Some puzzles about the syntax of experiencers

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1. Introduction

Anagnostopoulou (1999): Like Italian (Belletti & Rizzi 1988), Greek has three classes of Experiencer Predicates. Class 1 includes verbs like *agapo* (love), *latrevo* (adore), *antipatho* (dislike), *miso* (hate) with an experiencer subject and a stimulus object:

(1) O Petros aghapai ta skilja
    The Peter-nom loves the dogs-acc
    'Peter likes dogs'

Class 2 are experiencer object-predicates like *anisixo* (worry), *provlimatizo* (puzzle), *enoxlo* (bother), *diaskedazo* (amuse), *fovizo* (frighten), *endiafero* (interest). The experiencer has morphological accusative case; the stimulus be a r s nominative case and agrees with the verb:

(2) Ton Petro ton anisihi i katastasi
    The Peter-acc cl-acc worry-3sg the-situation-nom
    'The situation worries Peter'

Class 3 corresponds to Italian *piacere*-predicates. This includes expressions like *aresi* (like), *ftei* (bothers/matters) selecting for a dative experiencer (PP as in (3a) or morphological genitive as in (3b)) and a nominative agreeing theme:

(3) a. To krasi aresi ston Petro
    The wine-nom like-3sg to-the Peter
    'Peter likes the wine'
b. To krasi tu aresi tu Petru
    The wine-nom cl-dat like-3sg the Peter-dat
    'Peter likes the wine'

- In both class 2 and class 3, as Anagnostopoulou (1999) shows in detail, the experiencer functions as a quirky subject (backward binding, etc.).

- Focus on class 2 verbs, which have created a lot of discussion in the literature.

- Two puzzles: As is well known, this class allows both agentive (animate) and causer (inanimate) subjects:

(4) a. I Maria stenahorise to Jani
    Mary.nom upseted the John.acc
    Mary upseted John.
b. Ta nea %(ton) stenahorisan ton Jani.
    The news.nom (him) got upset the John.acc
    'The news got John upset.'
• Anagnostopoulou (1999): **Puzzle 1**: correlation between agentivity and of clitic-doubling. While clitic-doubling is not obligatory with agentive construals, its presence signals a non-volitional interpretation of the stimulus argument, see also Kordoni (1999, 2002), cf. Verhoeven (2009).\(^1\)


In fact, many of them cannot combine with non-active morphology, (6), which is how Greek forms passives. (NAct appears in a number of other contexts, e.g. reflexives, anticausatives and dispositional middles).

\[(5)
\begin{align*}
a. & \text{o Janis tromakse ti Maria.} \\
  & \text{John terrified Mary.} \\
\text{b. } & \text{*i Maria tromahtike (apo to Jani).} \\
  & \text{Mary terrified.NAct by John}
\end{align*}
\[(6)
\begin{align*}
*pone\text{thike} & \text{‘feel pain-NAct-3sg’} \\
*thimo\text{thike} & \text{‘anger-NAct-3sg’} \\
*aidiastike & \text{‘disgust-NAct-3sg’}
\end{align*}
\]

Those that have NAct forms do not have agentive readings, even the eventive ExObj ones do not, as we will see below. This is quite unexpected, but seems to largely match the behavior of other change of state verbs in Greek.

• **Question**: what does this behavior tell us about the syntax of experiencer verbs in particular and passives in Greek in general?

• **Answers**:
  
  • with respect to puzzle 1: the syntax of Agentive ExObj differs from the syntax of non-agentive ExObj verbs.
  
  • With respect to puzzle 2: the intricate properties of Greek NAct Voice are at play. As Greek has a systematic ExObj- Subject Experiencer (SE) alternation, intransitive variants of ExObj verbs are interpreted as SE predicates. Greek NAct Voice is unlike the English passive. As a result, the natural interpretation of the non-experiencer argument is the non-agentive causer of the psych state for the eventive verbs. Stative ExObj are generally considered unaccusative and thus are expected not to passivize.

**Roadmap**
1. Background on psych passives and Greek passives
2. Greek ExObj verbs and passivization
3. Structural account of puzzle 2 and then discussion of puzzle 1

**2. Background: psych passives and passives**

Landau (2010: 47): there are two types of languages:

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\(^1\)For some speakers, these examples are acceptable without the clitic under the condition that the main stress of the sentence falls on the verb and the object is de-stressed.
*Type A languages:* Only eventive (non-stative) ExObj form verbal passives (English, Dutch, Finnish).

*Type B languages:* ExObj do not form verbal passives (Italian, French, Hebrew).

How does passive formation work?

Following Kratzer (1996), external arguments are introduced in VoiceP. In language such as English, passivization takes (7) as its input and yields a well-formed passive:

(7) \[
\begin{array}{c}
\text{VoiceP} \\
\text{Voice} \\
\text{Voice'} \\
\text{vP} \\
\text{v} \\
\text{ResultP}
\end{array}
\]

- **Two types of non-active heads:** Doron (2003), Alexiadou & Doron (2012), Alexiadou, Anagnostopoulou & Schäfer (2015), Spathas, Alexiadou & Schäfer (2015), Oikonomou (2015); passive vs. middle; middle is the non-active counterpart of Kratzer's active Voice:

(8) \[
\begin{array}{c}
\text{Passive} \\
\text{VoiceP} \\
\text{Middle} \\
\text{vP} \\
\text{v} \\
\text{Root}
\end{array}
\]

In (8), Middle Voice is realized as NAct, in the absence of an external argument.

- English type languages have a passive head.
- Greek type languages have a middle head. This explains several properties of the Greek passive:
  1. the low productivity of passives (and the restrictions on by-phrases)
  2. the morpho-phonological restrictions (as we will see below)
  3. the multifunctionality of non-active morphology (in Greek, passives, reflexives and certain anticausatives all use Nactive morphology).

(9) \[
\begin{array}{c}
\text{Active} \\
\text{Imperfective} \\
\text{graf-o} \\
\text{Perfective} \\
\text{graf-s-o}
\end{array}
\quad \begin{array}{c}
\text{Non-Active} \\
\text{Imperfective} \\
\text{grafo-me} \\
\text{Perfective} \\
\text{graf-t-o}
\end{array}
\]

(10) \[
\begin{array}{c}
\text{a. O Janis egrapse to vivlio} \\
\text{John wrote the book}
\end{array}
\quad \begin{array}{c}
\text{b. To vivlio graftike apo to Jani} \\
\text{the book wrote-NAct-3sg by John}
\end{array}
\quad \begin{array}{c}
\text{The book was written by John}
\end{array}
\]
Anticausatives | Reflexives
---|---
gremistike | plithike
collapsed-NAct-3sg | washed-NAct-3sg
kaike | ksiristike
burned-NAct-3sg | shaved-NAct-3sg

- In Greek, as in English and German, several anticausatives are labile, i.e. bear the same morphology both in the transitive and the intransitive construal, e.g. *anigo* 'open', *spao* 'break'.

3. Restrictions on the Greek passive

In Greek, there are several restrictions on passivization.

Verbs that do not form passives, Zombolou (2004), Alexiadou, Anagnostopoulou & Schäfer (2015): most change of state verbs, but also several other verb classes:

(12) haidevo 'stroke', tsimbao 'pinch', frondizo 'take care of', derno 'beat', klotsao 'kick', skotono 'kill', kovo 'cut', maherono 'stab', spao 'break', kriono 'cool', vatheno 'deepen', kondeno 'shorten', makreno 'lengthen', alazo 'change' etc.

In some cases, the predicate is an internally caused change of state verb, i.e. the change of state takes place due to inherent properties of the theme argument, which do not passivize and resist transitive construals, e.g. *adinatizo* 'thinnen'. In other cases, phonological clash results from the combination of a particular stem with the non-active affix, e.g.:

(13) *kontinthike* 'shortened-NAct', *leptinthike* 'thinened-NAct', *makrinthike* 'lenghtened-NAct'.

In other cases, it depends on the origin of the verb, if it belongs to the demotic vocabulary, it does not happily combine with Non-active, e.g. alazo<sub>demotic</sub> vs. metavalo<sub>Katharevusa</sub> 'change':

(14) *alahtike metavlithike change change-NAct-3sg change-NAct-3sg

There are also restrictions on the *by*-phrase. Typically, in Greek, agents are introduced by the preposition *apo* 'from'. When *apo* combines with an animate DP it qualifies as a by-phrase in that it is licensed in passives but not in anticausatives. Not all verbs tolerate such PPs, when the animate DP is a singular and definite.

When *apo* combines with an inanimate DP expressing causers and natural forces, it is licit in anticausatives and not in passives. ‘Apo-PPs’ expressing causers differ from *me-PPs* which introduced only causers. Levin (2009) calls *me-PPs* ‘facilitating causers’.

(15) a. To vivlio graftike apo to Jani the book wrote-NAct-3sg by John 'The book was written by John'
b. i porta anikse apo ton aera/me ton aera/*apo to Jani the door opened from the wind/with the wind/ by John
A test to distinguish between NAct passives and anticausatives: the by-itself test, Alexiadou, Anagnostopoulou & Schäfer (2015), this PP signals ‘no particular causer’ and is incompatible with passives, which have an implicit external argument.

(16) to ktiirio gremistike apo mono tu/*o Janis dolofonithike apo monos tu
the building collapsed-NAct by itself/John murdered-NAct by himself

4. Greek ExObj verbs

ExObj verbs are ambiguous between agentive and non-agentive readings as well as stative and eventive readings (see Landau 2010 for a comprehensive discussion and references). Modification via agent oriented, in-X time, and for-X time PPs disambiguates between the various interpretations (Alexiadou & Iordachioaia 2014).

(17) a. O Janis enohlise ti Maria epitidhes/me ena bastuni.agentive
the John.nom annoyed.3sg the Maria intentionally/with a stick
‘John annoyed Mary intentionally/with a stick.’

b. To pehnidhi tin enohlise ti Maria se dheka lepta. eventive
the game.nom her annoyed.3sg the Maria.acc in ten minutes
‘The game annoyed Mary in ten minutes.’

c. To kurema tis Marias ton enohluse to Jani ja mia ora stative
the haircut.nom the Mary.gen him annoyed.3sg the John.acc for an hour
‘Maria’s haircut annoyed John for an hour.’

Agentive ExObj are accomplishments (Landau 2010). Alexiadou & Iordachioaia (2014) Eventive Ex-Obj verbs with inanimate causer subjects are also change of state verbs and have a causative component.

*Change of state component* (Alexiadou & Iordachioaia 2014): present in both the transitive (OE) and intransitive (SE) construal.

In Greek, (18a) and (19) with *ksana* in sentence final position work in both the repetitive and the restitutive scenario in (20b), while (18b) and (19b) with preverbal *ksana* are restricted to the repetitive scenario in (20a).

(18) a. Ta nea enohlisan to Jani *ksana*
the news annoyed the John again
The news annoyed John again

b. Ta nea *ksana* enohlisan to Jani
the news again annoyed the John
The news again annoyed John

(19) a. O Janis enohlithike me ta nea *ksana*
John annoyed-NAct with the news again

b. O Janis *ksana* enohlithike me ta nea
John again annoyed-NAct with the news
(20)  
a. **Repetitive scenario**  
O Janis ine poli iremos anthropos, ala ta nea panda kapos katafernun ke ton enohlun. Htes, os sinithos itan iremos, ala  
John is a very calm person, but the news somehow always manage to annoy him.  
Yesterday, as usual, he was calm, but ...  
i. (19a): OK (20a): OK  
ii. (19b): OK (20b): OK  

b. **Restitutive scenario**  
O Janis ine panda thimomenos. Htes, itan, kat’ekseres iremos, ja ligo, ala kapia  
John is always angry/annoyed. Yesterday, he was exceptionally calm for a while, but at some point ...  
i. (19a): OK (19a): OK  
ii. (20b): * (20b): *  

Importantly, they preferably appear with causer PPs, introduced via me 'with' in their intransitive variants:

(21)  
I Maria enohlithike me/?apo to pehnidhi  
the Maria.nom annoyed.NAct.3sg with/?from the game  
‘Maria got annoyed with the game.’

The stative ones clearly are not causative, they do not passivize and make use of a different preposition, ja 'for', to introduce the object of emotion argument. These are unaccusative predicates.

(22)  
a. Ta fita endiaferun to Jani  
the plants interest the John  

b. O Janis endiaferthike ja/*me/*apo ta fita  
John interested.NonAct for/*with/from the plants

- Alexiadou & Iordachioaia (2014): OE-SE alternation is similar to the causative alternation.

(23)  
a. Ta ruha stegnosan  
the clothes dried.3PL.Act with the sun  

b. Ta ruha kaikan me ti fotia  
the clothes burn.NAct.3PL with the fire  

- Do ExObj form passives?

Recall: most ExObj do not combine with NAct

(6) *ponethike ‘feel pain-NAct-3sg’  
*thimothike ‘anger-NAct-3sg’  
*adiastike ‘disgust-NAct-3sg’
Alexiadou & Iordachioaia (2014): these behave similar to unmarked anticausatives in the language, e.g. *dry in (23a), licensing me-PPs:

(24) O Janis thimose ti Maria/*apo ti Maria
John got angry with Mary/from Mary

ExObj eventive verbs that take NAct are: eknevriso ‘irritate’-eknevrisome ‘be irritated’, provlimatizo ‘puzzle’- provlimatizome ‘be puzzled’, enohlo ‘bother’-enohlume ‘be bothered’, stenahoro ‘sadden’-stenahorume 'be saddened'.

(25) provlimatistike me to Tsipra.
puzzled-NAct with Tsipras
He got puzzled with Tsipras.

With the exception of *bother, they do not seem to happily co-occur with *apo, preferring me, as other anticausatives do in the language. Their intransitive variants do not license volitional adverbs or purpose clauses. This holds for *bother too:

(26) I Maria enohlite apo ton Kosta/ ton thorivo.
The Maria bothers-NAct by the Kostas/ the noise
‘Mary is bothered by Kostas/the noise.’ (Kalamida 2015)

(27) a. provlimatistike apo monos tu
puzzled-NAct by himself
He got puzzled by himself

b. *i Maria stenahorithike epitides
the Mary-nom saddened-NAct on purpose

c. *i Maria enohlithike ja na paradigmatisun ta pedia
Mary annoyed-NAct so that set.example.3PL the children.acc
Mary was annoyed in order to set an example for the children.

• Further support from the area of nominalization: while ExObj form causative nominalizations, they do not form agentive ones, again perhaps with the exception of *bother.

(28) a. o (#eskemenos) provlimatismos tu Sturnara
the intentional puzzling the Sturnaras-gen
the intentional puzzling of Sturnaras

cf. b. I oikonomia/o Tsipras provlimatise to Sturnara
The economy/Tsipras puzzled the Sturnara-acc
Economy/Tsipras puzzled Sturnaras

(29) a. i enohlisi tis Marias me ta nea
the bothering the Mary.Gen with the news
Mary’s becoming bothered from the news
b. i skopimi enohlisi ton ptinon
   the intentional bothering the birds-gen
   (the reading here seems to more like harass; the Greek verb seems to be
   ambiguous between harass and bother giving mixed results for passives)

- They do not form -able adjectives (Alexiadou 2018) and resist afto-prefixation
  (Alexiadou 2014a), which both require a passive component:

  (30) a. *provlimatisimos
       puzzle-able
  b. *afto-provlimatistika
       self puzzled.NAct

The psych verbs that form NAct forms seem morphologically more complex than the ones that have active only forms in the sense that they contain some prefix. Active ones contain a verbalizer and a root:

  (31) a. thim-os 'anger-Masc' thim-on-o 'angerv-1sg'
  b. ek-nevr-iz-o 'prefix-nerve-v-1sg

- Conclusion: ExObj verbs do not passivize, even in their agentive interpretation.

5. Towards an account

Two structures for transitive ExObj:
Causative ExObj with causer stimuli arguments are similar to internally caused change of state verbs (Alexiadou 2014b, 2018, Alexiadou & Anagnostopoulou 2018). These do not passivize in Greek and take causer PPs and can form transitive variants when the subject is an inanimate causer:

       bloom, blossom, corrode, decay, erode, ferment, germinate, molt, rot, rust,

  (33) a. To fito anthise me ti zesti.
       The plant-NOM blossomed with the heat-ACC
       ‘The plant blossomed with the heat.’
  b. O kalos keros/*o Janis anthise ta fita
     the good weather/John blossomed the plants-Acc
     The good weather blossomed the plants.

Structural analysis:

  (34) vP
       causer v'
           v ResultP
           DP (undergoer/experiencer) Root (√BOTHER/√BLOSSOM etc.)
On the other hand, agentive verbs project an additional Voice layer, as in (35):

\[
\text{(35)} \quad \text{VoiceP} \\
\quad \text{agent} \quad \text{Voice'} \\
\quad \text{Voice} \quad \text{vP} \\
\quad \text{v} \quad \text{ResultP} \\
\text{undergoer/experimenter} \quad \sqrt{\text{BOTHER/\sqrt{BREAK}}} \quad \text{etc.}
\]

- It is precisely the presence vs. absence of Voice that interacts in a crucial way with the special syntactic properties of experiencers in eventive psychological constructions.
- The structure in (34) explains why most psych verbs do not passivize and cannot form NAct variants. They lack Voice, the layer realizing NAct morphology in Greek.
- The ones that have NAct contain Voice, specifically Middle Voice.
- **Restrictions on Voice** (Alexiadou, Anagnostopoulou & Schäfer 2015, Spathas, Alexiadou & Schäfer 2015, Oikonomou 2015): the head implicated in Greek passives is low enough and close enough to the verbal stem (Root/ Root + v) to be able to access it. Voice in (35) will be able to access v, the root +v combination and, depending on whether v is assumed to be a phase head or not even the root directly.
- **Lack of passivization**: as Greek has an ExObj-SE alternation, the presence of NAct yields predominantly a SE reading, in the same way the combination of Middle Voice with naturally reflexive verbs (wash-NAct plithike) yields a reflexive reading. As a result, the PP will be interpreted as a causer, and not an agent.
- Two ways to model this: i) either make Middle Voice sensitive to properties of the vP (Oikonomou 2015) or ii) assume that in the causative alternation Voice is expletive (Schäfer 2008, Alexiadou, Anagnostopoulou & Schäfer 2015). The fact that these verbs are not ambiguous between a passive and an anticausative reading, while naturally reflexive verbs are ambiguous between a passive and a reflexive reading, could be explained under both accounts.

6. **Puzzle 1: clitic doubling**

- Landau (2010): experiencer objects syntactically behave like subjects at some level of representation in experiencer object constructions.
- This happens when they are found in structures lacking Voice.
- This intuition goes back to Stowell (1986) and Cambell & Martin (1989) and relates to a semantic insight expressed in different forms in Grimshaw (1990), Dowty (1991) and Reinhart (2002), namely that there are two core properties behind subjec-thood: causing change and what Reinhart expresses with the feature [+ mental state involved].
When agentive Voice is present, both properties are associated with the agent argument. In structural terms, the agent has a privileged relationship with T, while the experiencer object is interpreted in the vP like any other object. It may undergo clitic doubling like all DP objects in Greek, animates and inanimates, falling under the Prominence condition, as shown in (36c). Assuming that clitic doubling always involves a movement relationship between the vP-internal DP object and the doubling clitic in T,\(^2\) this means that the object obligatorily reconstructs below the agent subject for phenomena like e.g. anaphora, binding, adjunct control (see Anagnostopoulou 1999):

As Anagnostopoulou details, DO-doubling in Greek is felicitous only with anaphoric definites, not with "novel" or "accommodative" definites (i.e. it is subject to the Prominence Condition, Heim 1982, cf. Anagnostopoulou 1994, for details). Experiencer object-doubling, on the other hand, violates the Prominence Condition.

Doubling of the direct object *ton sigrafeia* in a canonical transitive sentence is infelicitous in a context where the definite may satisfy the Familiarity Condition only via accommodation (i.e. linking of the index \(k\) of "the author" to the index \(i\) of "the new book on clitic doubling that the speaker reviewed some time ago" which has already been introduced in the discourse, resulting in an interpretation where the author is understood as the author of the book). The acceptability of (36c) in the same context indicates that object experiencer-doubling is not subject to this restriction.

\(^{36}\)a. Prin apo ligo kero eghrapsa mia vivliokrisia jia ena kenourjo vivlio pano sto clitic doubling.
'Some time ago, I reviewed a *new book* on clitic doubling.'

\(^{36}\)b. #Argghotera \(\text{ton}_k\) sinandisa \(\text{ton } \text{sigrafeia}_k\) se ena taksidhi \(\text{mu}\)
#Later on him met.1sg the author.acc in a trip my
‘Later on, I met the author during a trip of mine.’

Optional accusative doubling in transitives: *k cannot be linked to i via accommodation*

\(^{36}\)c. I kritiki \(\text{mu} \text{ton}_k\) enohlise \(\text{ton sigrafeia}_k\)
The criticism my him bothered the author.acc
toso oste na paraponethi ston ekdhoti
such that subj complain to-the editor
‘My criticism bothered the author so much that he complained about it to the editor.’

Obligatory accusative experiencer doubling with eventive experiencer object verbs: *k can be linked to i via accommodation*

- When Voice is absent, however, as is the case in psychological-constructions with a causer subject, then the two core subject properties are distributed over two different arguments, the causer and the experiencer, respectively, in structure (34). The experiencer

\(^2\) As is well-known, clitic doubling qualifies as a movement dependency in which doubled arguments are interpreted via the doubling clitic in the domain of T, where the clitic surfaces (see Alexiadou & Anagnostopoulou 1997, Anagnostopoulou 1994, 2003 for evidence from Greek, and cf. in particular Sportiche (1996) for all clitic doubling languages). See Anagnostopoulou (2006/2017) for an overview of the rich literature that has presented evidence for this on the basis of evidence from numerous different languages. There are different ways to implement this movement relationship; we are assuming here some version of the ‘big-DP hypothesis’ (Uriagereka 1995), following Anagnostopoulou (2003), Nevins (2011) and others, but any representation will do for present purposes.
must establish a movement relationship with T at some point in the derivation (overtly or at LF), as Stowell (1986), Cambell & Martin (1989) and Landau (2010) suggest.

- The strategy to do this in Greek is via **clitic doubling**, which is obligatory in this case, not subject to the Prominence Condition and leads to a subject-behavior of the experiencer with respect to e.g. backward anaphora, binding and adjunct control, a fact suggesting that it does not reconstruct below the causer subject.\(^3\)
- This explains why this type of clitic doubling accusative construction in Greek is sensitive to animacy, unlike all other instances of accusative clitic doubling.
- In the absence of Voice in (34), the vP is Spelled Out together with the TP when C is merged, allowing for experiencers to qualify as subjects for certain properties and to causer arguments to qualify as subjects for other properties in a kind of multiple subject construction.
- Note that if differential marking effects arises as a condition banning two non-distinct arguments within the same phase, as argued for in Richards (2010); cf. Alexiadou and Anagnostopoulou (2001, 2007), then this provides an additional **rationale** for the obligatoriness of clitic doubling with experiencers in eventive psychological experiencer object constructions.
- The fact that in (34) the object experiencer surfaces with accusative case is accounted for by assuming the theory of dependent case put forth in Marantz (1991) and recently further developed in Baker (2015), according to which the lower argument, in our case the experiencer, is assigned dependent case in opposition to a higher argument in the same domain, namely the causer.

### 7. Conclusions

- ExObj do not passivize in Greek, similarly to other change of state verbs
- Support for a particular structure for passive formation available in Greek.
- Causer and agents are introduced in different layers.
- Clitic-doubling in causer ExObj is there to establish multiple subject-hood.

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\(^3\) As noted in footnote 2, an alternative strategy for some speakers is to stress the verb and destress the object. We assume that this signals that the experiencer covertly moves out of the vP. In principle, this can be covert/LF movement or overt-covert movement in the sense of Bobaljik (2002).