EMPTY OBJECTS IN CATALAN

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It is the purpose of this paper to consider the characteristics of Catalan null objects

in the context of the theory of empty categories in general. The licensing of an

empty category and recovery of its content are made fully independent and thus it is

postulated that the difference between subject and object pro-drop is not one of

licensing but rather should be placed in the way in which their features are identified.

In this way, I propose a unified treatment of empty subject and object licensing.

1. The Identification Hypothesis

The main reason to postulate a phonetically null argument lies in its being implicated in the

interpretation of a sentence, especially in relation to control and binding; to the extent that

control and binding are represented syntactically in the principles-and-parameters framework,

the null element must appear in the syntactic representation as well.

The licensing and recovery of the content of empty categories (ECs hereafter) has been the

object of a considerable literature. For a long time the possibility of having an EC has been

correlated with the richness of agreement:

(1) In many languages the distinction between the three persons is found not only in

pronouns, but in verbs as well, thus in Latin (amo, amas, amat) ... In such languages

many sentences have no explicit indication of the subject, and ego amo, tu amas is at first

said only when it is necessary or desirable to lay special stress on the idea "I, thou"

(Jespersen (1965[1924]:213)).

The fact that agreement correlates with the possibility of dropping a nominal category has more recently been known as Taraldsen's Generalisation (cf. Taraldsen (1978)). In the work of Jaeggli (1982), the same idea is expressed in the "identification hypothesis", which states that agreement is the means of recovery of the content of an EC, and inextricably associates the licensing by agreement of an EC with the recovery of its content.

Although this phenomenon has often been illustrated with examples from Latin and the Romance languages, it is challenged in a broader survey. Thus standard Finnish allows empty possessors, as in (2a), at the same time that it exhibits agreement on the noun; from these agreement markers the number and person of the dropped nominal are recoverable. And in colloquial Finnish a new inflectional paradigm, (2b), has arisen; the noun is invariant and the possessors are obligatory.

(2)	a.	(Minun) taloni	b.	Minun talo	'My house'
		(Sinun) talosi		Sinun talo	'Your house'
		(Hänen) talonsa		Hänen talo	'His/her house'
		(Meidän) talommme		Meidän talo	'Our house'
		(Teidän) talonne		Teidän talo	'Your house'
		(Heidan) talonsa		Heidän talo	Their house'

This much is in accordance with the identification hypothesis. However, a "rich" system of agreement is not sufficient in itself to allow empty categories. Thus standard and colloquial Finnish both present verb agreement, but while the former permits empty non third person subjects, the later allows none:

(3)	a.	(Minä) olen.	b.	Mä oon.	'I am'
		(Sinä) olet.		Sã oot.	'You are'
		Hän on.		Se on.	'S/he is
		(Me) olemme.		Me ollan.	'We are'

(3) a. (Te) olette. b. Te ootte. 'You are'

He ovat. Ne on. They are'

Moreover, it has been pointed out that an agreement system is not even a necessary condition for the occurrence of empty categories —empty categories and absence of agreement coexist, for instance, in Japanese and Chinese (cf. Huang (1984)).

2. Empty Objects

In the absence of object agreement, the data on empty objects is in conflict with the identification hypothesis. In the following I shadow Rizzi's (1986) arguments for a syntactic analysis of empty objects with Catalan examples that closely parallel those of Italian. Thus corresponding to Rizzi's Italian example (4) is the Catalan example (5).

- (4) Questo conduce a concludere quanto segue.
 this leads to conclude-INF what follows
 - 'This leads one to conclude what follows.'
- (5) Això porta a concloure el següent. this leads to conclude-INF the following This leads one to conclude what follows.'

To motivate an empty category, note first that there must be some null element to act as controller in e.g. (6).

- (6) Un general pot obligar [ec] a obeir les seves ordres.
 - a general can force-INF to obey-INF the his orders
 - 'A general can force one to obey his orders.'

Second, the EC can act as the antecedent of an anaphor as in (7), where *amb un mateix* 'with oneself' needs to be bound.

(7) La bona música reconcilia amb un mateix. the good music reconciles with one self 'Good music reconciles one with oneself.'

The interpretation of the empty category is that of an arbitrary, generic, human, so that e.g. (4) can be paraphrased as in (8):

(8) Questo conduce la gente a concludere quanto segue. this leads the people to conclude-INF what follows.
This leads people to conclude what follows.

Rizzi (1986:512) characterises a generic NP like the one in (4) by the following collection of features:

(9) NP [+human, +generic, +plural]

That Catalan empty objects are also [+human] is illustrated in (10), where it is shown that a verb selecting for [-human] objects does not allow for an EC as complement.

(10) *Aquesta cafetera aboca [ec] bé. this coffee-maker pours well.'
This coffee-maker pours well.'

While Catalan empty objects share with Italian their specification for human and generic, they are [-plural]. The contrast is shown in (11) from Italian (Rizzi (1986:504)) and (12) from Catalan:

(11) La buona musica riconcilia con se stessi. the good music reconciles with themselves 'Good music reconciles one with oneself.'

(12) *La bona música reconcilia amb ells mateixos. the good music reconciles with themselves 'Good music reconciles one with oneself.'

The value for the feature [±plural] must thus be determined language-specifically. Because the EC is [+plural] in Italian it can bind a reciprocal (cf. Rizzi (1986), who took this example from Belletti (1982)). The [-plural] EC of Catalan means that this type of sentence is ruled out due to a mismatch in agreement:

(13) Un buon pranzo può riconciliare [ec] gli uni con gli altri.

a good meal can reconcile-INF the ones with the others

'A good meal can reconcile with one another.'

(14) *Un bon àpat reconcilia [ec] els uns amb els altres.

A good meal reconciles the ones with the others

'A good meal reconciles people with each other.'

Argument small clauses also allow empty objects, as in (15), and display agreement of the empty category with the adjective.¹

(15) Aquesta música fa [[ec] feliç/*feliços].

this music makes happy-SG/happy-PL

This music makes one happy.'

¹ Adjunct small clauses can marginally contain an empty object in Catalan, while they are supposed to be perfect in Italian. Authier (1989) points out that French prohibits arbitrary null objects in adjunct small clauses altogether.

In relation to person, Catalan allows for the expression of a generic by second person pronouns (in much the same way that English does), as in (16ii), which is a paraphrase of (7):

(16) La bona música et reconcilia amb tu mateix.

the good music you reconciles with yourself

- (i) 'Good music reconciles you with yourself.'
- (ii) 'Good music reconciles one with oneself.'

The instantiation of the second person generic NP must be overt; there is no empty counterpart to it:

(17) *La bona música reconcilia amb tu mateix.

the good music reconciles with yourself

'Good music reconciles one with oneself.'

Hence, since a generic NP is not necessarily third person, an empty NP must be specified as such in Catalan; we shall assume the same for Italian.

The syntactic agreement behaviour encountered with respect to person and number corroborates the motivation for an empty category originating in binding and control; the EC is the triggerer of agreement. And since the missing object is interpreted as generic and human with all verbs, it is natural to assume that its interpretation arises from syntactic representation, rather than from the lexical properties of verbs with which it occurs. Assuming that we have established the existence of this empty category, we turn now to consider its nature.

3. Empty Objects as Pronominals.

When trying to define the EC at issue with respect to the features [±anaphoric] and [±pronominal], we can rule out it being [+anaphoric, +pronominal], i.e. PRO, since the EC is

governed by the verb, while PRO is ungoverned; equally, we can rule out it being [+anaphoric, -pronominal], i.e. NP-trace, since there is no (overt) antecedent for it.

The two remaining kinds of analysis have both been proposed for empty objects: the one which considers them to be [-anaphoric, -pronominal], i.e. variables, and the other that treats them as [-anaphoric, +pronominal], i.e. empty pronominals. The variable account was first put forward by Huang for Chinese (cf. Huang (1984)), and presupposes that an empty object is a variable bound by an empty operator in topic position, and as such subject to Principle C of the binding theory. This kind of analysis has been applied to German (Huang (1984)), Japanese (Hasegawa (1984)), American Sign Language (Lillo-Martin (1986)), KiNande (Authier (1988)), and Swedish (E. Engdahl, cf. Huang (1989)), as well as Spanish (Campos (1986)), European Portuguese (Raposo (1986)), Quiteño Spanish (Suñer and Yépez (1988)), and French (Authier (1989)). Huang (1987, 1991) revises somewhat his earlier position. Let us simply note here that Rizzi (1986) excludes a variable analysis by ruling out an implicit operator in the following manner. If we assume that an empty operator is to be found in Italian, as in European Portuguese (cf. Raposo (1986)), in the same position as a wh-operator, it would be predicted that such an EC cannot occur in a clause with a wh-operator; this prediction is incorrect, however, for Italian and Catalan:

- (18) a. Quina música reconcilia [ec] amb un mateix?

 which music reconciles with oneself

 'Which music reconciles one with oneself?'
 - b. Les seves paraules, no sé què poden portar [ec] a PRO concloure [t].
 his/her words, not know what can lead-INF to conclude-INF
 'I don't know what his/her words can lead one to conclude.'

If the EC is *pro*, no such erroneous prediction is made; Rizzi concludes that the Italian EC at hand is a pure pronominal. Treatments in terms of *pro* have also been proposed for empty objects of Chamorro (Chung (1984)), French (Zribi-Hertz (1984)), Imbabura Quechua,

Korean and Thai (Cole (1987)), Hungarian (Farkas (1987)), Norwegian (Åfarli and Creider (1987)), and Brazilian Portuguese (Farrell (1990)). In Gavarró (1991) I considered some *pros* occurring, under quite specific conditions, in the context of the clitic system of colloquial Catalan.

3.1. Licensing versus Recoverability

To address the problem of identification of this EC, Rizzi distinguishes the licensing of ECs and their identification, i.e. the recovery of their features, as is standardly assumed for all other ECs. In this way, the licensing of *pro* in object position can be made analogous with that of the licensing of that EC in subject position in the Romance languages with null subjects, while the recovery of its content is, in the normal cases, different, insofar as there is subject-verb agreement to make subject drop transparent, but there isn't object-verb agreement. As concerns the licensing of *pro*, Rizzi puts forward the following principle:

(19) pro is governed by X⁰.

X stands for syntactic categories that may vary from language to language. Briefly, (19) is to be understood as parametrically defined, according to a multivalued parameter. That English doesn't allow any instance of *pro* would be captured by having no instance of category X; languages allowing subject pro-drop have Infl as a governor licensing *pro*, and Italian, allowing *pro* in object position, has V as another licenser of this EC.

The pro licensed by (19) is made recoverable according to the following convention:

(20) Let X be the licensing head of an occurrence of *pro*: then *pro* has the grammatical specification of the features on X coindexed with it.

In the case of pro-drop with agreement, the licensing head presents the φ-features that make the identification of *pro* possible. Agreement lacking in object pro-drop in Italian, Rizzi puts to use the rule of arbitrary interpretation assignment (21).

(21) Assign arb to the direct θ -role.

Two further refinements are indispensable for this theory of pro. First, Rizzi notes that arbitrary null objects appear unavailable to Move α , so that sentences where pro has been raised to subject position are ungrammatical, as (22) illustrates.

(22) *[pro_{arb}] és matat [t] per la màfia.
is killed by the Mafia
'One is killed by the Mafia.'

The proposal that Move α is inapplicable is derived by appealing to Case theory, by requiring that pro be Case-marked by its licenser, V, instead of Infl (as it would be in subject position). This triggers the substitution of the stronger principle (23) for (19).

(23) pro is Case-marked by X0.

Second, most theta roles can be satisfied by *pro* in object position, as shown by (24) and (25), meant to illustrate EXPERIENCER and BENEFACTIVE *pros* respectively.

- (24) A vegades el Màrius impressiona [pro]. sometimes the Màrius impresses 'Sometimes Màrius impresses one.'
- (25) A vegades un director promou [pro] sense raó. sometimes a director promotes without reason 'Sometimes a director promotes one without good reason.'

However, a contrast appears among instances of THEMEs:

(26) a. L'arsènic mata [pro].
the arsenic kills
'Arsenic kills people.'

b. Això desmoralitza [pro].this demoralizesThis demoralises people.

(27) a. *Els psicoanalistes coneixen [pro].
the psychoanalysts know
'Psychoanalysts know people.'

b. *Un detectiu veu [pro].

a detective sees

'A detective sees people.'

What, according to Rizzi, all grammatical examples share is that the generic human referred to by the empty object is affected by the action denoted by the verb. On the other hand, verbs such as *conèixer* 'to know' in (27), i.e. verbs of psychological state, and verbs of perception such as *veure* 'to see' do not take an affected object, and do not allow thematic *pro* in object position.

A potential problem arises for the rule of arbitrary interpretation. The rule, as formulated in (21), appeals to direct theta roles, and whether the assignment of a theta role is direct or not depends on Case theory, or canonical realisation rules (cf. Chomsky (1986)). Theta grids only contain partial information as to what can get a direct theta role and what can't (an external theta role can't be a direct one, while internal theta roles can but need not be direct). So, the rule of arbitrary interpretation as stated cannot operate on theta grids alone.

This theoretical objection is accompanied by an empirical one pointed out by Rizzi himself and illustrated in (28). In (28) pro alternates with an NP which is not a direct theta role, since it is introduced by the preposition a 'to' in (28b).

- (28) a. Un psicoanalista fa dir la veritat [pro].
 - a psychoanalist makes say-INF the truth
 - 'A psychoanalyst makes say the truth.'
 - b. Un psicoanalista fa dir la veritat a la gent.
 - a psychoanalist makes say-INF the truth to the people
 - 'A psychoanalyst makes people say the truth.'

(28a) involves an arbitrary *pro* which can act as a binder, etc., the same as those encountered in direct object position:

- (29) Un psicoanalista fa dir [pro] la veritat sobre un mateix.
 - a psychoanalyst makes say-INF the truth about oneself
 - 'A psychoanalyst makes one say the truth about oneself.'

This phenomenon suggests to Rizzi that (21) should be replaced by (30) (although he doesn't formulate this new interpretation rule himself).

(30) Assign arb to an internal θ -role.

3.2. Language Variation

Taking the *pro* analysis to be correct for some ECs in Western Romance, the problem remains to reconcile the data with the Visibility Condition in that the realisation of arguments must be in some way identifiable for the speaker/hearer. The assumption is usually made that for a syntactic entity to be identified it must be heard (i.e. present at PF, in the form of agreement or whatever). In this relation, the empty objects in all the Romance examples examined are [+3]

personl. Thus, a phonetically null object in Western Romance, as well as in Italian, can be automatically assumed to be [+3 person]2. In Western Romance number and person specifications are sufficient identification in the case of subject pro-drop; what is recovered by default in object pro-drop is at least one of those ϕ -features, that of [+3 person].

Pursuing the line of thought according to which licensing and recovery of the content of an EC must be kept separate, consider the following situation. Take a language with object agreement. The recovery of the content of an empty object depends then on AgrO, part of Infl. By Rizzi's recovery convention, the licensing head of pro must be the head carrying the features of pro. Thus Infl is the licensing head of this pro. On the other hand, in a language without object agreement (such as Italian or Catalan) the empty object is licensed by V. This formalisation differenciates the two language-types in a way that is not necessarily warranted. Moreover, if the licensing of pro in object position is sensitive to the characteristics of the verb (for instance, if the EC can only stand for [+human], and certain verbs take [+human] objects while others don't), it is necessary to condition the licensing of the EC on the verb, whether or not there is object agreement. This position is favoured over Rizzi's if there is an object agreement

(Jo) canto. 'I sing.' 'You sing.' (Tu) cantes. (Ell/a) canta. 'S/he sings.' (Nosaltres) cantem. We sing." (Vosaltres) canteu. 'You sing.' They sing."

(Ells/es) canten.

Canta 'sings' doesn't include any [+3 person, -plural] marking: it consists of the verb root and what was traditionally called a thematic vowel (which indicates verb class). Even though strictly "unmarked", canta is recognisable as [+3 person, -plural] because it contrasts with all other forms of the paradigm. If we adopt the expansion of Infl proposed by Pollock (1989), then the slot for AgrS will be null for the third person singular specification.

² A similar phenomenon is observed in the domain of verbal inflection, where third person singular forms are also phonetically unmarked e.g. in Catalan:

language such that the occurrence of an EC is sensitive to the verb's selectional properties. This needs to be checked in connection with e.g. Bantu.

It seems possible to take the distinction licensing/recovery a step further, because although Rizzi (1986) tells apart the two notions, the licenser and the head through which recovery is achieved are the same in his system. What I propose is that, as in the hypothetical situation above, a language with object agreement on Infl has V as licenser of the empty object, while Infl is the head from which recovery is possible.

This approach is in tune with the means of recovery (i.e. fulfilment of the Visibility Condition) that obtain in what is designated structural Case. A nominal receives structural Case when it is assigned a theta role by a head, and assigned Case by another head; thus licensing and recovery of content are independent. This situation only arises when the theta role assigner isn't capable of assigning Case by itself; equally, the content of an EC should only be made recoverable by a head different from its licenser if the licenser couldn't make it recoverable. This new condition on recovery of an EC's content requires a revision of Rizzi's principle (20). Some locality constraints surely hold in the process of recovery: so, for example, V can license *pro* while Infl makes it visible, but V and Infl belong to the same extended projection (cf. Grimshaw (1991)).

In the instance of Romance that occupies us here, there is another EC to consider: that appearing in subject position. If the view is right that D-structure subjects are generated internal to the VP, as suggested by Koopman and Sportiche (1988) and others, an analysis of subject pro-drop along the lines of that of object pro-drop is plausible. Subjects are then VP-internal complements, licensed by V and identified (at least in Romance) by agreement with Infl. It is consistent with the analysis above that phonetically empty subjects are licensed by V and only their content (in terms of ϕ -features) is recovered from Infl. As a consequence, rather than saying, with Rizzi, that $\{V, Infl\}$ are the categories that license an EC in Italian, we can reduce the licensing categories to $\{V\}$ in Italian, as well as Catalan.

This approximation, even though following the lines of Rizzi (1986), enters into conflict with Rizzi's revised version of the licensing principle (23). In effect, (23) presupposes that the licenser is the Case-marker of the constituent X, i.e. it is the constituent from which recovery is made possible. Such presupposition wasn't contained in the first licensing principle (19). Therefore, (19) is, from the present perspective, preferable to (23). On the other hand, (23) was put forward to account for the ungrammaticality of sentences generated by the movement of *pro* (cf. (22) above). My approach, then, is unable to account for some data which Rizzi's theory had a way of dealing with.

Further unexplored consequences of taking subjects to be licensed by V have to do with expletives: expletive *pro* may be ruled out from subject position, if it can't be licensed by the V, or perhaps Infl is the only possible licenser of this kind of expletive.

The picture that emerges from all this is one where linguistic variation results from two parametrised principles: that of licensing, and that of recovery. In English, Vs do not license pro; French, Italian, and Western Romance Vs license pro, as does Chinese. The differences between all these languages is then in the recovery mechanisms: whether they appeal to agreement or not, and, if so, in what circumstances. French does not use agreement to recover subjects (and so there is no subject pro-drop); Catalan, Italian, and Spanish dropped subjects are identified by AgrS on Infl, and object pro-drop is possible because of designated features identifying it. The designated feature in all these Romance languages is [+3 person]; this is further narrowed down in Italian and Catalan, though not in Brazilian Portuguese, to [+generic], and to [+plural] and [-plural] respectively.

The languages mentioned form a subsumption ordering with respect to each other in the following way: the possibilities of English are contained within those of Italian, Catalan, and Brazilian Portuguese. In their turn, the possibilities of Italian and Catalan are a subset of those

³ Farrell (1992) considers, for English, the licensing of *pro* by N in its object position; we ignore here the possibility of null noun complementation.

for Brazilian Portuguese. The parameter setting of all the Romance languages considered requires positive evidence to be set, while the parameter setting of English is the unmarked one.

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