

## APROPOS *pro*

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*Pro*-drop languages have restrictions on the reference of *pro* not found with the overt pronominals of non-*pro*-drop languages. In particular, while the overt pronouns of non-*pro*-drop languages may take clausal antecedents, C/IPs, *pro* may not take these elements as linguistic antecedents. This restriction on the referential properties of *pro* follows from a mismatch in Phi-features; *pro*, which is or is licensed by Phi-features, cannot corefer with a clause, which is Phi-featureless. We discuss implications of our analysis for linguistic theory.\*

**1. THE ISSUE.** In this article we add to the study of the phenomenon of *pro*-drop (Jaeggli & Safir 1989 and much previous and subsequent work). Specifically, we will show that in languages in which *pro*-drop depends on inflectional features, *pro* cannot have a clause as linguistic antecedent. We will discuss the significance of this and related facts for linguistic theory.

**1.1. INITIAL DATA.** In English there are several environments in which a pronoun is anaphoric to a clause. This does not appear to be possible in Modern Greek (MG), a *pro*-drop language. Consider for example the discourse in 1a and its MG counterpart in 2a where the intention is to use *pro* instead of *it* to refer to John's always being late:

- (1) a. A: John is always late.  
      B: I know . . . and it convinced his father to get him a car.
- (2) a. A: o Kostas ine panda arɣoporimenos  
      the Kostas is always delayed  
      B: Praymatika. \*ke *pro* epise ton patera tu na tu  
      Indeed and *pro* convinced the father his MOD him  
      arɣorasi aftokinito.  
      buy car

This difference between English and MG can also be observed when the clausal antecedent for the pronoun is within the same sentence. Consider the case of conditionals, where a pronoun in the consequent can refer to the clause contained in the antecedent in English, but *pro* in MG cannot:

- (1) b. if [we arrive late]<sub>i</sub> it<sub>i</sub> will make Mary think that we don't like her.  
      c. if [we are often late]<sub>i</sub> it<sub>i</sub> will convince the boss to buy us a car.
- (2) b. \*An [ftasume arɣa]<sub>i</sub> *pro*<sub>i</sub> θa tromaksi tin Maria  
      if arrive-1PL late *pro* FUT scare the Mary  
      'If we arrive late it will scare Mary.'

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- c. \*An [aryisume poles fores]<sub>i</sub> *pro*<sub>i</sub> θa pisi tin Mari na  
 if be-late-1PL many times *pro* FUT convince the Mary MOD  
 mas ayorasi aftokinito  
 to-us buy car  
 'If we are often late it will convince Mary to buy us a car.'

We will sometimes use examples in which the attempted reference is across sentences as in 1a and 2a sometimes examples in which it is within the same sentence as in 1b, c and 2b, c. However, the points we make pertain to any environment in which *pro* and clauses are perceived in a coreferential relationship.<sup>1</sup>

1.2. DELIMITING THE DATA. One might wonder whether the unacceptability is due to some inability of *pro* to refer to inanimate objects. However, *pro* in general has no problem referring to nonhuman or inanimate things.

- (3) a. A: iðes [to vivlio mu]<sub>i</sub>?  
 saw the book my  
 'Have you seen my book?' (= Do you know where my book is?)  
 B: *pro*<sub>i</sub> ine pano sto γραφιο su  
*pro* is on the desk your  
 'It's on your desk.'
- b. An ðen vurtsizis [ta ðondia su]<sub>i</sub> kaθimerina *pro* θa sapisun  
 if NEG brush then teeth your daily *pro* FUT rot  
 'If you don't brush your teeth daily, they will rot.'

Do these examples show that *pro* cannot enter quantificational structures, which are known to exist in conditionals (Lewis 1975, Kratzer 1986, and others)? *Pro* does not have any problem behaving like a bound variable, as in 4, or as a donkey pronoun, as in 5.<sup>2</sup>

- (4) Kanenas fititis ðen nomizi oti *pro* exi vri tin lisi sto  
 any student NEG thinks that *pro* has found the solution to-the  
 provlima.  
 problem  
 'No student thinks that he has found the solution to the problem.'
- (5) a. An enas politikos arχisi na milai *pro* ðen stamata me  
 if one politician starts MOD talk *pro* NEG stop with  
 tipota.  
 nothing  
 'If a politician starts talking, he doesn't stop.'

<sup>1</sup> Caution should be exercised in selecting the correct environments. Simple conjunction cannot be used in *pro*-drop languages because it is impossible to tell whether or not there is a *pro* subject in the position of *he* in (i), or the subject is missing altogether as in (ii). That is, (i) and (ii) have the same surface string in a *pro*-drop language:

(i) John ate and/but he didn't drink milk.  
 (ii) John ate and/but didn't drink milk.

<sup>2</sup> Cases like 4 are discussed in detail in Montalbetti 1984.

- b. An enas skilos vri ena kokalo, *pro* siniθos to masai ya  
 if a dog finds a bone *pro* usually it chews for  
 pende ores.  
 five hours

'If a dog finds a bone it usually chews it for five hours.'

In other words, none of the above considerations can be implicated in the unacceptability of 2.

When we ask how much the phenomena in the sentences in 2 generalize, we find some examples that are superficially similar to 2 in which *pro* is acceptable:

- (6) a. An o Kostas arysi *pro* θa ine dropi.  
 if the Kostas is-late *pro* FUT be shame  
 'If Kostas arrives late, it will be a shame.'  
 b. An arysime *pro* θa fani ayenes.  
 if be-late-1PL *pro* FUT seem impolite  
 'If we are late, it will seem impolite.'

These cases do not pattern with those in 2. The sentences in 2 have a different type of matrix predicate than the ones in 6. The main predicates in ex. 2 take a thematic subject (henceforth PRED1), while those in 6 take expletive subjects (PRED2). That we are dealing with different predicates also becomes clear in 7 and 8, where it can be seen that PRED1 cannot occur in a sentence with an expletive subject and an extraposed clause, while PRED2 can. (The extraposed clauses in 7 and 8 are underscored.)

- (7) a. \**pro* tromakse tin Maria oti/pu ftasame arya.<sup>3</sup>  
*pro* scared the Mary that arrived-1PL late  
 'It scared Mary that we arrived late.'  
 b. \**pro* epise tin Maria na mas ayorasi aftokinito oti/pu  
*pro* convince the Mary MOD us buy car that  
aryisame poles fores  
 be-late-1PL many times  
 'It convinced Mary to buy us a car that we were often late.'  
 (8) a. *pro* ine dropi pu o Kostas θa fiyi<sup>4</sup>  
*pro* be shame that the Kostas FUT leave  
 'It is a shame that Kostas will leave.'  
 b. *pro* fanike ayenes pu ftasame arya  
*pro* seemed impolite that arrived-1PL late  
 'It seemed impolite that we arrived late.'

<sup>3</sup> It is possible to keep the clause in a sentence-final position in 7 but only if it is nominalized by the addition of the neuter definite article *to*. In this case the whole constituent behaves like an NP, which can appear in a variety of different positions in MG, including sentence finally; this is a phenomenon common in *pro*-drop languages (see Rizzi 1982).

(i) tromakse tin Maria o Kostas.  
 scared the Mary the Kostas  
 'Kostas scared Mary.'

(ii) tromakse tin to oti ftasae arya  
 scared the Mary the that arrived-1PL late

<sup>4</sup> The complementizer used is the factive *pu*, which is preferred here over the more neutral *oti*. This choice does not affect the status of 7, however.

This means that the *pro* in 6 falls into a different category from that in 2; the *pro* in 6 is expletive *pro*, whereas the *pro* in 2 stands in a thematic position and cannot be expletive. The structure of 6a, for example, can be analyzed as containing an elided complement, roughly as follows:

- (9) a. An o Kostas arɣisi *pro*<sub>expl</sub> θa ine dropi <<pu o Kostas arɣise>>  
 if the Kostas be-late *pro* FUT be shame that the Kostas  
 arɣise>>  
 be-late  
 ‘If Kostas is late, it will be a shame << that he is late>>.’

An alternative source for 6a could be available if the *if*-clause is a preposed irrealis complement of the predicate (see Pullum 1987). This would mean that instead of 9a, the structure would be something like 9b.<sup>5</sup>

- (9) b. [an o Kostas arɣisi]<sub>i</sub> *pro* θa ine dropi *t<sub>i</sub>*

Irrespective of whether 9a or 9b is the correct structure for 6a, our present concerns would not be affected at all, since each alternative requires that the *pro* be expletive.

So far, then, we have the following descriptive generalization: *pro* cannot have a clause as antecedent.<sup>6</sup> *Pro*<sub>expl</sub> can appear in related environments, but in this case the expletive element of course does not COREFER with the clause contained in the conditional protasis. Excluding these *pro*<sub>expl</sub> cases, we may summarize our findings with the generalization in 10.

- (10) *Pro* cannot have a clause as antecedent.

This effect appears to be the same in Catalan.<sup>7</sup>

- (11) a. \*Si [arribem tard]<sub>i</sub> *pro*<sub>i</sub> agradarà/preocuperà la Maria  
 if arrive-1PL late *pro* please/worry-FUT the Mary  
 ‘If we arrive late it will please/worry Mary.’  
 b. \*Si [arribem tard]<sub>i</sub> *pro*<sub>i</sub> convencerà la Maria de  
 if arrive-1PL late *pro* convince-FUT the Mary to  
 comprar-nos un cotxe  
 buy-us a car  
 ‘If we arrive late it will convince Mary to buy us a car.’

<sup>5</sup> However, it should be noted that according to Pullum 1987 a derivation along the lines of 9b is not possible for English, since there extraposed clauses cannot be fronted at all:

(i) \*[that John is sick]<sub>i</sub> it is obvious *t<sub>i</sub>*.

But the derivation in 9b, or for that matter in (i), cannot be excluded in MG, where constituent order is much freer than in English. In fact, (ii), the MG equivalent of (i), is possible. This linear order must be the result of (iii) and not (iv), given that sentential subjects must be nominalized in MG:

(ii) oti i Maria ine arosti ine veveo  
 that the Mary is sick is certain

(iii) [oti i Maria ine arosti]<sub>i</sub> *pro* ine veveo *t<sub>i</sub>*.

(iv) [oti i Maria ine arosti] ine veveo.

<sup>6</sup> ‘Antecedent’ here should be taken loosely, not in the sense that has c-command as part of its meaning.

<sup>7</sup> Thanks to Eulàlia Bonet for data and discussion of Catalan.

- c. \*Si [arribem tard]<sub>i</sub> *pro*<sub>i</sub> farà canviar el plans a la Maria.  
 if arrive-1PL late *pro* make cancel the plans to the Mary  
 'If we are late, it will make Mary change her plans.'

There are cases in which *pro* is acceptable, as in 12a-b, but as shown in 13a-b these involve predicates with expletive subjects, and thus *pro* in 12 must be expletive, as in the discussion of MG above.

- (12) a. Si arribem tard *pro* serà una vergonya  
 if arrive-1PL late *pro* be-FUT a shame  
 'If we arrive late it will be a shame.'  
 b. Si arribem tard *pro* es farà públic  
 if arrive-1PL late *pro* IMPERS make public  
 'If we arrive late, it will be made public.'
- (13) a. *pro* és una vergonya que la Maria arribi tard.  
*pro* is a shame that the Mary arrive late  
 'It is a shame that Mary arrived late.'  
 b. *pro* es farà públic que arribem tard.  
*pro* IMP make public that arrive-1PL late  
 'It will be made public that we arrive late.'

As shown in 14, the predicates of the main clauses in 11a-c do not have grammatical variants with expletive subjects, confirming that the contrast between 11 and 12 reflects the presence of referential vs. expletive *pro*.

- (14) a. \**pro* agrada a/preocupa la Maria que arribem tard.  
*pro* pleases/worries the Mary that arrive-1PL late  
 'It pleases/worries Mary that we arrive late.'  
 b. \**pro* convencerà el pare de comprar-nos un cotxe que  
*pro* convince the father to buy-us a car that  
 arribem tard.  
 arrive-1PL late  
 'It will convince our father to buy us a car that we arrive late.'  
 c. \**pro* farà canviar els plans a la Maria que *pro* arribem  
*pro* make cancel the plans to the Mary that arrive-1PL  
 tard  
 late  
 'It will make Mary cancel her plans that we arrive late.'

At this point we can also see a further interesting dimension to the discussion. Catalan has the demonstrative element *això*, which can be used to refer to clauses.<sup>8</sup> The demonstrative can appear instead of *pro* in 11, yielding grammatical sentences.

- (15) a. Si [arribem tard]<sub>i</sub> *això*<sub>i</sub> agradarà/preocuparà la Maria  
 b. Si [arribem tard]<sub>i</sub> *això*<sub>i</sub> convencerà la Maria de comprar-nos un cotxe

<sup>8</sup> Spanish has *ello*, which is similar to Catalan *això*. French also has an element reserved for anaphoric relationships with clauses, namely *ça*. So French, Catalan, and Spanish share this property; they differ in that the expletive element associated with clauses is *pro* in Spanish and Catalan, but *il* in French, which is not a *pro*-drop language.

c. Si [arribem tard]<sub>i</sub> això<sub>i</sub> farà canviar el plans a la Maria.

But *això* cannot replace *pro* in the sentences in 12, which contain PRED2.

- (16) a. \*Si arribem tard això serà una vergonya.  
 b. \*Si arribem tard això es farà public

This entirely supports our analysis: *pro* in 12 is expletive and it therefore cannot be replaced by a referential element.<sup>9</sup> As 17 shows, *això* is clearly referential, and never behaves as an expletive.

- (17) a. \*això ès una vergonya que la Maria arribi tard  
           this is a shame that the Mary arrived late  
 b. \*això es farà public que arribarem tard  
           this IMP make-FUT public that arrive-1PL late

The same behavior with demonstratives is found with Modern Greek *afto*. It appears, then, that with respect to the phenomenon under investigation, Catalan behaves the same as MG in that it obeys 10.

We have tested a number of Indo-European *pro*-drop languages and all behave as described above for MG and Catalan. In the interest of space, we will discuss here only one more language, Bulgarian, as representative of the Slavic family.<sup>10</sup> *Pro* in Bulgarian cannot be used with a clause as antecedent. As before, this holds in any environment, intra- or intersententially. The data here are from an intrasentential case, conditionals.

- (18) a. \*Ako [pristignem kâsno]<sub>i</sub>, *pro*<sub>i</sub> šte ubedi načalnika da ni  
           if arrive late *pro* FUT convince boss to us  
           kupi kola.  
           buy car  
           ‘If we arrive late it will convince the boss to buy us a car.’

<sup>9</sup> There is an issue here, though; predicates that take expletive subjects have variants that can take thematic subjects, except *seems*, *appears*, *happens*, as is evident from (i) and (ii) (see Koster 1978 for a different view of (ii), but one where it still has a thematic subject).

- (i) It is obvious that John is sick.  
 (ii) That John is sick is obvious.

As one would expect, *això* falls within this pattern:

- (iii) Això serà una vergonya  
           this be-FUT a shame

Why, then, can *això* not appear in 16? We have no answer to this other than to point out that a similar constraint holds in English. A demonstrative cannot refer back to the antecedent of a conditional with PRED2 in English but it can in cross-sentential anaphora:

- (iv) If we arrive late it/\*this/\*that will be obvious.  
 (v) A: They are late  
       B: Yes . . . This/that is obvious.

Examples like (iv)–(v) with PRED1 are better, and thus similar to 15.

- (vi) If John comes late again, this will convince the boss to buy him a car.

We disregard here the difference between *this* and *that* in contexts like (vi) because it is irrelevant for our present purposes.

<sup>10</sup> Thanks to Roumyana Izvorski for the Bulgarian data. Other Slavic languages pattern similarly.

- b. \*Ako [pristignem kâsno]<sub>i</sub>, *pro*<sub>i</sub> šte nakara  
 if arrive late *pro* FUT make  
 Ivan da si promeni planovete.  
 Ivan to REFL change the-plans  
 'If we arrive late it will make Ivan change his plans.'
- c. \*Ako [pristignem kâsno]<sub>i</sub>, *pro*<sub>i</sub> šte razbudi duhovete.  
 if arrive late *pro* FUT wake-up the-spirits  
 'If we arrive late, it will cause a commotion.'

Again, there are related sentences in which a null subject can occur:

- (19) a. Ako [pristignem kâsno]<sub>i</sub>, *pro*<sub>i</sub> šte bâde sâobsteno na vsički.  
 if arrive late *pro* FUT be announced to everyone  
 'If we arrive late it will be announced to everyone.'
- b. Ako [pristignem kâsno]<sub>i</sub>, *pro*<sub>i</sub> šte bâde neučtivo.  
 if arrive late *pro* FUT be impolite  
 'If we arrive late it will be impolite.'

And once again, this happens only in cases in which the null subject is expletive. This may be seen in the fact that the predicates like those in 18 do not have grammatical forms with expletive subjects and extraposed clauses, while those in 19 do.

- (20) a. \**pro* šte ubedi načalnika da ni kupi kola če zakâsnjahme.  
*pro* FUT convince boss to us buy car that were-late  
 'It will convince the boss to buy us a car that we were late.'
- b. *pro* jasno beše, če *pro* e bolen.  
*pro* obvious was that *pro* is sick  
 'It was obvious that he/she was sick.'
- c. *pro* sramota e, če Maria se razbolja.  
*pro* shame is that Mary REFL sick  
 'It is a shame that Mary got sick.'

It appears, then, that the generalization in 10 has considerable cross-linguistic support.

**2. TWO APPROACHES.** We have seen so far that *pro* cannot have a clause as its antecedent. There are in principle two ways in which its use in the relevant environments can be precluded: either *pro* cannot refer to whatever object a clause refers to, or *pro* can refer to that object but it cannot have C/IP as LINGUISTIC antecedent. For convenience, we will refer to the first approach as ONTOLOGICAL and to the second as GRAMMATICAL.

To evaluate the two approaches, we will begin by determining what type of thing a clause refers to, and, in addition, what categories other than C/IP can refer to that same type of object. If *pro* is precluded from appearing when a non-C/IP category refers to the type of entity in question, the ontological solution is to be preferred. If *pro* is allowed to refer to such entities when they are denoted by a non-C/IP category, the grammatical solution should be chosen.

**2.1. THE ONTOLOGICAL APPROACH.** To evaluate the ontological approach, it is necessary to identify the type of object to which *pro* may seemingly not refer. On the basis of sentences like 2b and c above, Iatridou (1991) claimed that:

- (21) *Pro* may not refer to events.

There are, however, simple tests that may be used to give us a better idea of what the *if*-clause is referring to, and these show that the referents are something more than events. Applying diagnostics developed in Vendler 1967 and Bennett 1988, we find that at least in one of the relevant environments, the objects that *pro/it* would be referring to are ambiguous between events and facts.<sup>11</sup> To begin with, if a clause refers to an event, then it should be possible to predicate time and place of occurrence of it. This is possible in the case of conditionals:

- (22) If [John solves this problem]<sub>i</sub> it<sub>i</sub> will happen at 5:00 P.M.  
 (23) If [John sings the Marseillaise]<sub>i</sub> it<sub>i</sub> takes/will take place in the park.

In order to test for facthood, the diagnostics employ frames like ‘. . . will convince us that’:

- (24) If [John solves this problem]<sub>i</sub> it<sub>i</sub> will convince us that we should hire him.  
 (25) If [John sings the Marseillaise]<sub>i</sub> it<sub>i</sub> will convince us that he is insane.

These examples show that the fact reading is also available.

For the sake of terminological convenience, then, we shall simply call the referents of the bracketed phrases STATES OF AFFAIRS; nothing should be read into this choice of terminology beyond the fact that it is meant to cover the cases discussed above. This means that on the ontological approach the following claim is made:

- (26) *Pro* may not refer to states of affairs (henceforth SOAs).

Finally, we should ask whether *pro* can refer to propositions. Tests attempting to establish whether or not *pro* may refer to a proposition at all, as in the case of a complement to a propositional attitude verb, prove inconclusive.

- (27) An o Kostas pistepsi [oti i Maria espase to poði tis], *pro* tha  
 If the Kostas believes that the Mary broke the leg her, *pro* FUT  
 yini pistefto apo/sto poli kosmo  
 be believable by/to many people

In 27, it cannot be determined whether the *pro* is referring to the bracketed proposition or serving as an expletive in an extraposition construction. This is because all propositional predicates have variants with expletive subjects (see the possible derivations for examples with expletive subjects in §1.2 above). We will have to leave undetermined the issue of whether *pro* can refer to propositions, and we will assume that the ontological approach makes the claim in 26.

**2.2. THE GRAMMATICAL APPROACH.** In order to evaluate the grammatical solution we must test whether *pro* can be used when the SOA in question is referred to by an NP. Iatridou 1991 claimed that *pro* cannot refer to NPs denoting events on the basis of the contrast between 28a/29a and 28b/29b:

- (28) a. Forty years after the decipherment of Linear B, it continues to provoke many debates.

<sup>11</sup> The use of the term FACT has been imported directly from Vendler and Bennett. In these investigations, FACT is used to denote the intensional referent of an expression as it exists without spatio-temporal extension, while EVENT is used to denote an actual occurrence that is located in space and time.

- b. \*Saranda xronia meta tin apokriptografisi tis Gramikis Vita, *pro* sinexuizi na prokali poles sizitisis.  
 B *pro* continues MOD provoke many discussions
- (29) a. She read about Ventris's decipherment of Linear B and it impressed her.
- b. \*diavase ya tin apokriftoğrafisi tis Gramikis Vita apo ton read about the decipherment of-the Linear B by the Ventris ke *pro* tin entiposiase.  
 Ventris and *pro* her impressed

But these sentences may be awkward for another reason: the putative antecedents for *pro* are not sufficiently topical. That *pro*, as a pronoun, would be subject to a pragmatic constraint on the topic-hood of its antecedent is not surprising. The interesting question would be the differences in the constraints on overt English pronouns and *pro*, which we leave for another occasion.<sup>12</sup>

Directly relevant for our purposes is the fact that when the SOA-denoting nominal is made sufficiently topical, *pro* can be used (30 is Italian, 31 Modern Greek):

- (30) La decifrazione del Lineare B fu molto importante.  
 the decipherment of-the Linear B was very important.  
*pro* Ebbe luogo nel 1953 e è dovuta a Ventris.  
*pro* took place in 1953 and is due to Ventris.
- (31) O γamos tus itan meγali γiorti. *pro* eyine stin  
 the wedding their was big party happened in-the  
 kentriki platia tis polis ke irθan poli kalesmeni  
 central square of-the town and came many guests

It appears, then, that *pro* can be used to refer to an SOA when the linguistic entity through which the SOA is expressed is an NP, but not when it is a C/IP. This makes the grammatical solution preferable to the ontological.

Another argument in favor of the grammatical approach builds on the fact that demonstratives can be used when a C/IP denotes an SOA. This was shown above for Catalan, and it also holds for MG and other languages. When the demonstrative has been used in this way, *pro* can be used subsequently to refer to the SOA (32a is Italian, 32b MG):

- (32) a. se [loro<sub>k</sub> non tornassero]<sub>i</sub>, questo<sub>i</sub> preoccuperebbe tutti<sub>j</sub>, perchè  
 if they not return this would-worry all because  
*pro*<sub>i</sub> farebbe loro<sub>j</sub> pensare che *pro*<sub>k</sub> hanno  
*pro* would-make them think that *pro* have  
 dimenticato il piano.  
 forgotten the plan  
 'If they didn't return this would worry everyone, because it  
 would make them think that they had forgotten the plan.'

<sup>12</sup> Interestingly, Montalbetti (1984) notes that one of the requirements on the appearance of an overt pronoun is that the antecedent of such a pronoun must be nontopical. Moreover, Dimitriadis 1996, a study of *pro* in discourse, shows that *pro* is used with topical antecedents; see §3 for further discussion.

- b.  $\theta a$  arɣisun ke afto  $\theta a$  stenaxoresi tin Maria  $\delta i o t i$   
 FUT be-late and this FUT sadden the Mary because  
*pro*  $\theta a$  tin-kani na pistepsi oti  $\delta e n$  tin ayapan  
*pro* will her-make MOD believe that NEG her love  
 ‘They’ll be late, and this will sadden Mary because it will make  
 her believe that they don’t like her.’

In 32, *pro* could not have been used to refer to the SOAs in which they do not return or they are late, but once the demonstrative picks up that entity as its referent, *pro* can appear and apparently take the demonstrative as antecedent. That 32a–b are grammatical indicates that the ontological solution is on the wrong track. *Pro* can be used to refer to an SOA, but it can do so only if its linguistic antecedent is an NP, either the NP that directly denotes the SOA, or the demonstrative that has intervened as a ‘nominalizer.’<sup>13</sup>

Choosing the grammatical solution over the ontological one, then, we replace 26 with 33.

- (33) *Pro* cannot have C/IP as linguistic antecedent.

3. EXCURSUS INTO REFERENCE. Before we discuss why 33 should be true we would like to highlight a general question that it raises. In general, it is assumed that a referential pronoun can have a linguistic antecedent or refer to an object in the world; in the latter case, the pronoun is being used deictically, as in the following English sentence, uttered in front of a police lineup with a pointing gesture:

- (34) He is the thief.

This raises an interesting question, which can be expressed with the following diagram:

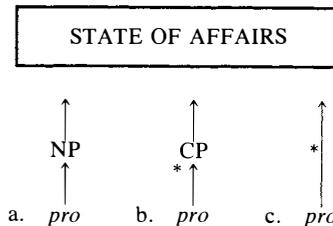


FIGURE 1. An NP can refer to an SOA and *pro* can use such an NP as linguistic antecedent (a); a CP can refer to an SOA and *pro* cannot use such (or any) CPs as linguistic antecedent (b); *pro* cannot directly refer to an SOA (c).

<sup>13</sup> In Modern Greek, nominalized sentential subjects (marked by the determiner *to*) are able to perform this function, and thus antecede *pro*, as (i) shows.

- (i) An [to oti o Kostas paratise to sxolio]; pisi tin Maria oti  $\delta e n$  ine  
 if the that the Kostas abandoned the school convinces the Maria that not is  
 sovaros, *pro*;  $\theta a$  pisi ke tin Dina, i opia ine poli pio sindiritiki  
 serious *pro* FUT convince and the Dina who is much more conservative  
 apo tin Maria  
 than the Maria

‘If that Kostas quit school convinces Mary that he’s not serious, it will also convince Dina, who is much more conservative than Mary.’

If a pronoun can refer to an entity without a linguistic antecedent (i.e. if nothing forces it to make use of a linguistic antecedent), and if *pro* can in principle refer to an SOA (as when the SOA is referred to by an NP: cf. Fig. 1a), then why can't *pro* refer directly to the SOA? That *pro* cannot refer directly to SOAs is evident in the main data discussed in this article, that is, those showing that *pro* cannot be used in contexts like those in 2. If *pro* could 'skip' using the only available linguistic form that the context provides as potential antecedent (i.e. the C/IP) and refer directly to the SOA, then the sentences in 2 would be grammatical. The fact that they are not appears to indicate that in the environments under discussion, *pro* is FORCED to make use of the linguistic antecedent strategy; that is, Fig. 1c in the diagram above is not an option.<sup>14</sup> The reason for this restriction is the manner in which *pro* is used in discourse. Saying that *pro* cannot make use of option c in Fig. 1 amounts to saying that *pro* cannot be used as a deictic. This may be seen in *pro*-drop equivalents of the police line-up scenario noted above. In such a context, *pro* may not be used.

(35) (Pointing at one of the suspects)

a. #*pro* ine o kleftis. (MG)

b. #*pro* è il ladro. (Italian)

This position fits with the findings of Dimitriadis 1996, which addresses the question of when overt pronominals as opposed to null pronominals are used in MG. His discussion is based on the type of approach found in Gundel et al. 1993, which correlates types of referring expressions (pronouns, full NPs, etc.) with the degree of prominence of the entities these expressions refer to. Dimitriadis shows that when overt pronominals are used it is to pick out less prominent entities (see also Montalbetti 1984); as for *pro*, Dimitriadis proposes that it is construed with the most prominent entity. Thus *pro* is used to refer to entities that are maximally prominent; the referents of deictics are nonprominent, in

<sup>14</sup> One might wonder whether it is possible to use *pro* to refer, for example, to a scene of carnage on TV. Examples in which the subject position is thematic do not allow for this use of *pro*.

(i) \**pro* me epise na stilo χrimata eki.

*pro* me convinced MOD send money there

'That convinced me to send money there.'

Other examples, however, are acceptable in the same context, although demonstratives are much preferred.

(ii) ?*pro* ine fovero.

*pro* is horrible

These, however, are indistinguishable from the examples discussed earlier in which there is an (elided) extraposed complement with *pro*<sub>expl</sub>. Elision of part of a sentence under the influence of nonlinguistic factors might seem odd, but it can be illustrated in other cases. For instance, two people after looking at a patient with a high fever can say about another patient who has just walked on the scene with the same visual symptoms, 'Peter too!', meaning that Peter too has the fever. Moreover, the position that *pro* in (ii) is acceptable because it takes an implied nominal (e.g. 'this fact') as nonlinguistic antecedent should be dismissed, because if this were possible in (ii) it would be equally possible in (i). The contrast between predicates with thematic and nonthematic subjects is paralleled by the behavior of English demonstratives seen in n. 9, and follows naturally from the approach outlined in this footnote.

the sense that they must be pointed out to be signified, and this is incompatible with the use of *pro*.

4. WHY CAN *PRO* NOT HAVE A C/IP AS LINGUISTIC ANTECEDENT? We have shown that *pro* may not be used as a deictic, but why should *pro* not be able to have a sentence as linguistic antecedent? The solution we explore centers on the conditions that license *pro*. The latter is licensed by PNG (person/number/gender) features. There are three possible ways in which an element may receive PNG feature morphology. Verbs may get PNG features through feature-copying, as in subject-verb agreement. Another way is through direct reference to an object in the world; this covers PNG features in the deictic uses of pronominals or demonstratives. In some cases verbal agreement may also arise in this way, as we will see later. Pronominals can also inherit PNG features from a linguistic representation; this is possible even if the object in the world does not possess any corresponding properties, as in the case of feminine pronominals referring back to the feminine noun *chaise* 'chair' in French. We will show that when *pro* tries to take a C/IP as linguistic antecedent, there is a mismatch between the PNG features which *pro* possesses and C/IP. *Pro* requires a specification of PNG features but it cannot find these when it tries to enter a linguistic relationship with C/IPs.<sup>15</sup> Crucially, this is a property of referential *pro*, not *pro*<sub>expl</sub>, which we will discuss later.

That C/IPs lack the feature Gender can be shown in Romanian. According to Farkas (1990), demonstratives in Romanian referring back to clauses take on the default value for demonstratives, [+ fem], while an adjectival propositional predicate takes on the default value for adjectives, which is [- fem]. As a result a surface mismatch of features occurs, but the sentence is grammatical since both features represent default values.

- (36) Petru e acasa. Asta e uluitor/\*uluitoare.  
Peter is home. This-FEM-SG is amazing-MASC-SG/\*FEM-SG

Gender is a property of nominals, and, within the nominal system, the gender of a particular nominal may be determined by a number of factors (see e.g. Lumsden 1992 for discussion). In the case of other grammatical categories, e.g. verbs or prepositions, considerations of gender simply do not arise, suggesting that C/IPs are genderless as well. In MG the default gender is Neuter, according to Mackridge (1987): in referring to an object whose name is not known, speakers use the Neuter in asking e.g., 'What is that?' It is therefore not surprising that when sentential subjects get nominalized, they receive the Neuter article

<sup>15</sup> But even if C/IPs lack PNG features, they do have binding features, as has been shown in Safir 1985 and Pullum 1987, among others. The sentences in (i) are taken from Pullum 1987; (ia) is a binding condition C violation: the CP behaves like an R-expression, which should be free in the sentence but isn't because it is c-commanded by the co-indexed pronoun (which is in a thematic position and thus not expletive). Sentence (ib) is grammatical because the pronoun does not c-command the C/IP.

- (i) a. \*It<sub>i</sub> led me to think that someone else would know [that the butler was guilty]<sub>i</sub>.  
b. The fact that you believed it<sub>i</sub> is what first made me suspect [that the butler is guilty]<sub>i</sub>.

*to*; receiving default features is, however, not possible for referential *pro*, as will be seen later.<sup>16</sup>

C/IPs seem to lack the feature Number. This can be argued for in English, with the realization of the feature Plural (data from Higginbotham 1992).

- (37) a. A: I saw [John leave]<sub>i</sub>  
 B: I saw it<sub>i</sub> too.  
 b. A: I saw [John leave]<sub>i</sub> and [Mary arrive]<sub>j</sub>  
 B: \*I saw them<sub>i+j</sub> too.

However, there are cases in which CPs and [plural] do co-occur. According to McCloskey 1991 plurality on the verb is permitted when the subject consists of conjoined CPs, “. . . just in case the conjoined propositions are contradictory or incompatible”; otherwise, the verb shows singular agreement.<sup>17</sup>

- (38) a. That the president will be reelected and that he will be impeached are equally likely at this point.  
 b. That the shares are overvalued and that a decline is likely is/??are widely believed on Wall St.

Although McCloskey’s data involve propositional predicates, the same pattern is found where the CP is interpreted as a fact, where the issue of incompatibility or contradictoriness does not apply.

- (39) That Susan married Tom and that she took up scuba-diving . . .  
 a. bother me equally.  
 b. independently convince me that she has lost her mind.

What appears to be relevant is something like 40:

- (40) PRINCIPLE OF INDIVIDUATION: Clauses trigger plurality only if their contents (propositions or SOA) are properly individuated.

Individuation underlies McCloskey’s incompatibility requirement as well. Similarly, items like *both*, *equally*, etc. can be used to favor individuation of SOAs.<sup>18</sup>

The question that naturally arises is whether 40 is incompatible with the claim that CPs lack the feature Number. To begin with, the plurality in cases with individuation reflects that of SOAs involved, and does not concern the CPs. If

<sup>16</sup> One could also claim that since in cases with nominalized clauses—which always have thematic verbs—the sentential subject always receives the interpretation ‘the fact that . . .’, there is a null nominal standing for *the fact that*, with the noun *fact* being neuter in MG. But if this is the case, then these environments are irrelevant to the discussion of the features of C/IP.

<sup>17</sup> It appears that the same phenomenon holds in languages in which the verb shows agreement with the object, as this example from Basque illustrates. (Thanks to Itziar Laka for the Basque data.)

(i) Jonek, bai Patxi ihaz hi zutela eta baita aurreko astean Argentinan zebilela  
 John yes Patxi last-year kill AUX-COMP and also previous week Argentina walked  
 entzun *ditu*  
 heard AUX-PL-AGR  
 ‘John heard both that Bill was killed last year and also that he was seen last week in Argentina.’

<sup>18</sup> Pronouns cannot be used for such a purpose, perhaps because they presuppose that their referents have been individuated. Moreover, as will be seen later, there are other reasons why pronouns are not allowed in this context.

it did, then any two conjoined CPs would trigger plural agreement. This means that the plural agreement is not the result of a grammatical feature-copying process involving the conjoined CP subjects, but instead occurs because the discourse object is conceived of as plural in nature (see Farkas and Zec 1995 for a discussion of differences between PNG features arising through grammatical copying and those arising from a relationship with a discourse object; this may also be seen in cases like British English *Manchester have been playing well*, where a grammatically singular subject triggers plural verbal agreement).

Moreover, we see that the general claim that CPs and PNG features are incompatible was based on cases involving pronominal PNG features (i.e. *pro* and the feature [plural] on English pronouns.) The cases supporting 40, however, involved the feature [plural] on the verb. Indeed, consider the sentences in 41: 41 a and b are fine by themselves; there is [plural] on the verb, since the principle of individuation has been satisfied. Their continuations (a' and b'), however, are unacceptable to varying degrees:

- (41) a. That Susan married John and that she took up bungee jumping  
please me equally  
a'. . . %/?but they bother John equally  
b. That the president will be reelected and that he will be impeached  
may seem equally likely right now,  
b'. %/?but they didn't yesterday when I talked to the press.

Further research is required to determine what is responsible for the differences between 41a' and 41b', as well as the factors responsible for the differences among speakers, represented by %. What is relevant for our purposes is that the speakers who rejected 41a'–b' did so because of the PRONOMINAL plurality, and not the verbal plural agreement; without the added clauses containing the pronoun, 41a–b are generally acceptable. Examples with the plural pronoun in object position seem to be much more degraded.

- (41) c. Bill believes both that Santa Claus exists and that there are no  
saints.  
c'. \*Yes, my little sister believes them both too.

This same pattern is seen in Italian: the (appositive) relative proform *il che* may refer back to a CP.

- (42) Gianni ha detto che [Mario sposerà Sharon Stone] il che  
Gianni has said that Mario will-marry Sharon Stone the which  
è anche sostenuto da Luigi.  
is also maintained by Luigi  
'Gianni said that Mario will marry Sharon Stone, which is also main-  
tained by Luigi.'

This relative proform can also be used with conjoined head-CPs, as long as they are compatible with each other, i.e. the principle of individuation is not satisfied (this is not possible for English *which*).<sup>19</sup>

<sup>19</sup> We thank Filippo Beghelli for pointing out these facts.

- (43) Gianni ha detto [che domani Mario va a scuola] e [che Gianni has said that tomorrow Mario will go to school and that è spaventato], il che è anche stato detto da Luigi is afraid, the which is also been said by Luigi  
 'Gianni said that tomorrow Mario will go to school and that he is afraid, which Luigi has also said.'

In 44 we can see that when the principle of individuation is satisfied, plurality appears on the verb. But 44b, as a continuation to 44a, shows that it is not possible to use *il che* in environments with verbal plurality or where the plurality is required for the correct use of elements like *equally*. Neither is it possible to pluralize *il che* for a follow-up to 44a.

- (44) a. [Che Mario sposi Linda Evangelista] e che [that Mario marry-SUBJ Linda Evangelista] and that [sposi Sharon Stone] mi sembrano [marry-SUBJ-PRES Sharon Stone] to-me seem-PL ugualmente probabili  
 equally probable  
 'That Mario will marry Linda Evangelista and that he will marry Sharon Stone seem equally likely to me.'  
 b. \*. . . Il che sembrano ugualmente probabili a Luigi  
 . . . the which seem equally probable to Luigi  
 c. \*. . . i che mi sembrano ugualmente improbabili  
 the-PLU which to-me seem equally improbable

Thus, as in English, verbal plurality may be licensed when pronominal plurality is not.<sup>20</sup>

The difference between verbal and nominal PNG features is summarized in 45, or its more general form 46.

- (45) Where agreement with SOAs is concerned, plurality on a verb is more readily available than plurality on a pronoun.  
 (46) Where agreement with SOAs is concerned, PNG features on a verb are more readily available than PNG features on a pronoun.

The statements in 45 and 46 are not intended as principles of any kind; they are mere descriptions of the patterns we have found.

In effect, 46 (or just the statement that verbal PNG features do not behave the same as nominal PNG features) might be reducible to the fact that PNG features that come about in a subject-verb relationship are different from purely nominal PNG features. The former are relational on a grammatical level, that is, they arise through concord, with the verb in a particular syntactic relationship with a nominal element, while PNG features of pronominals are a result

<sup>20</sup> As a referee pointed out, it could be argued that the English plural pronoun does not tolerate a default specification for Person, and if the intended referent is C/IP or an SOA, any pronoun attempting to refer to it would have to have the default value, or else the two would be incompatible. As shown later, this points to a similarity between *pro* and English *they*. Beyond the referee's suggestion, the fact that examples with *they* are subject to variation and not completely unacceptable remains to be accounted for.

of the properties of the entity that they refer to or the grammatical features of its linguistic representation.

Now 46 covers the case of *pro* as well as that of the feature [plural] on English pronouns: these both represent pronominal PNG features, which are not possible in agreement with C/IPs. This treatment is consistent with the idea that while *pro* is licensed by verbal PNG features, it behaves (as commonly held) like a bundle of nominal PNG features. In other words, the unacceptability of 41b' and 2b and c are due to the same effect.

The distinction between the grammatical and the ontological approaches now becomes relevant again. It remains to be determined whether plurality on a pronoun is permitted if the antecedents of the pronouns are NPs (not C/IPs) referring to certain SOAs. Once more, the grammatical approach seems to win over the ontological one. The data in 47 and 48 show that, unlike C/IPs, such NPs permit both plural agreement on the verb and plural pronouns to refer back to them.

(47) A: I witnessed both [John's wedding on Tuesday]<sub>i</sub> and [Bill's graduation on Wednesday]<sub>j</sub>.

B: I witnessed them<sub>i+j</sub> too (and they<sub>i+j</sub> bothered me equally).

(48) a. He read about the decipherment of Linear B and the destruction of the city and they impressed him equally/took him by surprise.

b. I apokriptoγrafisi tis Gramikis Vita ke i  
 the decipherment of-the Linear B and the  
 apokodikopiisi tu DNA entiposiasan poli kosmo. . .  
 decoding of DNA impressed many people.  
 Episis, *pro* prokalesan apires sizitisis se  
 also *pro* provoked-PL countless discussions in  
 akadimaikus kiklus.  
 academic circles

Let us now address the issue of the Person feature. Recall that we are evaluating the hypothesis according to which *pro* cannot have C/IP as linguistic antecedent because while the former REQUIRES PNG features, the latter lacks them. We have already seen that C/IP as a grammatical category lacks features for Gender and Number. There are two logically possible ways in which to proceed with the feature Person. One is to say that *pro* must be fully specified for P AND N AND G features, in which case, lacking the latter two, a C/IP is unable to antecede *pro* and nothing further needs to be said about the third feature, Person. The second possibility would be to follow the line of Farkas 1987 (which develops an idea in Rizzi 1986) and assume that *pro* crucially needs to be specified for the feature Person. Then we have to show that C/IPs lack this feature. This is difficult to show in MG because, as already mentioned, clauses can be nominalized by determiners, and these go only on third person linguistic entities. But we have also seen that Neuter is the default Gender marking in MG and therefore, since the determiner can appear with default markings, it is not surprising that it would also be true for the feature Person. In other words, it is not possible to determine whether the determiner/3rd person appears with

a C/IP because the latter is third person (like any other linguistic entity that is marked – Participant) or whether the determiner appears simply because third person morphology is the default marking. Therefore, under the scenario where Person is THE crucial feature for the licensing of *pro*, the best we could do would be to conclude that C/IPs lack this feature, since they cannot antecede *pro*.

Summarizing then, we have seen that *pro* cannot have C/IP as linguistic antecedent because the latter lack PNG features (which is unsurprising considering that these features are possessed by nominals), while *pro* requires a full specification of nondefault features. This is the same reason for which English plural pronouns cannot be used for this purpose. The English pronoun *it* can be used felicitously in referring to C/IPs because it may be unspecified for number.<sup>21</sup> This may be seen in the following examples (49 is from McCloskey 1991, 50 is from Rolf Noyer, p.c.).

(49) It seems equally likely at this point that the president will be reelected and that he will be impeached.

(50) It's the power company guys at the door.

(51) It's John and Bill who hid the teakettle.

Once something has or is PNG features it cannot have C/IP as linguistic antecedent. And *pro*, unlike (some) overt pronouns, must be associated with PNG features.<sup>22</sup> In other words, 46 covers both the *pro*-drop case and the English case. We conclude, then, with 52.

<sup>21</sup> There are several ways to express this; one is to say that number is [ $\pm$  plural]. Another would be to hold that the feature [plural] is privative. Yet another would be to say that [singular] is a feature in itself, but that there is also the possibility of an absence of number, with the default morphology expressing this being singular.

<sup>22</sup> If *pro* cannot have C/IP as linguistic antecedent, then we face the question of what happens if *pro* is licensed in object position by a clitic, as has been proposed in the literature.

- (i) o Kostas tin iðe *pro*  
 the Kostas her-FEM-SING-ACC saw *pro*  
 'Kostas saw her.'

A pronominal clitic can be used with C/IP as linguistic antecedent:

- (ii) a. An o Kostas telefonisi i Maria θa mas to pi *pro*  
 if the Kostas calls the Maria FUT us it say *pro*  
 'If Kostas calls, Mary will tell us that.'

b. A: o Kostas telefonise.  
 the Kostas called

B: *pro* to ksero *pro*  
 it know-1SG

Remaining neutral about the actual correctness of the accounts that posit a postverbal *pro* in such cases, we would like to point out that if indeed there is *pro* in object position, it fits our present proposal. The features that license this *pro* are nominal PNG features. These clitics show features for Gender, Number, Case, and Person, not just for Person and Number, which is the verbal paradigm. Predictably, the pronominal clitics cannot pluralize in cases where the antecedent is a C/IP.

- (iii) A: o Kostas telefonise ke i Maria estile tilegrafima.  
 the Kostas called and the Maria send telegram  
 B: \*ta ksero *pro*.  
 them know-1s *pro*

- (52) The fact that *pro* cannot have C/IP as linguistic antecedent and the fact that English plural pronominals cannot have C/IP as antecedent are both instantiations of 45 and 46. (i.e., the behavior of *pro* is similar to that of nominal, and not verbal, PNG features)

The contrast between 2 and 1 is the same as that between the sentences in 41 and some version with singular pronouns, and the same as that between 37b and 37a. English *it* does not have to be specified for Number, while *pro* and English plural pronouns MUST be, and this is not possible with C/IP as linguistic antecedent.<sup>23</sup>

The arguments above show that C/IPs do not possess PNG features. However, it is also true that default morphology exists in various nonexpletive environments. This raises the following question: why is it not possible for a verb to show default agreement when its subject is *pro* attempting to corefer with a C/IP? If this situation were possible, we would find cases in which *pro* appeared with C/IP as linguistic antecedent, but we don't, meaning that this option must be ruled out. One could thus argue that *pro* may be referential only when it has nondefault PNG features (or a subset of these; possibly Person, as in Farkas 1987).

Of course, there are cases in which a *pro* has been argued to occur with entirely default features on the verb; this is in expletive environments. One could then make one of two arguments: (1) when *pro* is associated with only default features, it cannot be referential, it cannot refer to or take a linguistic antecedent; or (2) when PNG features on a verb are default, no *pro* is licensed at all; this amounts to holding that there is no expletive *pro*, with the relevant specifier position simply not being projected.<sup>24</sup>

## 5. FURTHER IMPLICATIONS AND QUESTIONS

**5.1. LICENSING OF *PRO*.** It is said that *pro* can appear only if there are 'enough' PNG features.<sup>25</sup> The data under discussion show that Rizzi 1986 is correct in separating a component of identification of *pro* in addition to its licensing. The appearance of *pro* is thus not just a matter of there being enough features,

<sup>23</sup> And as expected, conjoined CPs cannot be referred to by *pro* (plural) either:

- (i) \*An arysisi ke an arostisis *pro* tha pisun ton patera su na su  
 if be-late-2s and if become-sick they FUT convince the father your MOD you  
 ayorasi aftokinito  
 buy car
- (ii) \*Emaθe oti i Maria θa pandrefti ton Kosta ke oti θa paratise tis spuðes  
 learned-3s that the Mary FUT marry the Kostas and that FUT quit the studies  
 tis ke *pro* tin stenaxoresan eksisu  
 her and they her saddened equally  
 'She learned that Mary will marry Kostas and that she will abandon her studies and  
 they saddened her equally.'

<sup>24</sup> Something similar is proposed in Borer 1986, where it is argued that the specifier of the IP is not projected when the subject is postverbal in *pro*-drop languages (the subject would be in an adjunct). This means that there is no expletive *pro* with subject nominals. However, she does have expletive *pro* when the postverbal argument is a clause.

<sup>25</sup> Or if the language is uniform in the inflectional paradigm, as in the introductory remarks in Jaeggli and Safir 1989.

which is a matter of licensing, but also of compatibility of the features with the denoted entity, which is a matter of identification. It could then be argued that the features that are relevant to licensing are verbal, while the ones relevant for identification are nominal. Recall that verbal features reflect an NP-V grammatical relationship, based on concord or feature copying, while nominal features would reflect the relationship between the pronominal element and an object in the world or a linguistic antecedent.

**5.2. CROSS-LINGUISTIC QUESTIONS.** The discussion above raises a question about languages like the Asian ones whose null subjects do not depend on inflectional richness. If, in the *pro*-drop languages we have discussed so far, *pro* cannot have C/IP as antecedent because it has too many features, then one might expect that in the Asian *pro*-drop languages *pro* would be able to take such an element as antecedent. This may very well be true, as some such sentences seem to be grammatical.<sup>26</sup>

(53) Chinese

- a. Ya shi nimen bu neng anshi huilai jiu  $\emptyset$  hui daluan  
 if you not can on-time return then (it) will ruin  
 women de jiuna.  
 our CM plan  
 'If you cannot return on time then it will ruin our plan.'
- b. John chang chang chidao.  $\emptyset$  bi de tade laoban gei ta  
 John often late (it) forced CM his boss give him  
 mai-le liang che.  
 buy-ASP CL car  
 'John is often late. It forced his boss to buy him a car.'

(54) Korean

- a. Wuli-ka nuskey onta-myun  $\emptyset$  mary-lul whanakey halkessita.  
 we-SUB late come-if Mary-OBJ angry CAUS  
 'If we come late it will make Mary angry.'
- b. A: John-un hangsang nusunta.  
 John-TOP always late  
 B: ala. kulayse apecilo-hayekum cha-lul sacwukey haysse  
 know-1s so  $\emptyset$  father-CAUS car-OBJ buy CAUS  
 'I know. And it made his father buy him a car.'

However, given that the licensing conditions for *pro* in these languages are entirely different from those in the languages we have examined, we leave a theoretical evaluation of the data in 53–54 for future research.

A related phenomenon is found in Mohawk. According to Mark Baker (p.c.), Mohawk behaves quite like Greek and the other languages discussed, except that an overt demonstrative is necessary in sentences involving a sentential subject. That is, Mohawk does not have THAT-clauses in subject position, but

<sup>26</sup> Examples like those given for Chinese and Korean appear to be possible in Japanese as well. Thanks to Shizhe Huang and Shudong Huang for Chinese, Chung-Hye Han, Won-Chul Park, and Young-Suk Lee for Korean, and Ayumi Suga and Nobo Komagata for Japanese.

it does have a demonstrative in subject position referring back to a dislocated THAT-clause. The difference between Mohawk and languages permitting clauses in argument positions seems to be reducible to the manner in which arguments are licensed in Mohawk. In order to be licensed, arguments in Mohawk need to be agreed with by the verb; since clauses don't bear PNG features, the necessity of mediating the relationship with a demonstrative follows from the general considerations set forth in this paper.

**5.3. PRO AND C/IP.** Following the suggestions of a reviewer, we may extend the line of reasoning developed in this article to PRO. This element is not licensed by PNG features, and therefore our account predicts that it should be able to have C/IP as linguistic antecedent. As the sentences in 55 show, this is in fact the case. These sentences are good in MG and Italian also.

- (55) a. [That Bill left] managed PRO to convince John that he is fickle.  
 b. [That Mary is sick] will bother John without PRO scaring him.  
 c. [That John is sick] will be reported on TV without PRO being discussed in the newspapers.  
 d. [That Fred left with Bill] sufficed PRO to convince John that he is fickle.

**5.4. CASE AND AGREEMENT.** In Chomsky and Lasnik 1995 and related work, Case and agreement are treated as reflexes of the same relationship.<sup>27</sup> How would such a position relate to the proposals of this paper? If one were to accept Stowell's (1981) Case resistance principle (or Safir's (1985) stricter interpretation of this), according to which sentences resist being assigned Case, and if at the same time one accepted Chomsky and Lasnik's Case/agreement correlation, the fact that C/IPs lack PNG features could be a natural correlate of the fact that they resist Case.

**5.5. WILL THE REAL PRONOUN PLEASE STAND UP. . .** Turning the problem somewhat on its head, we would like to point out that *pro* behaves much more like a *pronoun* than does English *it*, which can stand for categories other than NPs. It would be interesting to see whether pronouns in other non-*pro*-drop languages can refer to C/IPs; this would also determine whether English *it* is in a class of its own.

**6. CONCLUSION.** We have shown here that a referential restriction on null subjects can be reduced to a matter of PNG features, with *pro* being unable to refer to C/IPs because these lack PNG features. This was shown to be directly correlated with a similar phenomenon in English, the inability of plural pronominals (i.e. pronominals with the PNG feature [plural]) to refer to conjoined C/IPs.

<sup>27</sup> The mechanics for the execution of the Case/agreement correlation would depend on the framework. One could have separate maximal projections for each of number, gender, and person, and Case assigned in the SPEC-head relationships of one of the latter two. Or, one could have one AgrP as a bundle of features, with only certain subsets of the features being able to assign Case. Or, in a framework with no AgrPs at all, but with agreement being conceived of as a relationship that does not need the presence of specialized maximal projections to be triggered, it would be only certain aspects of that relationship that would be identified with Case.

Our analysis highlights the distinction between nominal and verbal PNG features, exhibiting clear cases in which these two may be seen to behave differently, as well as the need for distinguishing between the licensing and the identification of empty categories.

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