

Apocalypse Now: Unveiling the syntax of causative *apo*

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1 The distribution of causative ‘from’

The preposition *apo* ‘from’ in Modern Greek (henceforth Greek [Gr]), based on its different semantic uses, may denote two types of relations with the noun phrases it combines (Holton *et al.* 1997): (i) *Concrete* relations, which convey the meaning of space, time, direction, or origin and (ii) *Abstract* relations. These relations can have an extensively varied range of meanings i.e., causative, partitive, material, ablative, comparative, distributive, medium, and change of state. Here the focus will be on causative *apo* which typically assigns accusative² case in Greek.

Causative *apo*-PPs may combine both with simple and particle verbs (1a&b):

- (1) a. I megales ideas { erxonte / (*pro*)erxonte } **apo** mia plusia fantasia. [Gr]
the big ideas { come / **outflow** } **from** a_{ACC} rich_{ACC} imagination_{ACC}
- b. I megales ideas { (*ek*)pigazun } **apo** mia plusia fantasia.
the big ideas { **outspring** } **from** a_{ACC} rich_{ACC} imagination_{ACC}
- c. I megales ideas { (*ek*)pigazun } **ek** mias plusias fantasias.
the big ideas { **outspring** } **from** a_{GEN} rich_{GEN} imagination_{GEN}
- d. ... { *erxonte / * (*pro*)erxonte / * (*apo*)rreun } **Ø** mias plusias fantasias.
... { come / come **from** / **outflow** } a_{GEN} rich_{GEN} imagination_{GEN}

The particle verbs used interchangeably in examples (1a–c) feature different combinations of particles, like *ek-*, *pro-*, and *apo-*, which all convey the meaning ‘from’ and combine either with ‘come’ or other lexical verbs. Although these particles are historically prepositions themselves, after their lexicalization as preverbal particles, they seem to have lost their independent case assigning

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² In contrast to Ancient Greek, where *apo* mainly assigned genitive. Some of these phrases have transferred to Modern Greek as well and are used idiomatically i.e., *aparxis* ‘from the beginning’, *apo genisimju* ‘from birth’, *apo kardias* ‘from the heart’, *afenos–afeteru* ‘on the one hand–on the other hand’.

function. Notice that the presence of an overt preposition is necessary in (1a–c), independently of the presence of a particle, which is optional. Ultimately, the case of the final DP-argument solely depends on the P head that selects it. This becomes clear in (1b&c), where different prepositions, namely *ek* and *apo*, are associated with different cases, which are reflected on their arguments, to wit, accusative in (1b) and genitive in (1c). So in the presence of an overt preposition, the DP's case depends *exclusively* on that preposition while the particle does not participate in any Case-assigning process.

Causative ‘from’-PPs are also observed in the following Germanic languages (2–4), where they seem to behave similarly with regard to the type of verbs they can appear with:

- (2) Eine geniale Idee {kommt **von** / **entspringt** \emptyset } einem wirren Kopf. [Ger]
 an ingenious idea {comes **from/** **outspring** } _{ADAT} mazy head
- (3) Grote ideeën {komen **van** / **ontspruiten** **aan** \emptyset } een rijke verbeelding. [Du]
 big ideas {come **from/outspring** **to** } a rich imagination
- (4) Great ideas {come (**out**) **from/come out** **of** \emptyset } a rich imagination. [Eng]

What is interesting in (1–4) is that the preposition ‘from’ may be left out, but only under certain restrictions and with repercussions. For the P-less cases, the common restriction across this set of languages is the *obligatory* presence of a particle. This can be observed in (1d&2–4), where the P₀ alternants are grammatical *only* with particle verbs and not with the simple verb ‘come’ any more. Also the alternation of causative ‘from’ with P₀ comes with an interesting morphosyntactic repercussion: contingent on language-specific parameters, we observe either a change in the morphological case or the emergence of functional elements. The observed patterns for each language are as follows:

For Greek—compare the minimally different (1a)&(1d)—the alternation of causative *apo* with P₀ consistently covaries with a change in the case of the DP-complement, more specifically from accusative (1a) to genitive (1d).

In German (see (2)), the simple verb *kommen* ‘come’ necessarily takes an overt preposition *von* ‘from’. In the absence of *von*, the structure requires a particle, in this case *ent-*, in order to be grammatical. Although German also overtly reflects case, no change parallel to Greek is observed in the dative *einem*.

For Dutch similar restrictions apply. In (3), the simple verb *komen* ‘come’ requires an overt-P, *van* ‘from’, while it is only particle verbs that yield grammaticality in the absence of that preposition.

For the English example in (4), the simple verb *come* must be construed with the overt preposition *from*. Similar to the Greek example in (1a)—but unlike the overt-P cases of (2&3), which ban the co-existence of lexical particle verbs with overt prepositions—the simple verb *come* may optionally appear with a particle (*come* or *come out*) when construed with a preposition. I will assume that *out* in (4) does not act as a full-fledged preposition, but as a particle parallel to the particles *ek/apo-*, *ent-*, *ont-* that show up in all the other languages under

consideration here. The distribution of *out* further supports its non-prepositional (in the sense of Case-assigning) function in these examples. In the absence of *from*: (i) *out* is unable to stand alone (ii) it becomes obligatory just like all particle example in (1–3).

Let's turn now to the additional elements *aan* and *of* that show up in (3&4). Since neither Dutch nor English overtly inflects morphological case on determiners, adjectives, or nouns³, case marking of the argument DP is not possible. Instead it seems that *aan* and *of* perform a function similar to the morphological cases instantiated in (1d) and (2). Note that it is not uncommon for English and Dutch to employ prepositional elements where German uses morphological marking instead (Emonds 1985). Another similar morphological marking pattern is found in indirect objects marked with dative in German V>DO_{ACC}>IO_{DAT}, while the corresponding English and Dutch example would employ an overt prepositional element (*to* and *aan*) (McFadden 2004)⁴. To summarize, the presence of a particle, the absence of the overt 'from', and a morphosyntactic case reflex all seem to be correlated:

Language	Type of V	P _{overt} / P _∅	Case
Greek	V/PrtV	P _{overt}	ACC
	PrtV	P _∅	GEN
German	V	P _{overt}	DAT
	PrtV	P _∅	DAT
Dutch	V	P _{overt}	–
	PrtV	P _∅	<i>aan</i>
English	V/V-Prt	P _{overt}	–
	V-Prt	P _∅	<i>of</i>

Table 1: A bird's eye view of all the observations in examples (1–4).

2 The nature of causative 'from'

In (5a–d) below, the copula connects the two arguments in an unequivocally causal relation: on the one hand the argument of 'from' is understood as the *cause* and on the other hand, the subject is the *caused event/state*. Notice also that these *from*-PPs are not optional (or replaceable by other prepositions) as in other verbal causatives. This will be vital in ascertaining the nature of these PPs.

³ With the exception of proper nouns that inflect for genitive as in *John's* for English or *Jans* 'Jan_{GEN}' for Dutch—and to an extent to common nouns as well: *'s mans gedrag* 'the_{GEN} man_{GEN} behavior'.

⁴ This correspondence should be taken as a rough approximation and not as a generalization that holds among these languages. Ditransitive constructions are contingent on many independent syntactic, semantic, and lexical considerations. So, for example, German *does* have a prepositional counterpart to the dative construction, while Dutch may occasionally allow the second object in a V NP NP configuration to be a Goal/Beneficiary.

- (5) a. o piretos ine *apo* to krioma. [Gr]
 ‘the fever is **from** the cold.’
- b. Die Verbrennung ist *von* der Sonne. [Ger]⁵
 ‘the burning is **from** the sun.’
- c. De koorts is *van* de griep. [Du]
 ‘the fever is **from** the flu.’
- d. Her fever is *from* the flu shot. [Eng]

Crucially, these are stative predicates without lexical verbs, which means that causation cannot be attributed to any causative head in some projection of the lexical verb or to the verb’s semantics/encyclopedic meaning even, since there is a radical lack of any lexical verbal material. A causative interpretation, however, is rendered for all the examples in (5).

This straightforwardly leads to two core assumptions: (i) The preposition ‘from’, being the only causatively interpreted element in these cases must be responsible for causation and (ii) this relation is structurally represented in the form of a predication configuration (abstractly illustrated in (5’)), where the PP-*cause* is predicated of the subject-*causee*.

(5’) CAUSEE [_{PreDP} [_{PP} *from* CAUSER]]

Adopting a predicational analysis for the causative ‘from’-PPs (also proposed in Solstad 2007) is ultimately the key to the source of causation in non-verbal environments which radically lacks the intricate underlying syntax associated to causation in the work of Alexiadou *et al.* (2006 *et seq.*)—a problem also pointed out in den Dikken (2007). Instead the interpretation of causation is now relegated to the interplay of the semantic properties of ‘from’⁶ within a specific syntactic configuration that naturally establishes a relation between its components (subject–predicate).

In addition to the copular configurations, which squarely put causative ‘from’-PPs in the same boat with predicates, strong syntactic support for a predicational analysis comes from the fact that such examples can undergo Locative Inversion. The examples under consideration can essentially be downsized to the skeletal

⁵ Such copular examples in German but mostly in Dutch—although not ungrammatical—have a limited frequency mostly due to lexical considerations. Verbal elements like ‘come’ are more preferable than the copula. Compare for instance the Dutch (also used in German, but without explicit preference) ‘I *come* from New York’ to the English and Greek equivalent ‘I *am* from New York’). Independently of lexical preferences though, both *von* and *van* are used in causative constructions successfully introducing *cause* (see (2&3)).

⁶ And its argument, given that not all arguments give out grammatical outputs, i.e., agents do not readily combine with causative *from*-PPs, although agents *do* participate in causative constructions and are interpreted as causes. That confirms the dichotomy between agents and causers as correctly suggested in the literature (a.o. Alexiadou *et al.* 2006, 2009; Levin 2009).

configuration: ‘*x comes from y*’ which can undergo Locative Inversion, giving out ‘*from y comes x*’. Indeed, the examples in (1–4) as well as their productive counterparts (cf. (6c,d)) provide the necessary empirical support for Locative Inversion in causative ‘from’-PPs:

- (6) a. [PP *apo* mia plusia fantasia] erxonte megales ideas. [Gr]
 b. [PP *from* a rich imagination] come great ideas. [Eng]
 c. [PP *van* uitstel] komt afstel. [Du]
 ‘*from* postponement comes cancellation.’
 d. [PP *von* nichts] kommt nichts. [Ger]
 ‘*from* nothing comes nothing.’

That all these examples *can* undergo Locative Inversion suggests that these causative-PPs are predicative in nature; more specifically predicates of a small clause complement (Hoekstra&Mulder 1990). The fact that Locative Inversion is restricted to predicative SCs only can be attested by the unacceptability incurred when fronting a PP that is not a predicative complement. Compare (7a&b) and their unacceptable non-predicative counterparts in (7c&d):

- (7) a. ✓ *From* debt comes distress.
 b. ✓ *From* incite comes insight.
 c. **with* a cane walked a man
 d. **in* anger left the man

According to Hoekstra&Mulder’s (1990) analysis of the syntax of Locative Inversion, the PP originates as the predicate of a small clause and then undergoes A-movement to SpecIP (or to some other sentence-initial position; the concise landing site varies across the literature on LI):

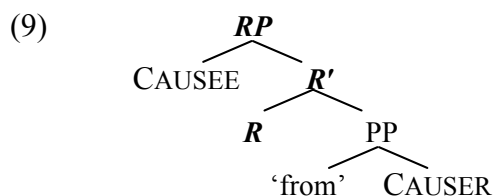
- (8) [IP [PP P DP]_i [VP V [SC DP [PP *t_i*]]]]

If we accept that (8) is on the right track, it could be used as a platform for a predicational analysis of all causative *from*-PPs, whose underlying structure was sketched only in broad strokes in (5’). Of course, the challenge for any predication analysis would ultimately be to accommodate all the observations in Table 1. In the following section I will briefly discuss the basic mechanics of den Dikken’s (2006) predication model and then try to derive the observations in (1–4).

3 The proposed analysis

Having established that the examples in (1–4), similarly to the ones in (6), can undergo Locative Inversion and they are, thus, predicative in nature, let us now focus on the (micro)syntax of the configuration that relates the source PP (more specifically its *causer* argument) with the theme (*causee*). The predicational small

clause model proposed in den Dikken (2006) captures the syntactic and semantic relation between subject-predicate, mediated by a functional RELATOR head.



With the copula traditionally being treated as the mediator of predicational structures, we can interpret (9) as a predicational relation with the copula realizing the R head that connects the *causer* and the *caused event* constituents. For the purposes of this work, I will refer to both *causer* and *causee* as DPs, without suggesting that these are the only possible syntactic categories that can be found in causative constructions.

The RELATOR is an abstract head that mediates predicative relations. Depending on the structures it participates in, it can be occupied by the copula, prepositional elements, T, or any head that relates subject and predicate. Additionally, the R head is able to accommodate case particles, which assign morphological case to the predicate. Such cases are discussed in É. Kiss (2002) for Hungarian, where the R heads instantiates the dative case by lexicalizing R as *nek*: *Mari Jánost rámenős-nek tartja*. Den Dikken (2006) parallels the distribution of the Hungarian dative marker to that of the English RELATORS lexicalized by *as*, *for*, and *of* (i.e., *I take him for/regard him as a fool, idiot of a doctor*).

In sum, the R head can be occupied by functional elements. When spelled-out, it can be instantiated by the copula or other prepositional elements. When silent, it can occupy some functional head in the structure or be realized as morphological case. Specifying the nature and the restrictions of the underlying representation is essential in order to best accommodate the structures of (1–4) and account for the observations regarding the presence of particles and/or case alterations.

3.1 The P_{overt} cases

Having adopted the structure in (9) for representing predicative constructions, let us turn to examples (1–4) and focus on their P_{overt} versions. Each one of the examples describes a relation between the DP-*causer* (here embedded inside a PP) and the DP-*causee*, in this case *big ideas* and *rich imagination*. Since it was argued in section 2 that this causal relation is predicative, the two constituents will be generated in a small clause headed by an R head, which will establish the syntactic and semantic relation. Importantly, such a configuration can also accommodate both the straight predication facts and the Locative Inversion ones, in support of the empirical observations regarding the two alternative word orders:

- (10) [RP [DP *ideas*] [R' R [PP *from imagination*]]
 [PP *from imagination*]_i [T [*come* [RP [DP *ideas*] [R t_i]]]]

For the P_{overt} cases the R head straightforwardly mediates a causal relation between DP_{CAUSEE} and DP_{CAUSER}, either being overtly realized as the copula—giving out the example set in (5)—or being null in the presence of external verbal material—as in (1–4). The next step is to check whether Case considerations are fulfilled in order for the derivation to converge.

Both DP constituents are in need of checking their Case features against some Case checking head. The *causer* inside the predicate checks its Case features against the P head, since P is an overt θ -role assigner. The *causee*, however, still remains to be Case-licensed. This will have to be taken care of by a head external to RP. Since the small clause is selected by the aspectual verb *come* the DP_{CAUSEE} raises out of the Spec of the small clause to a structural subject position for Case and EPP reasons as demonstrated in (11) below:

- (11) ...DP_{CAUSEE} [V COME [RP ~~DP~~_{CAUSEE} [R' R= \emptyset [PP *from* [DP_{CAUSER}]]]]]

The configuration in (11) encapsulates the predicational nature of the relation between *causer* and *causee*, while, at the same time, successfully licensing both nominal constituents. But let us test now whether and how this configuration can accommodate the P_{null} cases by correctly predicting their behavior summarized in section 1.

3.2 The P_{null} cases

The proposed structure in (9) readily accommodates the P_{overt} cases satisfying licensing conditions. On the other hand, the fact that P_{null} cases are not ‘penalized’ is surprising since the same licensing conditions do not obtain in the absence of an overt P.

Although a null P has been postulated for the prepositionless examples, this is not immediately evident. There is, however, suggestive evidence for the presence of a null P coming from restrictions on Locative Inversion. Showing that the examples in (1&5) undergo Locative Inversion was used as an argument in favor of the predicational nature of the relation between the two major constituents of these sentences, namely the *causer* and the *causee*. Nevertheless not all examples in (1) undergo Locative Inversion. More specifically, examples (1a–c) with a P_{overt} *can* be inverted, while the P_{null} counterpart in (1d) systematically resists Locative Inversion (cf. (12a&12b)):

- (12) a. [PP *apo* mia plusia fantasia]_i [T [VP *ekpigazun* [RP *megales ideas* [R t_i]]]]
 ‘**from** a_{ACC} rich_{ACC} imagination_{ACC} **outspring**_{PL} big_{PL/NOM} ideas_{PL/NOM}.’
 b.*[PP \emptyset mias plusias fantasias]_i [T [VP *ekpigazun* [RP *megales ideas* [R t_i]]]]
 ‘a_{GEN} rich_{GEN} imagination_{GEN} **outspring**_{PL} big_{PL/NOM} ideas_{PL/NOM}.’

The challenge in (12) is two-fold: to respect the conclusion drawn from the previous sections, namely that P establishes a causative relationship, and to account for the ungrammaticality of (12b).

Example (12a) converges with the locative PP on the left edge of the sentence being co-indexed with its trace t_i which, in turn, is licensed by the R head in the small clause. Since (12a&b) are minimally different, it suggests that this difference, namely the absence of an overt P, must be the locus of the ungrammaticality in (12b).

One possible scenario is the radical absence of prepositional structure. This effortlessly explains why (12b) is unacceptable: If Locative Inversion by definition involves fronting the locative argument over the subject, then in the absence of a PP, LI is not available any more. This scenario, however, is not able to encompass the grammatical (1d) as well as the P_\emptyset counterparts of (2–4), which crucially involve unaccusative verbs, unable to take the *causer*-DP as a direct argument. Additionally, all these examples convey a causative interpretation which was attributed to the presence of a P head. Radical absence of the P head would have incurred not only grammatical but also semantic repercussions.

On the other hand, a null P in (12b) would be in need of formal licensing by a locally adjacent head. In line with the small clause analysis postulated in (9), this head would be the R. Performing Locative Inversion of the null P, however, immediately forfeits this possibility, since R would not locally c-command the prepositional phrase any more. Note that c-commanding the trace of a fronted PP is not a sufficient condition to license a null P head⁷, thus deriving the ungrammaticality in (12b).

Postulating a null-P head in (12b) is in consonance with the proposal, independently defended in section 2, that P is responsible for establishing a causative relationship. At the same time, its nullness helps us explain the ban on Locative Inversion in (12b).

With the P head null, its complement cannot be Case licensed any more, unlike (11). Additionally, because the verbal elements are either copular or unaccusative, they also cannot case-license anything. So there remains no other proper licenser in the sentence to take care of the DP_{CAUSER} . It is in these cases

⁷ Unlike cases of “beheaded” PPs (see discussion in den Dikken 2006) that *can* undergo Locative Inversion without the P head being necessarily fronted as well:

[_{PP} t_i *this issue*]_k *has been paid little attention to*_i t_k *in the literature*.

Such examples are considered LI constructions with the exception that their P head is extracted from the PP before the inversion. What is crucially different between “beheaded” cases and (12b) is that the reversed PP in the former contains a trace of the moved P (t_i), while a P head in the latter would have to be radically null. This minimal difference then accounts for the different judgments since traces are subject to different licensing requirements than null-heads. While reconstruction does not require structural adjacency of the licenser and the trace, null heads need to be locally bound by their licenser.

that the RELATOR head is called upon, as a last resort mechanism, to check Case features:

- (13) $DP_{CAUSEE} [V \textit{come} [_{Prt} *(Prt=ek-/ont-/ent-/out) [_{RP} DP_{CAUSEE} [R=GEN/DAT/aan/of$
 $[_{PP} P=\emptyset [DP_{CAUSER}]]]]]]$

In (13), the RELATOR head is the closest possible head that could check the Case features of the DP_{CAUSER} . The different cases in Hungarian and English, which were presented above, indicate that the R head can be lexicalized by prepositional or morphological particles. In causative constructions of the type in (13) then, it is not surprising that the R head can overtly accommodate the functional prepositions *aan* in Dutch and *of* in English, as well as overt morphological case reflected in the *causer* in Greek and German. The prepositional nature of these Case markers endows the RELATOR with a Case feature and, in turn, enables it to check the Case features of the *causer* embedded in the complement PP.

What is important to note here is that while the particle may optionally emerge in P_{overt} cases, it is always *obligatorily* present in P_{null} cases across-the-board. I will argue that the necessity of a particle, when there is no overt preposition, is correlated to the activation of the R head, and subsequently to its ability to perform Case-licenser duties. The relevant theoretical precedent to this mechanism is found in Chomsky (2005), who proposes that all operations are triggered by phase heads (PH), like C or v^* . Only phase heads have the necessary features that mediate agreement and trigger raising. These features can be inherited by the head each PH selects i.e., from C to T or from v^* to V. Feature Inheritance activates the selected head, which can then act as a “proxy” of its PH. So T has no Agree or Tense features in and of itself, but must inherit them from the local C phase head. In other words, T can trigger syntactic operations only after C has been merged. Once T inherits C’s features, it can then enter into an Agree relation with a goal in its c-commanding domain in order to value the goal’s uninterpreted features—either *in situ* under long-distance agree or by attracting it to specT.

So in the same way T remains ‘defective’ unless selected by C, the R head remains inactive⁸, in terms of checking Case or agreement unless strictly locally c-commanded by a head with such features. This head is the Particle, which I base-generate in a head position immediately outside RP. From there the Particle will activate the R head. As a result, the R head can now enter into a Case/agreement relation with its complement. Thus, the P_{null} manages to get licensed via agreement with the activated R head. This scenario straightforwardly explains the obligatoriness of the particle for the prepositionless cases: Although the particle is incapable of licensing the null P, it is, nevertheless, able to select

⁸ The realization of the R head as T is more extensively discussed in den Dikken (2006).

and activate the RELATOR, which can then participate in a Case/agreement structure with the null PP that contains the *causer* DP.

To recapitulate the analysis proposed for P null cases, let us examine the assumptions that the structure in (13) yields for each language: (i) For Greek and German, when the obligatorily present particle activates the R head, we expect morphological case to be overtly reflected on the nominal and adjectival elements of the *causer*. (ii) For Dutch and English, on the other hand, there is no overt case-marking available for the respective elements (i.e., ‘a rich imagination’), so we would anticipate for case to be lexically instantiated. This is indeed the case since R ends up being spelled-out as a functional particle—*aan* and *of*. These general predictions follow directly from the underlying structure that was adopted in (9) and then adjusted in (13) to reflect the P null cases. Note that these predictions have now come full circle since they are readily borne out by the empirical observations as summarized in Table 1.

4 Conclusions

The main focus of this work is the underlying syntax of causative *from*-PPs in Greek, English, German and Dutch. Based on the facts that causative *from*-PPs: (a) are licensed in copular sentences (both non-verbal configurations as well as non-causative verbal ones) and (b) undergo Locative Inversion, I have concluded that they have to be predicative in nature. Following den Dikken’s (2006) predication model, I have represented the causative ‘from’ as the head of a prepositional small clause containing the *cause(r)* and predicated of the subject-*causee*. This structure is not only able to accommodate the predicational relation between *causee* and *cause(r)* and the Locative Inversion facts, but more importantly, to account for the licensing of P null cases. In these cases the Particle head was called upon as a last resort Case-checking mechanism to salvage the structure by activating the R head, which, in turn, licensed the null P head. In sum, the R head becomes activated *only* when the following two conditions apply: (i) the P head is null and there is no other proper licenser and (ii) the small clause RP is selected by a Particle head. Note that the latter is not a sufficient condition on its own to activate the RELATOR head, which may remain de-activated, hence accounting for the optionality of particle verbs in P_{overt} examples (cf. (1a–c&4)).

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