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Introduction

In this paper we examine the properties of the null element in the subject position of control complements in Modern Greek (MG). MG does not have infinitival clauses and the complement of control verbs is introduced by the particle NA which selects a clause where the verb is inflected for person and number. We present two kinds of NA-complements in MG with very distinct properties and we argue that one is headed by an anaphoric PRO and the other by a pronominal pro. Furthermore, we claim that the distribution of these two empty categories in MG, can be derived by the aspectual and tense properties of NA- clauses. This essentially argues for a Bouchard (1984) - Manzini (1983) approach to control and against postulating a separate control module in UG or treating PRO as both anaphoric and pronominal simultaneously as in Chomsky (1981) and Chomsky & Lasnik (1991) (though we should mention that at the end Chomsky & Lasnik (1991) adopt a view of control more along the lines of Bouchard (1984)).

The paper has 3 sections. In section 1, we give an outline of the basic principles we assume concerning the distribution and behavior of PRO. In section 2, we present the properties of NA-constructions in MG. In section 3, we present an analysis of control in MG which provides some insight into the properties that NA-complements display.

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Section 1: Some background assumptions

One of the reasons for assuming that PRO is a pronominal anaphor is that it exhibits some properties which are associated with pronouns and some properties which are associated with anaphors.

It has been observed in the literature that overt anaphors exhibit four distinct properties which follow from the fact that an anaphor is bound by its antecedent in the sense that the latter governs and assigns an R-index to the anaphor. The properties under question are given below (for more details, see Bouchard (1984), Koster (1984), Lebeaux (1984), as well as , Williams (1980)):

A.The antecedent-anaphor relation is obligatory, that is, reflexives must have an antecedent, whereas personal pronouns are possible in sentences without an appropriate antecedent:

(1)   a.   *I saw himself
        b.   I saw him

B. The antecedent-anaphor relation is unique, in the sense that bound anaphors never have a split antecedent:

(2)   a.   *John told Mary about themselves
        b.   John told Bill that Mary liked them

C. The antecedent-anaphor relation is local, i.e., they must be in the same domain (i.e., same Governing Category (GC) for Chomsky (1981)):

(3)   a.   John likes himself
        b.   *John says that Mary likes himself
        c.   John says that Mary likes him

D. The antecedent-anaphor relation has specific structural constraints, that is, antecedents must c-command the anaphor they bind:

(4)   a.   John likes himself
        b.   *The mother of John likes himself
        c.   The mother of John likes him

This cluster of properties also characterizes the element in the subject position of Infinitival and Gerundive constructions:

(5)   a.   *It was expected [PRO to shave Bill]
        b.   *John persuaded Bill [PRO to shave each other]
        c.   John expressed a desire / * Bill's desire [PRO to leave]
        d.   *John persuaded Bill's$_i$ friend [PRO$_i$ to leave]

However, it is also true that all four properties can be violated. Thus, there are control structures without obligatory antecedents (6a), with split antecedents (6b), with long distance antecedents (6c) and with non c-commanding antecedents (6d):

(6)   a.   It is impossible [PRO to help John]
        b.   John proposed to Mary [PRO to go to the movies]
        c.   John thinks it is impossible [PRO to shave himself]
        d.   It is difficult for John [PRO to help Bill]

It has also been observed in the recent literature that PRO is to be distinguished from pronominals in that it patterns semantically not with the simple form he, but rather with the emphatic form he himself, or the simple reflexive himself (Castaneda (1966)). The semantic peculiarity of these forms is revealed in situations where the subject is uninformed or misinformed about his own identity. In Higginbotham (1989) the following case is discussed: A man who has been a hero in a war, now suffers from amnesia and remembers nothing of his wartime experiences. Assume that this unfortunate man ("The Unfortunate") reads a book about his exploits during the war. As he reads the book he can have beliefs about himself (the man reading the book), i.e., the de se interpretation, and he can also have beliefs about the hero in the story (who happens to be him), i.e., the non-de se (or the de dicto) interpretation.

Now consider the following sentences:

(7)   The Unfortunate expects that he himself will get a medal
(8)   The Unfortunate expects himself to get a medal
(9)   The Unfortunate expects that he will get a medal
(10)   The Unfortunate expects PRO to get a medal

Sentences (7) and (8) are true only if the man reading the book (the Unfortunate) expects someone to come up to him and present him with a medal (the de se reading). It cannot be true if the Unfortunate believes that the war hero he is reading about is going to be awarded a medal, even if the person that the Unfortunate is reading about is actually identical to the Unfortunate (the de dicto reading). This, however, is not the case in (9). (9) is ambiguous between the two interpretations. In (10) we only have the de se reading, i.e., (10) is true only if the man reading the story has a belief that he himself will get a medal. This reinforces the claim that PRO is anaphoric. If it were pronominal, we should expect (10) to be ambiguous. Further support for this claim comes from the fact that when the relationship between PRO and its antecedent is a long distance one, as in gerundive constructions, we get non-de se readings too:

(11)   The Unfortunate thinks that [PRO getting a medal] would be appropriate   (optional de se)

In Chomsky (1981) anaphoric and pronominal properties are viewed as holding simultaneously of all occurrences of the element PRO. Being a pronominal anaphor, PRO must be subject to both principles A and B of the Binding Theory. Since these are contradictory conditions, PRO cannot have a Governing Category and therefore must be ungoverned.

Unlike Chomsky (1981), Bouchard (1984), Koster (1984) and Lebeaux (1984) present an alternative view, where PRO does not exhibit uniform properties. According to them there is rather an Empty Category (e.c.) with two distinct sets of properties which are functionally determined. More specifically, locally controlled

PROs are viewed as bound anaphors and as being governed, whereas long distance controlled PROs are pronominals that occur in ungoverned positions and refer freely. Thus, according to these theories, the anaphoric and pronominal properties of PRO are derived by the same principles that account for the properties of two already independently motivated types of NPs, anaphors and pronominals. All the theory of control must do is specify which argument of a control predicate is the controller. The other interpretative properties of control structures follow from whether the empty category in question is anaphoric or pronominal.

Section 2: Control complements in MG

Let us now consider control complements in MG, bearing in mind that the same cluster of properties that distinguishes English overt anaphors and pronominals also characterizes their counterparts in MG. Unlike English, MG does not have Infinitival clauses. The complement of control verbs is introduced by the particle NA and the verb is inflected for person and number, as (12) indicates[1]:

| (12) | a. | O Yanis | elpizi | ec | NA | figi |
| | | John | hopes | | | leaves-3sg |

| | b. | Ta paidia | elpizoun | ec | NA | figoun |
| | | The children | hope | | | leave-3pl |

In contrast to its English counterpart, the empty element in the subject position of NA-clauses does not always exhibit the same range of properties. In fact, there are two kinds of NA-clauses, exemplified in (13) and (14) respectively:

| (13) | O Yanis | elpizi | NA | figi |
| | John | hopes | | wins-3sg |

"John hopes to win"

| (14) | O Yanis | kseri | NA | kolimbai |
| | John | knows | | swims-3sg |

"John knows swimming"

These complements display very distinct properties. Thus, the null element in the subject position of the first kind of NA-clause is not obligatorily coreferential with the matrix subject, while the understood subject of the second kind of NA-clauses is always coreferential with the matrix one, as (15) and (16) indicate respectively:

| (15) | O Yanis$_i$ | elpizi | ec$_{i/j}$ | NA | figi |
| | John | hopes | | | wins-3sg |

| (16) | O Yanis$_i$ | kseri | ec$_{i/*j}$ | NA | kolimbai |
| | John | knows | | | swims-3sg |

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1 For the purposes of this paper we will assume, following Ingria (1981) and Terzi (1992) that NA is probably a modality marker and not a complementizer. It is worthwhile mentioning that NA always precedes the verb unless a number of particles (negation and object clitics) intervene.

Furthermore, the null element in the subject position of (15) always displays a range of pronominal properties. More specifically, it allows split antecedents (see (17)), permits sloppy and strict readings under ellipsis (see (18)), supports non-<u>de</u> <u>se</u> readings (see (19)) and can alternate with a lexical NP (see (20)) [2]:

(17)	O Yanis	elpizi	NA	boithisoun	o enas ton allo
	John	hopes		help-3Pl	each other

(18)	O Yanis	elpizi	NA	figi,	to idhio ki o Vasilis
	John	hopes		leaves-3Sg	and so does Bill

  a. John hopes John to leave and Bill hopes Bill to leave (sloppy)
  b. John hopes John to leave and Bill hopes John to leave (non-sloppy)

(19)	O Atichis	elpizi	NA kerdhisi	to metalio
	The Unfortunate	hopes-3SG	wins-3Sg	the medal
			(optionally <u>de se</u> reading)	

(20)	O Yanis	elpizi	NA figi	i Maria
	John	hopes	leaves-3Sg	Mary-NOM

In contrast, the empty category in (16) exhibits a cluster of properties that have been associated with anaphoric elements (Bouchard (1984), Koster (1984), Lebeaux (1984)), hence it forbids split antecedents (see (21)), permits only sloppy readings under ellipsis (see (22)), requires a <u>de se</u> interpretation (see (23)) and does not alternate with a lexical NP (see (24)) [3]:

(21)*	O Yanis	kseri	NA	boithisoun	o enas ton allo
	John	knows		help-3Pl	each other

(22)	O Yanis	kseri	NA	kolimbai,	to idhio ke o Vasilis
	John	knows		swims-3Sg	so does Bill

The only available reading in (22) is:
"John knows swimming and Bill knows swimming" [4]

(23)	O Atichis	kseri	NA ektimisi	to metalio	
	The Unfortunate	knows	appreciates-3Sg	the medal	(<u>De se</u>)

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2 NA-clauses of this type are introduced by verbs such as elpizo "to hope",apofasizo "to decide", protimo "to prefer", thelo "to want", perimeno "to expect", efchome "to wish", schediazo "to arrange".

3 This type of NA-complements is headed by verbs such as ksero "to know", irtha "to come", ime ipochreomenos "to be oblidged", ekana to lathos "to make the mistake", archizo "to start", matheno "to learn", distazo "to hesitate", dokimazo "to try", fovame "to fear".

4 Contrast (22) with (i) which permits both the sloppy and the non-sloppy readings:

(i)	O Yanis	kseri	pou	NA fai	to idhio ki o Vasilis
	John	knows	where	eats-3Sg	so does Bill

  a. John knows where John could eat and Bill knows where Bill could eat (sloppy)
  b. John knows where John could eat and Bill knows where John could eat (non-sloppy)

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(24)	* O Yanis	kseri	NA	kolimbai	o Giorgos
	John	knows		swims-3Sg	George-NOM

If our discussion in section 1 is correct, this contrasting behavior follows only if the empty category in (15) is a pronominal pro and the one in (16) is an anaphoric PRO [5]. Further motivation for this claim will be presented in the following section.

Section 3: The analysis

3.1: Some preliminary speculations

In the previous section we presented two different kinds of control complements in MG and we argued that their properties indicate that they are headed by two distinct elements, a pro and a PRO respectively, as (25) and (26) exemplify:

(25)	O Yanis$_i$	elpizi	pro$_{i/j}$	NA	figi
	John	hopes			wins-3sg

(26)	O Yanis$_i$	kseri	PRO$_{i/*j}$	NA	kolimbai
	John	knows			swims-3sg

Furthermore, we claimed that one important characteristic that distinguishes (25) from (26) is the alternation of the ec in (25) with a lexical subject . The lexical NP appears in Nominative case and always postverbally, as shown in (27):

(27)	a.	O Yanis	elpizi	NA figi	i Maria
		John	hopes	leaves-3sg	Mary-NOM

	b. ??	O Yanis	elpizi	i Maria	NA figi [6]
		John	hopes	Mary-NOM	leaves-3sg

The presence of a lexical NP in these sorts of constructions is an indication that this position is a case position. The question arising, then, is what is the Nominative case assigner in (25/27) ? Agreement ([+A])cannot be the case assigner because (26) is also characterized by [+A], however, the embedded INFL cannot assign case to its subject. If [+A] is excluded from being the case assigner, there is only one other Inflectional projection that can be the case assigner and that is Tense. This, in fact, has been argued by Iatridou (1988), who claims that there is a correlation between the Tense feature of the embedded INFL in cases like (25/27) and the assignment of Nominative case. More specifically, Iatridou (1988) argues that if the subject of the embedded NA-clause has Nominative case, the embedded

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5 There are two other environments in MG which are possible candidates for PRO: the subject position of small clauses as well as the subject position of gerunds. (We will not discuss these cases in this paper but for an analysis of gerunds, see Munn (1990)).

6 (27b) can be fully acceptable only if Mary is focussed as in (i):

(i)	O Yanis	elpizi	I MARIA	NA	figi
	John	hopes	MARY-NOM		leaves-3Sg

verb has the feature specification [+T], which can be seen by its ability to appear in the past tense [7].On the other hand, lack of Nominative case assignment means that the embedded INFL is [-T]. Iatridou's (1988) proposal finds support in our data in (25) and (26). Therefore, the embedded INFL in (25) can appear in the past tense, as (28) indicates, whereas the embedded INFL in (26) can only appear in the present tense, as shown in (29):

(28)   Elpizo   NA   irthe   o Yanis   '
         I hope   came-3Sg-Past   John NOM

(29)   *O Yanis   kseri   NA   kolimbouse
         John   knows   swim-3Sg-past

However, a more careful look at the data will reveal that a proposal along these lines can not be quite right. If our discussion in section 1 was right, then one would predict the following pattern: When the embedded INFL of a NA-comlpement can appear in the past tense, the empty category in its subject position should be able to alternate with a lexical NP and should display the variety of pronominal properties that were mentioned in Section 2, that is, it should allow split antecedents, it should permit sloppy and strict readings under ellipsis and it should support non-de se readings. In contrast, inability of the embedded INFL to appear in the past tense should correlate with lack of all the above mentioned properties. Essentially, since we have argued that the occurrence of pronominal properties signals the presence of pro whereas the occurrence of anaphoric properties signals the presence of PRO, our prediction is that the feature [+T], that is, the ability of the embedded INFL to appear in the past tense, should correlate systematically with the presence of pro in the subject position of the embedded clause, whereas the feature [-T], that is, lack of the ability of the embedded INFL to appear in the past tense, should correlate with the presence of PRO in the embedded subject position.

However, this prediction is not always born out by the data. More specifically, not every NA-complement which permits a lexical alternation allows its embedded INFL to appear in the past tense, as (30) indicates:

(30)   a.   O Yanis   theli   NA   figi
           John   wants   leave-3Sg-pres

     b.   *   O Yanis   theli   NA   efige
              John   wants   left-3Sg-past

However, even [-T] INFLs can assign Nominative case to their subjects, they support split antecedents, they allow strict and sloppy readings under ellipsis and they permit non-de se readings, as (31), (32), (33) and (34) indicate respectively [8] :

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7 Iatridou's (1988) proposal is based on the following argument: if a sentence with an embedded past tense is grammatical, the subordinate clause has its own Tense-domain and its INFL is therefore [+T]. On the other hand, if a sentence with an embedded past tense is ungrammatical, the subordinate INFL is [-T].

8 Na-complements of this type are introduced by verbs such as thelo "to want", prospatho "to try", protimo "to prefer", pitho" to persuade", zito "to ask", apagorevo "to forbid", diatazo "to order".

(31)   O Yanis   theli   NA figi   i Maria
        John   wants   leave-3Sg-pres   Mary-NOM

(32)   O Yanis theli   NA   sinandisoun   o enas ton allo
        John   wants   meet-3Pl   each other

(33)   O Yanis   theli NA figi,   to idhio ki o Vasilis
        John   wants   leave-3Sg   so does Bill

    a. John wants John to leave and Bill wants Bill to leave   (sloppy)
    b. John wants John to leave and Bill wants John to leave (non-sloppy)

(34)   O   Atichis   theli NA kerdhisi   to metalio
        The Unfortunate wants   win-3Sg   the medal   (Optional de se)

It seems, therefore, that NA-complements that display pronominal properties are of two kinds, those that allow their embedded INFL to appear in the past tense as (25/27) and those that do not, as (30). However, both of them are characterized by the same variety of pronominal properties, which again leaves open the same question. What is it that licenses Nominative case in these sorts of constructions ? If it was [+T], we would expect that (31) would not allow a lexical alternation in its embedded subject position.

To summarize our problem, MG has two kinds of control complements. The former kind comes in two varieties, those that permit their INFLs to appear in the past tense and those that do not [9]. Both of them, however, allow an alternation of their understood subject position with a lexical NP, which must appear post verbally. Our claim to this point is that the range of pronominal properties that the subject position of theses clauses displays is an indication that it is occupied by a pronominal element, namely pro. In contrast, the latter kind of control complements do not permit their INFLs to appear in the past tense and they prevent a lexical alternation in their subject position. We argued that the empty category in the subject position of these clauses is PRO, drawing evidence from the anaphoric cluster of properties that this empty category displays. Furthermore, we argued that

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9 The embedded INFL can appear in the past tense only when it is headed by epistemic verbs such as prepei "must", mporei "may", nomizo "to think", pistevo "to believe", as well as, other verbs that have some sort of an epistemic modality, like fandazome "visualize", thimame "remember", elpizo "hope", perimeno "expect", efxome "to wish", as well as with the perception verbs akousa "I heard", idha "I saw". All these verbs express the speaker's opinion regarding the possibility of realization of an event. In a sense the speaker is participating in the verbal event. He is intervening in it in order to express his personal opinion regarding the posibilities of realization of a proposition. The speaker's personal opinion regarding the proposition is something external to the preposition and thus it can not influence the proposition's time, explaining why the complement clause is unconstrained temporarily. What remains curious is the fact that it is with verbs that display some sort of an epistemic modality that the embedded verb is morphologically realized, while with other verbs, such as, thelo "to want", protimo "to prefer" prospatho "to try" etc., the embedded INFL can only appear in the present tense, dispite the fact that it can be temporaly independent. (It is worthwhile mentioning that this characteristic of epistemic verbs has been observed in other languages too. For example it has been argued by Raposo (1987) that in European Portuegese epistemic verbs subcategorize for a [+Tense] CP while volitional verbs subcategorize for a [-Tense] CP).

[+T] cannot be the case assigner of the understood subject position in these sorts of constructions because the embedded INFL does not always appear in the past tense, as would be required if that had been the source of case marking (in accordance with Iatridou's (1988) proposal). Two questions have emerged: What is it that assigns Nominative case in (27) and (31) if neither Agreement nor Tense do ? Furthermore, if SPEC IP in (26) is occupied by PRO, what licences its distribution in this position ?

An important characteristic of the second group of control complements is the fact that there are certain Tense constraints with respect to the Tense of the embedded INFL, a property which does not characterize the first group in which the embedded INFL can be either [+T] or [-T]. In particular, the embedded INFL of the latter group can only appear in Present tense. It seems therefore that there is an interesting correlation between the presence of PRO and the absence of the Tense feature in the embedded INFL. Essentially, the presense or absense of the Tense feature in the embedded INFL is somehow implicated in the licensing of PRO, but, as we will propose in the next part, in a more complicated way than Iatridou (1988) has suggested. Essentially, what we will propose next is that the distribution of the two empty categories in the subject position of NA-clauses in MG can be derived by the aspectual structure and the tense properties of these clauses.

3.2: The proposal

Let us consider more carefully the meaning of the two different sorts of control complements in MG, which are repeated here as (35) and (36):

(35) a.   O Yanis   elpizi   NA figi   (o Giorgos)
            John-NOM   hopes   leave-3sg   (GeorgeNOM)

      b.   O Yanis   theli   NA figi   (o Giorgos)
            John-NOM   wants   leave-3sg   (GeorgeNOM)

(36) a.   O Yanis   kseri   NA kolimbai   (*o Giorgos)
            John   knows   swim-3sg   (GeorgeNOM)

      b.   O Yanis   arxise   NA kolimba   (* o Giorgos)
            John   started   swim-3Sg   (GeorgeNOM)

In (35a) two distinct events are denoted [10], the event of "hoping" and the event of "leaving". Someone "hopes something" (i.e., John) and somebody else "is leaving" (i.e., George). Evidence for the denotation of two distinct events comes from the fact that these two events can be temporally unrelated, that is, two independent time frames can be associated with (35a). Thus, the time of "hoping" and the time of "leaving" can be different and this is evidenced by the ability of (35a) to allow past tense in its embedded INFL, as well as, by its ability to support different matrix and embedded adverbs, as (37) and (38) show respectively:

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10 This is event in the sense of Higginbotham (1985) and Parsons (1990) where actions, processes and states are all events.

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(37) O Yanis   elpizi NA   efige   i Maria
     John   hopes   left-3Sg-past   Mary-NOM

(38) Tora,   o Yanis   elpizi   NA figi   avrio
     Now   John   hopes   leave-3Sg   tomorrow

The same intuition holds for (35b). Therefore, even though the embedded INFL cannot appear in the past tense the embedded clause forms an indepenedent domain aspectually. Again someone (i.e., John) "wants something" and somebody else (i.e., George) "is leaving". The intuition is again supported by the availability of different adverbs in the matrix and in the embedded clause:

(39) Tora,   o Yanis   theli   NA figi   avrio
     Now   John   wants   leave-3Sg   tomorrow

(36), on the other hand, denotes only one event, the event of "knowing an activity" or "beginning an activity" (the activity of swimming). Thus, it is not the case that someone "knows something" or "starts something" and that the same person or somebody else "is swimming". Rather (36a) indicates that "someone knows a certain activity, the activity of swimming" and (36b) indicates that "someone is already swimming" or "someone is acquiring the habit of swimming". Since there is only one event, the temporal specification of the embedded event in (36) is identical to that of the main verb. In effect, there is only one semantic tense domain in (36) as there is really only a single event. This can be seen by the fact that (36) in contrast to (38) cannot tolerate different matrix and embedded adverbials, as (40) indicates:

(40) a. * Tora,   o Yanis   kseri   NA kolimbai   avrio
           Now   John   knows   swim-3sg   tomorrow

     b. * Tora,   o Yanis   arxizi NA kolimbai   avrio
           Now   John   begins swims-3Sg   tomorrow

There are some further characteristics of these constructions with respect to their tense properties. First, despite the inability of the embedded INFL in (35b) to appear in the past tense, it can appear in the present perfect [11] :

(41) O Yanis   theli   NA echi   figi
     John-NOM   wants   has left-3sg-pres.perf.

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[11] It is worthwhile mentioning that it is the continuous past that is used instead of the present perfect in the MG equivalent of (i):

(i)   I have just received a letter

Thus, while (ii) is grammatical in MG, (iii) is not:

(ii)   Molis   elava   ena   grama
        Just   received-1Sg   a   letter

(iii) * Molis   echo lavi   ena   grama
        Just   have received-1Sg a   letter

This indicates that these NA-clauses don't lack the tense specification altogether. Furthermore, this fact ties together NA-clauses such as (35b) with NA-clauses such as (35a) and distinguishes both of them from the other type of control complements [i.e., (36)], which are completely deprived of any tense specification:

(42)*   O Yanis   kseri   NA exi   kolimbisi
        John   knows   has   swam-3sg-pres.perf

Second, despite the fact that the former type of NA-complements denote two distinct events, there exist rather specific tense dependencies between their matrix and their embedded verbs. Thus, when the matrix verb appears in the past tense, the embedded clause forms a temporal interpretation which is dependent on the matrix event, that is the event time of the embedded proposition can be evaluated relative to the event time of the matrix clause. To be more specific, the event time of the embedded clause in (43) is interpreted as cotemporaneous with the event time of the matrix clause, hence the time of "leaving" is in the past just like the time of "wanting" or "hoping", eventhough the embedded verb appears in the present tense[12]:

(43)   a.   O Yanis   ithele   NA   figi
              John   wanted-3Sg-past   leave-3sg-pres

        b.   O Yanis   ilpize   NA   figi
              John   hoped-3Sg-past   leave-3Sg-pres

Only the presence of the adverbial tora "now" in the embedded clause of (43) forces the reading where the event time of the embedded clause is in the present and thus, not cotemporaneous with the event time of the matrix:

(44)   a.   O Yanis   ithele   NA   figi   tora
              John   wanted   leave-3Sg   now

        b.   O Yanis   ilpize NA   figi   tora
              John   hoped   leave-3Sg   now

On the other hand, the presence of the adverbial xthes "yesterday" in the martrix clause favors again the reading in which the two events are cotemporaneous:

(45)   a.   Xthes   o Yanis   ithele NA   figi
              Yesterday   John   wanted   leave-3Sg

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12 Besides this interpretation there is another one in which the event time of the embedded clause is not cotemporaneous with the event time of the matrix one. According to this interpretation, the time of "wanting" or "hoping" is in the past, unlike the time of "leaving" which is in the present. This interpretation, however, might be the result of the implication of a covert independent temporal adverbial in (43) modifying the embedded clause, just like in the case of English infinitives such as (i):

(i)   John wanted to leave (now)

b.   Xthes   o Yanis   ilpize   NA   figi
      Yesterday   John   hoped   leave-3Sg

It seems, therefore, that unless the embedded event is modified by an independent temporal adverb, it will inherit the temporal interpretation of the matrix clause.

Based on these aspectual properties of NA-complements in MG, we would like to propose that NA-clauses like (35a) and (35b) undergo tense sequencing of the kind witnessed in English infinitives (Hornstein (1990)). In particular, we propose that the tense sequencing is sensitive to the aspectual properties of NA-clauses: it applies only to those cases that form two aspectually independent events (i.e., (35a) and (35b) and not to those that denote only one event, as (36) does. Furthermore, if we assume that tense sequencing requires the dependent tense to be governed by the anchoring Verb (V) (as in Hornstein (1990)), then when tense sequence is observed, it must require movement of the embedded V to Co. The obligatory appearance of the embedded subject postverbally in (35a) and (35b), exemplified in (46a) and (46b) respectively, indicates that in MG NA-clauses this is a Surface Structure (SS) movement, a position which is in accordance with Hornstein's (1990) proposal concerning English Infinitives:

(46)   a. O Yanis elpizi [CP [C NA figi $_V$ [IP i Maria [I t$_V$ [VP t$_V$
           John   hopes   leaves-3Sg   Mary-NOM

        b. O Yanis theli [CP [C NA figi $_V$ [IP i Maria [I t$_V$ [VP t$_V$
           John   wants   leaves-3Sg   Mary-NOM

To summarize, NA-clauses that denote two independent events, undergo Tense sequencing which requires V to Co, whereas NA-clauses that denote only one event don't undergo tense sequencing, and don't have the embedded V to Co. Our claim in section 1 was that the former complements are headed by pro and the latter by PRO. The full structures with all relevant verbs moved are given in (47) and (48):

(47)   O Yanis$_i$ elpizi/theli [CP [C NA figi $_V$ [IP pro$_{i/j}$ [I t$_V$ [VP t$_V$
        John   hopes/wants   leaves-3Sg

(48)   O Yanis$_i$ kseri [CP [C [IP PRO$_{i/*j}$ [I NA kolimbai [VP t$_V$
        John   knows   swim-3Sg

There is one major question left to answer. How can the distribution of pro and PRO be derived in (47) and (48) respectively ?

We would like to argue that in fact the distribution of pro and PRO in (47) and (48) follows from the Verb movement properties of NA-clauses which we have in turn related to their aspectual and tense properties. In order to show this we make two other assumptions:

a) PRO cannot occur in case positions (Bouchard (1984)) and
b) pro only occurs in case positions (Rizzi (1986)).

We claimed that (47) denotes two aspectually independent events and undergoes tense sequencing, thus moving V to Co. This V to Co raising solves the earlier problem of what assigns Nominative case in NA-complements like (27a), repeated here as (49):

(49) O Yanis   elpizi NA figi   i Maria
      John   hopes   leaves-3sg   Mary-NOM

V raising to C licenses Nominative case marking in NA-clauses just as it does in Italian and European Portuguese non-finite clauses (Raposo (1987), Rizzi (1982)). If so, SPEC IP in (47) is case marked. This explains why SPEC IP in (47) can only contain pro and not PRO, given (a) and (b). Further, since we have assumed that sequencing only applies to aspectually independent events, the lack of such an event in the embedded NA-clause in (48) forbids tense sequencing and so V does not raise to C. Hence, SPEC IP is not case marked in (48). Thus, given (a), PRO can appear there and given (b), pro cannot, explaining, thus, the distribution of the two empty categories in the positions they occur.

An analysis along these lines not only derives the distribution of pro and PRO in NA-complements in MG, but also explains the range of properties that these categories display in the positions they occur. To be more specific, the anaphoric behaviour that PRO displays in NA-clauses such as (48) is expected under those analyses that assume that PRO is an empty category with two distinct sets of properties, one anaphoric and one pronominal (Bouchard (1984), Hornstein and Lightfoot (1987), Koster (1984), Lebeaux (1984), etc.). On the other hand, this behaviour cannot be explained under theories such as Chomsky's (1981) and Chomsky and Lasnik's (1991), which claim that PRO is a pronominal anaphor simultaneously.

In fact, one could go one step further and argue that PRO in (48) is governed in the spirit of Bouchard (1984), providing thus a further explanation of its anaphoric behaviour. In order to sustain such a claim one would have to argue that NA-complements of this sort are, in fact, IPs and not CP projections. Under this view, this type of NA-complements would be assigned the structure in (50) and not the one in (48):

(50) O Yanis kseri   [IP PRO   [I   NA   kolimbai   [VP tv
      John   knows   swims-3Sg

Evidence for a proposal along these lines could be drawed from the distinction between (51a) and (51b):

(51) a. * O Yanis   kseri   an   NA   kolimbai
             John   knows   if   swims-3Sg

      b.   O Yanis   kseri   pou   NA   kolimbisi
             John   knows   where   swims-3Sg

Within analyses that derive the distribution of PRO through the PRO-theorem (Kayne (1991), Terzi (1991), Terzi (1992)), (51a) is assigned the structure in (52a) and has been analyzed as a violation of the PRO-theorem, since PRO is

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governed in (52a) by **an** (=if). (51b), on the other hand, does not induce a PRO-theorem violation since **pou** (=where) occupies the SPEC CP position, as (52b) indicates, and, thus, does not govern PRO.

(52)a. *O Yanis   kseri   [CP [C an [IP PRO [I NA   kolimbai [VP tv
       John   knows   if   swims-3Sg

    b. O Yanis   kseri   [CP pou [C [IP PRO [I NA kolimbisi [VP tv
       John   knows   where   swims-3Sg

Contrary to the above mentioned analyses, we would like to propose that (51a) has, in fact, the structure in (53a) and not (52a), and the reason that it is ungrammatical is not because it induces a PRO-theorem violation but because it does not involve a CP projection. The unavailability of a position to host the element **an** (=if) in (53a) explains the ungrammaticality of the sentence:

(53)a. *O Yanis   kseri   [IP PRO [I NA   kolimbai [VP tv
       John   knows   swims-3Sg

In order to provide further motivation for an IP projection in (53a) we would have to go one step futher. Let us attempt a strengthening of Principle A of the Binding Theory by claiming that an anaphor is bound if and only if it has a GC. If NA and **an** are not governors in (52a), the next available governor is the matrix Verb and PRO's GC would be the matrix CP. If this is so, the lower clause must be an IP because CP would be a barrier by inheritance and thus would prevent government of the anaphor.

On the other hand, we would like to maintain the claim that (51b) involves a CP projection. However, its structure is (53b) and not (52b), as in Terzi (1991) and Terzi (1992) because (51b) exhibits the range of pronominal properties that a pro-type of NA-clause does, as (53c) indicates. Therefore, its grammaticality follows from the theory we have developed in this paper.

(53)b.O Yanis   kseri   [CP pou [C NA kolimbisi [IP pro [I tv [VP tv
       John   knows   where   swims-3Sg

    c. O Yanis   kseri   [CP pou [C NA kolimbisoun [IP pro [I tv [VP tv
       John   knows   where   swim-3Pl

Conclusion

In recent work on the properties of PRO two major theories have emerged. The first theory, outlined in Chomsky (1981) and Chomsky & Lasnik (1991), claims that PRO is a pronominal anaphor which must appear only in ungoverned positions. In contrast, the second theory which is based on work by Bouchard (1984), Koster (1984) and Lebeaux (1984) claims that there is not a single element PRO with uniform properties as in the pronominal anaphor analysis of Chomsky (1981) but PRO is either an anaphor or a pronominal, this being determined functionally. Thus, locally controlled PROs are bound anaphors, whereas long distance controlled PROs are pronominals that freely refer.

In this paper we presented evidence in favor of the latter approach by examining the properties of the null element in the subject position of NA-complements in MG. We showed that the understood subject of NA-clauses in MG displays sometimes pronominal and sometimes anaphoric properties. Based on this range of properties, we argued that there are two different kinds of NA-clauses in MG, one headed by a pronominal pro and the other by an anaphoric PRO. If PRO was indeed a pronominal anaphor as in Chomsky (1981), then one wouldn't expect it to display the properties it does in the subject position of NA-complements in MG. On the other hand, an analysis which claims that PRO has two distinct sets of properties would make exactly this prediction. We derived the distribution of the two empty categories based on the aspectual and tense properties of NA-complements as well as on the assumption that pro must be case marked whereas PRO cannot be case marked.

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