

**Further explorations of the landscape of causation:  
Comments on Alexiadou and Anagnostopoulou\***

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These comments address two facets of Alexiadou and Anagnostopoulou's paper. The first part takes as its starting point their assumption that internally caused change of state verbs are causative and reexamines two putative diagnostics for causativity in light of further empirical evidence. The second part examines the nature and distribution of the Greek preposition *me* and asks why it can be used to introduce both indirect causers and instruments, even if these semantic notions might not seem to fall into a natural class.

**1. Introduction**

Alexiadou and Anagnostopoulou (henceforth, A&A) propose that all change of state (COS) verbs should receive a causative analysis, both in transitive and intransitive uses (A&A 2003; Alexiadou, Anagnostopoulou, and Schäfer 2006). Specifically, A&A take all causative verbs to have roots that denote a result state which holds of the theme argument of the verb; this state combines with the head *vCAUS*, which introduces a causal relation between a causing event and the result state. With certain types of roots, the root-*vCAUS* combination can additionally combine with a Voice head. COS verbs, then, are found in the syntactic structure in (1).

(1) [ (Voice) [ *vCAUS* [ root ] ] ]

In their paper in this volume, A&A provide further support for this analysis from the expression of causers and instruments within PPs, drawing primarily on data from Greek.<sup>1</sup>

A&A, building on their own earlier work, recognize four types of COS verbs, based on the encyclopedic semantics of their roots. These four types are listed in (2), together with descriptions from A&A.<sup>2</sup> Verbs of all four types are causative in some sense; what differentiates among them is the way they combine with a Voice head, as discussed in A&A's paper and their previous work.

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<sup>1</sup>A&A also have a secondary line of argumentation in their paper. They argue against the proposal that certain prepositions themselves contribute agentivity or causation. I agree with A&A on this point, and do not pursue it here, except to note that my own recent work on the dative alternation (Rappaport Hovav and Levin 2008) lends support from another semantic domain to the larger claim about the semantic contribution of prepositions.

<sup>2</sup>I refer to A&A's classes of COS verbs using their labels. In my own previous work (e.g., Levin and Rappaport Hovav 1995), I have applied the label "externally caused" to the larger class of verbs that subsumes their three classes of agentive, externally caused, and cause unspecified COS verbs. I have applied the label "internally caused" to a class of verbs that includes not only their internally caused COS verbs, but also unergative transitive verbs. I discuss these differences in terminology further in section 2.

- (2) a. agentive (e.g., *murder, assassinate*): “the event is necessarily brought about by an Agent”
- b. externally caused (e.g., *destroy, kill*): “can be brought about by an external cause or an Agent”
- c. internally caused (e.g., *blossom, wilt*): “the cause of the change-of-state event is linked to properties inherent to the argument undergoing change”
- d. cause unspecified (e.g., *break, open*): “not specified for external or internal causation”

These comments have two parts. The first part takes as its starting point A&A’s assumption that internally caused COS verbs are causative. In taking this tack, A&A are asserting that all four types of COS verbs are causative, even if the internally caused COS verbs apparently do not have causative transitive uses, as COS verbs of the other three types do. This proposal is at odds with Levin and Rappaport Hovav’s (henceforth L&RH) analysis (1995) which takes internally caused COS verbs not to be causative, precisely because they lack such uses. A&A and L&RH reach these different conclusions because they privilege distinct putative causative diagnostics. In this part, I reexamine the appropriateness of A&A’s and L&RH’s conclusions and the validity of the causative diagnostics they appeal to.

In the second part, I examine the nature and distribution of *me* and *apo*, the Greek prepositions used in the expression of causers and instruments. I ask why *me* might be used to introduce both indirect causers and instruments, even if these semantic notions might not seem to form a natural class, and speculate about why this might be so.

## 2. Revisiting the diagnostics for a causative analysis of a verb

As already noted, A&A and L&RH reach opposite conclusions about the analysis of internally caused COS verbs: A&A claim that they are inherently causative, while L&RH claim they are not. These incompatible proposals reflect the differential weight attributed to two purported causative diagnostics.

A&A, following Alexiadou, Anagnostopoulou, and Schäfer (2006), suggest that a verb’s ability to cooccur with a causer PP—a *from* phrase in English and comparable phrases in German and Greek—can be taken as sufficient evidence for positing that it has a causative analysis. (See Kallulli (2006) for a somewhat different implementation of this idea based on English and Albanian data.) Such causer PPs are found with the intransitive uses of what A&A call cause unspecified COS verbs—verbs like *break* and *open*, which have intransitive as well as transitive uses—as shown in (3), and such verbs are uncontroversially taken to be causative.

- (3) a. The window cracked/broke from the pressure/explosion.
- b. The door opened from the wind.

PPs with a causer interpretation are also found with internally caused COS verbs, as illustrated in the English examples in (4).

- (4) a. The flowers wilted from the cold.

- b. The barbed wire fence rusted from the constant rain.

Thus, although A&A acknowledge that internally caused COS verbs do not show causative transitive uses, they justify a causative analysis based on this distributional evidence. Such verbs, like other COS verbs, have roots that combine with vCAUS, which can license causer PPs. They are set apart from other COS verbs in their inability to combine with Voice. It is the appropriate Voice which introduces agents (and instruments); due to its absence internally caused COS verbs cannot have causative transitive uses.

L&RH (1995) propose instead that internally caused COS verbs should not receive a causative analysis. In this respect, they see internally caused COS verbs as being like unergative intransitive verbs, whether agentive or nonagentive, which are uncontroversially taken not to be causative. Both types of verbs fail to show the causative alternation: as mentioned, they regularly lack causative transitive counterparts (but see section 2.1), though they are found in periphrastic or morphological causatives.

- (5) a. The roses bloomed.
- b. \*I bloomed the roses. (cf. I made the roses bloom.)
- (6) a. The children danced.
- b. \*I danced the children. (cf. I made the children dance.)

L&RH (1995) subsume unergative verbs and internally caused COS verbs into a larger class of “internally caused” verbs; see note 2. In contrast, A&A reserve the term “internally caused” for the internally caused COS verbs. Presumably, this reflects a decision to restrict the term “caused” to verbs which are inherently causative. In contrast, L&RH use the term to refer to causation in a more extended sense in that the agentivity or other properties of the single argument of an unergative verb are seen as causing the event it denoted—hence, their use of the label “internally caused” for such verbs as well.

The remainder of this section examines the two diagnostics: having a causative variant and the ability to take a causer PP. I show that the empirical domain that needs to be considered in evaluating each diagnostic is broader than most work to date takes it to be. I then consider the significance of these additional facts for the analysis of internally caused COS verbs.

## 2.1. The significance of causative transitive uses of internally caused COS verbs

L&RH (1995) deny that internally caused COS verbs regularly have causative transitive uses in English, and A&A, following Alexiadou, Anagnostopoulou, and Schaefer (2006), also claim that Greek internally caused COS verbs do not have transitive causative uses, as shown in (7).

- (7) \*O ilios anthise to luludi  
the sun blossomed. Act the flower (A&A (41c))

For both A&A and L&RH this property results in setting these verbs apart from the cause unspecified COS verbs—the only other COS verbs which regularly have intransitive uses in English and Greek. However, despite L&RH’s (1995) suggestion to the contrary, McKoon and Macfarland (2000) and Wright (2001, 2002) convincingly demonstrate that English

internally caused COS verbs do have causative transitive uses. The English examples in (8), adapted from naturally occurring data, illustrate such uses.

- (8) a. Salt air and a few other common pollutants can decay prints.
- b. Early summer heat sprouted the seedlings.
- c. Last July's intense sunlight wilted the begonias.
- d. Sudden cold temperatures withered the plants.
- e. Strong winds eroded the cliffs.
- f. The salt air rusted the chain-link fences.
- g. Too much sugar rots your teeth.
- h. Persistent acid rains corroded the pipes.

I now review properties of the causative uses of English internally caused COS verbs which bear on their appropriate analysis; many are from Wright (2001, 2002). First, the causative uses of English internally caused COS verbs predominantly have subjects that are natural forces or are in some sense "nature-related" phenomena, as in (8). Their subjects are very rarely human, let alone animate, and, hence, would not qualify as truly agentive. Second, like their Greek counterparts, English internally caused COS verbs occur in periphrastic causatives, as illustrated in (9) and (10).

(9) The sun made the flowers blossom more quickly.

(10) O ilios ekane to luludi na anthisi pio grigora  
the sun made the flower subj blossom. Act more quickly  
'The sun made the flowers blossom more quickly.' (A&A (41b))

In English, when internally caused COS verbs are found in periphrastic causatives, they typically still occur with natural force causers, as show in (11), though animate causers are occasionally found, as in (12) and (13); again, these examples are adapted from naturally occurring data.

- (11) a. Chemicals made the wood decay.
- b. The heat made the seedlings sprout.
- c. The sunlight made the begonias wilt.
- d. Hot weather made the roses bloom early.
- (12) a. I can't afford to let my farmer's crops rot on the ground.
- b. The boy left his bicycle out in the rain and let it rust.
- c. The gardener allowed the prize roses to wither/wilt.
- (13) a. You will have to water your compost pile to make it decay.
- b. To make orchids bloom vigorously, you should water them once a week.
- c. The mountain bikers caused the land to erode with their constant activity.

According to Wright (p.c.), periphrastic causatives with animate causers are often headed by the verbs *let* and *allow*, as shown in (12), rather than the verbs *make* and *cause*, as illustrated in (13).

What is the significance of these properties? Internally caused COS verbs describe changes in biological entities that are inherent to their natural course of development—this is why these COSs are taken to be internally, rather than externally caused. These changes will occur in the normal course of events; however, they may be externally triggered, facilitated, or regulated by certain natural forces or other environmental phenomena. Viewed from this perspective, these forces and phenomena do not qualify as direct causes, yet causative transitive uses necessarily involve direct causation (Fodor 1970; McCawley 1978; Pinker 1989:66; Shibatani 1976; Smith 1970). The causative uses of internally caused COS verbs suggest that in some instances these natural forces and environmental phenomena can be viewed as direct causes. Support for this proposal comes from a property that Wright (2001, 2002) observes holds of the majority of the naturally occurring causative transitive examples: they include an intensifying adjective or comparable material as part of the causer NP. Such items are present in many examples in (8), as with *sudden* and *strong* in the (d) and (e) examples, respectively. This observation is reinforced by a survey Wright conducted: subjects rated sentences with modified causers better than those with unmodified causers with internally caused COS verbs, but not with cause unspecified COS verbs. The information contributed by this additional material makes the natural force extraordinary in some way and, hence, more likely to be seen as directly causing an internally caused COS and not simply as facilitating or regulating it.

These observations help explain why animate causers are rare with transitive uses of internally caused COS verbs. Animate causers do not typically facilitate or regulate internally caused COSs, given their very nature, nor can they usually have control over the natural forces or environmental phenomena which may. Hence, animates simply rarely qualify as direct causers (though occasionally some of these changes, such as fermentation or corrosion, may be externally facilitated, say through chemical means). Interestingly, the examples in (13) all mention the animate causer as performing some action that involves a substance that regulates the COS. Furthermore, the prevalence of *let* and *allow*, rather than *make* and *cause*, in the periphrastic constructions with animate causers also has an explanation. As noted, the events denoted by internally caused COS verbs will happen inexorably in the natural order of things. As many of these changes are viewed as undesirable (e.g., rotting, wilting), it is unlikely that they will be indirectly caused by a third party; hence, the paucity of *make* and *cause* examples. Rather, it is more likely that a third party would like to slow down or prevent such changes; however, when a third party nevertheless decides to let such changes proceed, *let* and *allow* become the relevant predicates.

How do these observations about English bear on the Greek data and the conclusions A&A draw from them? Although A&A claim that Greek internally caused COS verbs, unlike their English counterparts, do not have causative transitive uses, citing (7), some of the workshop participants suggested that such uses were indeed possible in Greek as well. Examples are given in (14) (Sabine Iatridou p.c.).

- (14) a. O thalasinós areas skuriase ton frachtí.  
           the sea           air    rusted.Act the fence  
           ‘The sea air rusted the fence.’

- b. I poli zachari sapizi ta dhondia.  
 the much sugar rots.Act the teeth  
 ‘A lot of sugar rots the teeth.’
- c. I zesti marazose ta luludhia.  
 the heat wilted.Act the flowers  
 ‘The heat wilted the flowers.’

Even if Greek is more similar to English than A&A suggest, the question is how similar is it? For instance, Greek might still allow causative transitive uses with fewer internally caused COS verbs than English. McKoon and Macfarland’s and Wright’s studies show that in English some of these verbs show more of these uses than others, even suggesting that there is a continuum of verbs in this respect. Thus, based on a corpus study McKoon and Macfarland (2001:837-838) cite *corrode*, *erode* and *ferment* as having a higher probability of transitive use, *rot*, *rust*, *wilt*, and *wither* as having a much lower probability, and *bloom*, *blossom* and *decay* as having practically zero probability of such uses; Wright’s corpus study basically confirms this distribution (2001:128). It is possible that Greek might show causative transitive uses for a smaller segment of this continuum of internally caused COS verbs. Interestingly, (14) include internally caused COSs that show causative transitive uses in English, while A&A’s unacceptable (7) involves the Greek counterpart of *bloom*, the English verb which seems most resistant to such uses.<sup>3</sup> These few examples, then, suggest that Greek may not be so different from English, though a more systematic corpus investigation is necessary to fully assess the significance of examples such as (14).

Even if the details of the Greek data require further clarification, the English data already raises questions for both A&A’s and L&RH’s analyses. If internally caused COS verbs can take causer subjects, do the causative transitive uses of these verbs actually provide further support for A&A’s proposal that the analysis of these verbs involves vCAUS? If so, L&RH’s non-causative analysis would need to be revisited. Yet the additional conditions on the causative uses of internally caused COS verbs suggests that their causative transitive uses have a different status than the comparable uses of cause unspecified verbs such as *break* and *open*. If so, the two types of verbs cannot have the same analysis and, the appropriateness of an underlying causative analysis of the internally caused COS verbs would need rethinking. In fact, L&RH (1995:115-119) confront precisely this question in the context of the occasional causative transitive uses of certain unergative verbs and conclude they do not argue for an underlying causative analysis. What is clear is that further investigation of the significance of the causative transitive uses of internally caused COS verbs is needed in both English and Greek.

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<sup>3</sup>McKoon and Macfarland (2001:838) found two instances of transitive *bloom* and the one example they cite, *it* [= a shrub] *blooms white flowers in summer*, is not clearly causative. Rather, the subject is a plant and the object its flowers, an inalienably possessed part of the plant, which is itself produced by the plant. The subject, then, is different from the nature-related causer subjects of other transitive examples with internally caused COS verbs. I have also found several examples of transitive *bloom*, and they have this form too. These examples seem reminiscent of uses of emission verbs with emitter subjects and emittee objects, as in *The carillons began ringing their hourly tune* (Edith Skom, *The Mark Twain Murders*, Tulsa: Council Oak Books, 1989:116).

## 2.2. Reassessing the significance of causer PPs

I turn now to the question of whether the cooccurrence of an intransitive verb with a causer PP necessarily indicates that the verb is causative. As mentioned, A&A suggest that internally caused COS verbs are inherently causative based on the distribution of causer PPs. Such phrases are found with cause unspecified verbs—verbs which should clearly receive a causative analysis—as in the English examples (3). In contrast, when phrases headed by the same prepositions occur as complements to nouns they cannot receive a causer interpretation; rather, they receive other interpretations, such as source, as in *a book from Germany* or *the student from France* (A&A's (29a-b)) or in Greek also material or partitive interpretations (A&A's (29c-d)). A closer examination of the facts, however, suggests that this diagnostic needs to be revisited.

In order to assess the significance of causer PPs, it is desirable to have an independent way to determine whether the NP in a PP is a “causer.” One criterion is that this NP can be the subject of a periphrastic causative sentence headed by *make* or *cause* or their translation equivalents, which is felt to capture the same sense as the sentence with the PP. This criterion appears valid as it holds of the causer *from* phrases found with the intransitive use of the uncontroversially causative COS verb *break*, as in (15), but it does not hold of *from* phrases with a source interpretation, even with clearly unaccusative verbs, as in (16).

- (15) a. The window broke from the wind.  
b. The wind caused the window to break.  
c. The wind made the window break.
- (16) a. A man arrived from Italy.  
b. \*Italy caused the man to arrive.  
c. \*Italy made the man arrive.

It also applies to internally caused COS verbs such as *wilt*, again supporting A&A's contention that such verbs are causative.

- (17) a. The flowers wilted from the cold.  
b. The cold caused the flowers to wilt.  
c. The cold made the flowers wilt.

As A&A note, on their analysis, causer PPs are predicted not to be found with unergative verbs, as such intransitive verbs do not have a causative analysis. Concomitantly, if an unergative verb were found with a PP headed by a preposition that could potentially introduce a causer phrase, such as English *from*, then such a sentence would not be expected to have a periphrastic causative counterpart. A&A devote section 3.2 of their paper to discussing pertinent data. Although they conclude that cooccurrence with a causer PP is still a valid causative diagnostic, I present additional data suggesting that this conclusion may be premature.

As A&A point out, only one of the two Greek causer prepositions, *apo*, is found with unergative verbs in a use that might potentially express a causer, as in (18a), but this use does not have a periphrastic causative counterpart, as in (18b); the English counterparts of these examples evoke similar judgments, as in (19).

- (18) a. I Maria xoropidikse apo hara.  
the Mary jumped.Act APO happiness  
'Mary jumped from happiness.' (A&A (34a))
- b. \*? I hara ekane ti Maria na horopidiksi.  
the joy made the Mary subj jump (A&A (36b))
- (19) a. She jumped from happiness.
- b. ?? Happiness made her jump.

Although these data suggest, then, that an *apo* phrase with an unergative verb is not a true causer, supporting A&A's analysis, the facts, at least in English, are more complicated.

In English, many unergative verbs are found with *from* PPs that are intuitively understood as causers and, furthermore, meet the periphrastic causative counterpart criterion.<sup>4</sup>

- (20) a. Family members believe Raymond Pelzer simply ran from fear. An officer shot the unarmed man.  
([www.findarticles.com/p/articles/mi\\_kmtpi/is\\_200606/ai\\_n16468090](http://www.findarticles.com/p/articles/mi_kmtpi/is_200606/ai_n16468090))
- b. Fear made him run.
- (21) a. Plus, if you wiggled from boredom, the plastic made horrible noises.  
([www.jehovahs-witness.com/6/147999/2.ashx](http://www.jehovahs-witness.com/6/147999/2.ashx))
- b. Boredom made you wiggle at family dinners.
- (22) a. She giggled from embarrassment/nervousness.
- b. Embarrassment/nervousness made her giggle.
- (23) a. Forced to walk the last couple of miles, they limped from exhaustion.  
([media.washingtonpost.com/wp-srv/inatl/daily/april99/albania040299.htm](http://media.washingtonpost.com/wp-srv/inatl/daily/april99/albania040299.htm))
- b. Exhaustion caused them to limp.
- (24) a. He limped/cried/shivered/shuddered from the pain.
- b. The pain caused him to limp/cry/shiver/shudder.

Several of these examples involve a *from* phrase containing an emotion NP, making them comparable to A&A's (18a); the last two involve bodily states which might be assimilated with emotions into a class of "bodily conditions."

In order to maintain that causer phrases are a diagnostic for causativity, A&A suggest that potential Greek causer phrases containing emotion NPs should not qualify as causer phrases, as phrases headed with the same preposition but with natural force and causing event NPs are not acceptable with unergative verbs in Greek.

<sup>4</sup>Although I limit my comments to causer phrases with unergative verbs, as these are discussed by A&A, their distribution is wider still. A. Koontz-Garboden (p.c.) notes that causer *from* phrases are found with stative predicates in English, as in *Her face was red from embarrassment*. As a causative analysis is inappropriate for such predicates, this observation also casts doubt on the use of *from* phrases as a causative diagnostic for English. (The Greek facts are different; Koontz-Garboden (2007:276) cites examples provided by Alexiadou which show that *apo* phrases are not found with stative predicates.)



- (25) a. \*I Maria xoropidikse apo to sismo  
the Mary-nom jumped.Act APO the earthquake (A&A (37a))
- b. \*I Maria xoropidikse apo to spasimo ton piaton  
the Mary-nom jumped.Act APO the breaking the dishes-gen  
(A&A (37b))

This argument needs to be revisited. Some Google searching reveals a range of English examples of unergative verbs with causer *from* phrases that express natural forces, as in (26), and even two expressing something like a causing event, as in (27); all these examples, which are adapted slightly from the originals, have periphrastic causative counterparts, though they are not given here.

- (26) a. Leaves rustled from the wind/breeze.  
b. Water sparkled from the sun/moon.  
c. The lights flickered from the thunderstorm.  
d. Their trailer had teetered from the wind.  
e. After he took off her blindfold, she blinked from the light.
- (27) a. The dog yelped from the blow.  
b. The swingset swayed from the jolt.

It is true that all but two of the examples in (26) and (27) have inanimate subjects, but what constitutes a causer depends on the event. It is possible that natural forces are exceedingly rarely considered to be direct causers of the events denoted by unergative verbs with human subjects, yet it is this property which is necessary for a natural force to be a causer. The reason may be that the subjects of these verbs, as potential agents, have control over the unfolding of the event, and the verbs are incompatible with an additional causer. (And this incompatibility may be particularly relevant in Greek since A&A argue that the preposition *apo* indicates a “direct cause” with internally caused COS verbs; see section 3.1.) In fact, a *from* causer seems best with an unergative verb with an animate subject when neither control nor volitionality is implied, as in (26e) and (27a).

If some of these *from* phrases do introduce causers with unergative verbs, then *from* phrases should not be taken as evidence for a causative analysis of internally caused COS verbs in English. An appreciation of the full significance of the Greek causer data must await further investigation, however. Greek has two causer prepositions, *apo* and *me*. As mentioned above, only the preposition *apo* shows potentially causer uses with unergative verbs, yet with internally caused COS verbs *me* is preferred and *apo* dispreferred, as the examples show.

- (28) a. To fito anthise ??apo/me tin zesti  
the plant blossomed APO/ME the heat (A&A (40a))
- b. Ta mila sapisan ??apo tin igrasia/ me tin igrasia  
the apples rotted.Act APO the humidity/ ME the humidity  
‘The apples rotted from/with the humidity.’ (A&A (40b))

If *me* is indeed only found with internally caused COS verbs and not unergative verbs, then *me* but not *apo* might really be a diagnostic for causativity. At the very least, it is clear that a full assessment of the significance of causer phrases for the analysis of COS verbs must await further investigation of the semantic types of causers and their distribution across verb types. Nevertheless, the English facts presented here suggest that causer *from* phrases are not unlike periphrastic causative verbs: they contribute an additional notion of cause that is not inherent in the modified verb. Such an analysis is also compatible with the use of periphrastic causatives to diagnose true causer PPs.

The bottom line, then, is that the jury is still out on the significance of the causative transitive and *from* facts as they pertain to the causativity of internally caused COS verbs. However, these are not the only causative diagnostics proposed in the literature (see Koontz-Garboden (2007:259-277) for a summary), and should other diagnostics turn out to be more robust, then they might provide an alternative way of deciding the appropriate analysis of internally caused COS verbs.

### 3. Some speculations on the nature of the Greek preposition *me*

In the second part of these comments I confront an apparent puzzle. Unlike the English prepositions *with* and *from*, which partition the space of instruments and causers between them, the Greek preposition *me* is used not only with causers, but also with instruments. Furthermore, as I review below, A&A argue that *me* introduces indirect causers, yet instruments by their very nature seem to be involved in the direct causation of an event. Why then can *me* be used for two apparently orthogonal purposes? I suggest where a solution to this paradox may lie, by revisiting A&A's characterization of *me* and of a second Greek preposition, *apo*, which introduces causers but not instruments.

#### 3.1. Two types of causers in Greek

As just mentioned, Greek has two causer prepositions, whose distribution A&A (2007:6) characterize as follows: "Specifically, Agents are introduced by *apo* 'from', instruments are introduced by *me* 'with', causers/natural forces are introduced by *apo* or *me*, causing events are introduced by *me*." This generalization is illustrated in (29), where the (a), (b), and (c) sentences show the expressions of (passive) agents, instruments, and causers, respectively; I ignore causing events in this discussion.<sup>5</sup>

- (29) a. O Jianis dolofonithike apo tin Maria/ \*me ti Maria  
 the Jianis murder-Act APO the Mary/ ME the Mary  
 'John was murdered by Mary.' (agent; A&A (13a))
- b. O Jianis anikse tin porta \*apo/ me to klidi  
 the Jianis opened-Act the door APO/ ME the key  
 'John opened the door with the key.' (instrument; A&A (13b))
- c. Ta ruxa stegnosan apo ton ilio/ me ton ilio  
 the clothes dried-Act APO the sun/ ME the sun  
 'The clothes dried from the sun.' (causer; A&A (13d))

<sup>5</sup>The Greek prepositions *apo* and *me* are glossed APO and ME, respectively, since their precise meaning, as well as their correspondence to English prepositions, is the topic of this section.

Although *apo* and *me* are both found with causers, A&A propose that *apo* indicates a direct cause and *me* an indirect cause. In support of this generalization, A&A present interesting facts about the distribution of *apo* and *me* phrases with cause unspecified and internally caused COS verbs. First, both *apo* and *me* indicate causers in anticausatives—that is, with the intransitive uses of cause unspecified COS verbs—as in (30).

- (30) I porta anikse apo ton aera/ me tin thiela  
 the door opened-Act APO the wind/ ME the storm (A&A (20b))

Second, as mentioned in section 2.2, causer PPs are also found with internally caused COS verbs in Greek. With such verbs *me* is preferred and *apo* dispreferred, as the examples in (28) illustrate. A&A take this as evidence that *me* signifies indirect causation because independently in Greek internally caused COS verbs have periphrastic causatives, as in (10), but not causative transitives, as in (7), and the latter necessarily involve direct causation.

As still further evidence for the differential characterization of the causers introduced by *apo* and *me*, A&A cite the examples in (31) (their (42)); these examples are given in English for simplicity.

- (31) a. The prices increased *me/apo* the petrol crisis.  
 b. Public transportation changed *me/apo* the Olympic games.

As the events described in the PPs in (31) are not directly the cause of the changes of state, the acceptability of *me* but not *apo* further supports A&A's characterizations of the two prepositions.

Some of A&A's own data further reinforces their proposal. A&A's example (30) paired *apo* with 'wind' and *me* with 'storm', although both prepositions can be found with either causer, as (32), which has the alternative choices of preposition, shows.

- (32) I porta anikse me ton aera/ apo tin thiela  
 the door opened-Act ME the wind/ APO the storm

Presumably, A&A's (30) reflects the preferred pairings of prepositions and nouns, which is consistent with how winds and storms figure in bringing about an opening event. When a storm causes damage, it is precisely because its accompanying ingredients—wind, lightning, waves, or strong rain—bring the damage about.<sup>6</sup> For this reason, the choice of *me* when the causer is a storm is consistent with its indicating indirect causation. Interestingly, although English does not have two distinct causer prepositions, there are many more Google hits for *broke from the wind* than *broke from the storm*. Again, the former is more specific about the cause of breakage than the latter and could, consequently, be taken as describing a more direct instance of causation. The difference in frequency of occurrence suggests that *from* phrases are preferred with more direct causers in English.

### 3.2. What instruments suggest about the nature of Greek *me*

The Greek preposition *me* also introduces instruments, as the (a) sentences in (33) and (34) illustrate. Furthermore, as A&A point out, the set of instruments marked by *me* is a superset

<sup>6</sup>Folli and Harley (2008:195) make the same observation in discussing a preference for 'wind' over 'storm' as subject of Italian *rompere* 'break'.

of those occurring as subjects. Thus, *pistolaki* ‘hair dryer’ may show either expression, as the contrast in (33) shows, while *pinelo* ‘paint brush’ may be expressed in a *me* phrase, but not as a subject, as the contrast in (34) shows.

- (33) a.     stegnose ta mallia (tis) me to pistolaki  
           dried-Act the hair (her) ME the hair-dryer  
           ‘She dried her hair with the hair dryer.’
- b.     To pistolaki stegnose ta mallia.  
           the hair-dryer dried-Act the hair  
           ‘The hair dryer dried the hair.’ (A&A (27a))
- (34) a.     O Janis asprise ton tiho me to pinelo.  
           the John whitened-Act the wall ME the paint-brush  
           ‘John whitened the wall with the paint brush.’ (A&A (26a’))
- b.     \*to pinelo asprise ton tixo  
           the paint-brush whitened-Act the wall (A&A (27b))

What this data illustrates is the instantiation within Greek of a comparable bifurcation in the class of instruments that has been repeatedly noted for English. Some entities that can be ontologically classified as instruments, such as large equipment, have their own energy source; such entities may show either a subject expression or an oblique expression, via *with* in English or *me* in Greek. In contrast, entities that are ontologically instruments, but which are not self-energetic or autonomous, may only be expressed in a *with* or *me* phrase, but not as a subject. Such instruments have received a variety of labels, including “facilitating,” “enabling,” “accessory,” or “pure” instruments (Alexiadou and Schäfer 2006; Folli and Harley 2008; Kamp & Roßdeutscher 1994; Kearns 2000; Marantz 1984; Van Valin and LaPolla 1997; Wojcik 1976).

The data in (33) and (34) could be taken to show that a *me* phrase presents an entity as an accessory instrument, whatever its ontological type; that is, even if this entity is potentially self-energetic, this property is not taken to be relevant in this expression. The same data suggests that an instrument subject, like all subjects of causative verbs, must be seen as a direct cause of the event (Baker 1997:110; DeLancey 1985; Folli and Harley 2008). Van Valin and Wilkins (1996:319) suggest that ontologically accessory instruments, unlike other instruments, are not part of the “causal chain” constituting an event. Suppose this extends to all instruments expressed in *me* phrases. If so, such instruments play a role in an event which is reminiscent of the role that natural force causers play with internally caused COS verbs. With internally caused COS verbs, natural force causers facilitate or regulate the natural course of development and change of an entity, so while they could be viewed as part of the causal chain this development represents, they need not be. If this analogy is correct, then accessory instruments and natural force causers with internally caused COS verbs form a natural class, and it is not surprising that they are marked in the same way.

There is, however, a further wrinkle to be accommodated: the occurrence of *me* with the intransitive—or, more precisely, anticausative—uses of cause unspecified COS verbs in Greek. As (35) shows, unlike English *with*, Greek *me* can introduce instruments in anticausatives. As A&A point out, these instruments are precisely those that can also be realized as subjects. Thus, these instruments are entities that are teleologically capable

to use Folli and Harley’s (2008) characterization of certain causation chain effects, but presumably given their oblique expression they are not presented as part of the causal chain.

- (35) a. Ta mallia mu stegnosan me to pistolaki.  
 the hair my dried-Act ME the hair-dryer  
 \*‘My hair dried with the hair dryer.’ (A&A (24a))
- b. \*O tixos asprise me to pinelo.  
 the wall whitened-Act ME the paint-brush (A&A (26a))

How can these facts be accommodated in the picture painted so far? It is likely that ontologically accessory instruments, such as paint brushes, are excluded from such intransitives because such sentences lack an agent, yet such instruments require an agent to manipulate them. In anticausatives, it is properties of the theme that are taken to play a part in directly bringing such an event about, as in Koontz-Garboden’s (2007) reflexive analysis of anticausatives or as suggested by Haspelmath’s (1993) characterization of anticausative as involving events that can occur spontaneously. Thus, if an instrument is found, it cannot be one that requires the presence of an agent. Nevertheless, this mode of expression suggests that the instrument is presented as having a more indirect role in bringing about the event than when it is expressed as a subject of a transitive use of the same verb; that is, it is in some way analogous to the causers of internally caused COS verbs.

Why does English differ from Greek in disallowing instruments in anticausatives? A&A explain the facts about the interpretation and distribution of *apo* and *me* by making reference to Voice and vCAUS. I would like to make an alternative suggestion about where the answer might lie. Greek *me* seems to indicate indirect causers that are not part of the causal chain, subsuming various subtypes of these. In contrast, English *with* has a semantically narrower range and is apparently restricted to indicating instruments that require an agent’s involvement, even if the instrument NP denotes an entity that can be conceptualized as self-energetic. This would explain why *with* phrases are precluded in anticausatives.

#### 4. Looking forward

A&A’s paper draws renewed attention to the empirical complexity of the conceptual domain of causation. It reinforces the point previously made in DeLancey (1985) that this domain cannot be described using simple notions of agent and patient, but involves a variety of causers and instruments. Such work reminds us that of the need to identify the different types of causers and instruments and develop event structures that accommodate them. The nature of such event structures is not obvious, as underscored in work by Van Valin and Wilkins (1996:318) and, more recently, Koenig et al. (2007), which grapples with this issue. Both propose that in at least some instances, sentences with instruments should have a “double causative” structure; their specific proposals differ somewhat, but (36) is representative of the general approach.

- (36) **cause(s<sub>1</sub>, s<sub>2</sub>) ∧ Pred(s<sub>1</sub>, A, I) ∧ Pred(s<sub>2</sub>, I, P) ∧ cause(s<sub>2</sub>, s<sub>3</sub>) ∧ Pred(s<sub>3</sub>, P)**  
 where A is proto-agent, P proto-patient, and I proto-instrument  
 (Koenig et al. 2007:2, (1a))

It is easy to see why such an event structure might be attractive, as it explicitly includes a subevent involving the use of the instrument and showing its place in the “causal chain” that constitutes the event, but is this, in fact, the best way to represent the instrument’s contribution? While A&A’s paper does not consider this particular question, by furthering our understanding of the domain of causation, it takes us further on the path towards answering this and other open questions involving this important and complex domain.

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