc.):

(29) Clitic subjects in Northern Italian Dialects: LD bleeds the effects of head ellipsis



In summary, the different distribution of null subjects in Japanese and Spanish conforms to the typology of ellipsis proposed in this paper, according to which phrases and heads are deleted in the syntax and morphology, respectively.

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FIGURE 2 – SYNTACTIC VS. MORPHOLOGICAL NULL ARGUMENTS

Source: elaborated by the author.

The obvious next question is why Spanish does not have DP ellipsis in the syntax of the Japanese type. This is the theme of the following section.

4 ANTI-AGREEMENT REVISITED

The crucial fact to be accounted for under an ellipsis approach to null subjects is why argument ellipsis (i.e., ellipsis of full DPs) is not allowed in Spanish. I have already shown that the difference between radical and consistent *pro*-drop does not reduce to an ellipsis *vs*. a *pro* analysis; the minimal assumption we need is that, whereas Japanese and related languages allow for DP-ellipsis in the syntax, Spanish only licenses ellipsis of ϕ -sets at PF (*modulo* other cases of topic-drop such as indefinite object drop and similar phenomena).

My implementation of Oku's observation follows the spirit of previous works framed under the so-called *anti-agreement hypothesis* that correlates absence or presence of agreement as a crucial ingredient of the theory of argument ellipsis (see, among many others, SAITO, 2007; TAKAHASHI, 2014). The minimal assumptions we need for accounting for the basic patterns are listed below, some of which are rather uncontroversial:

- (A) There is a principle of recoverability.
- (B) Nominal arguments with phonetic content must have case (K) at PF (i.e., Case Filter).
- (C) Agreement is a PF phenomenon, as assumed in this paper (see also BOBALJIK, 2008; among others).
- (D) In Spanish, but not in Japanese, agreement is parasitic on K. This is the case either because Japanese lacks agreement (see Saito (2007) and references therein) or because it does have abstract agreement but it is not parasitic on K.

Assumptions (A) and (B) do not require further elaboration; they are fairly uncontroversial. The assumption in (C) has already been made in this paper, so it is mainly required by internal considerations. Other implementations in the spirit of my system could be done in a syntactic approach to agreement, but I will not follow this route of analysis here. Finally, the claim in (D) is at the heart of the contrast between radical and consistent *pro*-drop.



- (30) Japanese $[_{TP} DP_{K[?]}T] \rightarrow DP_{K[nominative]}$ Syntax
- (31) **Spanish** a. $[_{TP} DP_{K[?]}T] \rightarrow DP_{K[nominative]}$ b. $[_{TP} DP_{K[nominative]}T+Agr]$

Note now that even when assumption (B) is quite uncontroversial, it implicitly contains a corollary that has not been stressed in the literature on Case, namely, given minimalist assumptions, K is freely assigned to DPs, i.e., $DP_{(K)}$. Put differently, nothing goes wrong with a configuration like this as far as syntax is concerned:

Syntax

Agreement at PF

(32) [_{TP} DP T] Syntax

Of course, given the assumption in (B) such a configuration will produce a PF crash. We obtain then the following corollary:

(33) Corollary

Do not spell out (i.e., do not pronounce) a K-less DP.

This situation gives a legitimate result in the syntax/LF, provided that the principle of recoverability is satisfied (see assumption A). At PF, however, the result is divergent depending on the language: whereas the object (34b) is legitimate in Japanese, a language without morphological agreement, it is illegitimate in Spanish (35b), because, by Assumption (D), the morpho-phonological properties of T cannot be satisfied at this level.



In the terms of this paper, we can assume that a K-less DP is subject to Q-deletion in the syntax. This is locally determined by the computational system: a K-less argument DP is



automatically elided in the syntax by local inspection internal to the DP structure. Of course, other alternatives are also conceivable. At any rate, what is worth noting now is that the direct prediction of this analysis is that argument ellipsis is ellipsis of a Caseless argument. This prediction was already confirmed in the literature by Saito (2007), who also claims that null arguments in Japanese are Caseless. He convincingly shows that this is indeed the case in Japanese on the basis of the well-known alternation between genitive and nominative subjects in this language (all data from Saito (2007)):

- (36) a. [Taroo-ga /-no itta] tokoro T.-NOM/-GEN went place 'the place where Taroo went'
 - b. Taroo-ga /*-no soko –e itta T.-NOM/-GEN there-to went 'Taroo went there.'

As Saito shows, the occurrence of an accusative argument in cases like (36a) prevents the occurrence of a genitive subject:

(37) *[Taroo-no hon-o katta] mise T.-GEN book-ACC bought shop 'the shop where Taroo bought a book'

Compare with the cases in (38), where no accusative argument is present:

- (38) a. [Taroo-no kino itta] tokoro T.-GEN yesterday went place 'the place where Taroo went yesterday'
 - b. [Taroo-no_i t_i taihosareta] tokoro T.-GEN arrested-was place 'the place where Taroo was arrested'

Now, the contrast in (40) below clearly demonstrates that null objects in Japanese do not have accusative case, confirming the idea that elliptical arguments in Japanese are Caseless DPs:

(39) Context

Ziroo-ga hazimete Nagoya-ni kuru-node, minna-ga iroirona basyo-ni *kare-o* Z.-NOM for the first time N.-to come-since all -NOM various place –to he -ACC turete iku yotei-desu

take plan -is

'Since Ziroo is coming to Nagoya for the first time, the plan is for everyone to take him to various places.'

(40)	a.	*[Hanako-no	kare-o	turete iku]	tokoro-wa	Nagoya-zyoo –desu.				
			Hgen	he -acc	take	place -тор	Nagoya Castle-is				
	b.	[Hanako-no	pro	turete iku]	tokoro-wa	Nagoya-zyoo –desu.				
			Hgen	pro	take	place -тор	Nagoya- Castle-is				
'the place that Hanako is taking him is the Nagoya Castle'											

Thus, argument ellipsis is derived as case of phrasal Q-deletion of caseless DPs.

An immediate advantage of this approach is that it explains why the phenomenon is not attested in adjunct position. In effect, in a sentence like (41b) you cannot interpret that John did not wash a car carefully, but only that he did not wash a car:

- (41) a. Bill-wa kuruma-o teineini aratta. Bill-TOP car-ACC carefully washed 'Bill washed a car carefully.'
 - b. John-wa *e* arawanakatta John-top washed.not *Lit*. 'John didn't wash *e*.'

(TAKAHASHI, 2014, p. 94)

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As far as I know, this is a very general pattern across languages. If the proposal I am making here is correct, then the ban of adjunct ellipsis follows because adjuncts simply do not have a structural K feature.⁸

(ii) A: The solution to John,'s problems depends on his, son.
 B: *The solution to Peter,'s problems also depends <on his, son>.

⁸ Takahashi (2014) conjectures that argument ellipsis must be licensed by some selecting head, which is the case with arguments but not with adjuncts. So the problem with adjuncts is not identification but licensing. However, this conjecture cannot be on the right track. Consider the English example in (i):

⁽i) *John loves his son and Peters also loves.

Under the anti-agreement hypothesis, the ungrammaticality of (i) has to be connected to the fact that direct objects in English participate in agreement with *v* and consequently cannot be elided. Now consider (ii):

What accounts for the ungrammaticality of (iiB) now? I see no obvious solution for Takahashi's account of (41) because: (a) the prepositional complement in (ii) is obviously selected by the main verb and, (b) arguably, no agreement relation is at play here between the PP complement and little v. Of course, the fact that there is no agreement here can be demonstrated as false, but this would require strong empirical evidence. Under the analysis proposed here, instead, this follows just because prepositional complements of this type are not endowed with a K feature.



Note now that the reasons that prevent DP-ellipsis in Spanish license the so-called *pro*drop property: a pronoun induces agreement at PF and, precisely, by virtue of such an operation this pronoun can be subject to *Q*-deletion under formal identity. The trees in (42) illustrate the derivation of null subjects in Spanish in a simplified way ((42b) does not make reference to linearization only for expository convenience):



As observed above, agreement only licenses Q-deletion of pronominal entities (i.e., ϕ -sets) under identity. Crucially, phrases cannot be deleted under agreement. Hence, we derive Oku's observation in a theory that conceives of both types of null subjects in Spanish and Japanese as derived via ellipsis and that, at the same time, avoids all the problems mentioned in connection to Duguine's theory.

5 PARTIAL PRO-DROP VS. RADICAL PRO-DROP: SOME SPECULATIONS

Partial *pro*-drop languages of the BP type have two main properties, namely: (i) null generics and (ii) anaphoric third person null subjects in embedded position.

- (43) a. Aqui pode fumar. here can.3sg smoke 'You/can smoke.'
 - Aqui conserta sapatos.
 here repair.3sg shoes
 'One repairs shoes.'

(KATO, 1999, p. 5)

- (44) a. Ninguém acha que **[e]** é estúpido. nobody thinks that is stupid 'Nobody_ithinks that he_iis stupid.'
 - b. O João disse que **[e]** comprou um carro. the John said that bought+S3rd a car. 'John said that he has bought a car.'

(KATO, 1999, p. 5)

(45)	a.	*O the	João J.	disse says	[que [that	a l the l	Maria M.	acl be	na lieve	[c [t	jue e hat e	2	é is	bonit prett	:o]] y]]
	b.	*A the	mãe mothe	do er of	João J.	acha believ	[c ves [t	jue hat	e e	é is	bonito pretty)]			

(FERREIRA, 2000, p. 20)

It seems then that Oku's observation cannot be tested in partial *pro*-drop languages. I have obtained however two types of reactions depending on the speaker, those that apparently behave as Spanish speakers (although see below) and those that react as Japanese ones.

- (46) A: João disse que sua proposta será aceita.J. says that his proposal will-be accepted'J. says that his proposal will be accepted.'
 - B: Pedro também disse que [e] será aceita.
 P. also says that will-be accepted 'P. also says that it will be accepted.'

(strict reading: OK, sloppy reading: %)

Crucially, all the consulted speakers are partial *pro*-drop in the sense that they allow null generics in the relevant contexts (see the examples in (43)). There are various speculations to be done in this respect. First, it is important to stress at this point that, as observed by Kato (2011), null generics seem to be part of the core grammar acquired by BP children, but anaphoric null subjects are acquired late not as part of the acquisition process but because of schooling. But interestingly schooling does not convert speakers into consistent *pro*-drop ones, because there is no available mechanism such as head ellipsis in the core grammar to produce the correct output. At least two strategies seem to be available in general for non*pro*-drop speakers: (i) empty NP-anaphora or (ii) phrasal DP ellipsis of the Japanese type. Depending on the language and other overlapping factors, the two strategies are indeed attested and have already proposed in the literature. The DP ellipsis analysis seems to be unavoidable in Japanese if we want to derive Oku's observation (and also Takahashi's one), but Chinese, instead, where sloppy readings are not attested in subject position (see (47) from Takahashi (2008a, 2014); see also Miyagawa (2013) and Barbosa (2019), among others, for discussion), could be a case in which only NP anaphora are available.

- (47) a. Zhangsan shuo ziji de haizi xihuan Xiaohong. Zhangsan say self of child like Xiaohong 'Zhangsan said his child liked Xiaohong.'
 - b. Lisi shuo *e* xihuan Xiaoli. Lisi say like Xiaoli *'Lit*. Lisi said *e* liked Xiaoli.'

(only strict reading)



Recall that Japanese also makes use of deep anaphora (say, null NP anaphora). This is how the language resolves the strict reading for cases like (1), which are similar to (47). Either way, it seems to be implausible to claim that Chinese simply lacks argument ellipsis in view of the fact that the strict/sloppy interpretation is attested in object position:

- (48) a. Zhangsan bu xihuan guanyu ziji de yaoyan. Zhangsan not like about self of rumor 'Zhangsan does not like rumors about himself.'
 - b. Lisi ye bu xihuan *e*. Lisi also not like *Lit*. 'Lisi does not like *e*, either.'

(OTANI; WHITMAN, 1991 apud TAKAHASHI, 2014, p. 105)

And the language also has the quantificational / E-type ambiguity in object position:

(49) Wo zhaodao-le liangben shu; ta ye zhaodao-le e.
I find-ASP two book he also find-ASP Lit. 'I found two books; he also found e.'

(LI, 2008 apud TAKAHASHI, 2014, p. 105)

Furthermore, and this is crucial, the language does not have morphological agreement, so in principle Chinese is an excellent candidate for argument ellipsis in general. It would be the case that the reason why it does not have DP ellipsis in subject position is connected to the topic nature of such a position. This is argued at length in Barbosa (2019), who elaborates on ideas by Sato (2012). Concretely, she claims that "the subject is a topic in Chinese and a topic must refer to an entity established in the discourse" (BARBOSA, 2019, p. 519). This claim is made under her general theory of *pro*-drop as null NP-anaphora, but in principle the claim is independent of such theory and compatible with the present one, according to which some null subjects are cases of DP-ellipsis.

Coming back to BP, given the reactions provided by my BP consultants, it seems that there is a split between those who react as Japanese speakers and those who react as Chinese ones. Although of course further research is needed in this respect, it is interesting to note that BP speakers do not seem to react as *pro*-drop speakers, i.e., they do not have head ellipsis of pronouns.

6 CONCLUDING REMARKS

The final picture is illustrated in the following scheme:

FIGURE 3 – TYPES OF NULL ARGUMENTS

Syntax: {Phrasal ellipsis, NP-anaphora}

(radical and partial pro-drop)

• PF: Head ellipsis (consistent *pro*-drop)

Source: elaborated by the author.

According to this model there are three types of null arguments: (i) elliptical pronouns, (ii) elliptical (full) DPs and (iii) NP anaphora. Consistent *pro*-drop languages are head ellipsis languages, i.e., languages in which pronouns are deleted at PF after morphological agreement. Radical *pro*-drop languages are languages in which arguments can be deleted by phrasal ellipsis in the syntax, but which also use null NP anaphora. Partial *pro*-drop, as argued at length by Barbosa (2019), can be reduced to the radical *pro*-drop type, although there are still many remaining issues; in particular, it has to be determined whether the language makes use of argument ellipsis.

Before concluding, I would like to stress a final point. In principle, I see no empirical or conceptual reason to reject cases of phrasal movement in hyper-raising contexts to account for some types of embedded null subjects in partial pro-drop languages, in consonance with proposals like those in Ferreira (2000) or in Rodrigues (2004). Indeed, I think that we can get a better understanding of null subject phenomena across languages if we accept that this strategy is in principle available for partial pro-drop languages. If this is the case, then some null subjects are traces, i.e., a particular type of elliptical object. Under closer inspection, it turns out that the types of null subjects attested in non-consistent pro-drop languages form a natural class connected to general properties of the agreement-Case system of a given language. On the one hand, it should be the case that bare NPs (even ϕ Ps) fail to be pronounced because of the Case Filter (see Assumption (B) above): Case is a property of DPs. Of course, Caseless DPs fail to be pronounced for the same reason. So empty NP anaphora and DP-ellipsis form a class of natural phenomena as far as their PF nature is concerned; the difference between them boils down to the difference between deep and surface anaphora, respectively. In this way, we also capture the observation by Tomioka (2003), stressed and further elaborated by Barbosa (2019), that there is a correlation between the productive distribution of bare NPs in a given language and radical pro-drop. Given our assumptions between agreement and Case, the availability of the phenomenon should be allowed only in those languages in which there is no agreement at all or in which



agreement and Case are not connected in the way stated by assumption (D). In sum, NP anaphora and DP-ellipsis are allowed to different extents in languages in which K is not a prerequisite for agreement to take place. Then, the extent to which a given language allows for DP-ellipsis or empty NP-anaphora (and different projections of empty Ns) or both should be explored in a case by case fashion.

Now, as mentioned, some part of the literature is also committed with the idea that certain anaphoric subjects both in finite and non-finite contexts are derived by A-movement. Roughly, under such an approach, a case of hyper-raising is analyzed in the following way:

(50) Os meninos parecem que <os meninos> gritam. the children seem.PL that the children shout.PL 'The children seem to shout.'

If the system I presented in section 3 is on track, then traces of arguments are just elliptical DPs: Movement is Copy plus Q-deletion to lower copies. Suppose that a DP with a K feature moves in order to value this feature. The minimal assumption is that the K feature is valued only for the copy in the landing position, but not for the lower one, which is, I think, the default hypothesis (see Nunes (2004) for extensive discussion). Now, a copy with an unvalued K feature fails to be pronounced by the Case filter. This is the simpler way in which a copy of a nominal argument is elided, because it only requires local inspection within the structure of the DP (see above). Once the system recognizes a DP copy with an unvalued K feature Q-deletion automatically applies. This idea can now be extended to all copies with a K feature, regardless of valuation. In other words, copy deletion for a K-specified argument is deletion of its K feature. I think this is a natural conclusion if economy plays some role in the UG design, where local operation wins over non-local or less local ones. Again, this forces us to draw a fundamental division between arguments and adjuncts, because for adjunct copies to be deleted we need a different mechanism, one that is not strictly local and, which as a minimum, requires searching an antecedent to delete the relevant copies. Therefore, we expect argument-adjunct asymmetries in the realm of copy deletion, similar to what we find in the realm of DP-ellipsis in Japanese, where adjuncts cannot be subject to ellipsis (see (41)). Such asymmetries are indeed well known and involve for instance relativized minimality effects:

- (51) a. ?Qué te preguntás quién compró <qué>? what cl.2p wonder.2p who bought <what> 'What do you wonder who bought?'
 - b. * Cuándo te preguntás quién compró un auto <cuándo>?
 when cl.2p wonder.2p who bought a car <when>
 'When do you wonder who bought a car?'

For the object copy to be deleted in (51a) an antecedent is not required because the K feature of the direct object copy is enough to induce *Q*-deletion. Such a possibility of course is not available with an adjunct copy which must be deleted through the localization of a



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local, c-commanding antecedent (i.e., the higher copy). Closeness plays a role here as in other cases of ellipsis. In the case at hand, a *wh*-element like *quién* blocks deletion of the adjunct copy. It seems then that we have empirical reasons to think of argument ellipsis and copy deletion as forming a natural class of phenomena.⁹

In sum, I leave open the possibility that null arguments in the syntax might be the result of three independent available mechanisms: (i) NP-anaphora, (ii) DP-ellipsis or, (iii) Copy Deletion. Strictly speaking, the first strategy goes from having a non-projected argument in the syntax to different sorts of NP projections. Different tests, like binding, should be constructed in order to show what level of projection a given NP anaphora has in a particular language. At any rate, this strategy reduces to a type of deep anaphora strategy. Instead, DPellipsis and Copy Deletion should be thought of a type of surface anaphora phenomenon. The distinction between both can be detected under usual tests of movement and ellipsis (island effects, for Copy Deletion, or occurrence across the discourse, for DP-ellipsis). Both phenomena, however, display a similar behavior in other relevant domains. I have shown, for instance, that argument-adjunct asymmetries are attested for DP-ellipsis and Copy Deletion. In a broader perspective, then, different types of syntactically licensed null subjects boil down to the indubitable existence of deep and surface anaphora across languages. In this respect, again, a general theory of ellipsis seems to be superior to its competitors. A crucial novelty of this paper, however, is that null subjects of consistent pro-drop languages should not be confused with any of the syntactic strategies discussed here. In terms of the deep vs. surface anaphora distinction, these null subjects are surface anaphora of an underlying pronoun (i.e., deletion of a deep anaphora) and this phenomenon must be kept apart from NP-anaphora phenomena.

⁹ The connection between relativized minimality effects and case is not new: Kitahara (1999) also relates the contrast observed in (51) to Case theory, although his implementation is clearly different to the suggestion made here that the underlying reason that explains such a contrast is locality for phrasal ellipsis.



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