

Full and Null Pronouns in Spanish: the Zero Pronoun Hypothesis

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1. The Puzzle

Montalbetti (1984) points out certain semantic differences between phonetically full and phonetically empty pronouns (henceforth *full* and *null* pronouns) that challenge the traditional interpretive parallelism between empty and full categories (see Chomsky 1981, 1982). He shows that both in subject (1) and object position (2), while null pronouns can be interpreted as bound variables (as in (1a) and (2a)), full pronouns cannot (as in (1c) and (2c)).¹

- (1) a. *Nadie_i* sabe que *pro_i* vendrá.
Nobody know:3S that pro come:3SFUT
'Nobody_i knows that he_i will come'.
b. $\sim\exists x$ (person' (x) & (know' (x) (come'(x))))²
c. **Nadie_i* sabe que *él_i* vendrá.
Nobody know:3S that pro come:3SFUT
'Nobody_i knows that he_j will come'.
d. $\sim\exists x$ (person' (x) & (know' (x) (come'(y)))
- (2) a. *Nadie_i* sabe que el profesor lo vigila *pro_i*
Nobody know:3S that the teacher HIM-CL watch-over:3S pro
'Nobody_i knows that the teacher watches over him_i'.
b. $\sim\exists x$ (person' (x) & know' (x) (watch-over' (p) (x)))
c. **Nadie_i* sabe que el profesor lo vigila *a él_i*.
Nobody know:3S that the teacher HIM-CL watch-over:3S him
'Nobody_i knows that the teacher watches over him_j'.
d. $\sim\exists x$ (person'(x) & know' (x) (watch-over' (p) (y)))

Contrasts like those under (1) and (2) seem to suggest that a principle equivalent to (3) has to be taken to describe the strategy responsible for anaphora resolution in Spanish³.

- (3) Variable binding is restricted to null pronouns.

However, it has been shown that in order for (3) to predict the actual

anaphoric behavior of Spanish pronouns it has to be refined in a series of finer-grained generalizations that still remain largely unrelated (Luján 1985, 1986; Rigau 1986, 1988; Fernández Soriano 1989).

This paper aims to give a unified account of these generalizations showing that they are all derivable from the Zero Pronoun Hypothesis of Kratzer (1998) (henceforth the ZPH), which can be stated essentially as in (4):

- (4) a. Pronouns can have lexical content (L-pronouns) or not (Zero-pronouns).
 b. Zero-pronouns can have phonetic content (full) or not (null).

The interest of this proposal is twofold. On one hand we want to show that the ZPH is valid on grounds different from those that originally motivated it, and, on the other, we want to illustrate its explanatory power by showing that it can account for a series of previously unrelated constructions in Spanish.

2. The Anaphoric Behavior of Spanish Pronouns: Empirical Generalizations

(5) shows that both in subject (5a) and in object position (5c) both full and null pronouns can be interpreted as free variables (as in (5b) and (5d)), i.e. deictically, provided that a salient value obtains in the discourse or situation of utterance⁴:

- (5) a. *Nadie_i sabe que pro_j él_j vendrá.*
 Nobody know:3S that pro/he come:3SFUT.
 ‘Nobody_i knows that he_j will come’
 b. $\sim\exists x$ (person’(x) & know’(x) (come’(y)))
 c. *Nadie_i sabe que el profesor lo vigila pro_j/a él_j*
 Nobody know:3S that the teacher HIM-CL watch-over:3S pro/to him
 ‘Nobody_i knows that the teacher watches over him_j’
 d. $\sim\exists x$ (person’(x) & know’(x) (watch-over’(p) (y)))

Notice, however, that, if there is a potential binder, the most accessible reading for null pronouns is the bound variable one, even if a salient antecedent obtains in the discourse, which seems to be connected to what has been called ‘proximate interpretation phenomena’ (Piccallo 1991):

- (6) *Pedro_i es muy aburrido. Nadie_j cree que pro_i se divierte.*
 Pedro_i be:3s very boring. Nobody believe:3S that pro 3RFXV-CL has fun
 ‘Pedro_i is very boring. Nobody_j believes that he_j has fun’.

- (7) *Ana_i dice que Pedro_j cree que pro_i ganará*
 Ana say:3SP that Pedro believe:3S that pro win:3SFUT

‘Ana says that Pedro_i believes that he_{n/j} will win’.

Whereas both full and null pronouns can have free variable readings, data included in (1) and (2) show that only null pronouns can have bound variable readings. (3) is intended to capture this behavior, but it has been shown not to be without exceptions, to the extent that it has been modified to the weaker version in (8), which amounts to Montalbetti’s Overt Pronoun Constraint (OPC) (Montalbetti 1984):

(8) Full pronouns cannot be interpreted as bound variables except for those syntactic environments where null pronouns are not allowed.

Two particular instances of (8) have been discussed in the literature. Montalbetti himself observed how inside PPs, where null pronouns are not licensed (as in (9), see Jaeggli and Safir 1989), full pronouns naturally have bound variable readings, as illustrated in (10).

- (9) a. Pedro vino con él.
Pedro come:3SPAST with him
‘Pedro came with him’.
b.* Pedro vino con pro.
- (10) a. *Ningún estudiante*_i sabe que Juan y María_j hablan de él_{i/k}.
No student know:3S that Juan and María talk:3PL about him
‘No student knows that Juan and María talk about him’.
b. *Ningún miembro del consejo*_i sabe que la reunión puede
No member of the council know:3S that the meeting can
comenzar sin él_{i/k}. (Rigau 1988)
begin:INF without him
‘[No member of the council] _i knows that the meeting can begin without him_i’.

Luján (1985, 1986) has noticed that cases of contrastive interpretations are another instance of (8), since full pronouns can have bound variable readings whenever contrastive.⁵ As seen in (11), where focal interpretation triggering particles as *sólo* ‘only’ or *también* ‘even’ adjacent to the pronoun favor a bound variable reading for the full pronoun.

- (11) a. *Ningún estudiante*_i piensa que (sólo) *ÉL*_{i/j} pasó el examen.
No student believe:3S that (only) he pass:3SPAST the exam
‘No student_i believes that only he_i passed the exam’.
b. *Todo profesor*_i cree que (también) *ÉL*_{i/j} es un genio.
Every teacher believe:3PL that even he is a genius
‘Every teacher_i believes that even he_i is a genius’.

Luján's Generalization can also capture a well-known asymmetry with respect to the anaphoric properties of full pronouns and their syntactic positions. As pointed out by Solá (1992) and Roselló (1986) for Catalan, Spanish full pronominal subjects are naturally understood as bound variables just in postverbal position.

- (12) a. **Cada participante_i creía que él_i ganaría.*
 Each participant believe:3S that he win:3P
 'Each participant thought that he would win'
 b. *Cada participante_i creía que ganaría ÉL_i.*

Since postverbal subjects naturally correlate with focal positions in Spanish, we will take (12) to be an instance of Luján's Generalization.

Those syntactic contexts in which the distribution of null pronouns is defective mark an interesting area of divergence with respect to their anaphoric behavior. However, there are other major differences that cannot be predicted by means of (3). Consider, for instance, (13) (from Picallo 1991) and (14):

- (13) *El estudiantado_i está descontento cuando *él_i /pro_i comprueba la*
 The student body be:3S unhappy when he/ pro verify:3S the
 ineficacia de la administración.
 inefficiency of the administration.
 '[The student body]_i is unhappy when he_i verifies the inefficiency of the
 administration'.
 (14) *Devolverán la escultura_i si *ella_i /pro_i se puede restaurar.*
 Pro return:3PLFUT the sculpture if she 3RFXVCL can restor:INF
 'They will return the sculpture_i if she_i can be restored'.

(13) shows that full pronouns, as opposed to null ones, cannot be anaphorically linked to a collective noun, and (14) that they cannot be linked to an inanimate antecedent. However, if the full pronoun is in a position where it does not alternate with a null pronoun, then the restriction disappears:

- (15) a. *El estudiantado_i está descontento cuando la administración no*
 The student body be:3S unhappy when the administration NEG
 cuenta con él_i.
 count:3S with him
 '[The student body]_i is unhappy when the administration does not count
 on him_i'.
 b. *Parece que la escultura_i sabe que la gente hablan de ella_i*
 seem:3S that the sculpture know:3S that the people talk:3S about her
 'It seems that the sculpture_i knows that people talk about her_i'.

3. The Zero Pronoun Hypothesis

Now, we want to show that all these generalizations can be derived from the Zero Hypothesis (Kratzer 1998), originally motivated for the nominal domain by (16):

- (16) a. Only I got a question that I understood.
b. The speaker in a context *d* is the only person that got a question that the speaker in *d* understood.
c. The speaker in a context *d* is the only individual that has the property of being an *x* such that *x* got a question that *x* understood.

(16) has two readings that differ with respect to the interpretation assigned to the deictic. (16b) is the result of interpreting *I* as a pure deictic that picks up the speaker in the utterance context. In (16c), however, the second occurrence of *I* is not purely deictic: its person and number features are not interpreted at all and, interestingly enough, it has obligatorily a bound-variable interpretation, that, as shown in (17), is subject to some locality condition, since only (17a), where there is no intervening different antecedent, can have a bound-variable reading.

- (17) a. Only I got a question that I thought I could answer.
b. Only I got a question that you thought I could answer.

Then, in (16c) we face a pronoun that resembles a deictic but can semantically behave as a bound-variable. Furthermore, it behaves as if it did not have any lexical features at all. In order to capture this, and under the plausible assumption that (interpretable) lexical features cannot be deleted in the process of deriving Logical Form representations, Kratzer proposes that certain pronouns do not have lexical content in the lexicon, and dubs them ‘Zero Pronouns’.

As we said before, Zero pronouns differ from lexically full pronouns (L-pronouns) in that they have no lexical features. Since it is currently held that lexical features of pronouns contribute a set of presuppositions (Heim 1982), Zero pronouns can be easily distinguished from L-pronouns because, lacking lexical content, they are not presuppositional.

Notice that Zero pronouns do not have to be confused with null pronouns, since the classification of a pronoun as a Zero pronoun has to do only with its lack of lexical content. Zero pronouns can be full pronouns: they surface as the weakest possible phonological alternative, where ‘weakest’ is to be defined in a language-specific basis (Kratzer 1998:3). Consequently, their phonetic distribution can be seen as subject to the following economy condition:

- (18) Minimize the phonetic content of Zero pronouns up to crash.

Obviously, (18) is just a specific subcase of a very general economy principle ranging over the whole computational system, as that proposed in Cardinaletti and Starke 1995:

(19) Minimize α up to crash.

Where α ranges over representations, derivations, even features.

Being null is generally the weakest phonological alternative for an argument in Spanish. Given that Spanish allows null arguments in subject and object position, in these positions Spanish Zero pronouns are null. However, there are two environments, as we saw, where being full is the weakest phonological alternative: when focused (as in (20b)) and within PPs (as in (9a), repeated here as (20')).

- (20) a. ¿Quién llegó?
Who come:3SPAST
'Who came?'.
b. Llegó él /*pro.
arrive:3SPAST he
'He arrived.'
- (20') a. Pedro vino con él.
Pedro come:3SPAST with him
'Pedro came with him'.

This idea of an economy principle restricted by certain conflicting factors naturally links with data presented above in the sense that minimizing the phonetic content of Zero pronouns, obeying (18), makes the derivation crash in the contexts described by Montalbetti's and Luján's Generalizations.⁶

4. Strategies for Anaphora Resolution in Spanish and the ZPH

Having briefly introduced the phonological distribution of Zero pronouns, we are now in the position of returning to the properties of anaphora resolution in Spanish, and showing the advantages of the empirical consequences of the Zero Pronoun Hypothesis over (8). Specifically, we want to replace (8) with (21), a principle independently needed to account for the data presented by Kratzer (1998):

(21) Zero-pronouns are obligatorily bound variables.

From the previous discussion, it follows that those cases of full bound variable pronouns that were exceptions to (8) are nothing but regular instances of the Zero-pronoun strategy, since we can derive (22) from (8) and (21):

(22) a. Spanish null pronouns are obligatorily bound variables.⁷

- b. Spanish full pronouns are obligatorily bound variables when they are Zero- pronouns, i.e. whenever inside PPs or in a focal position.

In the next section we will include some empirical evidence in support of (22) and extend the proposal to cover other phenomena that were in principle out of the scope of the ZPH.

5. Extensions of the ZPH and Empirical Evidence

Examples under (13-15), repeated here for convenience as (13'-15') constitute the first piece of evidence:

- (13') *El estudiantado_i* está descontento cuando **él_i /pro_i* comprueba la ineficacia de la administración.
The student body be:3S unhappy when he/ pro verify:3S the inefficiency of the administration.
‘[The student body]_i is unhappy when he_i verifies the inefficiency of the administration’.
- (14') Devolverán *la escultura_i* si **ella_i /pro_i* se puede restaurar.
Pro return:3PLFUT the sculpture if she 3RFXVCL can restor:INF
‘They will return the sculpture_i if she_i can be restored’.
- (15') a. *El estudiantado_i* está descontento cuando la administración no cuenta con *él_i*.
The student body be:3S unhappy when the administration NEG count:3S with him
‘[The student body]_i is unhappy when the administration does not count on him_i’.
- b. Parece que *la escultura_i* sabe que la gente hablan de *ella_i*.
seem:3S that the sculpture know:3S that the people talk:3S about her
‘It seems that the sculpture_i knows that people talk about her_i’.

(13'-15') show an asymmetry between full pronouns in subject/object positions and full pronouns inside PPs. This phenomenon, still unsatisfactorily explained, can be seen as a natural consequence of the ZPH. Notice that both in subject and object position phonetic features can be totally minimized. This means that a full pronoun in either position is predicted to be an L-pronoun. It is well known that the lexical content restrict the kind of (discourse) situations in which an utterance containing a pronoun can be uttered felicitously (Heim 1982), whence it restricts the kind of possible antecedents for a pronoun. Consequently, the animacy effect in (13'-15') suggests that full personal pronouns incorporate some sort of animate feature that discriminate non animate antecedents.⁸

Inside PPs, however, full pronouns need not be L-pronouns, since totally minimizing the phonetic content here is prohibited. If we treat full pronouns in

(15) as Zero pronouns, the fact that the animacy requirement is inactive follows directly from the fact that Zero pronouns lack lexical content.⁹

This is not the only piece of evidence. As Kratzer (1998) has pointed out, in line with older proposals by Huang, Borer and others, under the Zero-pronoun Hypothesis, PRO is no longer a special creature. It is just a Zero-pronoun, a pronoun without lexical features whose meaning is resolved by means of variable binding. Control Theory used to determine the available antecedents (if any) for PRO. If PRO is nothing more than a Zero-pronoun, we expect the rest of Zero-pronouns to mimic the anaphoric properties of PRO, as traditionally described. In (23-24) we have certain examples both with subject and object control verbs that seem to suggest that this is the case:

- (23) a. *Cada estudiante_i amenazó a cada profesor_j con que pro_i vendría.*
Each student threaten:3SPST each teacher with that he come:3SPST
'Each student_i threaten each teacher_j saying that he_i would come'.
- b. *Pedro_i amenazó a Juan_j con pro_i venir.*
Pedro threaten:3PST Juan with to come
'Pedro threatened Juan (saying that) he would come'.
- (24) a. *Cada profesor_i obligó a cada alumno_j a que pro_j viniera.*
Each teacher force:3PST every student that pro come:3sSUBJPST
'Each teacher forced each student to come'.
- b. *Pedro_i obligó a Juan_j a pro_j venir.*
Pedro force:3SPST Juan to pro come
'Pedro forced Juan to come'.

If we force the parallelism, we expect Zero-pronouns in finite clauses to show an arbitrary interpretation like PRO. Nevertheless, at least for subject position, this interpretation is not available¹⁰. It is not available, because, as pointed out in Speas (1997), subject agreement will always control Zero-pronouns in the subject position of finite clauses. The absence of agreement in a non finite clause will explain the possible arbitrary interpretation for PRO.

Object agreement however, could work differently. Consider (25). Notice that if we have a clitic doubling a Zero-pronoun, as in (25a), the regular object control pattern is kept. Assuming that the clitic marks the presence of object agreement (with Borer 1984, Silva-Corvalán 1981, 1984, Suñer 1988 and Franco 1993), the interpretation of (25a) is expected, because object agreement in (25a) but not in (25b) blocks an arbitrary interpretation. With respect to this, recall that Bach's 1979 Generalization (Bach 1979) claimed that a direct object controller cannot be omitted (see also Rizzi 1986 and Authier 1989).

- (25) a. *Napoleón_i le_j ordenó pro_j pro_j atacar.*
Napoleón him order:3SPST pro pro to attack
'Napoleon ordered him to attack'.

- b. *Napoleón_i* ordenó pro_{arb} pro_{arb} atacar.
 Napoleón order:3SPST pro pro to attack
 ‘Napoleon ordered to attack’.

Furthermore, Kratzer (1998) has also claimed that the relation between a Zero-pronoun and its antecedent is interrupted by an intervening possible antecedent, a property amply illustrated by (26).

- (26) a. *¿Quién_i* se cree que (sólo) *él_i* es Dios?
 Who 3RFXCL believe:3S that only he be:3S God
 ‘Who_i believes that only he_i is God?’.
- b. **¿Quién_i* se cree que *Pedro_j* dice que (sólo) *él_i* es Dios?
 Who 3RFXCL believe:3s that Pedro say:3S that only he be:3S God
 ‘Who_i believes that Pedro_j says that only he_i is God?’
- c. *Todo estudiante_i* sabrá que hablan de *él_i*.
 Every student know:3FUT that (they) talk:3PL about him
 ‘Every student_i will know that (they) talk about him_i’.
- d. **Todo estudiante_i* sabrá que *Pedro_j* *me_k* dijo que
 Every student know:3FUT that Pedro me tell:3PST that
el decano_l habla de *él_i*.
 the Dean talk:3PL about him
 ‘Every student_i will know that Pedro told me that the dean talks about him_i’.

Finally, (27) illustrates another phenomenon derivable from the ZPH. It might be interesting to point out that, if PRO is a Zero pronoun, according to what we said before, we expect it to be full under certain circumstances, for instance, whenever contrastive. Under this framework, this is just what we have in (27): a construction in which a full pronoun is obligatorily controlled and is typically characterized as ‘emphatic’.

- (27) *María_i* quiere telefonar *ELLA_{i/*j}*.
 María want:3S to phone her
 ‘María wants to phone herself’

From the ZPH we can derive an elegant account for (27), whose only alternative, as far as we know, is offered in Piera (1987). Piera’s analysis is sketched in (28): he proposed that these full pronouns are base generated in an A’-position external to the VP from where they are obligatorily coindexed with PRO.

- (28) *María_i* quiere [[_{sv} PRO_i telefonar] *ella_i*]

However, if we pay close attention to the construction, we can conclude that not only is the ZPH analysis possible for (27), but also desirable, since Piera’s

proposal is descriptively inaccurate. Note that there are just two positions available for the pronoun here: either it appears at the rightmost position of its clause as in the previous examples or immediately before the infinitive, where it receives a pitch accent:

(29) *María_i quiere ELLA_i telefonar*

While, in order to explain the two available positions, the doubling hypothesis of Piera has to stipulate that the full pronoun adjoins either to the right or to the left of the VP, without any justification, the ZPH can easily predict this behavior. Considering this pronoun a phonetically full variant of PRO, pronounced when contrastive, the syntactic positions in which it appears are exactly those in which a constituent can receive a contrastive interpretation: a preverbal site, marked with a pitch accent, and a postverbal position.

The problem for Piera's proposal is even worse. Consider (30):

- (30) a. *María quiere telefonar* [_{VP} rápidamente
 b. *María want:3S phone:INF quickly*
 c. **María quiere* [_{VP} rápidamente *telefonar*
 d. *María quiere* [_{VP} *telefonarlo* *María want:3S phone:INF:ACC:CL*
 e. **María quiere* [_{VP} *lo telefonar* e. *María lo* [_{XP} *telefonea*
 f. **María* [_{XP} *telefonealo*

In (30a), the adverb of manner *rápidamente* ('quickly') marks the limits of the VP (Ojeda 1994), suggesting that, under the widespread assumption that adverbs do not move, there is V movement out of the VP (30b). (30c) shows that clitics have to be postverbal with non finite verbs, but not with finite verbs (30e-f). Consequently, it seems that the moved infinitive ends up in a position higher than the one that occupies the clitic and, therefore, higher than the position in which a finite verb ends. We will not give any finer-grained analysis of these facts, all we need to assume is that the position where PRO is base generated would be the rightmost position in these structures.

Under these observations, it will not be enough to assume that the pronoun adjoins to the V. In order to account for the preverbal cases, left-adjoining the full pronoun to the VP will not suffice, as (31) shows. There is need for an extra stipulation: in these cases, the adjunction site has to be external to the VP.

(31) **María quiere telefonar_i [_{VP} rápidamente [ELLA [PRO t_i]]*

6. Conclusions

After reviewing troublesome cases for Montalbetti's OPC, some of them previously pointed out in the literature, we suggest adopting the ZPH as a principle governing anaphora resolution in Spanish.

The empirical consequences of the ZPH are particularly interesting for the grammar of anaphora in Spanish. We have shown that by adopting it, formerly exceptions, as those pointed out by Montalbetti and Luján, are shown regular principles and formerly unrelated phenomena, as the animacy effects of full pronouns, the proximate interpretation phenomena and the emphatic subjects of infinitives puzzle are shown interwoven.

Not only is the ZPH descriptively adequate: it is also theoretically encouraging, because it opens a whole series of questions that relate to major problems in the field. It leads to consider, among other topics, the interaction of violable constraints, the crosslinguistical properties of anaphora resolution and the interaction between discourse and syntactic properties, and the currently discussed locality effects on A' binding (Heim 1993) all of which are topics for further research.

Notes

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1. Here we will concentrate on third person singular pronouns. The study of first, second person and plural pronouns and its interweaving connections with the semantics of plurals and the so called 'arbitrary interpretation' are neighboring areas whose intriguing connections with the content of this paper are treated in Alonso-Ovalle (2000).

Throughout this paper, we will use the term *variable* to refer to the semantic behavior of pronouns, i.e. to their contributions to the truth conditions of the sentences they are part of (see, for instance, Partee (1978)). This use of the term *variable* refers to the role played by variables in formal languages and, although in an extended sense can be seen as covering those cases of syntactic variables in the GB tradition, both uses should be preferentially kept apart. On the different predictions made by syntactic and semantic variables, see Koopman and Sportiche (1986).

2. Although we use classical predicate calculus as a metalanguage to express explicitly the truth conditions of the sentences, we are not committing ourselves to their expressive validity. For a classical treatment of the problems related to

translating natural language quantification into first order predicate calculus see, for instance Von Stechow 1994.

3. We will restrict here our consideration to cases of nominal anaphora, leaving the study of temporal anaphoric dependences for further study. On the connections between nominal and temporal anaphora see Partee (1973, 1984) and Kratzer (1998).

4. Traditional grammar distinguished these two uses: a pronoun that receives its reference from the extralinguistic context was considered *deictic*, whereas a pronoun that ‘picks up its reference’ from the previous discourse was considered *anaphoric*. Lasnik 1976, Partee 1978 and Lewis 1979, among others, have shown that this distinction is theoretically vacuous. Anaphoric (coreferent) and deictic uses of pronouns are two instances of the same phenomenon: in both cases the pronoun *refers* to a certain individual that is sufficiently salient at the moment when the pronoun is processed.

5. According to the classic treatment of focus (Kratzer 1991, Rooth 1996), a pronoun will be considered to be contrastive in a proposition if the truth value of the proposition is suggested to be different from the truth value of (some or all) other propositions that could be obtained by replacing the pronoun by any member of the set of its contextually salient alternatives (see also Zubizarreta, 1998).

6. Both types of pronouns have been said to differ also with respect to Weak Crossover effects (Luján 1985, 1986):

- (i) Si ^{*}*él_i* / *pro_i* bebe, *Juan_i* no conduce
If he drink:3SPRES, Juan NEG drive:3SPRES
‘If he_i drinks, Juan_i does not drive’

However, as (ii) shows, a full pronoun can license backwards anaphoric readings if it is within a PP. This means that the alleged contrast illustrates nothing more than the general behavior of pronominal elements in Spanish. *Él* in (ii) is a case of a full Zero pronoun and, as predicted, it can naturally be interpreted as a bound variable.

- (ii) Si *hablan* de *él_i* en los pasillos, *todo estudiante_i*
If pro speak:3S of him in the hall every student
sabe que *pro_i* aprobó el examen.
knows that pro passed the exam

7. Cases of apparently free null pronouns can be reduced to cases in which Agr-clitic binds the Zero pronoun, in line with the topic operator proposed, for instance, by Huang (1984) for languages with null constituents and no agreement (see also Speas 1997). We will actually defend that full pronouns are pure deictic expressions, following Cooper’s (1979) treatment of pronouns as context-dependent Russellian definite descriptions. On these topics, see Alonso-Ovalle (2000b).

8. Perhaps [+/- animate] is not the only feature that makes a difference here. Javier Gutiérrez-Rexach (p.c.) has pointed out that plurality can also be involved.
9. Notice that one cannot stick to any kind of presupposition filter to account for the loss of interpretable features here, since Karttunen (1973) and Karttunen and Peters (1979) have shown precisely that universally quantified formulas inherit the presuppositions of their nuclear scope.
10. We will ignore here the cases of the so-called pro_{arb} (Suñer 1983), since they can be semantically analyzed as not involving *pro* at all. Arguments for this claim and a general model-theoretic treatment of the ‘arbitrary reference’ phenomena are offered in Alonso-Ovalle (2000a).

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