

On So-Called “Adverb-Incorporation” in Modern Greek

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ABSTRACT

Rivero 1992 exetavzei to fainovmeno th $\acute{\eta}$ “enswmavtwsh $\acute{\eta}$ ” (“Incorporation”) enov $\acute{\eta}$ epirrhvmato $\acute{\iota}$ maziv me evna rhvma gia thn paragwghv mia $\acute{\iota}$ suvnqeth $\acute{\eta}$ levxh $\acute{\eta}$, p.c. *anapodo-gurivzw* (apov *gurivzw anavpoda*). Sthn anavlushv th $\acute{\eta}$, tevtoiei levxei $\acute{\eta}$ paravgontai suntaktikav, mevsw th $\acute{\eta}$ “epirrhmatikhv $\acute{\eta}$ enswmavtwsh $\acute{\eta}$ ”, dhladhv mia $\acute{\iota}$ suntaktikhv $\acute{\eta}$ diadikasiva $\acute{\iota}$. To sumpevrasma $\acute{\nu}$ ma $\acute{\iota}$, ovnw $\acute{\iota}$, eivnai ovti authv h diadikasiva prevpei na qewrhqeiv w $\acute{\iota}$ fainovmeno sto epivpedo tou lexicouv kai ovci th $\acute{\eta}$ suvntaxh $\acute{\eta}$, lovgw th $\acute{\eta}$ hmi-paragwgikovthta $\acute{\iota}$ pou deivcnei kai lovgw tw $\acute{\nu}$ shmasiologikwn carakthristkw $\acute{\nu}$ tevtoiwn suvnqetwn levxewn.

1 ADVERB INCORPORATION

Rivero (1992) discusses a relatively small but interesting set of Modern Greek sentences in which a verb and modifying adverb constitute a phrase in one instance but occur joined into a single word in another (what we call here a “composite”), with synonymy between the two forms. Examples include phrasal *jirízo anápoða* vs. composite *anapodo-jirízo* ‘turn upside-down’, *férome kaká* vs. *kako-férome* ‘behave badly’, *vlépo ksaná* vs. *ksanavlépo* ‘see again’, *zalízome psilá* vs. *psilozalízome* ‘feel slightly dizzy’, *tragudó sigá* vs. *sigotragudó* ‘sing softly’, among many others.

Basing her analysis on the fact that manner adverbs combine acceptably, as in the above examples, while temporal adverbs cannot:

1. ∂ en se íksera akómi / * ∂ en se *akomi-íksera*
not you/ACC knew/1SG yet
‘I did not know you yet’
2. ta pedjá amésos qa ksipnísun / *...qa *ameso(s)-ksipnísun*
the-children immediately FUT wake/3PL
‘The children will wake up immediately’

and drawing on McConnell-Ginet’s (1982) proposal that there are

“Ad-verbs” that are semantic arguments of predicates, Rivero argues that the “composites” derive by a syntactic rule of Adverb Incorporation, parallel to Baker’s (1988) Noun Incorporation and Preposition Incorporation. Since Incorporation in Baker’s formulation affects grammatical functions, Rivero suggests it will only be possible with adverbs that are VP-internal and thus construable as arguments. The difference in combinability between manner adverbs and temporal adverbs then follows from their different status, since manner adverbs can be treated as arguments and temporal adverbs as adjuncts.

Rivero further notes the existence of verbal composites involving nominal arguments, e.g. (3) and (4), that show alternations similar to those involving adverbs and so also lend themselves to derivation by a syntactic “Argument Incorporation” rule:¹

3. a. ta peðjá qavmázun to éna to álo
the-children/NOM admire/3PL.ACT the-one-the-other
‘The children admire each other’
b. ta peðjá aliloqavmázonde
the-children each-other-admire/3PL.NON-ACTIVE
‘The children admire each other’
4. a. ta peðjá qavmázun tus eaftús tus
the-children/NOM admire/3PL.ACT the-selves/ACC their
‘The children admire themselves’
b. ta peðjá aftoqavmázonde
the-children self-admire/3PL.NON-ACTIVE
‘The children admire themselves’

A crucial aspect of Rivero’s analysis is the claim that a syntactic process is involved in the derivation of the composites. Still, since the result of the incorporation process is a lexical item, it is fair to ask whether this process is truly a matter of syntax, i.e. the result of a syntactic rule, or is instead something else, e.g. a lexical rule (and thus more morphological in nature).

¹Due to space limitations, we gloss over many important details here, and treat only Adverb Incorporation. For more on “incorporation” in Greek, covering both Adverb and Noun Incorporation, see Joseph & Smirniotopoulos (Forthcoming).

2 LEXICAL VERSUS SYNTACTIC RULES

Crucial to the discussion here, therefore, is the distinction between syntactic rules and lexical rules. Following Wasow 1977, the classic work on this subject, several characteristics distinguish the two, but two criteria are most relevant to the Greek case in question.

The first is productivity. A syntactic rule should be quite productive, with at most just a handful of exceptions (or only motivated exceptions, e.g. involving whole classes of elements). By contrast, a lexical rule need not be productive and can show a significant number of arbitrary exceptions. Distributional “gaps” can thus occur in the output of lexical rules, for not every potential input string must yield acceptable outputs, and output forms need not have a corresponding acceptable input string.

The second criterion is compositionality. The output of a syntactic rule should show compositional semantics, with the meaning of the whole equal to the sum of the meaning of its parts. By contrast, the output of a lexical rule can be semantically noncompositional and thus show meanings that are unpredictable in relation to the meanings of the individual parts composing it.

A lexical rule, therefore, creates a lexical item with properties that are idiosyncratic vis-à-vis its source, and are not in themselves predictable as to their external syntax. Such rules also provide links between and among lexical items. By “rule” here we mean a “parsing” of a word for a first-pass at an interpretation (as when an item is encountered for the first time); it is not a “generative” rule *sensu stricto* but rather only in that it provides a pattern for producing new words that may or may not be “enshrined” in the lexicon.

Based on the distinctions and criteria discussed in this section, Rivero’s syntactic account of the “incorporation” phenomena makes the following predictions:

5. a. for every phrasal combination of Verb + Adverb there exists a corresponding composite
- b. if there is no phrasal combination, there is no corresponding composite
- c. every composite has a phrasal counterpart
- d. every composite is compositional in meaning, and shows no idiosyncratic meaning differences from its phrasal source.

In the sections that follow, we demonstrate that these predictions are not borne out by a fuller consideration of the data, leading us to conclude that there is no basis for treating putative "Incorporation" structures in Modern Greek as being syntactically derived; instead, a lexical treatment is called for.²

3 OUR PROCEDURE

We tested the criteria of productivity and compositionality against several arbitrarily chosen sets of data, examining Adverb-Verb combinations from the perspective of the adverbial element involved and of the verbal element involved. In this way, we were testing whether the observed patterns might be lexically governed by either the choice of verb or the choice of adverb.

All the sets came from a randomizing procedure³ we applied to the glossary of Bien et al. (1982, 1983), widely-used introductory textbooks for Modern Greek. We then presented these sets of verbs to native speakers of Greek,⁴ checking first the verbs in combination with a few adverbial elements and then the adverbs in combination with verbs. Using this data we determined the productivity and compositionality of adverb-verb combinations, aiming for a numerically-based evaluation of these two criteria that are so crucial for deciding between a syntactic and a lexical analysis.

4 THE DATA

We tested 36 verbs, both active and nonactive, first combined with *ksana*- 'again' and then with *kalo*- 'well'. These adverbial elements were selected so as to be maximally generous to Rivero's position, based on our preliminary observation that these were the two most

²Similar predictions hold for Noun Incorporation, and similar results were found, to be reported in Joseph & Smirniotopoulos (Forthcoming).

³We took every 20th active verb, going alphabetically, which yielded 26 verbs, and every 20th nonactive verb, for a total of 36. We took the first 9 adverbs and every fifth one thereafter (excluding temporal adverbs), for a total of 25.

⁴We thank our primary consultant, Panayiotis Pappas, as well as other speakers who were consulted on some of the forms. Also, Greek speakers were in audiences at the Linguistic Institute in Columbus (8/4/93), Georgetown University (3/12/94), and the 2nd International Conference on Greek Linguistics in Salzburg (9/23/95), and raised no objections to any data included here.

productive adverbial combiners. Rivero herself includes examples with them, and *kalo-* occurs in more adverb-verb dictionary entries than any of the other combining adverbials she mentions.

We asked our consultant (a) if the verb could combine with the free adverb in a phrase, (b) what this phrasal combination meant, (c) if the adverb-verb composite could occur, and (d) what it meant.

4.1 VERB-BASED INVESTIGATION: *KSANÁ* COMPOSITES. We found that *ksaná* occurred freely with virtually all our verbs, both as a free adverb and as a preverbal combining element, e.g.: *eksijísu ksaná / ksanaeskijísu* 'Explain yourself again!', *glistrái ksaná / ksanaaglistraí* 'It slides again', *qerízo ksaná / ksanaqerízo* 'reap again', *molíno ksaná / ksanamolíno* 'pollute again'.

Of the 36 verbs tested, only two deviated from this pattern. Our primary consultant rejected one verb, *paraméno* 'stay, stay near', in both forms (thus, **paraméno ksaná / *ksana-paraméno*), and he judged the composite form *ksanaperijeló* 'mock again' to be questionable (*?), while the phrasal form (e.g. *ton perijélasan ksaná* 'They mocked him again') was perfectly acceptable. Moreover, in all cases, there was no difference between the meaning of the composite form and the meaning of the phrasal form.

On the basis of this evidence, a syntactic treatment of the *ksana-VERB* combinations is certainly possible. The formation shows strong productivity and there are no idiosyncrasies of meaning or distribution. The situation with *paraméno* is consistent with such a treatment, even though the composite form is unacceptable, since the unacceptability of the composite mirrors the unacceptability of the putative phrasal starting point (see (5b)). There is thus only one real exception, *perijeló*, since Rivero's syntactic analysis predicts that for every acceptable phrasal form there should be an acceptable composite form (see (5a)). However, one exception out of 36 does not seem to be enough to stand in the way of a syntactic analysis.

Still, lexical processes can be quite productive and not generate any idiosyncratic meanings; the English deadjectival noun-forming process involving the suffixation of *-ness* is a case in point, since it has virtually no exceptions and its output shows no idiosyncratic meaning shifts. And, similarly, within Greek itself, there is a highly productive element, *para-*, meaning 'excessively, over-', e.g. *para-*

trógo 'overeat', *para-kimáme* 'oversleep', etc., that is best treated as a lexically-adjoined prefix, rather than a syntactically incorporated adverb. For one thing, it does not occur by itself as a free adverbial element; there is no **trógo pará / pára*.⁵ Moreover, there are some semantically specialized (i.e., noncompositional) combinations with *para-*, suggesting a lexical source, e.g. *para-jínome* 'be overripe (of fruit)' (= a special type of "excessively becoming", cf. *jínome* 'become'), or *para-férome* 'lose one's temper' (= a special type of "excessively behaving", cf. *férome* 'behave').

Therefore, from this demonstration of the status of *para-* as a lexically-attached prefix, it may be concluded that positing a lexical source for a composite does not preclude virtually free productivity.

4.2 VERB-BASED INVESTIGATION: *KALO-* COMPOSITES. Somewhat similar results were obtained with *kalo-* as a combining element, though its specific behavior differed from *ksana-*. We assumed a fair degree of productivity for *kalo-*, judging from the total of 35 composites in Stavropoulos (1989), a reasonably-sized dictionary, including: *kaloakúo* 'hear well', *kalovlépo* 'see well', *kalojenó* 'give birth easily', *kalozó* 'live well', *kaloqimáme* 'remember well', *kalomaqéno* 'teach/learn well', *kalometaxirízome* 'treat well', *kalomiló* 'speak well', *kalopuló* 'sell well', *kalotrógo* 'eat well'.

Testing *kalo-* /*kalá* with our 36 verbs, we found that 14 verbs could not co-occur with *kalo-* /*kalá* in any form (phrasal or composite), so only 22 (16 active and 6 nonactive) verbs allowed *kalá* / *kalo* in some form. Of those 22, there was 1 positive exception, *molíno* 'pollute', where the composite form was acceptable (*kalo-molíno* 'pollute well') but the phrasal form was not (**molíno kalá*), and 9 other cases with both phrasal and composite forms possible. Of the 9, however, the composite was fully acceptable in just 3 cases (*pláqo kalá* / *kalo-pláqo* 'I shape well'; *tripó kalá* / *kalo-tripó* 'I pierce well'; *ðilitiriázo kalá* / *kalo-ðilitiriázo* 'I poison well'), and

⁵We give both accentual possibilities for a free adverb corresponding to prefixal *para-*, since in principle the stress could be on either syllable. We exclude here the preposition/conjunction *pará* 'in spite of; than', for functional reasons. The *pára* that occurs only in the phrase *pára polí* 'too; very, immensely' seems to have no meaning by itself; thus, its "incorporation" would involve the whole phrase, requiring an *ad hoc* truncation to derive the combining element *para-*.

questionable in 3 cases: *??kalo-viðóno* 'I screw well' (vs. OK *viðóno kalá*), *??kalo-ksekuféno* 'I deafen well' (vs. OK *ksekuféno kalá*), and *??kalo-fortóno* 'I load well' (vs. OK *fortóno kalá*). In the 3 other cases, the composite form had an unpredictable (i.e. noncompositional) meaning vis-à-vis its (putative) phrasal input: *stázi kalá* means 'drips perfectly' while *kalo-stázi* means 'drips OK', *kilái kalá* means 'it rolls perfectly' (i.e. 'is perfectly round') while *kalo-kilái* means 'it rolls OK' (i.e. well but not perfectly), and *kágome kalá* means 'behave well' while *kalo-kágome* means 'sit comfortably' (with a sarcastic meaning not reported for the phrasal form).

The syntactic account predicts parallelism between the phrasal form and the composite form, so that finding 14 verbs that could not occur with either adverbial form is consistent with that prediction; presumably, though, basing a syntactic account on a preponderance of such negative evidence is not well-justified methodologically. As for the cases in which either *kalo-* or *kalá* or both were possible, even if we count as parallel all the less-than-fully parallel cases above, i.e. being generous to the syntactic account, the result is that only 9 of 22 of these cases, or 41%, were nonexceptional.

In addition, there were 12 cases in which the composite form was unacceptable, while the phrasal form was fine, such as *eksijísu kalá!* 'Explain yourself well!' (vs. **kaloeksijísu!*), or *sinergázome kalá* 'cooperate well' (vs. **kalosinergázome*). These 12 negative exceptions plus the positive exception of *molíno* give a total of 13 exceptions out of 22 verbs tested, or 59%. Significantly, the noncombining verbs, do not fall into any natural syntactic, semantic, or morphological class(es): *anakinóno* 'announce', *apandó* 'answer', *glistró* 'slide', *ðiakríno* 'distinguish', *eksigúme* 'explain', *gerízo* 'reap', *katastréfome* 'be destroyed', *provlépo* 'foresee', *ksenerónome* 'suffer a letdown', *sinergázome* 'collaborate', *xirokrotó* 'applaud', and *psonízo* 'shop', nor do the verbs above that allow composite forms in some degree.

Thus, under any conceivable metric one could attach to the relationship between syntactic rules and productivity, having almost 60% of the cases failing to follow the rule is surely too high. If a rule fails in more than half of the cases where it could apply, it is fair to ask what it is a rule for. Since a syntactic rule is assumed to predict possible combinatory outcomes, a predictive accuracy of less than

random guessing (50%) is not very predictive at all. The situation does improve somewhat for the syntactic account if the 14 instances of parallelism involving unacceptable forms are included in the count, for then 23 out of 36, or 64%, show the expected parallelism between phrasal form and composite form. However, even this result is hardly overwhelming support for the syntactic account, since negative parallelism involving unacceptable forms is not a strong basis for positing a rule in the first place. Moreover, this figure involves generous crediting of parallelism; if the forms in (8) and (9) are taken as nonparallel, then the parallelism falls to 17 out of 36, just 47%. On the other hand, this overall picture with regard to parallelism, or the lack thereof, is acceptable and even expected for lexical phenomena and thus is consistent with our contention that the “incorporation” phenomenon is lexical in nature. We note also that the lexically based difference in productivity, seen by comparing the behavior of *ksaná* and *kalá*, runs counter to the predictions of a syntactic analysis positing a rule of Adverb Incorporation.

Our conclusion, then, is that “Incorporation” with *kalo-* ‘well’, while somewhat productive, nonetheless has enough distributional “gaps” and noncompositional semantics in its output to warrant treating it as a lexical phenomenon. The composite forms, therefore, are a matter of lexical compounding, not syntactic incorporation.

4.3 ADVERB-BASED INVESTIGATION: *KSANÁ* REVISITED. We turn now to the investigation of the combinatory properties of adverbs in general, working from our list of 25 manner adverbs and seeking any sentence with an adverb in its free form, or in a composite form with any verb. For 18 of the 25 adverbs we tested, our consultant could produce no Adverb-Verb composites. Of the 7 adverbs which could occur in composites, 4 occurred with some verbs but not others, even though they could occur as free adverbs with the same verbs, e.g. *akrivo-pliróno* ‘pay dearly’ vs. **akrivo-kostízi* ‘costs dearly’, or *sigo-trógo* ‘eat quietly’ vs. **sigo-miláo* ‘talk quietly’.

Two adverbs occurred with slightly different meanings from those in the free adverb phrases: *kondá* ‘close; near’ with *stékome* ‘stand, stop’ gave *stékome kondá* ‘I stand closely’ when a free form, but the composite *kondo-stékome* ‘I stop for a little time’, and *polí* ‘much; greatly’ with *agapó* ‘love’ gave *agapó polí* ‘I love lots; I have great

love' when a free form, but the composite *poli-agapó* 'I love very intensely'.

One adverb, *páli* 'again; back', though close in meaning to *ksaná*, occurred in combined form only in *pali-nostó* 'return home'; note that **nostó páli*⁶ is unacceptable and *páli* otherwise does not combine: **pali-írqa* 'I have come back' vs. OK: *írqa páli* and *ksana-írqa*. Also, *grígora* 'quickly' does not occur with any verb in this form, but can occur with some verbs in a similar (but etymologically distinct) form, *gorgo-*, e.g. *gorgo-miláo* 'speak quickly' (**grígoro-miláo*; note also **miláo gorgá* vs. OK: *miláo grígora*).

Thus, no adverb except for *ksaná* appears to occur freely in Adverb-Verb combinations without some complication, either semantic or morphological, or involving productivity. These facts are consistent with the contrast in productivity seen between *ksana*-composites and *kalo*-composites. Thus the property of free occurrence is a property of *ksaná* itself, not a property of the verbs it combines with to form words or phrases; moreover the contrast between *ksaná* and its (near-)synonym *páli* is striking. The result of this investigation, therefore, makes it clear that there really is no fully productive rule of Adverb Incorporation; at most, there could be a syntactic rule of *ksaná*-Incorporation.

However, as the discussion of the formations with *para-* 'over-' showed, there is already in the language a process somewhat like "Adverb Incorporation" that is clearly lexical in nature. Thus, there is no reason to treat the *ksana*-composites as being syntactically derived. Rather, like *para*-composites, they can be lexical in nature, derived by compounding, and not by syntactic incorporation.

Approaching the question of the source of these verbal composites from the perspective of adverbs, therefore, we reach the same conclusion as when we approached the question from the perspective of the verbs involved, namely that there is no evidence for a general syntactic rule of Adverb Incorporation in Greek.

⁶The problem with **nostó páli* is not (just) the free occurrence of the adverb, for the independent verb *nostó* is exceedingly rare in Modern Greek, generally occurring now only as a bound stem in this and related verbs.

5 CONCLUSION

Our view of the “adverb-incorporation” phenomenon in Modern Greek is thus quite different from Rivero’s, and indeed, a fuller examination of the facts from all types of putative “incorporations” in Greek yields a similarly different view. From the tone of Rivero’s paper, though, we suspect that she would not wish to claim that processes which are demonstrably as unproductive as those discussed here are truly syntactic. At the very least a syntactic account of incorporation in Modern Greek would have to take into consideration the very real differences in productivity and semantic compositionality documented here for adverb-verb composites, and the parallel facts discussed elsewhere for object-verb composites.⁷

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⁷We note, for instance, Kakouriotis, Papastathi, & Tsangalidis (1995), whose conclusions about the lexical nature of incorporation are consistent with our own.