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On the relation between labilizations and neuter gender: evidence from the Greek diachrony*

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ABSTRACT

This paper considers labile verbs, i.e., verbs that use the same morphology for the causative and the anticausative reading, and how this lability pattern has evolved and spread in relation to case alignment and, specifically, to the lack of case distinctions between the nominative and the accusative with neuter DPs. In the first part of the study, we examine the voice distinctions in the history of the Greek language, showing that the use of the same voice morphology (i.e., active) for causative and anticausative readings increases in Hellenistic Greek and spreads progressively until Early Modern Greek, as indicated by empirical evidence in dialectal texts. The second part of the study attributes this pattern to the lack of the nominative-accusative case distinction in neuter nouns that in turn can be interpreted as either objects of a transitive (causative) verb or subjects of an intransitive verb (anticausative). In this aspect, neuter nouns demonstrate a type of split ergativity in the Greek labile alternations which thus require a split ergativity analysis based on DP features.

1. Introduction

Labile verbs can demonstrate alternation in their transitivity patterns without morphological alternation in the verbal form. The present study will use the term labile verbs to refer to verbs that can have a causative or an anticausative reading bearing the same morphology (Haspelmath 1993: 92; Kulikov 2003). Modern Greek, for example, marks both causative and anticausative types for most cause-of-change verbs with an active morphology.

As shown in Examples (1) and (2), Greek has two sets of forms for active and nonactive voice morphology. In Modern Greek, transitive, causative, and most anticausative constructions appear with active morphology, whereas nonactive (middle/passive) morphology occurs systematically in all passives and reflexives and in some anticausatives (Theophanopoulou-Kontou 1983-4, 2004; Tsimpli 1989, 2006; Embick 1998; Alexiadou and Anagnostopoulou 1999, 2004).

(1) Modern Greek

a. active transitive

I	*Maria*	***htipise***	*ton*	*Jani*.[1]
ART.NOM.SG	Maria:NOM.SG	hit:PST.PFV.ACT.3SG	ART.ACC.SG	Janis:ACC.SG

'Maria hit Janis.'

b. active causative

I	*Maria*	***espase***	*to*	*vazo.*
ART.NOM.SG	Maria:NOM.SG	break:PST.PFV.ACT.3SG	ART.SG.N	vase:SG.N

'Maria broke the vase.'

c. active anticausative

Espase	*to*	*vazo.*
break:PST.PFV.ACT.3SG	ART.SG.N	vase:SG.N

'The vase broke.'

(2) Modern Greek

a. nonactive anticausative

I	*paraghoghi*	*xafnika*	***miothike***.[2]
ART.NOM.SG	production:NOM.SG	suddenly	reduce:PST.PFV.NACT.3SG

'The production was suddenly reduced.'

b. nonactive passive

To	*kimeno*	***ghraftike***	*apo*	*ti*	*Maria.*
ART.SG.N	text:SG.N	write:PST.PFV.NACT.3SG	by	ART.ACC.SG	Maria:ACC

'The text was written by Maria.'

c. nonactive reflexive

I	*Maria*	***lustike.***
ART.NOM.SG	Maria:NOM	shampooed:PST.PFV.NACT.3SG

'Maria gave herself a shampoo.'

Similarly to Modern Greek, verbal morphology (active, middle, passive) in Classical Greek encode voice distinctions (the main contrast is between active and mediopassive [nonactive] because middle and passive forms are distinguished only in the Future and the Aorist tenses).[3] Mediopassive morphology (in all tenses) and middle and passive morphology (in the Future and the Aorist tenses)[4] occur in all anticausative types that participate in a causative–anticausative alternation (i.e., types that can have both a causative and an anticausative

use/interpretation, as in Example (3a)) rather than in a small number of anticausatives, as is the case with Modern Greek (Example (2a) vs. (1c) and (3b)).

(3) anticausatives

a. in Classical Greek

hōs *hoí* *te* *neὸi* *pántes* *autómatoi*
as ART.NOM.PL and temples:NOM.PL all:NOM.PL automatic:NOM.PL
aneőigonto.
open:IMPF.NACT.3PL
'...that all temples were opening by themselves.'
(Xen. Hell. 6.4.7; 5–4 BC)

b. in Modern Greek

Kapies *portes* ***anighan*** *aftomata.*
INDF.NOM.PL doors:NOM.PL open:PST.IPFV.ACT.3PL automatically
'Some doors were opening automatically.'

On the other hand, a transitive type can bear active or nonactive (middle/passive) morphology in Classical Greek. With nonactive morphology ("auto-benefactive transitives"), the transitive type denotes that the subject acts on himself or for himself and marks the interest of the subject in the action (Smyth 1984 [1920]: 107) (Example (4a)). Causatives, however, are marked only by active suffixes (consequently, Classical Greek has no "auto-benefactive causatives") (Example (4b)).

(4) Classical Greek

a. transitive with an auto-benefactive meaning (i) vs. transitive (ii)

(i) *hóti* *hoi* *ánthrōpoi* *autoὺs* *[toὺs agráphous nómous]*
that ART.NOM.PL people:NOM.PL 3PL.ACC.PL.M [the unwritten laws]
éthento.
set:AOR.NACT(MID).3PL
'...that people set them [the unwritten laws] for themselves.'
(Xen. Mem. 4.4.19; 5–4 BC)

(ii) *theoὺs* *oîmai* *toὺs* *nómous* *toútous* *toîs*
god:ACC.PL think:PRS.1SG ART.ACC.PL law:ACC.PL that:ACC.PL.M ART.DAT.PL

anthrṓpois ***theînai***.
people:DAT.PL set:AOR.ACT.INF
'I think that the gods set these laws for the people.'
(Xen. Mem. 4.4.19–20; 5–4 BC)

b. causative
ouk ***anéōigon*** *tàs* *púlas.*
NEG open:IMPF.ACT.3PL ART.ACC.PL doors:ACC.PL
'They did not open the doors.'
(Xen. An. 5.5; 5–4 BC)

This section has demonstrated that Classical Greek and Modern Greek differ significantly with respect to how they mark the various transitive and intransitive patterns. In Classical Greek, the nonactive (middle/passive) can mark both intransitive (anticausative, reflexive, passive) and transitive (auto-benefactive transitive) constructions, whereas in Modern Greek, the nonactive marks only intransitive constructions, but not anticausative constructions, which regularly appear with active morphology. In the next section, we present the changes that led to this different situation in Modern Greek by placing a particular emphasis on Greek dialectal texts. In section 3.1, we argue that DPs of neuter gender are important for developing lability (specifically, for triggering lability in causative–anticausative constructions). Section 3.2 presents evidence in favor of an analysis in which split ergativity is based on the gender features of the DP (from a diachronic perspective) and is related to lability in causative–anticausative constructions. Section 4 summarizes the main conclusions of the article.

2. Changes in Voice and Transitivity in the Greek diachrony

In this section, we present the basic patterns of change that caused the rise of lability in Greek, i.e., the similarity of the marking of the anticausative and the causative types. Lability emerged in this manner because of a syntactic innovation, the use of a verb in a new syntactic pattern (specifically, causative construction), and from a morphological change. Lability occurs when a verb with active morphology that was previously used only intransitively (i.e., that did not participate in a causative-anticausative alternation) began being used transitively (in causative sentences, too; *causativizations*). The morphological change refers to verbs that participated in causative-anticausative alternations but were marked with nonactive

(middle/passive) morphology in their anticausative use; lability thus resulted from the change in the morphology of these verbs in their anticausative use from nonactive (middle/passive) into active ("activizations"). Data from the Greek dialectal texts (Cypriot Greek from the 14th century and vernacular dialectal Greek texts from the 16th and 17th centuries) show the pace of the extension of the "new" types, which co-exist competitively with the older types.

2.1. *Causativizations*

The process of *causative extension* (i.e., the derivation of novel causative types based on earlier, non-alternating intransitives) is highly productive as early as the Classical and the Hellenistic-Roman periods and occurs with a large number of change-of-state verbs (mainly, externally caused verbs). Lavidas (2009) has distinguished three main types of causative extension based on the morphology of the earlier intransitive type:[5]

Pattern I: intransitive verb with active morphology → <u>labile</u> verb

This pattern of change generates a new active (i.e., with a verb that bears active morphology) causative use of an earlier active intransitive non-alternating type, thus resulting an alternating labile type.

(5) Classical Greek: intransitive active → Hellenistic-Roman Koine: labile

a. Classical Greek: intransitive active

hóti oukh hekὸn ***examartánō*** *all' amathíai têi emêi*
that NEG purposely fail:PRS.ACT.1SG but ignorance:DAT.SG ART.DAT.SG1SG.DAT
'...that I do not do wrong on purpose, but due to my ignorance.'
(Pl. Grg. 488a.3; 5–4 BC)

b. (i) Hellenistic-Roman Greek: intransitive active

hupomnēstéon dè kaì patérōn agathôn eníous,
should-remind PTC and father:GEN.PL good:GEN.PL few:ACC.PL
hótan ***examartánōsin***
when fail:PRS.ACT.3PL
'And some men, too, should be reminded of their good fathers, when they do wrong.'
(Plut. Mor. (Praecepta). 810b.2; AD 1–2)

(ii) Hellenistic-Roman Greek: transitive active

kaì ***exḗmartes*** *tòn laón mou tòn Israêl*
and fail:AOR.ACT.2SG ART.ACC.SG people:ACC.SG 1SG.GEN ART.ACC.SGIsrael:ACC

toû *parorgísai* *me*
ART.GEN.SG make-angry:AOR.ACT.INF 1SG.ACC
'And you made my people, Israel, do wrong and provoked me to anger.'
(LXX. (Kings). III.16.2; 2–1 BC)

Pattern II: intransitive verb with active/nonactive morphology → alternating verb (active causative, active/nonactive anticausative)

In this pattern, a new active causative use emerges for an earlier active/nonactive (i.e., with free alternation of active and nonactive morphology) intransitive non-alternating verb, thus resulting in an alternating (active causative, active/nonactive anticausative) verb. This pattern also produces labile forms because an active form can have both causative and anticausative readings.

(6) Classical Greek: intransitive active/nonactive → Hellenistic-Roman Koine: alternating

a. (i) Classical Greek: intransitive active

athroizoménou *d'* *entaûtha* *eikótōs* *toû*
collect:PTCP.NACT.GEN.SG PTC here fairly ART.GEN.SG
haímatos ... ***leukaínei***.
blood:GEN.SG whiten:PRS.ACT.3SG
'As the blood seems to collect here ... it becomes whiter.'
(Aristot. Pr. 890a.9; 4 BC)

(ii) Classical Greek: intransitive nonactive

hupò *dè* *puròs* *kaì* *khrónou* *pakhúnetai*
by PTC fire:GEN.SG and time:GEN.SG thicken:PRS.NACT.3SG
kaì ***leukaínetai***
and whiten:PRS.NACT.3SG
'It becomes thicker and whiter from fire and time.'
(Arist. Meteor. 383b.29; 4 BC)

b. (i) Hellenistic-Roman Greek: intransitive active

leukaínoun *hai* *tríkhas* *tês* *kephalês* *autoû*
whiten:PRS.ACT.3PL ART.NOM.PL hair.PL ART.GEN.SG head:GEN.SG 3SG.GEN.M
'The hair of his head becomes white.'
(Apoc. (Revelation). versio tertia. 322.4; AD 2)

(ii) Hellenistic-Roman Greek: intransitive nonactive

eisì *gàr* *pollà* *mélana,* *hà* ***leukaínontai***

be:PRS.3PL PTC many:PL.N black:PL.N REL.PL.N whiten:PRS.NACT.3PL

'As there are many black things which (can) whiten.'

(Ammon. in Porph. 114.3; AD 5)

(iii) Hellenistic-Roman Greek: transitive active

leukaínei *mèn* *tà* *esthḗmata*

whiten:PRS.ACT.3SG PTC ART.PL.N cloth:PL.N

'It whitens the clothes.'

(Sext. Emp. M. (Against the Mathematicians). 9.247; AD 2–3)

Pattern III: intransitive verb with nonactive morphology → alternating verb (causative type with active morphology and anticausative type with nonactive morphology)

In this type, we observe a new active causative use of an earlier nonactive intransitive (non-alternating) type, thus resulting in an alternating but not labile (active causative, nonactive anticausative) verb.

(7) Classical Greek: intransitive nonactive → Hellenistic-Roman Koine: alternating

a. Classical Greek: intransitive nonactive

kaì *éti* *mâllon* ***hḗdomai*** *phílois* *agathoîs*

and even more enjoy:PRS.NACT.1SG friend:DAT.PL good:DAT.PL

'I enjoy good friends, more than they (enjoy good horses or dogs or birds).'

(Xen. Mem. 1.6; 5–4 BC)

b. (i) Hellenistic-Roman Greek: intransitive nonactive

hoîon *goûn* ***hḗdetai*** *ho* *méthusos*

so PTC enjoy:PRS.NACT.3SG ART.NOM.SG drunk:NOM.SG

emphoroúmenos *oínou*.

fill:PTCP.NACT.NOM.SG wine:GEN.SG

'So then the drunk enjoys being filled with wine.'

(Sext. Emp. P. (The Outlines of Pyrrhonism). 3.195.5; AD 2–3)

(ii) Hellenistic-Roman Greek: transitive active

hōs *tò* *sitíon* *è* *tò* *potòn* ***hḗdei*** *mèn* *tòn*

as ART.SG.N food:SG.N or ART.SG.N drink:SG.N

enjoy:PRS.ACT.3SG PTC ART.ACC.SG

phagónta *è* *piónta*.
eat:PTCP.ACC.SG or drink:PTCP.ACC.SG
'As the food or the drink pleases the person who is eating or drinking.'
(Sext. Emp. M. (Against the Mathematicians). 7.368.3; AD 2–3)

Hence, the causative extension is a syntactic change that caused lability (identical morphological marking for causatives and anticausatives) in two of its three patterns. In the case that the earlier intransitive had an active (or a free alternation of active and nonactive) morphology, the innovation of the causative extension resulted in a verb that could be used transitively and intransitively with the same morphology. The same result (i.e., lability), though caused by a different process, occurs because of a morphological change. The following section demonstrates that the morphological change from nonactive to active voice morphology is evident in the history of the Greek language.

2.2. *"Activizations"*

As previously mentioned, in Classical Greek, all forms employed in causative uses are active, whereas anticausatives bear nonactive morphology (some anticausatives can bear nonactive morphology in free alternation with active morphology). Verbs in passive constructions can bear active morphology, but their marking with nonactive morphology has also started to be regular and productive.

(8) Classical Greek
nonactive anticausative – active causative
a. *hṓste* *tà* *phutà* *kíndunos* *hupò* *mèn* *toû*
so ART.PL.N plant:PL.N risk:NOM.SG by PTC ART.GEN.SG
húdatos ***sḗpesthai***.
water:GEN.SG rot:PRS.NACT.INF
'So the plants would run the risk of rotting through too much water.'
(Xen. Oec. 19.11; 5–4 BC)
b. *hai* *hēsukhíai* ***sḗpousi*** *…* *tà* *tês* *póleōs*
ART.NOM.PL calmness:NOM.PL rot:PRS.ACT.3PL ART.PL.N ART.GEN.SG city:GEN.SG
prágmata.
state:PL.N

‘Calmness rots the state of a city.’
(Pl. Tht. 84c.8; 5–4 BC)

In contrast to Classical Greek, both Hellenistic-Roman and Medieval Greek follow a general restructuring pattern in the causative-anticausative constructions toward the spread of active morphology in anticausatives and consequently, of labile types (i.e., identical morphology signals both causative and anticausative uses):

(9) active anticausatives in Medieval Greek

a. *prin* *vlepe* *na* *mi* ***vrazi***.
before see:IMP.2SG to NEG boil:IPFV.ACT.3SG
‘Check it before so that it will not boil.’
(Ptochopr. III.128; AD 12)

b. *mone* *ton* ***anighun*** *paraftika.*
alone:NOM.PL 3PL.GEN open:PRS.ACT.3PL immediately
‘[The doors] open by themselves immediately.’
(Kallim. and Chrys. 1280; AD 14)

The active morphology, therefore, spreads to anticausatives that participate in causative–anticausative constructions and is not directly related to the causative extension in these cases (i.e., to the derivation of a new causative–anticausative alternation based on an earlier, non-alternating intransitive). Hence, this change is a change in the voice morphology of anticausatives from nonactive (middle/passive) into active (“activization”).[6] This change does not indicate the emergence of a new active anticausative use of an earlier active causative/transitive, despite the same phenomenon (active rather than nonactive anticausatives) having been described in historical grammars[7] (but without textual evidence) as a new anticausative use based on an earlier transitive. The method that historical grammars applied does not consider that, for the specific verbs, an anticausative use/reading with a nonactive morphology existed in previous periods of the language.

2.3. *Changes in Voice and Greek dialectal texts*

Greek dialectal texts from the 16th and 17th centuries show the end stage of this lengthy process of causativizations and "activizations". During this period, most Modern Greek morpho-syntactic characteristics emerged (Karantzola 2006). The spread of active morphology to most anticausative types occurred, and affixes (such as *-(e/o)n-*) began to mark both causative and anticausative use of a verb.

Lavidas and Therapontos (2009) have argued that in Modern Cypriot Greek, active morphology for anticausative types is used with a greater number of verbs and is less restrictive than in Standard Modern Greek. With regard to the diachrony of the Cypriot Greek dialect, the legal text of *Assizai* (14th century) is considered to be the earliest text in the Cypriot Greek dialect (cf. Chatzidakis 1905–1907; Tonnet 1993; Hadjioannou 1993), and active morphology for both causative and anticausative types is attested in *Assizai* (Examples (10a), (10b)).

(10) Cypriot Greek

a. active anticausative

dhia	*na*	***alafrini***	*to*	*karavin.*
for	to	lighten:PFV.ACT.3SG	ART.SG.N	ship:SG.N

'So that the ship is lightened.'

(Assizai 47.11; AD 14)

b. active causative

dhia	*n'*	***alafrinun***	*to*	*karavin.*
for	to	lighten:PFV.ACT.3PL	ART.SG.N	ship:SG.N

'So that they lighten the ship.'

(Assizai 47.8; AD 14)

In the 15th and 16th centuries (*Chronicle of Makhairas*: 15th century, *Boustronios, Diigisis Kronikas Kyprou*: 16th century), the anticausative types bear (mainly) active morphology (Example (11)), (rarely and mostly in the case of psych-verbs) nonactive morphology (Example (12)), or both active and nonactive morphology (Examples (13a), (13b)).[8]

(11) Cypriot Greek

active anticausative

os	*opu*	*n'*	***anixi***	*o*	*keros.*
until	when	to	open:PFV.ACT.3SG	ART.NOM.SG	weather:NOM.SG

'Until the weather clears.'

(Makhairas 3.283; AD 15)

(12) Cypriot Greek

nonactive anticausative

ethimothisan	*ke*	***agkristikan***.
get-angry:PST.PFV.NACT.3PL	and	get-upset:PST.PFV.NACT.3PL

'They became angry and upset.'

(Makhairas 3.329; AD 15)

(13) Cypriot Greek

a. active anticausative

ontan	***eteliosen***	*i*	*liturghia.*
when	end:PST.PFV.ACT.3SG	ART.NOM.SG	mass:NOM.SG

'When the mass ended.'

(Makhairas 3.416; AD 15)

b. nonactive anticausative

dhen	***eteliothin***	*i*	*aghapi*	*tora.*
NEG	finish:PST.PFV.NACT.3SG	ART.NOM.SG	love:NOM.SG	now

'Love is not finished now.'

(Makhairas 3.296; AD 15)

Significantly, in the *Rimes of Love* (16th century), active morphology for both causative and anticausative types is also expanded to other verbal concepts (Examples (14a), (14b)).

(14) Cypriot Greek

a. active anticausative

ke	***áfti***	*kardhia*	*mu.*
and	burn:PRS.ACT.3SG	heart:NOM.SG	1SG.GEN

'And my heart burns.'

(Rimes 6.10; AD 15)

b. causative

toson *to* *fos* *su…* *pu* *m'* ***áfti.***

much ART.SG.N light:SG.N 2SG.GEN REL 1SG.ACC burn:PRS.ACT.3SG

'Your light is so bright that it burns me.'

(Rimes 5.4; AD 15)

The "end" of this (lengthy, i.e., starting from Hellenistic Koine) process of causativizations and "activizations" appears in the Greek vernacular texts of the 16th and 17th centuries (during Turkish and Venetian occupation in Greece; see Karantzola 2006) that moreover provide evidence of the emergence of most Modern Greek morpho-syntactic characteristics. In these texts, in many cases, the affix *-n-(o)* (*-en-(o), -on-(o)*) is used with verbs that participate in causative–anticausative constructions (Examples (15a), (15b)), while most anticausative types now bear an active morphology (Example (16)).

(15) Cretan Greek

a. anticausative (*-en-)*

ke *i* *anthropi* *ton* *meghalon*

and ART.NOM.PL people:NOM.PL ART.GEN.PL big:GEN.PL

palation ***plut-en-usi.***

palace:GEN.PL get-rich:PRS.ACT.3PL

'And people from big palaces become rich.'

(Morezinos. Klini Solomontos. 123; AD 16)

b. causative (*-en-*)

opjos ***plut-en-i*** *polus.*

REL.NOM.SG make-rich:PRS.ACT.3SG many:ACC.PL

'...whoever enriches many.'

(Morezinos. Klini Solomontos. 133; AD 16)

(16) Cretan Greek

active anticausative

totes *olpizo* *ke* *i* *piji* *ekini*

then hope:PRS.1SG and ART.NOM.SG spring:NOM.SG that:NOM.SG.F

na ***anixi.***

to open:PFV.ACT.3SG

‘Then, I hope also that this spring opens.’
(Morezinos. Klini Solomontos. 20; AD 16)

The vernacular texts of this period (16th and 17th centuries) show the pace of the extension of the “new” types, which coexist competitively with the earlier types (Example (17)). Dialectal texts in a diachronic perspective offer examples of language change that occurred through language contact (Example (18), Venetian influence; see also Karantzola 2005).

(17) Heptanesian Greek

to *fidhi* [...] ***xanakenurghosi*** [...] *ke* *aftos* ***xanakenurghonete***.
ART.SG.N snake:SG.N relive:PFV.ACT.3SG and 3SG.NOM relive:PRS.NACT.3SG
‘The snake [...] to relive [...] and it relives.’
(Kartanos. Palea te ke Nea Dhiathiki. 60; AD 16)

(18) Heptanesian Greek

dhen *eborusan* *n’* *anixun* *na* ***dhosun*** ***oxo***.
NEG can:PST.IPFV.3PL to open:PFV.ACT.3PL to give:PFV.ACT.3PL out
‘They could not open it and go outside.’
(Morezinos. Klini Solomontos. ε΄31; AD 16)

Lavidas (2009) has argued that the change that seems to determine the rise of lability in Greek is a change towards the absorption/blocking of the accusative case by nonactive morphology (DPs in the accusative case as direct objects of nonactive verbs are no longer allowed): nonactive morphology is no longer related to the absorption of other thematic roles (benefactive, goal, theme), but to the accusative case (that the nonactive morphology absorbs/blocks). Furthermore, Lavidas has analyzed this change as resulting from (a) the loss of the auto-benefactive meaning that was denoted by the nonactive transitive types (thus making nonactive[9] verbal types unable to take DPs in the accusative case as their complements),[10] and (b) the spread of the accusative case, which replaces the dative and genitive cases, as the case used for direct objects.

In the following section, we analyze the possible role of DPs of neuter gender in the development of lability in Greek. We show that the neuter gender is responsible for triggering lability in causative–anticausative constructions. We claim that because the reanalysis that leads to lability is possible only when the DP is neuter, a type of split ergativity is relevant in these cases.

3. Lability, case, and neuter gender

3.1. *Lability and case*

The question that arises is what *triggers* the processes of causativization and "activization" and the spread of the active types in anticausative uses. Based on Lightfoot's (2006a, 2006b) cue-based approach, we hypothesize that case is crucial in generating these changes and determines the nature of structural reanalysis.

The morphological case appears to influence labilization (that occurs because of causativization or "activization"). In Examples (19) and (20), the same morphological form can be used for both the S(ubject) of the anticausative type and the P(atient) of the causative type if the DP is neuter.[11] Two important parameters allow and facilitate this reanalysis. First, Greek is a pro-drop language. A sentence with one argument can be analyzed either as an intransitive sentence (with a P argument, for example) or as a transitive sentence with a null subject. Second, subjects in Greek can be postverbal, with increasing frequency from Hellenistic Greek onwards (cf. Taylor 1992). A postverbal neuter noun can be ambiguous with respect to a subject or an object grammatical function.

(19) Heptanesian Greek[12]

a. ***exevlastosan*** *os ipamen* *pasa*[13] *horton* *ke* *pasa* *dhendhron*
sprout:PST.PFV.ACT.3PL as say:PST.PFV.1PL every herb:SG.N and every tree:SG.N
me *ton* *karpon* *aftu.*
with ART.ACC.SG fruit:ACC.SG 3SG.GEN.M
'As we said, every herb and tree with its fruit sprout / they made every herb and tree sprout with its fruit.'[14]
(Kartanos. Palea te ke Nea Dhiathiki. 53v; AD 16)

b. *ke* *tin* *alin* *imeran* *orise* *ke*
and ART.ACC.SG next:ACC.SG day:ACC.SG command:PST.PFV.3SG and
elalisan *ta* *orghana* *ke* *ta* *vukina.*
sound:PST.PFV.ACT.3PL ART.PL.N organs:PL.N and ART.PL.N buccina:PL.N
'And the next day he commanded and the organs and buccinas sounded / and they made the organs and buccinas sound.'
(Kartanos. Palea te ke Nea Dhiathiki. 211v; AD 16)

(20) Cretan Greek

a. *poté* *to* *fos* *tis* *dhen* ***zvini***.
never ART.SG.N light:SG.N 3SG.GEN.F NEG extinguish:PRS.ACT.3SG
'Her light does not extinguish ever / she does not extinguish her light ever.'
(Morezinos. Klini Solomontos. 88.156.140r; AD 16)

b. *na* ***anixi*** *to* *artofilakion.*
to open:PFV.ACT.3SG ART.SG.N bread-bin:SG.N
'...that the bread bin will open / that s-he will open the bread bin.'
(Morezinos. Klini Solomontos. 90.163.146v; AD 16)

Following Lightfoot's cue-based approach, we assume that case is crucial to these changes because it is considered a cue for language acquisition and because consequently, it can determine the path of structural reanalysis. Case functions as a cue because its marking signals different structures (where case is assigned).

a. anticausative construction
na ***anixi*** *to* *artofilakion.*
to open:PFV.ACT.3SG ART.SG.N bread-bin:SG.N
'...that the bread bin will open.'

→ reanalysis:

b. causative construction
na ***anixi*** *to* *artofilakion.*
to open:PFV.ACT.3SG ART.SG.N bread-bin:SG.N
'...that s-he will open the bread bin.'

Examples (19a) and (20b) [repeated in Examples (21) and (22)] show the potential for such a reanalysis in Early Modern Greek texts[15]:
(i) the reanalysis of an intransitive based on the neuter DP (that can be the subject of an intransitive verb or the object of a transitive verb) can generate a new causative use.[16]

(21) Heptanesian Greek

exevlastosan *os* *ipamen* *pasa* *horton* *ke* *pasa* *dhendhron*
sprout:PST.PFV.ACT.3PL as say:PST.PFV.1PL every herb:SG.N and every tree:SG.N
me *ton* *karpon* *aftu.*

with ART.ACC.SG fruit:ACC.SG 3SG.GEN.M

'As we said, every herb and tree with its fruit sprout / and they made every herb and tree with its fruit sprout.'

(Kartanos. Palea te ke Nea Dhiathiki. 53v; AD 16)

(ii) the reanalysis of a transitive based on the neuter DP (that can be the subject of an intransitive verb or the object of a transitive verb) can cause the emergence of an active anticausative (i.e., the change in the morphology of an existing alternating verb).

(22) Cretan Greek

na	***anixi***	*to*	*artofilakion.*
to	open:PFV.ACT.3SG	ART.SG.N	bread-bin:SG.N

'...that he will open the bread bin / that the bread bin will open.'

(Morezinos. Klini Solomontos. 90.163.146v; AD 16)

The question that arises is why neuter DPs appear to be notably important for lability, namely, in triggering lability in causative–anticausative constructions. The examples above seem to indicate a type of *split ergativity*: lability (and reanalysis) can occur only if the DP is neuter; otherwise, the DP is marked as nominative or accusative, and only one interpretation is possible (see Examples (24)-(27) below). In the next section, we argue that split ergativity based on the gender features of the DP is possible (from a diachronic perspective) and is related to lability in causative–anticausative constructions.

3.2. *Lability and gender: split ergativity*

In this section, we posit a correlation between transitivity and split ergativity in Greek that is related to the diachrony of case and gender. We have shown that neuter nouns can trigger the causative–anticausative labile alternation in the history of Greek. We will discuss the characteristics of split ergativity in Greek that concern only the instances of causative–anticausative constructions with a neuter argument. In this case, the neuter argument has the same morphological form as S in an anticausative (intransitive) construction and as P in a causative (transitive) construction. With regard to the syntactic representation of the characteristics of split ergativity, we follow Merchant (2006), who has argued that the ergative case is assigned uniformly inside the *v*P to all subjects but that some subjects then

raise and are assigned a second case value, the nominative case. According to this analysis, split ergative languages vary with respect to which subjects/objects move into the nominative/accusative-assigning domain.

In terms of case marking, a language can be classified as morphologically ergative if the case marking of the intransitive Subjects (S) is identical to that of the transitive Patients (P) but different from that of the transitive Agents (A). A language can be viewed as morphologically accusative if the case marking of the intransitive Subjects is identical to that of the transitive Agents but different from that of the transitive Patients (Comrie 1973, 1979, 1981; Plank 1979; Dixon 1979, 1987, 1994). We follow Plank (1979), who relates ergative/accusative characterization to *construction-specific realizations of thematic roles*: in ergative constructions, P appears as S, and A is assigned a different case; in accusative constructions, A appears as S, and P has a different case.[17] Many languages show a mixture of ergative and accusative case marking. The splits can be conditioned by one or more of the following factors: (i) the semantic nature of the core DPs, (ii) the semantic nature of the verb, (iii) the tense and/or aspect and/or mood choice of the clause, and (iv) the main/subordinate status of the clause (Comrie 1973, 1979, 1981; Plank 1979; Dixon 1979, 1987, 1994).

Roussou (2009) relates split ergativity to the morphosyntactic realization of the nonactive morphology in Modern Greek. According to Roussou, the nonactive morphology in Modern Greek is conditioned by aspect and is therefore partly similar to the ergative split attested in some languages. For Roussou, the nonactive voice in the perfective aspect has an active ending (for subject agreement), but the *-th-* affix picks up the internal argument; in the imperfective aspect, the specialized nonactive affix picks up the variable corresponding to the internal argument and promotes it to the subject slot word-internally. The present analysis tends in the same direction because it attempts to reveal an additional correlation between transitivity in Greek and split ergativity, but adopts a different approach relating split ergativity not to voice morphology but to the diachrony of case and gender. Neuter nouns, which are ambiguous between S and P with a change-of-state verb, can trigger the causative–anticausative labile alternation in the history of Greek. Our discussion of the characteristics of split ergativity in Greek concerns only the instances of causative–anticausative constructions with a neuter argument. In these cases, the neuter argument has the same morphological form as S in an anticausative (intransitive) construction and as P in a causative (transitive) construction (Example (23)). This fact can be considered a trigger for innovative labilizations (causativizations or "activizations") of intransitive verbs with neuter subjects.

(23) Causative–anticausative alternation:

S: *to* *vazo*
ART.SG.N vase:SG.N
in the sentence: *espase* *to* *vazo*
break:PST.PFV.ACT.3SG ART.SG.N vase:SG.N
'The vase broke.'

P: *to* *vazo*
ART.SG.N vase:SG.N
in the sentence: *espase* *(aftos)* *to* *vazo*
break:PST.PFV.ACT.3SG (3SG.NOM.M) ART.SG.N vase:SG.N
'He broke the vase.'

A is usually animate and is not required to be of neuter gender (i.e., with a result of neutral alignment) if S and P are neuter. With regard to split ergative causative–anticausative constructions, if S and P are neuter and have the same form, A can be masculine, feminine, or neuter (Example (24)). Only in the case of a neuter A is there a neutral alignment (Example (25)).

(24) A: *o* *andhras*
ART.NOM.SG man:NOM.SG
in the sentence: *espase* *o* *andhras* *to* *vazo*
break:PST.PFV.ACT.3SG ART.NOM.SG man:NOM.SG ART.SG.N vase:SG.N
'The man broke the vase.'

(25) A: *to* *pedhi*
ART.SG.N child:SG.N
in the sentence: *espase* *to* *pedhi* *to* *vazo*
break:PST.PFV.ACT.3SG ART.SG.N child:SG.N ART.SG.N vase:SG.N
'The child broke the vase.'

For this reason (A is not required to be of neuter gender) we do not call this type of alignment split *neutral alignment* (as a reviewer suggested). Typically, the As in transitive/causative clauses are animate, are either masculine or feminine, and consequently, are encoded differently than are neuter Ss and neuter Ps. Nevertheless, when S and P of a causative–anticausative alternation are masculine or feminine, the alignment is not ergative, but

accusative, because the form of masculine and feminine DPs in the S role is the same with their form in the A role but differs from their form in the P role (Examples (26) and (27)):

(26) Feminine DPs

S: *i* *tzamaria*
ART.NOM.SG pane-of-glass:NOM.SG
in the sentence: *espase* *i* *tzamaria*
break:PST.PFV.ACT.3SG ART.NOM.SG pane-of-glass:NOM.SG
'The pane of glass broke.'

P: *tin* *tzamaria*
ART.ACC.SG pane-of-glass:ACC.SG
in the sentence: *espase* *(afti)* *tin* *tzamaria*
break:PST.PFV.ACT.3SG (3SG.NOM.F) ART.ACC.SG pane-of-glass:ACC.SG
'She broke the pane of glass.'

A: *i* *jineka*
ART.NOM.SG woman:NOM.SG
in the sentence: *espase* *i* *jineka*
break:PST.PFV.ACT.3SG ART.NOM.SG woman:NOM.SG
tin *tzamaria*
ART.ACC.SG pane-of-glass:ACC.SG
'The woman broke the pane of glass.'

(27) Masculine DPs

S: *o* *pagkos*
ART.NOM.SG bench:NOM.SG
in the sentence: *espase* *o* *pagkos*
break:PST.PFV.ACT.3SG ART.NOM.SG bench:NOM.SG
'The bench broke.'

P: *ton* *pagko*
ART.ACC.SG bench:ACC.SG
in the sentence: *espase* *(aftos)* *ton* *pagko*
break:PST.PFV.ACT.3SG (3SG.NOM.M) ART.ACC.SG bench:ACC.SG
'He broke the bench.'

A: *o* *andhras*
ART.NOM.SG man:NOM.SG

in the sentence: *espase* *o* *andhras*
break:PST.PFV.ACT.3SG ART.NOM.SG man:NOM.SG
ton *pagko*
ART.ACC.SG bench:ACC.SG
'The man broke the bench.'

Three general arguments can further demonstrate a link between gender and split ergativity:

(1) More broadly, gender appears to be important for case underspecification and assignment. For example, Lumsden (1987, 1992) has shown that the distinction between morphological gender[18] markers and the syntactic positions where the markers are inserted parallels the distinction between the morphological case and the abstract case. This parallelism is evidenced by instances of case underspecification and case attraction and conflict (Taraldsen 1981). For example, in German, when the wh-word of the relative in the constructions in Example (28) has to realize both S and P, the neuter type (*was*) appears in either S or P contexts, thus indicating that the neuter type is not specified for either case (*neutralization*):

(28) Modern German

a. *Ich* *zerstöre* ***was*** *mich* *ärgert.*
1SG.NOM destroy:PRS.1SG REL.SG.N 1SG.ACC annoy:PRS.3SG
'I destroy what annoys me.'

b. **Ich* *zerstöre* ***wer*** *mich* *ärgert.*
1SG.NOM destroy:PRS.1SG REL.NOM.SG 1SG.ACC annoy:PRS.3SG
'I destroy who me annoys.'

c. **Ich* *zerstöre* ***wen*** *mich* *ärgert.*
1SG.NOM destroy:PRS.1SG REL.ACC.SG 1SG.ACC annoy:PRS.3SG
'I destroy whom me annoys.'

Greek exhibits examples of case attraction, not case neutralization (Philippaki-Warburton and Stavrou 1986; Catsimali 1990; Philippaki-Warburton 1990; Tsimpli 1990; Alexiadou and Varlokosta 1996; Español-Echevarria and Ralli 2000).[19] The nominative case in Example (29a) and the accusative case in Example (29b) are assimilated as cases of attraction by the matrix clitic *ton* and the matrix DP *tês eleutherías*, respectively. According to Español-Echevarria and Ralli (2000), (clitic left dislocated) free relatives in Greek share two properties

of case attraction contexts, namely, that case attraction (i) is optional and (ii) seems to obey *a case hierarchy*. The case attraction in Classical Greek obeys a hierarchy in which *neuter* nominatives (and accusatives) attract into other cases, but masculine and feminine nominatives do not (Harbert 1983: 62, in Español-Echevarria and Ralli 2000: 194).

(29) a. Modern Greek

opjon (for ***opjos***) *dhen ghrapsi sosta afto to*
REL.ACC.SG (for *REL.NOM.SG*) NEG write:PFV.3SG right this:SG.N ART.SG.N
thema, tha ton aporipso.
topic:SG.N will 3SG.ACC.M discard:PFV.1SG
'I will discard whoever does not write well this topic.'

b. Classical Greek

áxioi tês eleutherías, ***hês*** (for ***hèn***)
worthy:NOM.PL ART.GEN.SG freedom:GEN.SG REL.GEN.SG (for *REL.ACC.SG*)
kéktēsthe.
possess:PRF.2PL
'...worthy of the freedom which you possess.'
(Xen. Anab. 1.7; 5–4 BC)

The specific phenomena presented here are not of the same type because Greek exhibits case attraction, while German exhibits neutralization of the nominative-accusative case opposition by choosing the neuter gender. The relevant aspect for this paper is that in both phenomena, (neuter) gender appears important for case assignment: in German, the case opposition is resolved by choosing the neuter gender; in Classical Greek, only neuter nominatives attract into other cases.

(2) An indirect relation between gender and split ergativity is also evident because gender appears related to animacy, which has been shown to affect split ergativity. For example, the primary opposition in Proto-Indo-European (PIE) gender seems to have been between animate (later, masculine and feminine) and inanimate (later, neuter), whereas the masculine–feminine differentiation occurred late in the history of Indo-European (Meillet 1931). Uhlenbeck (1901) attempted to explain the nominative and the accusative merger in neuter nouns by assuming a parallel with Basque (an ergative language) and therefore, an ergative stage in PIE (see also Kuryłowicz 1935; Martinet 1962; Shields 1978; Schmalstieg 1987). Historical linguists who disagree with the ergative stage of PIE advocate a stative–

active structure for PIE (subjects of active intransitives are marked identically to subjects of transitives, whereas subjects of stative intransitives are marked differently from subjects of active intransitive and transitives; Klimov 1973; Schmidt 1979; Comrie 1979; Gamkrelidze and Ivanov 1995 [1984]; Lehmann 1993; Bauer 2000; Barðdal and Eythórsson 2003; Eythórsson and Barðdal 2005) and argue for a Split-S(ubject) system based on *animacy*. They assert a correlation between animate nouns and transitive or intransitive active verbs and between inactive nouns and stative verbs. Furthermore, a relation between split ergativity and Silverstein's *animacy* hierarchy has been proposed, such that case marking is distributed in PIE based on the relative degree of animacy of the DPs (see also DeLancey 1981; Wierzbicka 1981; Du Bois 1987: 843–849; Bavant 2008).

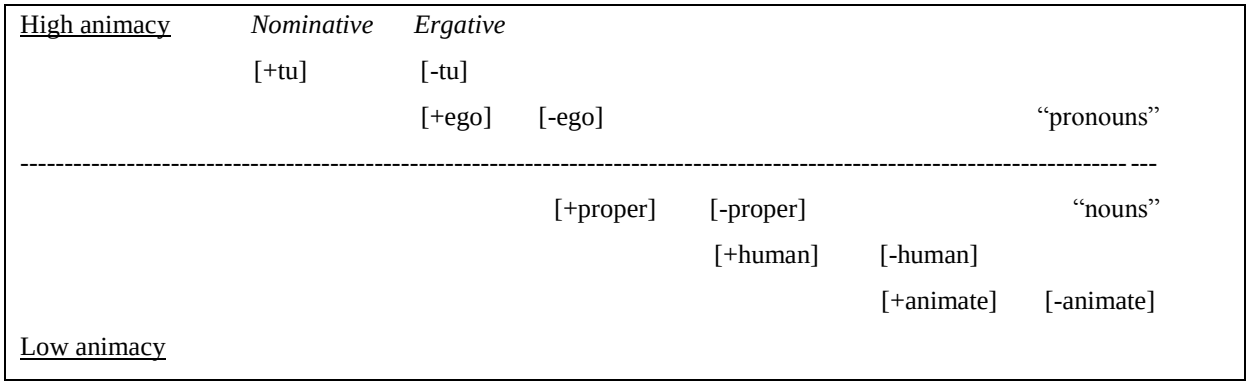


Figure 1. The scale of animacy/NP Hierarchy; Silverstein (1976: 122–123)

Hence, gender appears correlated with transitivity, even if indirectly, through animacy. On the one hand, the (diachronic) correlation between gender and animacy is evident (for example, the masculine-feminine-neuter differentiation results from the animate-inanimate distinction). On the other hand, animacy has been considered interrelated with (split) ergativity or the split-S system.

(3) A third support for the relation between neuter gender and split ergativity has been specified (for the Anatolian branch of Indo-European languages) by Laroche (1962) and Garrett (1990). The ergative case in the Anatolian branch of Indo-European languages has been understood as resulting from the reanalysis of a *neuter* instrumental or a causal[20] marker in null subject transitive sentences. Garrett's examples of the reanalysis of an instrumental marker into an ergative marker are actually examples of causative constructions (although Garrett does not use this term): 'John opened the door with the key and the key opened the door, or John extinguished the fire with water and water extinguished the fire' (Garrett 1990: 265).

(30) Hittite

n=at ***witenanza*** *parkunuzi.*

a. 3SG.ACC water:ABL.SG pure:CAUS.PRS.3SG

'S/he purifies it with water.'

b. 3SG.ABS water:ERG.SG pure:CAUS.PRS.3SG

'Water purifies it.'

(Garrett 1990: 277)

For Garrett, the functional overlap between instruments and agents in transitive sentences and the availability of null subjects (overt subjects block the reanalysis of any other DP as the subject) and free word order can cause this reanalysis (see our previous discussion on the role of pro-drop and word order in the spread of labile causative–anticausative constructions in Greek). Consequently, Garrett interprets Silverstein's animacy hierarchy as a hierarchy of instrumental case-marking, i.e., animate DPs in instrumental function are unusual for pragmatic reasons. This fact seems related to the rise and the development of causative–anticausative constructions because anticausative constructions cannot take animate DPs in their *by*-Phrase (**the door opened by John*). The presence of an animate DP requires a passive reading (*the door was opened by John*).

The DPs bearing the thematic role of instrument or cause appear related additionally to the stability of the characteristics under examination in Greek, i.e., to the stability of the role of neuter nouns (or split ergativity) in generating innovative causative–anticausative constructions. DPs denoting the instrument or the cause are common with intransitive structures in all periods of the history of Greek and are marked by the dative case in most Classical Greek examples. The important fact for this study is that the dative case in the singular (in which instruments are most often found) becomes similar to the ending of the S/P type of the neuter nouns after the phonological changes that affected Greek vowels:

tôi (definite article in the dative in Classical Greek) →

tó (definite article-functionally dative, after the Hellenistic-Roman period)

With the loss of the final *i* in the long diphthong and the equalization of vowel length, the dative singular becomes homophonous with the S/P neuter type (for more on the dative loss, see, among others, Horrocks 2010[2]: 116ff).[21]

The question that arises at this point concerns the syntactic representation of the characteristics of split ergativity. We follow Merchant (2006), who argues (based on Hallman 2004 and Carnie 2005) that the ergative case is assigned uniformly inside the *v*P to all subjects, some of which, however, then raise and are assigned a second case value, the nominative case, which determines the morphological exponence of the case feature. Based on this perspective, it is concluded that split ergative languages *vary* regarding which subjects/objects move into the nominative/accusative-assigning domain.

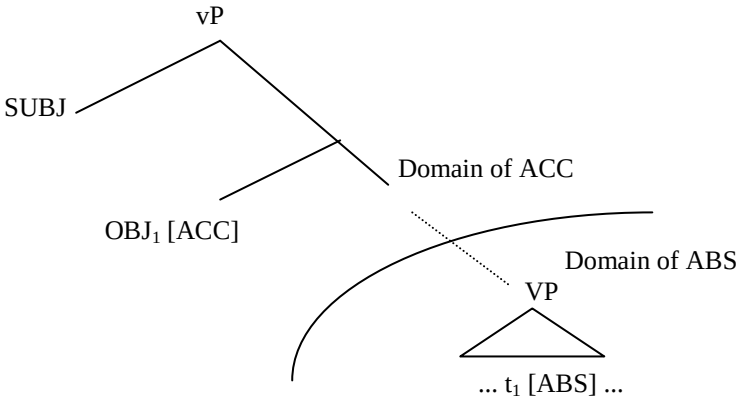


Figure 2. Syntactic representation of split ergativity (Merchant 2006)

Following the above argumentation, we hypothesize that gender – notably *neuter gender* – appears to be a factor for differential object marking that triggers lability in causative–anticausative constructions. Languages and families of languages differ regarding the location of the relevant case-assigning heads in the functional hierarchy (*parametrization of the case-assigning heads*). For example, in a language such as Kham (Sino-Tibetan; Merchant 2006), the nominative-assigning T is located between 1st/2nd and 3rd person:

(31) Kham: [1/2 [T [3…

In Example (32), the 1st person subject *ge:* 'we' is first assigned the ergative case and then raises through [Spec, TP] (where it receives the nominative case) to [Spec, 1/2P]. In Example (33), the 3rd person subject *gẽ:h* 'ox' raises to the appropriate specifier (which is below T) and will not be assigned the nominative case.

(32) Kham

ge:-Ø *em-tə* *mi:-rə-Ø* *ge-ma-ra-dəi-ye*

we-NOM road-on person-PL-ABS 1PL.S-NEG-3PL.O-find-IPFV

'We met no people on the road.'

(Merchant 2006)

(33) Kham

gẽ:h-ye *ŋa-lai* *duhp-na-ke-o*

ox-ERG 1SG-OBJ butt-1SG.O-PFV-3SG.S

'The ox butted me.'

(Merchant 2006)

In a language such as Dyirbal (Australian, Pama-Nyungan; Merchant 2006), by contrast, T is c-commanded by the 3rd person,[22] and DPs must first pass through SpecTP (and therefore surface with the nominative case) to then raise to either Spec1/2P or Spec3P:

(34) Dyirbal: [1/2 [3 [T [PN…

Accordingly, in Greek, neuter DPs do not move to the nominative/accusative domain (demonstrating an archaic characteristic; cf. note 16). The accusative-assigning structure in Greek should be as shown in (35). We propose that Masculine/Feminine and Neuter are structurally represented in the clause structure of Greek (parametrization is again possible similar to the case of the parametrization of 1st/2nd and 3rd person shown in Kham and Dyirbal by Merchant).[23] The same hypothesis should apply to neuter DPs that function as subjects; they do not need to raise to a relevant head to receive a case (though they can move to the C-domain for other [non-case] reasons; cf. Roussou and Tsimpli 2006). That both S and P neuter DPs do not have to raise through *v* (to [Spec, Masc/FeminP], as masculine and feminine DPs) *is a structural factor that facilitates the analysis of a sentence with a cause-of-change verb as either causative or anticausative.* Because in Greek, V must move to a higher head, T, the order of DPs with respect to the verb is unaffected by the gender of the noun, thus implying that the different positions of the Masc/Femin and Neuter case-assigning heads are not apparent in the Greek data. We expect that only a preference (related to the economy of avoiding movement to reduce processing costs) may be hypothesized for postverbal neuter nouns in their causative and anticausative uses. The hypothesis would be that the neuter DPs should prefer to be in the same (postverbal) position in both causative (as P) and anticausative

uses, while a different preference will apply to masculine and feminine DPs. We leave this question open for future research.

(35) Greek: C [T [Masc/Femin [v_{acc} [Neuter...

Hence, similar to the parametrization with regard to $1^{st}/2^{nd}$ and 3^{rd} person in languages such as Kham and Dyirbal, a parametrization of the presence and the role of gender in the clause structure seems apparent. Non-split systems would represent the limiting cases of the system: in a strict nom/acc language, the *v* assigning accusative case is located below any relevant functional head (i.e., all objects will pass through [Spec, *v*accP], receiving the accusative case; Merchant 2006). Gender and its relation to lability in Greek most likely presents additional evidence that the *v* assigning accusative is located below masculine and feminine DPs; masculine and feminine objects will always pass through [Spec, *v*accP], receiving the accusative case in Greek, whereas neuter DPs remain in their initial position and do not receive the accusative case.

4. Conclusion

The focus of this paper was not to present a syntactic analysis of the clause structure of Greek, but our attempt in the last section was to investigate whether the results of our historical study may be related to the role of gender in the clause structure of Greek. The issue remains unresolved, but extending the approach of Merchant (2006), gender in Greek labile alternations can be claimed to have the syntactic role that person has in languages with split ergativity. Lability in Greek was shown to result from two processes: (i) causative extension based on initial intransitive types of active morphology and (ii) changes in the morphology of the anticausative type. Both processes result in lability (labilization) in causative–anticausative constructions and are correlated with the role of neuter DPs, which appear to trigger a type of split ergativity in Greek. Neuter DPs (bearing the same suffixes as S and P) provide evidence in favor of split ergativity analyses of causative–anticausative uses based on DP features (as gender features). Further research is required to investigate (a) the role of gender in other syntactic structures and (b) the diachronic relation (if any) between DP (gender) split ergativity and Tense/Aspect split ergativity.

Appendix. Overview of Classical and Modern Greek voice morphology

	Classical Greek			Modern Greek	
	Active Voice	Nonactive Voice	Passive Voice (only in the Aorist and the Future tenses)	Active Voice	Nonactive Voice
	Present	Present	Future	Present	Present
1SG	*gráph-ō* 'write, inscribe'	*gráph-omai*	*graph-é-somai*	*ghraf-o* 'write'	*ghraf-ome*
2SG	*gráph-eis*	*gráph-ē:i*	*graph-é-sē:i*	*ghraf-is*	*ghraf-ese*
3SG	*gráph-ei*	*gráph-etai*	*graph-é-setai*	*ghraf-i*	*ghraf-ete*
1PL	*gráph-omen*	*graph-ómetha*	*graph-ē-sómetha*	*ghraf-ume*	*ghraf-omaste*
2PL	*gráph-ete*	*gráph-esthe*	*graph-é-sesthe*	*ghraf-ete*	*ghraf-este*
3PL	*gráph-ousi(n)*	*gráph-ontai*	*graph-é-sontai*	*ghraf-un(e)*	*ghraf-onde*

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[1] List of Abbreviations: ABL ablative, ABS absolutive, ACC accusative, ACT active, AOR aorist, ART article, CAUS causative, DAT dative, ERG ergative, F feminine, FUT future, GEN genitive, IMPF imperfect, INDF indefinite, INF infinitive, IPFV imperfective, M masculine, N neuter, NACT nonactive (=mediopassive), NEG negation, NOM nominative, O object, OBJ objective, PFV perfective, PL plural, PN proper names, PRF perfect, PRS present, PST past, PTC particle, PTCP participle, S subject, SG singular, and T tense.

[2] We agree with the reviewer that the reading of the same verb (for example, *miono* 'reduce') depends on animacy, agentivity, and pragmatic factors (accordingly, the verb *miono* can have an anticausative ['it is reduced by itself'] or a passive reading ['it was reduced by somebody']).

[3] Classical Greek has a complex nonactive system (cf. Appendix), with middle (or mediopassive) endings in all tenses and additional passive affixes only in the Aorist and the Future tenses. The middle (or mediopassive) endings are not excluded from passive constructions, and the passive affixes can be used in non-passive constructions with anticausatives or even with transitives. Hence, anticausative readings occur not only with middle morphology but also with passive morphology in the Future and the Aorist tenses; similarly, passive readings occur with passive morphology and with middle morphology (cf. Lavidas 2009). Mainly for these reasons, we call all forms that are different from active forms and that are traditionally called middle (or mediopassive) or passive, *nonactive* (in case of Aorist and Future types, we additionally characterize the verbal type as MID(DLE) or PASS(IVE) using parentheses in the glosses).

[4] In general, *nonactive morphology*.

[5] The present study is based on the results of Lavidas (2009) but focuses on Greek dialectal texts from the 16th and 17th centuries and the role of neuter DPs, which appear to trigger a type of split ergativity in Greek. Furthermore, a statistical analysis of the relevant phenomena is beyond the scope of this paper and remains open for future research. For a quantitative analysis of voice morphology in the Greek diachrony (though not in dialectal texts), cf. Lavidas, Fotiadou and Tsimpli (forthcoming).

[6] Consequently, nonactive "anticausatives" (such as nonactive *lerothika* 'got dirtied') are passives in post-Hellenistic Greek if we assume that in a passive, either an Agent or a Causer can (be implied or) appear in the *by*-phrase as an external argument (Tsimpli 2006; Lavidas, Fotiadou and Tsimpli (forthcoming)). Lavidas, Fotiadou and Tsimpli have observed a tendency for a "new" system of voice morphology (i.e., a new arrangement of the system of voice) in which all intransitive verbs tend to become of two forms (*ditipias*: Theophanopoulou-Kontou 2004), with their active form having a clear anticausative reading (a spontaneous process without an external argument) and their nonactive form having a passive reading (with the presence of an external argument, Agent or Causer).

[7] Among others, Gildersleeve (1900: 137–182), Goodwin (1978 [1894]: 264–268), Humbert (1945: 69–80), Kühner and Gerth (1963 [1898-1904]: 80–113), Schwyzer and Debrunner (1950: 216–241), Smyth (1984 [1920]: 218–224), and Stahl (1907: 42–74).

[8] As previously noted, a statistical analysis of the relevant phenomena is beyond the scope of this paper and remains open for future research. In this section, our aim, based on Lavidas and Therapontos (2009), is to trace the first attestations of active anticausatives in the diachrony of the Cypriot Greek dialect to reveal the relevant processes in the Cypriot Greek dialect and to compare these processes with the emergence of lability in other Early Modern Greek dialects.

[9] Neither mediopassive/middle (nonactive) nor passive (nonactive) verbal types.

[10] As previously noted, both middle morphology and passive morphology were used in these nonactive auto-benefactive (traditionally called middle) constructions. Actually, the passive is typically posited as closely related to the middle as one of the basic functions of the (ancient) Indo-European middle (Szemerényi 1970: 234–238; Neu 1968: 5–8, 109–116; Kulikov 2006). In Classical Greek, passive morphology, like middle morphology, is used with passive, "middle"/auto-benefactive, and anticausative interpretation (Jankuhn 1969; Lavidas 2009). We agree with the reviewer who observed that, with Hellenistic Koine, the Aorist "middle" forms begin to be replaced by the Aorist "passive" forms, and that all interpretations are taken by the "passive" nonactive morphology in the Aorist and the Future tenses. Consequently, with Hellenistic Koine, the morphological system of voice exhibits less variation (one verbal form is used for the nonactive Aorist and Future, as was the case for all other tenses), and the voice morphology becomes simpler and independent of tenses. However, the auto-benefactive meaning is not expressed by the "passive" nonactive morphology in Hellenistic Koine because the loss of the morphological remnants of the "middle" voice in the Future and the Aorist tenses appears to occur with the loss of the auto-benefactive construction. Only active types [except deponents] can take complements in the accusative case, and the auto-benefactive meaning can be expressed only by personal pronouns.

[11] We sincerely thank the anonymous reviewer for the remark that this very syncretism has been used by others as well as being a starting point for other types of structural reanalyses, for example, Joseph (1994) with regard to the emergence of the *na* + nominative presentational construction.

[12] The broader context helps in disambiguating whether a causative or an anticausative interpretation is present in any case. However, regardless of the context, both interpretations are possible when a neuter DP is used. We sincerely thank the reviewer who discussed a parameter that facilitated the relevant change, the parameter of word order.

[13] The (Classical Greek feminine singular) adjective *pas-a* is used for neuter nouns in the plural form during this period, yet it is a new type that uses the old root *pas-* and the ending *-a* that starts becoming the normal plural ending for all neuter nouns and adjectives.

[14] We sincerely thank the reviewer who mentioned that the transitive/causative corresponding verbal type may include a different affix: intransitive/anticausative: *ekvlast-**on**-o* vs. transitive/causative: *ekvlast-**iz**-o*.

(1) Heptanesian Greek

Eroto se, tis ta ***exevlastisen*** *afta? i dhrosia,*
ask:1SG 2SG.ACC who:NOM.SG 3PL.N sprout:PST.PFV.ACT.3SG 3PL.N the:NOM.SG dew:NOM.SG
o ilios, to fengarin, o leptos air,
ART.NOM.SG sun:NOM.SG ART.SG.N moon:SG.N ART.NOM.SG thin:NOM.SG air:NOM.SG
i tis alos?
or INDF.NOM.SG else:NOM.SG

'And I ask you, who made them sprout? The dew, the sun, the moon, the thin air or something else?'
(Kartanos. Palea te ke Nea Dhiathiki. 53v; AD 16)

[15] We do not claim that labilization and its trigger (that is, neuter DPs with identical endings for the nominative and the accusative cases) are phenomena available only in the Early Modern Greek period. We agree with the reviewer who mentioned that even in early stages of the history of the Greek language, neuter nouns with these characteristics are available (see also section 2.1, where we argue that the process of causativization is also particularly productive in Classical Greek). The Early Modern Greek data in our discussion serve to present evidence of these processes and mechanisms from the "end" (last period) of this (lengthy) process of causativizations and "activizations" (see also section 2.3). This evidence can be valuable because most Modern Greek morpho-syntactic characteristics have been shown to take their shape in the Greek vernacular texts of the 16th and 17th centuries (Karantzola 2006). Certainly, the spread of labilization in this period should be explained and may be correlated with other interacting factors, most likely, changes in word order (the *increase* of postverbal subjects) or in null subjects (the change in the discourse-pragmatic factors that regulate the *distribution* of null subjects). We leave the detailed study of these interacting factors (word order and null subjects) in Early Modern Greek open for further research.

[16] The observation of the spread of new causative constructions in the history of Greek, based on earlier exclusively intransitive types, is consistent with the general pattern of the spread of transitivity described by Bauer (2000) because the same pattern of causativization found in Classical and Hellenistic-Roman Greek (Lavidas 2007, 2009) appears in Early Modern Greek. Furthermore, the present paper follows Bauer's historical linguistic perspective that *even in modern Indo-European languages, one finds residues of the very early stage of PIE* (in early Indo-European languages, these characteristics were more common – but this does not mean that these archaic characteristics are fossils in historical later periods; cf. Lavidas 2009). Our analysis diverges from Bauer's main conclusions, as (a) transitivity is considered in this paper as a universal feature representable with different characteristics in different periods (generative literature analyzes active alignment as a subtype of ergativity; Bittner and Hale 1996; Legate 2008 – see below), and (b) split ergative residues with an important role in innovative causativizations are recognized (see below).

[17] Lyons (1968: par. 8.2) and Anderson (1968) are the first to distinguish a group of verbs and verbal meanings that can be characterized as "ergative". Also cf. Grewendorf (1989), who provides evidence for ergativity in Modern German. Lemmens (1998), based on Haliday and Davidse, also argues for the presence of ergativity characteristics in Modern English, though they are not marked morphologically: "However, can one claim at all that the English grammar of causation is structured by the ergative and transitive systems if the distinction between the two is not marked overtly, e.g. by case markers? Following Davidse (1991, 1992), I argue that the claim stands up to close examination, provided that one recognizes that overt markings are but one way in which the two systems manifest themselves in a language" (Lemmens 1998: 2).

[18] For changes with respect to gender in the history of Greek, see Anastasiadi-Symeonidi and Chila-Markopoulou (2001).

[19] Cf. Ralli (1994) for an analysis of gender feature as an inherent marker of Modern Greek noun stems.

[20] Garrett denies the possibility of a causal origin because in the Anatolian branch, sentences with causals and null subjects are unusual. Therefore, he cannot determine how reanalyzing a causal marker could generate ergativity. However, Foley (1986: 107) has based his analysis on the semantic similarity of agents and causes (not instruments, as does Garrett) to explain the frequent homophony of ergative and instrumental/ causal cases in Papuan languages.

[21] A neuter instrumental/causal marker that is reanalyzed as an agent marker indicates a case of neutral alignment in causative–anticausative alternation because A, S, and P bear the same ending (cf. our previous discussion of ergative vs. neutral alignment and how neutral alignment in Greek causative–anticausatives can be considered a sub-case of split ergative alignment).

[22] Regarding the analysis of Kham and Dyirbal, we refer to Merchant (2006). Merchant's analysis suggests a parametric variation in the realization of T before or after 3rd person in the clause structure.

[23] Certainly, evidence from other constructions – in addition to labile causative-anticausative constructions – is required.