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STUDIES IN
GREEK SYNTAX

edited by

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1. INTRODUCTION

This study deals with theta-role saturation in deverbal and verbal compounds in Greek. We claim that theta-role saturation inside compounds is related to the configurational properties of argument structure, as well as to the properties of rich morphology, particularly to strong inflection. This claim, combined with the fact that several semantic roles may be expressed in an adjunct position whereas a more restricted set of semantic roles is represented in a complement position, can account for theta-role saturation inside Greek compounds.

The paper is organized as follows. The first section provides general information about the structural properties of Greek deverbal and verbal compounds and the kind of theta-roles saturated inside these compounds. The second section contains the basic assumptions and claims concerning morphology and argument structure in general. An analysis of Greek deverbal and verbal compounds is given in the last section.

2. THE STRUCTURE OF GREEK DEVERBAL AND VERBAL COMPOUNDS

Greek deverbal compounds with internal theta-role saturation are basically nouns or adjectives. In this paper, however, we will also account for verbal compounds since they display internal theta-role saturation.

Nominal deverbal compounds are realized as one-string formations containing at least two stems and two suffixes, one derivational and one inflectional (cf. (1)).² The constituent parts are overtly realized in the following order: the inflectional suffix, responsible for the morphosyntactic features of number and case, appears at the righthand edge of the compound next to the deverbal item;³ the derivational suffix, transforming the verbal stem into a nominal stem, is attached to the verbal stem and a bare nominal stem is the lefthand constituent:

- (1) a. *ihthiokaliertjia*⁴
lit. 'fish-culture'
< *ihthi- kaliertgh-*⁵ -i-
'fish'-cultivate'- der.suf.<noun, fem> infl.suf.<nom. sing.> -a
- b. *kozmothalazmos*
'world-destruction'
< *kozmi- xalas-*⁶ -m-
'world'-destroy' der.suf.<noun, masc> infl.suf.<nom. sing.> -os
- c. *nerovrastos*
'boiled in the water'
< *ner- vras-* -t-
'water' 'boil' der.suf.<adj.> infl.suf.<nom., sing.> -os

In verbal compounds, on the other hand, a derivational suffix may not be present in the structure (2a) but the inflectional suffix is always present denoting agreement features. If, however, a derivational suffix appears attached to the righthand member of the compound, this suffix is responsible for the verbal category of the member (2b).

- (2) a. *hartopezo* < *hart-* *pez-* -o
'I play cards' 'card' 'play' 1st per. sing. pres. active
- b. *Haropalevo*
'I fight with death'
< *har-* *pal-* -ev-
'death' 'fight' <N> der. suff. <V> 1st per. sing. pres. active

It should be noticed that between the members of both deverbal and verbal compounds, the surface ordering is fixed, that is, the verbal, or the deverbal element, occupies the second position. Furthermore, a vowel -o- appearing between the first and the second member of the compound constitutes a transition vowel the presence of which is independently motivated from the two members participating in composition, as shown in Ralli (1988, 1992).⁷

Greek deverbal compounds, as is the case of deverbal compounds in English and other languages, have both X⁰ and XP properties. They are formally similar to affixed words and dissimilar to phrases at the interface with the performance systems. The compounds are head final like affixed words, but not like phrases. On the other hand, deverbal compounds share some properties of phrasal structure with respect to theta-role saturation, since a considerable number of deverbal compounds are object-verb structures and theta-role saturation occurs in these structures:

- (3) a. *nihokoptis* < *nih-* *koptis*
lit. nail-cutter 'nail' 'cutter'
'nail-clipper'
- b. *hrimatodhotisi* < *hrimat-* *dhotisi*
'money-giving' 'money' 'giving'

According to Di Sciullo & Williams (1987), English deverbal compounds (e.g. *tree-eater*, *thanks-giving*, etc.) are morphological objects, that is expressions that are generated in morphology, whereas French compounds such as *essuie-glace* 'wiper' and *tire-bouchon* 'corkscrew' are syntactic words, that is expressions generated in syntax even though they are syntactic atoms. Syntactic atomicity holds for these objects that do not have a morphological form but otherwise display the general properties of X⁰s. In Di Sciullo & Williams' theory, syntactic words are firstly generated in syntax and then reanalyzed as words. They differ from idioms though, which are listed phrases, since their meaning is not compositional. Certain idioms are not syntactically atomic, however, since parts of idioms can be extracted (4a,b) or be subject to independent referential relations (4c):

- (4) a. English: tabs were put on DP
b. French: en voir de toutes les couleurs
c. Greek: *evale nero sto krasi tu*
lit. he put water in the wine his
'his attitude became softer'

Similarly, parts of deverbal compounds cannot be extracted. This is the case for English deverbal compounds, as discussed in Di Sciullo & Williams (1987), and they are islands with respect to XP anaphoric relations, as noted in Giorgi & Longobardi (1991) (cf. (5)). This is also the case in Greek (cf. (6)):

- (5) a. *The [who-killer] did the police catch?
b. *A [person-informer] about himself
- (6) a. *Ton [ti-pehti] *epjase i astinomia*
the what-player did the police catch?
vs. *i astinomia epjase ton hartopexiti*
the police caught the card gambler
b. *Ejine *anthropofaghos tu eafu tu*
he became a man-eater (cannibal) of himself
vs. *ejine anthropofaghos*
he became a man-eater

In this paper, we would like to take a unified approach to compound formation and adopt the idea that there is only one computational space for the derivation of the linguistic expressions which are formed by autonomous components: the morphology, the syntax and the phonology (cf. Chomsky 1995, Di Sciullo 1996a,b). We will thus take deverbal compounds to be generated in the computational component of the grammar in a way that we will make precise below.

As has been noted elsewhere, (cf. Di Sciullo & Williams 1987, on the basis of English and Italian; Roeper 1987 and Grimshaw 1990, on the basis of English; Di Sciullo 1992, on the basis of Italian and English), and it has been proved by Ralli (1989, 1992) for Greek, theta-roles may be saturated inside compounds. This is evidenced in the following examples, where the admissibility of a by-phrase (7a)

and the presence of an aspectual modifier (7b) indicate that, depending on the case, some thematic roles are saturated inside the compound.

- (7) a. i eleokaliērijies apo tus aghrotēs
'the olive-cultures by the farmers
esosan tin ikonomia tu nisju
saved the economy of the island'
b. i sinexis hartopeksia ton katandise ftoho
'the continuous card-playing has made him poor'

If this were not the case, it would be impossible to explain why some theta-roles of the verb included in the deverbal compound may not be saturated outside of the compound:

- (8) a. *aftos ine enas hartopektis pehnidhjon
'this is a card-player of games'
b. *i simerini laosinaksi ton anthropon ine ekpliktiki
'today's people-reunion of men is surprising'

As a matter of fact, some deverbal compounds in *-tis*, like the one in (9a), are complete functional complexes with all arguments saturated inside the morphological structure of the compound. This is also the case in French, as noted in Di Sciullo (1992).

- (9) a. o/enas kardhjokataktitis molis ilthe
'the/a heart conqueror just came in'
b. *o kardhjokataktitis apo to Jani bori na ine epikindhinos
'the heart conqueror by John may be dangerous'
c. *natos o kardhjokataktitis ton kardhjon
'here comes the heart conqueror of hearts'

A closer examination of deverbal compounds (cf. (10)) reveals that in Greek, the range of theta-roles saturated inside seems not to be restricted, contrary to what has been claimed until now on the basis of data from other languages (cf. Pesetsky 1994).

- (10) a. psihopsaksimo < psix- psaksimo (Theme)
lit. 'soul-searching' 'soul' 'searching'
b. anemodharmentos < anem- dharmentos (Agent)
'beaten by the wind' 'wind' 'beaten'
c. kondarohitpima < kondar- hitpima (Instrument)
'pole-stroke' 'pole' 'stroke'
d. anthospartos < anth- spartos (Instrument/Material)
'flower-strewn' 'flower' 'strewn'

- e. ematokilizma < emat- kilizma (Location)
'wallowing in blood' 'blood' 'wallowing'
f. poltopiisi < polt- piisi (Result)
lit. 'pulp making' 'pulp' 'making'

3. THE FRAMEWORK

Along the lines of Williams & Di Sciullo (1987), Chomsky (1995) and Di Sciullo (1996a, b), we accept here that morphology is an autonomous component of the grammar providing structural descriptions for word formations. Assuming that there is only one computational space for the generation of linguistic expressions, word formations are not accessible to the syntactic operations of MERGE and MOVE, as defined in Chomsky (1995). Contrary to MERGE, the morphological operations of composition and linking do not create new categories. Contrary to MOVE, the morphological operations are not subject to the Minimal Link Condition, again as defined in Chomsky (1995). See Di Sciullo (1996b) for discussion.

We will take the morphological component to generate visible, i.e., interpretable head adjunction structures at the interface with the C-I system. We will refer to this interface as to Morphological Form (MF) and assume the definition given by Di Sciullo (1996b). MF is the X⁰ dimension of LF interfacing with the C-I system for X⁰ interpretation. The existence of an X⁰ dimension to LF is motivated in Di Sciullo (1996b), where it is shown that word internal interpretation, i.e., conceptual and referential opacity is not obtained in phrasal structure. In phrasal structure, the predicate argument structure interpretation is obtained, thus definite as well as indefinite reference for nominal expressions, and truth values for phrasal expressions.

Assuming the architecture in (11), X⁰ expressions may have a phrasal structure at Spell-Out, but not at MF/LF or at MF/PF, which we will not discuss here.

- (11) | Spell-Out
/ \
MF/PF MF/LF

At MF/LF, X⁰ expressions have an adjunct structure and not a specifier-head-complement structure. This is a consequence of the hypothesis that the performance system interprets canonical target configurations, that is configurations the form of which is non-ambiguous with respect to the object generated by the grammar, either word structure or phrase structure.

... they be saturated within the compounds, usually the Theme role, as exemplified in (18).

- (18) Italian: porta-ombrelli "umbrella-holder"
 French: essuie-mains "hand-towel"
 Spanish: lavaplatos "dish-washer"
 Portuguese: abre-latas "tin-opener"¹²

We assume that, like in English, Greek compounds have the adjunct-head configuration at Spell-Out because their lefthand noun must not be in a position where case is assigned. As stated in the second section of the paper, this noun is a bare stem without an overt inflectional suffix and, as such, it cannot undergo Longobardi's (1994) overt N to D movement, as proposed in Di Sciullo (1996a) for Romance compounds, which are syntactic words. Thus in Greek, this noun must appear in adjunct position at Spell-Out, a position where case is not visible and a position where a large variety of roles can be expressed.

In a language with weak morphology, such as English, compound internal theta-role saturation is restricted, although not limited to only one theta-role, as is the case for most Romance languages, given the possibility of recursion to the left. On the contrary, in Greek, which is morphologically rich, bearing overt verbal and nominal inflection, as well as a significantly rich derivation, compound internal role saturation is particularly extensive.

We will see below that the interaction of rich morphology with the configurational properties of compound structures allows us to account for the facts in Greek.

5. AN ANALYSIS OF GREEK DEVERBAL AND VERBAL COMPOUNDS

As we have seen in the second section, in a typical Greek deverbal compound, a bare noun precedes a deverbal inflected category. Moreover, the language allows various theta-roles to be saturated inside the compound.

The bare noun in the adjunct position acts as a modifier of the morphologically complex head and may assume an additional semantic role to the one already expressed by the theta-role originating in the lower complement position. This can be seen in a number of compounds where the nominal first member may denote both a theta-role and a Possessor role. For example, in a compound such as *horofilakas* 'country-guard/country-keeper', the nominal stem *hor-* 'country' can be an argument of the predicative head *filak-* 'guard/keeper', and thus related to the Theme role of that head, as well as a modifier of the derived-inflected nominal *filakas*, where then denotes a Possessor role. This fact further motivates the structure given under (13b), where the nominal underived stem *hor-*, being an adjunct to the derived-inflected nominal element *filakas*, is linked to the argument position of the verbal base *filak-*. The position of the adjunct next to the complex nominal is also

supported, if we assume, following Grimshaw (1990), that, contrary to verbs, nouns do not theta-mark.

- (19) N¹³
 / \
 N N
 | / \
 hor-V N
 / \ |
 V e -as
 |
 filak-

Let us see now how rich morphology, namely suffixation, can affect theta-role saturation inside compounds.

Until now, we have considered suffixes to be carriers of both derivational and inflectional properties (cf. (12), (19)). In what follows, we will make a distinction between derivational and inflectional suffixes since in most Greek morphologically complex words, the two types of suffixes are clearly separated and do not intermingle. See Ralli (1994b) for a detailed study of these two types of suffixation.

In general, the relation between suffixation and the presence of argument within the structure of Greek deverbal compounds has been taken in consideration by Roeper's (1987) statement according to which, an argument-head relation is allowed in compounds if a suffix is present.

With respect to derivation, in Greek deverbal compounds, a derivational suffix transforming the verb into a noun, is generally present.¹⁴ As we see below, Greek data support the view that it is the presence of this suffix that extends the saturation of various theta-roles inside compounds. For instance, the examples listed under (20) show that the Agent/Instrument role may be saturated inside compound containing specific derivational suffixes:¹⁵

- (20) a. thalassodharmentos < thalass- dhar- -men- -os
 'beaten-by-the-sea' 'sea' 'beat' -en nom., sing.
 b. ijolustos < ili- lus- -t- -os
 'washed-by-the-sun' 'sun' 'wash' -ed nom., sing.
 c. pondikofaghoma < pondik- faghoma- -ø
 'rat-eating' 'rat' 'eat' -ing nom., sing.
 d. aetopetaghma < aet- petagh- -ma- -ø
 'eagle-flying' 'eagle' 'fly' ing nom., sing.
 e. lemonostiftis < lemon- stiv- -ti- -s
 'lemon-squeezer' 'lemon' 'squeeze' er nom., sing.

The fact that derivational suffixes such as *-men-*, *-t-* and *-ma-* (cf. (20a-d)) allow theta-role saturation inside compounds has already been observed by Ralli (1992) where it is proposed that these suffixes perform a lexical operation on the argument

- 15 It should be noticed that beside the Agent, that is the person who carries out the act, the *-is* derived nominals may also express the Instrument that does the act (cf. Triantaphyllidis, 1941 for a list of these derived formations in Greek). This type of instrument which may assume the function of a grammatical subject is called by Marantz (1984) an intermediary instrument.
- 16 Inflectional suffixes following derivational ones appear in parentheses.
- 17 Notice that also in English there are verbal compounds with internal theta-role saturation (e.g., to *bar-tend*). However, their number is rather restricted compared to the considerable occurrence of verbal compounds in Greek.
- 18 A different view is expressed by Nespor & Ralli (forthcoming) who opt for the structures given in (23) as possible generation schemas of Greek verbal and deverbal compounds. Nespor and Ralli consider these compounds to belong to the [Stem Word] type. Under this assumption, the left-hand noun (i.e., the bare noun stem) is added to a fully inflected word containing a stem, of either a nominal or a verbal category, and a corresponding inflectional suffix. In other words, in Nespor & Ralli's work, the inflectional suffix is represented as attached to the right-hand member of the compound. As stated before (cf. Note 6), Nespor & Ralli's claim is motivated on phonological grounds, while our proposal here relies on morphological and syntactic considerations. According to recent developments of the theory, the structures of linguistic expressions do not have to be isomorphic at both interfaces, the PF and the LF (cf. Chomsky 1995, for discussion).

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