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Basic valency in diachrony: from Ancient to Modern Greek

Abstract: The paper discusses changes in the encoding of basic valency and valency alternation in Greek. At its earliest stage, Homeric Greek, valency alternation is most frequently encoded through voice, whereby the active voice encodes caused events and the middle encodes spontaneous ones. This pattern is almost exclusive with inanimate verbs, while one third of animate verbs show suppletion. In Modern Greek lability plays a relevant role for inanimate verbs, while suppletion increases its frequency among animate verbs. Diachronic evidence shows an extension of voice alternation in Classical Greek, while lability emerged at the end of the Classical age and developed in Middle Greek. Comparison of Ancient with Modern Greek points to the replacement of a detransitivizing strategy (voice opposition) through an undetermined one (lability), which is clear-cut with inanimate verbs, with animate verbs showing an increasingly marginal adherence to either pattern and a tendency toward suppletion.

Keywords: diachrony, basic valency, lability, middle voice, Greek

1 Introduction

Since Nichols, Peterson and Barnes (2004) proposed a typology of lexical, or basic, valency, language specific in-depth studies have multiplied. Recently, research on changes in basic valency in single languages and language families has also brought diachrony into the picture (e.g. van Gelderen 2011; Plank and Lahiri 2015; Grünthal and Nichols 2016; Grünthal et al. this volume). With this paper we aim to provide further evidence for possible diachronic trends of basic valency orientation with a detailed study of Greek over a time span of three millennia.

Note: The glosses follow the Leipzig glossing rules (https://www.eva.mpg.de/lingua/resources/glossing-rules.php). For the sake of simplification, we have omitted some categories: in particular, gender of nouns, pronouns and adjectives is never specified, nominal number is specified only when it is plural, and verbal mood is indicated only for non-indicative moods only. Concerning voice, we always gloss as mid all non-active forms. Active voice is not INDICated, unless it is contrasted with mid (non-active) in the gloss.

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In the framework of valency patterns and valency orientation, the Greek language is an ideal field of investigation not only on account of the extensive evidence stemming from such a long attested history, but also because, among the Indo-European languages, it is the only one that has preserved the inflectional middle voice inherited from Proto-Indo-European, hence providing unique evidence on the diachrony of voice systems as well. Hence, Greek offers evidence for changes in the function of the inflectional middle, which is involved in the (anti)causative alternation to varying extents at different language stages.

For the purposes of this paper, we follow the definition of grammatical voice in Zúñiga and Kittilä (2019: 4) that we quote below [emphasis added].

> Grammatical voice is defined here as a grammatical category whose values correspond to particular diatheses marked on the form of predicates. Diathesis refers to the number of semantic arguments involved in a state of affairs, to how they are involved in it, and to how they are assigned to GRs of varying salience and flexibility. *Voice refers to the way a specific diathesis is formally marked on functional or lexical verbs in the predicate complex*.

The paper is organized as follows. In Section 2 we provide some background on the notions of basic valency and valency orientation. The data from the earliest literary Greek source, the Homeric poems, are reviewed in Section 3. In Section 4 we survey the Modern Greek data, before proceeding to discussing changes attested in the long time span that separates the earliest from the modern stage in Section 5. In Section 6 we discuss the findings and draw some conclusions.

2 Basic valency

Events can be construed differently by speakers, depending, for example, on how many participants are brought into the frame that one wants to adopt taking a certain vantage point. This has consequences on the encoding of specific events. Among possible variables, what concerns us here is the possibility to depict a situation as happening spontaneously, as in (1), or as being brought about by some external entity, as in (2).

(1) *The windowpane broke.*

(2) *The boy broke the windowpane.*

In (1), the verb *break* is used intransitively: in terms of valency, the verb is monovalent. In (2), in turn, the verb is transitive, hence bivalent. Notably, in English

with this specific verb pair the transitivity alternation is not marked morphologically: the verb *break* is said to be labile precisely because it can be used transitively and intransitively without overt marking. However, as is well known, languages behave differently in this respect: in Italian, for example, the verb *rompere* 'break (tr.)' needs overt marking to encode the intransitive meaning *rompersi* 'break (intr.)', as shown in (3) and (4).

(3) *Il vetro si è rotto.*
ART glass REFL is broken
'The glass broke.'

(4) *Il bambino ha rotto il vetro.*
ART boy has broken the glass
'The boy broke the glass.'

In (3) the verb form *si è rotto* features the reflexive clitic *si*, which, in such cases, indicates valency reduction and profiles the event as spontaneous. This is an example of the so-called reflexive middle, which is widespread in the Indo-European languages of Europe, including other Romance languages, Slavic languages, and several Germanic languages with the notable exception of English. Conversely, in (4) the verb form *ha rotto* is transitive and morphologically unmarked for valency.[1]

In other languages, it is the transitive meaning that requires overt marking, as in Jakarta Indonesian (examples from http://valpal.info/meanings/break), as shown in (5) and (6) .

(5) *Gelasnya pecah.*
gelas-nya pecah
glass-ASSOC break
'The glass broke.'

(6) *Dalan mecahin gelas.*
Dalan m-(p)ecah-in gelas
Dalan G.ACT-break-G.APPL glass
'Dalan broke the glass.'

1 Note further that in periphrastic verb forms such as *si è rotto* and *ha rotto* one also finds different auxiliaries: while the occurrence of the reflexive clitic triggers the use of the auxiliary *essere* 'be' typical of unaccusative verbs, transitive verbs all feature the auxiliary *avere* 'have', which also occurs with unergative verbs.

In (6) the transitive form *mecahin* features extra marking with respect to the basic intransitive form *pecah* with the addition of the activizing prefix *m-* and of the applicative suffix *-in*. This type of alternation is usually referred to as the (anti) causative alternation. It has received increasing attention since Nedyalkov and Sil'nitsky (1969, English translation 1973), see e.g. Haspelmath (1987, 1993).

In order to capture a language's propension toward overt marking of either transitive or intransitive verbs, or toward other types of encoding such as lability in English, Nichols, Peterson and Barnes (2004) worked out a typology of lexical valency. The authors view lexical (or basic) valency orientation of a language as its "preferred or predominant or most common form of lexicalization or valence-related derivation" (Nichols, Peterson and Barnes 2004: 150–151). By analyzing 18 verb pairs in a sample of 80 languages, they found evidence for several types of strategies for the encoding of basic valency. Types (a) and (b) below involve forms that are marked by the addition of morphological material:

(a) Transitivizing languages: basic form is intransitive; transitive form is morphologically more complex. Augmented correspondences; example: Jakarta Indonesian, see (5) and (6) (special case: the basic form is an adjective)
(b) Detransitivizing languages: basic form is transitive; intransitive form is morphologically more complex. Reduced correspondences; example: Italian, see (1) and (2)

Strategies grouped under (c) and (d) all have in common the fact that they do not involve the addition or deletion of any morphological material:

(c) Undetermined correspondence:
  - Suppletion; example: English *die/kill*
  - Ambivalent (labile); example: English *break/break*
  - Conjugation class change; example: Classical Armenian *bžške-* 'heal' *bžški-* 'be healed' (Luraghi, Inglese and Kölligan 2021)
(d) Neutral correspondence:
  - Ablaut (English *fall/fell*)
  - Double derivation (equipollent); example: Hittite *parganu-* 'make tall' from *parku-* 'tall' *maknu-* 'make numerous' from *mekki-* 'much' *parkuess-* 'become high' or *makkess-* 'become numerous' (see Luraghi 2012)
  - Auxiliary change; example: Italian *ho affondato* 'I sank (tr.)' *è affondato* 'it sank (intr.)'

Verbs are further divided into animate and inanimate, depending on whether they tend to take animate or inanimate S/O (S/O is defined as the subject of the

intransitive member of the verb pair and the causee of the transitive member). According to Nichols, Peterson and Barnes (2004), this distinction should reflect a cross-linguistic tendency, especially visible in languages which do not have a clear orientation, to feature transitivizing strategies for inanimate verbs and detransitivizing ones for animate verbs.

Before turning to the verb pairs, a note on the use of the notion of 'transitivity' and related terms is in order. Nichols and her associates state that ""Transitive" and "intransitive" are used in their strict, non-scalar senses: a verb is transitive if it governs a direct object; it is intransitive if it has no object" (Nichols, Peterson and Barnes 2004: 150). This raises some problems with verbs such as 'eat' which frequently take a direct object across languages. Similarly, perception verbs such as 'see' are often transitive, as they are in English and Greek, and the same holds for the verb 'learn'. Concerning this last verb, Haspelmath (1993: 105) remarks that "learning may be regarded as an agentive event itself, and in many languages the verb 'learn' is even transitive." As we will see, this peculiarity of the verb 'teach' is reflected in the choice between different lexemes in Modern Greek (see Sections 4 and 5.3.1). This problem is acknowledged by Nichols and associates, who make clear that theirs "is a typology of A-affecting lexical valence orientation" (Nichols, Peterson and Barnes 2004: 150) and propose the terms plain vs. induced rather than intransitive vs. transitive: plain refers to verbs that indicate non-induced, mostly spontaneous events. We will conform to this terminology as well.

The verbs and verb pairs in Nichols, Peterson and Barnes (2004) have been supplemented by a number of proxies in Nichols (2007). See Table 1.

Table 1: Verb pairs for basic valency test.

PLAIN	INDUCED	PROXY
ANIMATE (HUMAN) SUBJECTS		
1 laugh	make laugh, amuse	cry
2 die	kill	
3 sit	seat, have sit, make sit	lie down; go to bed, put to bed
4 eat	feed, give food	drink, give to drink
5 learn	teach	understand, find out, grasp
6 see	show	
7 be(come) angry	anger	annoy(ed)
8 fear, be afraid	frighten, scare	
9 hide, go into hiding	hide, conceal	
INANIMATE SUBJECTS		
10 (come to) boil	(bring to) boil	cook
11 burn, catch fire	burn, set fire	be aflame; char
12 break	break	split, shatter, smash
13 open	open	close
14 dry	(make) dry	wet, clean; black, white

Table 1 (continued)

PLAIN	INDUCED	PROXY
15 be(come) straight	straighten	crooked, long, round, flat
16 hang	hang (up)	lean (incline), extend, project, protrude
17 turn over	turn over	turn, turn around, rotate, revolve, roll; shake, tremble; move; ascend, rise
18 fall	drop, let fall	fall down, fall over, etc.; sink

Nichols, Peterson and Barnes' (2004) distinction between animate and inanimate verbs can be matched by the spontaneity scale proposed in Haspelmath (1993), shown in Table 2, which ranks events according to the likelihood of happening spontaneously vs. being caused by some external entity.[2]

Table 2: The spontaneity scale.

1. boil	16. begin
2. freeze	17. spread
3. dry	18. roll
4. wake up	19. develop
5. go out/put out (fire)	20. get lost/lose
6. sink	21. rise/raise
7. learn/teach	22. improve
8. melt	23. rock
9. stop	24. connect
10. turn	25. change
11. dissolve	26. gather
12. burn	27. open
13. destroy	28. break
14. fill	29. close
15. finish	30. split

This scale was further refined based on data from ValPaL (Valency Patterns Leipzig http://valpal.info/, see Introduction to this volume), hence inducing degrees of spontaneity from actual data rather than based on intuition, and including verbs that do not normally show the anticausative alternation (Haspelmath 2016). Haspelmath argues that among intransitive, change-of-state verbs (unaccusative in Haspelmath's 2016 terminology; another frequently used term for such verbs is inchoative) one can make a distinction between automatic and costly. Automatic vs. costly events are defined as follows: "an automatic process is a process that is easily construed as occurring on its own, without any external energy input,

2 We left out the pair die/kill, which, as noted by Letuchiy (2010: 239) "is considered to be unique among all transitive/intransitive pairs", as it turns out to be instantiated by suppletion in the great majority of languages, see further Haspelmath (1993) and below, Section 3.

such as 'melt', 'freeze', 'dry', 'wake up', 'sink', 'go out (fire)'. A costly process is a process that does not so easily occur on its own, but typically involves some energy input ("cost"), e.g. 'break (intr.)', 'split (intr.)', 'open (intr.)', 'close (intr.)', 'change (intr.)', 'gather (intr.)'." (Haspelmath 2016: 3). Following this approach, among verbs in Nichols, Peterson and Barnes' (2004) sample 'boil', 'burn', 'dry' and 'fall' belong into the automatic group, while other verbs belong into the costly one. We will return to this scale when discussing the distribution of labile verbs in Modern Greek (Section 6).

3 Ancient Greek

In this Section we discuss basic valency in Ancient Greek, focusing on the earliest literary source, the Homeric poems.[3] The Ancient Greek verb features a systematic distinction between an active and a middle voice. A sizable number of verbs can only be inflected in the active (*activa tantum*) or in the middle (*media tantum*) (see below in this section for percentages), all other verbs can in principle feature both voices.

Based on data in Sausa (2016), voice alternation is the most frequent strategy for inanimate verbs with few exceptions, while animate verbs show a wider range of variation. Let us consider verb pairs in Table 3 (adapted from Sausa 2016).

Table 3: Homeric Greek strategies for the encoding of valency alternation.

PLAIN	INDUCED	PLAIN	INDUCED	STRATEGY
ANIMATE VERBS				
1 laugh	make laugh	*geláō* (ACT)	*ephíēmi gelásai*	PERIPHRASIS
2 die	kill	*thnḗskō* (ACT)	*kteínō* (ACT)	SUPPLETION
3 sit	seat	*hêmai* (MID) *hízomai* (MID)	*hízō* (ACT)	SUPPLETION+VOICE VOICE
		hízō (ACT)		LABILE ACTIVE
4 eat	feed	*esthíō* (ACT)	*bóskō* (ACT)	SUPPLETION
5 learn	teach	*édaon* (ACT)	*dédae* (ACT)	AUGMENTATION
		didáskomai (MID)	*didáskō* (ACT)	VOICE
6 see	show	*horáō* (ACT)	*deíknumi* (ACT)	SUPPLETION
7 get angry	anger	*kholóomai* (MID)	*kholóō* (ACT)	VOICE

3 Homeric Greek (ca. 11th c. BCE) Classical Greek (5th-4th c. BCE); Hellenistic Koine (3rd c. BCE – 4th c. CE); Medieval Greek (5th-15th c. CE); Modern Greek (16th c. CE – today).

Table 3 (continued)

PLAIN	INDUCED	PLAIN	INDUCED	STRATEGY
8 fear	frighten	*deídō* (ACT)	*deidíssomai* (MID)	AUGMENTATION
9 hide	conceal	*keúthomai* (MID)	*keúthō* (ACT)	VOICE
INANIMATE VERBS				
10 boil	boil	*zéō* (ACT)	– –	
11 catch fire	burn, set fire	*kaíomai* (MID)	*kaíō* (ACT)	VOICE
12 break	break	*rhḗgnumai* (MID)	*rhḗgnumi* (ACT)	VOICE
13 open	open	*oígnumai* (MID)	*oígō* (ACT)	VOICE
14 dry	(make) dry	*térsomai* (MID)	*tersaínō* (ACT)	DOUBLE DERIVATION (+VOICE)
15 be straight	straighten	*tanúomai* (MID)	*tanúō* (ACT)	VOICE
16 hang	hang (up)	*krémamai* (MID)	*kremánnumi* (ACT)	VOICE
17 turn over	turn over	*stréphomai* (MID)	*stréphō* (ACT)	VOICE
18 fall	drop, let fall	*píptō* (ACT)	*híēmi* (ACT)	SUPPLETION

Among animate verbs, voice alternation, though the most frequent strategy, accounts for less than half of the verb pairs. With other verb pairs, a variety of strategies is attested. The verb *geláō* 'laugh' occurs once in the Homeric poems in a periphrasis with *ephíēmi* 'push', 'cause to'. Sausa (2016: 216 fn. 16) quotes Haspelmath's (1993: 105) remark, that views "the verb laugh [as] an extreme case . . . , which is so typically spontaneous that it is hardly ever expressed as an anticausative". However, if we consider the meanings 'take pleasure, get amusement' / 'amuse' the verb pair *térpō* 'amuse', 'cause to enjoy' / *térpomai* 'enjoy', 'take pleasure' also occurs, in which it is voice that encodes the alternation, see Luraghi (2020: 256). Besides this isolated occurrence, periphrastic causatives are also attested with the pair 'eat' / 'feed' (see below), but in general they are not a widespread strategy in Homeric Greek.

Three verbs pairs feature suppletion: 'die' / 'kill', 'eat' / 'feed', and 'see' / 'show'. Notably, the first of these verb pairs shows almost exclusively suppletion cross-linguistically (see Haspelmath 1993: 106; Sausa 2016: 220), while the verb pair 'eat' / 'feed' is perhaps not the best choice for instantiating the anticausative alternation. As pointed out by Levin and Rappaport Hovav (2005: 8), with respect to other verbs involved in the anticausative alternation, such as 'break', "the verb eat . . . does not show an intransitive use whose subject is the transitive use's object (∗The cookie ate)." Considering the Homeric Greek data, Sausa (2016: 220) remarks that "very often indeed, the causative counterpart of 'eat' is expressed through periphrases" which involve the verb 'give' and a consumption verb ('eat' or 'taste', 'drink' also appears in such periphrases, e.g. *Od*. 9.93; *Od*. 15.373). In

any case, if we consider the meanings 'satiate oneself' / 'satiate (someone), feed' we again find a verb pair that features voice alternation, with middle *korénnamai* 'satiate (intr.)'/ active *korénnumi* 'satiate (tr.)' (Luraghi 2020: 257–258). No alternative strategy is available for the pair 'see' / 'show'. Notably, the verb *horáō* 'see' has both active and middle forms, but no detectable semantic difference can be ascribed to voice alternation (see Luraghi 2020: 126–127 with a discussion of the relevant literature on the distribution of voice with this and other sight verbs).

Augmentation is limited: the best instantiation consists in the verb pair *deídō* 'fear' / *deidíssomai* 'frighten', which is quite atypical for the anticausative alternation with experiential verbs even in Homer, as experiential verbs that feature a morphologically encoded alternation do so through voice (Luraghi 2020: 250–265). In Classical Greek, this verb pair was partly replaced by *phobéomai* (middle) 'fear' / *phobéō* (active) 'frighten', which conforms to the pattern of other verbs of emotion, and shows voice alternation (see Section 5.2). The verb pair *édaon* 'learn' /*dédae* 'teach' comes from a defective paradigm, which only features the aorist stem. The reduplicated aorist has a causative meaning, possibly reaching back to PIE, as reduplicated causative aorists also exist in Sanskrit (Burrow 1955: 336–337). Already in Homer, we also find the verb pair *didáskomai* (middle) 'learn' / *didáskō* (active) 'teach' with the valency alternation encoded through voice.

The verb pair 'sit' / 'seat' shows a complex situation. The two plain verbs, *hêmai* and *hízomai* are both middle, but they differ as to lexical aspect: while *hêmai* is stative, and always means 'be seated' in Homeric Greek, *hízomai* indicates a change of state, and means 'sit down'. In addition, the active *hízō* can also be labile. Hence, the proper counterpart of the induced verb is *hízomai* or even *hízō* in its intransitive meaning: with respect to *hêmai* the induced verb does not only introduce a valency change but also adds a dynamic dimension.[4]

Summing up, with animate verbs the only instance of a transitivizing strategy that is not in competition with voice alternation consists in the meaning pair 'fear' / 'frighten', which, however, is replaced by a pair with voice alternation in Classical Greek. Suppletion constitutes a more relevant strategy, with at least two verb pairs that do not also have voice alternation as an alternative. Voice alternation

4 This distinction with a stative verb, a plain change-of-state one, and a causative counterpart must possibly be reconstructed for Proto-Indo-European. For example, Nichols (2006) shows that in Old Church Slavic, in the case of stance verbs (i.e. verbs such as 'sit', 'stand', 'lie'), valency changing strategies have been developing interacting with verbal aspect. She remarks that the same pattern exists in Baltic, and indicates as an archaism possibly inherited from PIE a system with a three-fold distinction among static vs. change-of-state (or punctual) vs. transitive, whereby "forms [are] not straightforwardly built on each other", but the fact that the root aorist is punctual (i.e. intransitive) points to the derived nature of transitive forms.

slightly prevails, as it covers four pairs out of nine in Homeric Greek (n. 3, 5, 7 and 9) and in Classical Greek also extends to verb pair n. 8 (see Section 5.1). In addition, for n. 1 and 4 other verb pairs with similar meaning also show voice alternation.

Inanimate verbs encode valency alternations more homogeneously through voice, the only exception being the suppletive pair *píptō* / *híēmi* 'fall' / 'drop' in which both verbs show active voice. Note that the latter verb does not strictly speaking mean 'drop' but 'throw', 'hurl'. A verb with a meaning closer to 'drop' could perhaps be *ríptō* 'cast'. Sausa (2016) describes the pair *térsomai* 'dry (intr.)' / *tersaínō* 'make dry' as encoding valency alternation via augmentation plus voice: the plain member of the verb pair *térsomai* shows middle voice, while the induced member *tersaínō* is active and features a suffix. Indeed, the causative verb is originally derived from the stem *ters-* plus the addition of a nasal suffix, etymologically connected with causative suffixes in other ancient Indo-European languages (see Luraghi 2012). Importantly, the suffix no longer conveyed causative semantics in Ancient Greek. Finally, Sausa (2016) does not provide a causative counterpart for *zéō* 'boil (intr.)', but one could also consider the verb pair *iaínō* 'warm up'(tr.)' / *iaínomai* 'warm up, relax (intr.)': note however that within this verb pair only active forms preserve their concrete meaning, while middle forms denote a positive emotion of relaxation based on a metonymic shift by which a sensation of warmth denotes wellbeing (Luraghi 2020: 261–262).

Considering now all verbs in Table 3, what strikes one as a regular feature of verb pairs in which the valency alternation is not encoded through voice is the fact that the plain member of the pair is active. With such verbs, suppletion is the most frequent strategy, with augmentation, i.e. overt morphological marking of causativization, possibly reflecting a more ancient Proto-Indo-European state of affairs (Luraghi 2019), clearly marginal. More evidence for the relevance of voice in the encoding of valency alternation is available from other verb pairs, both animate and inanimate, such as those shown in Table 4.

Table 4: Additional verbs with voice alternation encoding valency alternation.

	PLAIN (MIDDLE)	INDUCED (ACTIVE)	STRATEGY
	ANIMATE	VERBS	
i.	*órnumai* 'stand up'	*órnumi* 'lift'	voice alternation
ii.	*mimnḗskomai* 'remember'	*mimnḗskō* 'remind'	voice alternation
iii	*kḗdomai* 'worry'	*kḗdō* 'make worry'	voice alternation
iv	*aiskhúnomai* 'be ashamed'	*aiskhúnō* 'cause shame'	voice alternation
v	*lanthánomai* 'forget'	*lanthánō* 'escape, cause to forget'	voice alternation

Table 4 (continued)

	PLAIN (MIDDLE)	INDUCED (ACTIVE)	STRATEGY
	INANIMATE	**VERBS**	
vi	*tréphomai* (middle) 'grow'	*tréphō* 'let grow'	voice alternation
vii	*phaínomai* 'appear'	*phaínō* 'show'	voice alternation
viii	*paúomai* 'stop (intr.)'	*paúō* 'stop (tr.)'	voice alternation
ix	*barúnomai* 'grow heavy'	*barúnō* 'make heavy'	voice alternation
x	*óllumai* 'perish'	*óllumi* 'destroy'	voice alternation

We will return to some of these and more verb pairs featuring voice alternation in Section 5.1.

The verb pairs in Table 3 offer limited evidence for costly processes (in the terminology of Haspelmath 2016) being more readily denoted by verb pairs that encode valency alternation through voice, while only one automatic process corresponds to a verb pair with voice opposition ('catch fire' / 'set on fire'). However, other verb pairs referring to automatic process and featuring voice alternation can easily be found: among those mentioned in Table 4, for example, *tréphomai* 'grow' / *tréphō* 'let grow', *phaínomai* 'appear' / *phaínō* 'show', *barúnomai* 'become heavy' / *barúnō* 'make heavy' refer to automatic processes.

Up to now, we have refrained from specifying the orientation of voice alternation. Indeed, no matter what the nature of the active/middle relation might have been in Proto-Indo-European (see e.g. Willi 2018: 532; Luraghi 2019), in Ancient Greek we can see two different inflections, rather than a relation of morphological derivation of one voice from the other (see Allan 2003; Willi 2018). It is generally assumed that the middle voice is a detransitivizing strategy with respect to the active, however, the distribution of the two voices in Homeric Greek deserves some more discussion. Indeed, in Homeric Greek the percentage of *media tantum* is high, as they account for 38.2% of lemmas in a sample of 355 verbs (data from Romagno 2010). Remarkably, this does not mean that the remaining verbs all feature both voices: much to the contrary, another 14.5 % are either *activa tantum* (i.e. they only feature active morphology), or show a tense based voice distribution, whereby forms of specific tenses, often the future, are middle (our counting in a sample of 200 most frequent verbs in Homer). In other words, verbs that do not feature both voices make up for about half of all verbs in Homeric Greek.

Importantly, among active / middle verb pairs mentioned in this section some were arguably ancient *media tantum*, whose active forms are a recent innovation in Homer, and have apparently been created in order to provide a causative counterpart to the middle. This is the case for example for *mimnḗskō* 'remind' / *mimnḗskomai* 'remember' and *kholóō* 'anger someone' / *kholóomai* 'be(come) angry', see the discussion in Luraghi (2020: 254–256, 263–264) with further references. Strictly

speaking, in such cases it is active voice that might be viewed as a transitivizing strategy. Notably, however, whatever one reconstructs as the original function of the middle in PIE, in Homeric Greek it already functioned as passive, though this was not its main function. Hence, the active voice is considered the unmarked member of active/middle opposition (see Willi 2018: 2), and voice alternation, as already noted, is usually considered a detransitivizing strategy.

In fact, the Greek middle was inherited from PIE, and its relation to the active in the proto-language remains discussed. Several scholars hold the view that voice cannot be reconstructed as oppositional in PIE, but that its distribution was largely lexical, a reconstruction which is supported by evidence from the most ancient stages of several Indo-European languages (see Luraghi 2019). What we observe in Homeric Greek is the ongoing implementation of a full-fledged voice system with an oppositional middle, which, at least in Ancient Greek, had also become morphologically heavier than the active and has partly been re-modelled on it, as shown by the present middle ending *-mai* which owes its nasal to analogy with the active (the inherited form should be **-ai*; Cotticelli-Kurras and Rizza 2015).

More in general, middle endings, even though they cannot always be said to be based on the active ones, are usually heavier (see Inglese this volume for similar considerations on Latin). In Table 5 we compare the present indicative active endings of *-mi* verbs with the corresponding middle endings.

Table 5: Present indicative endings in Ancient Greek.

	ACTIVE	MIDDLE
1 SG	*mi*	*mai*
2 SG	*si*	*sai*
3 SG	*ti*	*tai*
1 PL	*men*	*metha*
2 PL	*te*	*sthe*
3 PL	*asi* <**nti*	*ntai*

Table 5 shows that middle endings are phonologically heavier than their active counterparts, either because they contain diphthongs in the place of simple vowels, as in the singular and in the third person plural, or because they are bisyllable rather than monosyllable, as in the first person plural. Even the second person plural, which is a monosyllable and contains the same vowel in both voices, contains more phonemes in the middle. Hence, we consider the active morphologically unmarked with respect to the middle, and consider voice alternation as a reduced correspondence.

Still, it must be pointed out that, apart from perhaps the first person singular if we accept the etymology proposed above, there is no relationship of derivation between the active and the middle. For this reason, voice alternation could be viewed as conjugation class change, if it were not for the fact that the two voices belong to the same inflectional paradigm of verbs that feature voice opposition. If one accepts the reconstruction of Proto-Indo-European (possibly Pre-Proto-Indo-European) that views active and middle voice as lexically distributed (see Benveniste 1966; more discussion in Luraghi 2019 with references), then one can view voice alternation as conjugation class change in Proto-Indo-European, i.e. as an undetermined strategy, later becoming a detransitivizing strategy based on a reduced correspondence after the paradigmaticization of voice opposition.

In Homeric Greek, one can also see traces of other, clearly transitivizing strategies such as reduplication and suffixation. Especially the latter is well attested in other ancient Indo-European languages, as argued in Luraghi (2012), and might well have been the basic strategy for valency alternation in Proto-Indo-European. In any case, voice opposition is the most relevant strategy with all types of verb, but with animate verbs suppletion also plays a relevant role, while with inanimate verbs voice opposition is almost the only attested strategy. This points to a distinction between the two groups of verbs, whereby inanimate verbs show a clearer orientation with respect to animate ones.

We will discuss post-Homeric developments in Section 5.

4 Modern Greek

Modern Greek is among the languages in Nichols, Peterson and Barnes' (2004) sample. The authors classify it as predominantly detransitivizing for inanimate verbs and neuter in the case of animate verbs. Our own analysis of the 18 verb pairs shown in Table 6 yielded the following results (the sum is higher than 18 because some verbs pairs show multiple strategies).

- Lability (ambitransitivity): 7
- Suppletion (including partial): 5
- Reduction: 5+2 (middle voice)
- Periphrasis: 1
- Augmentation (+voice): 2

Table 6: Valency alternation in Modern Greek.[5]

PLAIN	INDUCED	PLAIN	INDUCED	STRATEGY
ANIMATE VERBS				
1 laugh	make laugh	*ɣeláo*[5] (ACT)	*káno na ɣelái*	PERIPHRASIS
2 die	kill	*peθéno* (ACT)	*skotóno* (ACT)	SUPPLETION
3 sit	seat	IMPF NON-PAST: *káθome* (MID) PFV NON-PAST: *kaθíso* (ACT)	IMPF NON-PAST: *kaθízo* (ACT) PFV NON-PAST: *kaθíso* (ACT)	AUGMENTATION (+VOICE) LABILE
4 eat	feed	*tróo* (ACT)	*taízo* (ACT)	SUPPLETION
5 learn	teach	*maθéno* (ACT)	*ðiðásko* (ACT) *maθéno* (ACT)	SUPPLETION LABILE
6 see	show	*vlépo* (ACT)	*ðíxno* (ACT)	SUPPLETION
7 get angry	anger	*θimóno* (ACT)	*θimóno* (ACT)	LABILE
8 fear	frighten	*fováme* (MID)	*fovízo* (ACT)	AUGMENTATION (+VOICE)
9 hide	conceal	*krívome* (MID)	*krívo* (ACT)	VOICE
INANIMATE VERBS				
10 boil	boil	*vrázo* (ACT)	*vrázo* (ACT)	LABILE
11 catch fire	set fire	*kéɣome* (MID) *kéo* (ACT)	*kéo* (ACT)	VOICE LABILE
12 break	break	*spáo* (ACT)	*spáo* (ACT)	LABILE
13 open	open	*aníɣo* (ACT)	*aníɣo* (ACT)	LABILE
14 dry	(make) dry	*kserénome* (MID)	*kseréno* (ACT)	VOICE
15 be straight	straighten	*isióno* (ACT)	*isióno* (ACT)	LABILE
16 hang	hang (up)	*kremιéme / krémome* (MID)	*kremáo* (ACT)	VOICE
17 turn over	turn over	*ɣirízo* (ACT)	*ɣirízo* (ACT)	LABILE
18 fall	drop	*péfto* (ACT)	*ríxno* (ACT)	SUPPLETION

Let us start by observing some stable features that directly connect the Ancient Greek verb pairs with the Modern Greek ones. In the first place, the pair 'laugh'/ 'make laugh' remains encoded by an intransitive verb and a periphrastic causative. Suppletive pairs of Ancient Greek also correspond to suppletive pairs

5 The Medieval and Modern Greek examples are transcribed phonologically in the IPA (with the acute used to mark stress accent).

in Modern Greek, and include: 'die' / 'kill', 'eat' / 'feed', 'see' / 'show' and 'fall' / 'drop'. Notably, four of these verb pairs are animate and only one inanimate.

In fact, the extent of suppletion for animate verbs has become larger in Modern Greek, with the addition of verb pair 5, 'learn' / 'teach'. Valency alternation is described as suppletive in Nichols, Peterson and Barnes (2004).[6] Notably, however, the verb *maθéno* can also exhibit lability, while the active *ðiðásko* 'teach', in turn, also has a middle counterpart *ðiðáskome* 'learn', which is a learned form reintroduced into Modern Greek from Katharévousa (see Section 5.1). The verb can be found in dialectal Medieval and Modern Greek with the form *ðiðáxno*, which is the phonologically regular outcome of the Ancient Greek *didáskō*. Remarkably, transitive *maθéno* and *ðiðásko* are not completely in complementary distribution. This peculiarity has to do with the fact that, as remarked in Section 2, the verb 'learn' is different from other verbs that show the anticausative alternation, as it is transitive in many languages, among which Greek. Its counterpart 'teach', accordingly, is frequently ditransitive. In Greek (both Ancient and Modern), the verb 'teach' can take two objects, one of which is also the object of 'learn' and is typically inanimate, while the second is the argument involved in the alternation, i.e. the subject of the plain verb and the object of the induced one, which is typically animate and has the role of causee. The causee can be omitted: this brings about ambiguity if the labile verb is used. Accordingly, transitive *maθéno* can be used only when the verb is clearly ditransitive, in occurrences such as (7), while in occurrences such as (8) the only possible interpretation would be an intransitive one.

(7) *Ti* *sas* *émaθe* *o* *ðáskalos* *símera?*
what 2PL.ACC learn.PST.3SG ART.NOM teacher.NOM today
'What did the teacher teach you today?'

(8) *Maθénume* *angliká*
learn.PRS.1PL English
'We learn/*teach English.'

On the other hand, *ðiðásko* is an unambiguous alternative in any context, both with and without a causee, as shown in (9).

6 We thank Johanna Nichols for sharing with us the list of Greek verb pairs used in Nichols, Peterson and Barnes (2004), which does not appear in the article. A list of verb pairs, not coinciding with ours but containing some of those listed in Table 6, is also provided in the Appendix by Haspelmath (1993: 114). For some meanings, Haspelmath selected the same verb pairs as we did, but for some others he selected different verbs. However, choices are not discussed and motivated.

(9)	*O*	*kaθiɣitís*	*ðiðáski/*	**maθéni*
	ART.NOM	professor.NOM	teach.PRS.3SG /	*learn. PRS.3SG
	(tus	*fitités)*	*sto*	*panepistímio*.
	ART.ACC.PL	student.ACC.PL	in_the	university

'The professor teaches (the students) at the university.'

Variation between lability and voice characterizes verb pair 7. We used the labile verb *θimóno* 'get angry / anger' mainly because it is the same verb pair used by Nichols, Peterson and Barnes (2004); note however that judgments vary among speakers and we might as well have used the more frequent *eknevrízo* as causative counterpart of intransitive *θimóno*.[7] This would have the effect that lability would play no role among animate verbs (except for perfective forms of *kaθíso* 'sit' / 'seat', on which see below), while the extent of suppletion would grow. Notably, however, lability does not bring about the same degree of ambiguity as in the case of the verb pair 'learn' / 'teach', and lability is also shown by another verb pair *nevriázo* (intr.) / *nevriázo* (tr.) 'be irritated' / 'irritate'. In fact, the pair 'get angry' / 'anger' is different from the pair 'learn' / 'teach' in terms of syntactic transitivity, as the plain verb is a true intransitive, the induced verb is not ditransitive and there is no second object involved. In addition, one also has to reckon with voice alternation, as the plain counterpart of *eknevrízo* 'anger' can also be the middle *eknevrízome* 'be angry, irritated', and the more colloquial pair *tsatízome* 'be irritated'/ *tsatízo* 'irritate' (<Turkish *çat*) also shows that voice alternation can be used in parallel with lability for these meanings.

The pair 'fear'/ 'frighten' *fováme/ fovízo* features augmentation. It constitutes a complex case, as the plain and the induced verb have different stems with the induced verb containing the similative suffix *-iz*, but also show middle vs. active inflection, hence valency alternation is also marked by voice. In Homeric Greek, the corresponding verb pair *deídō / deidíssomai*, though not etymologically related, also shows augmentation, but note that, as we remarked in Section 3, the distribution of voice is not coherent with the role it plays elsewhere, as it is the plain verb (*deídō* 'fear') that is active, while the induced one (*deidíssomai* 'frighten') is middle. Nichols, Peterson and Barnes (2004) regard this an instance of double derivation, but we prefer to view it as augmentation, even though the base for the suffix *-iz* is not the plain verb, but the noun *fóvos* 'fear'. Another possible counterpart of plain *fováme* is *foverízo* 'frighten' formed with

7 One reviewer even suggested that "the causative use of *θimóno* is a bit marginal and can be found only in such expressions as *me θimosan ta logia tu* ['your words make me angry']."

the same suffix from the base *foverós* 'frightening' (see further the discussion in Section 5.3.3).

As regards the pair 'sit' / 'seat' *káθome* (mediopassive)/ *kaθízo* (active),[8] even though one might have the impression that the same suffix is involved, this is not the case: in fact, Modern Greek *káθome* derives form Ancient Greek *káthēmai* (*katá* + *hêmai*), while Modern Greek *kaθízo* comes from Ancient Greek *kathízō* (*katá* + *hízō*).[9] As shown in Table 3, the two verbs share the same perfective stem (*kaθis-*) and have a split strategy for the perfective future tense, the perfective past tense and the perfective subjunctive mood.[10] We still considered this as an instance of augmentation, as the induced verb is phonologically heavier than the plain one, but an analysis as double derivation as the one proposed by Nichols, Peterson and Barnes (2004) can also be agued for (or even as suppletion, as in the case of Ancient Greek *hêmai* / *hízō*, see Table 3). Perfective forms of this verb pair are labile. This was the only verb pair that also featured lability in Homeric Greek already, and constitutes a remarkable case of stability over time. As in Ancient Greek, the present imperfective double-marks the alternation through voice.

Some verb pairs may feature more than one strategy. The pair 'burn'/ 'set on fire', which is considered labile by Nichols, Peterson and Barnes (2004), can encode the anticausative alternation through voice, as shown by the plain middle in (11), even though in some contexts the active verb can be labile (cf. Alexiadou and Anagnostopoulou 2004: 124) as in (10).

(10) *i* *fotiá* *kéi/*kéɣete*
ART.NOM fire.NOM burns.PRS.ACT/*MID.3SG
'The fire burns.'

(11) *to* *spíti* *kéɣete/*kéi*
ART.NOM house.NOM burns.PRS.MID/*ACT
'The house is on fire.'

8 The two verbs 'sit' / 'seat' *káθome* (mediopassive)/ *kaθízo* (active) might be cognates historically, even though, strictly speaking, they can hardly be considered derived from each other synchronically: both *hêmai* and *hízō* possibly originate from a common PIE **sed-* root, see further the discussion of the corresponding verb pair in Homeric Greek in Section 3.

9 The prefixed verbs *káthēmai* and *kathízō* replaced the non-suffixed *hêmai* and *hízō* in 5th century BCE Attic prose already.

10 'Sit': imperfective non-past *káθome/* perfective non-past *kaθíso*; 'seat': imperfective non-past *kaθízo/* perfective non-past *kaθíso*.

In comparison to our data, Nichols, Peterson and Barnes (2004) have a higher number of inanimate verb pairs in which voice encodes the alternation. These include the pairs 'open', 'straighten' and 'turn over', which deserve some more comments.

The pair 'open' is reported to be *aníɣome* (plain) vs. *aníɣo* (induced). This is not completely correct, as the verb is normally labile. Interestingly the mediopassive form *aníɣome* is only used as an anticausative with animate subjects. Consider examples (12)-(14).

(12) *i* *pórta* *aníɣi/*aníɣete*
ART.NOM door.NOM opens.PRS.ACT/*MID.3SG
'The door opens.'

(13) *o* *Kóstas* *aníɣi* *tin* *pórta*
ART.NOM Kostas.NOM opens.PRS.ACT.3SG ART.ACC door.ACC
''Kostas opens the door.'

(14) *o* *Kóstas* *aníɣete* *éfkola*
ART.NOM door.NOM opens.PRS.MID.3SG easily
'Kostas opens up easily.'

The pair 'straighten' is reported as *isiázome* (plain)/ *isiázo* (induced), which is mainly a dialectal form that is nearly obsolete in Standard Modern Greek (cf. Babiniotis 1998) and its voice alternation is attested in Medieval Greek (see Section 5). On the contrary, *isióno* can be used both as a transitive and as an intransitive verb, hence instantiating another case of lability, as shown in (15) and (16).

(15) *ta* *maliá* *mu* *ðen* *isiónun* *éfkola*
ART.NOM.PL hair.NOM.PL 1SG.GEN NEG straighten.PRS.3PL easily
'My hair does not straighten out easily.'

(16) *spánia* *isióno* *ta* *maliá* *mu*
rarely straighten.PRS.1SG ART.ACC.PL hair.ACC.PL 1SG.GEN
'I rarely straighten my hair.'

Finally, the pair 'turn over' is incorrectly reported as alternating, with *anapoðoɣirízome* being the plain form and *anapoðoɣirízo* as the induced one. Regard-

less of the exact form of the pair (the compound *anapoðoɣirízo*[11] or the simple *ɣirízo*), (*anapoðo)ɣirízo* is a true labile, as can be seen in (17) and (18).

(17) *i* *karékla* *(anapoðo)ɣírise/*(anapoðo)ɣirístike*
ART.NOM chair.NOM turn_over.SUBJ.PST.ACT/*MID.3SG
'The chair turned over.'

(18) *o* *Kóstas* *(anapoðo)ɣírise* *tin* *karékla*
the.NOM Kostas.NOM turn_over.PST.3SG ART.ACC chair.ACC
'Kostas turned over the chair.'

More verb pairs with similar meanings to those included in Table 6 may feature alternative strategies. So for example for the pair 'dry' besides the pair *kserénome* (plain)/ *kseréno* (induced), which features voice alternation as shown in (19) and (20), another possible instantiation is the labile *steɣnóno* 'dry'/ *steɣnóno* 'make dry', which is used in different contexts as shown in (21) and (22).

(19) *to* *xortári* *kseraθike/*kserane*
ART.NOM grass.NOM dry.PST.MID.3SG/*dry.PST.ACT.3SG
'The soil dried up.'

(20) *i* *zésti* *ksérane* *to* *xortári*
ART.NOM heat.NOM dry.PST.ACT.3PL ART.ACC grass.ACC
'The heat dried the soil.'

(21) *ta* *maliá* *mu* *stéɣnosan/*steɣnóθikan*
ART.NOM.PL hair.NOM.PL 1SG.GEN dry.PST.ACT.3PL/*dry.PST.MID.3PL
'My hair got dry.'

(22) *o* *aeras* *stéɣnose* *ta* *maliá* *mu*
ART.NOM air.NOM dry.PST.ACT.3SG ART.ACC.PL hair.ACC.PL 1SG.GEN
'The air dried my hair.'

On the other hand, for the meaning 'turn' the pair *stréfome/ stréfo* 'turn/ direct' is also available besides the labile *ɣirízo*, again used in different contexts (see further Section 5.8), as in (23) and (24).

11 From *anápoðos* "upside-down" (adjective) + *ɣirízo*.

(23) *stréfo* *to* *vléma* *mu* *sto* *mélon*
turn.PRS.1SG ART.ACC sight.ACC 1SG.GEN in_ ART.ACC future.ACC
'I direct my sight to the future.'

(24) *i* *néi* *stréfonde* *stin* *texnoloyía*
ART.NOM.PL young.NOM.PL turn.PRS.MID.3PL in_ ART.ACC technology
'Young people turn (themselves) to technology.'

It stems from the Ancient Greek verb *stréphomai/ stréphō* 'turn over' and exhibits its ancient counterpart's voice alternation. Its usage is mostly found in higher registers, as it constitutes an influence from Katharévousa.

From the data in Table 6, it turns out that labile verbs (ambitransitive in Nichols, Peterson and Barnes' 2004 terminology) dominate among inanimate verbs, while in the same group voice alternation has become more limited (see Alexiadou and Anagnostopoulou 2004; Alexiadou 2014). On the other hand, animate verbs show a wider variety of strategies, as they already did in Ancient Greek. Labile verbs also are marginal in this group, possibly restricted to the perfective *kaθíso* 'sit down' / 'seat'. Remarkably, this was the only pair that also exhibited lability in Ancient Greek. Both in Ancient and in Modern Greek, the same meanings could also be instantiated by a verb pair that features voice alternation: as already discussed above, in Modern Greek this involves two slightly different verb stems, but note that voice alternation is coherent with other verb pairs that encode valency alternation through voice alone.

The same can be said for the verb pair *fováme* 'fear' / *fovízo* 'frighten' in which two slightly different stems are involved along with voice in the encoding of the alternation. Notably, this was not always the case in Homeric Greek, in which the corresponding verb pair *deídō* (active) 'fear' / *deidíssomai* (middle) 'frighten' does show voice alternation, but is incoherent with the habitual distribution of voice with respect to valency: indeed, in this verb pair the intransitive member *deídō* 'fear' shows active morphology, while the transitive member *deidíssomai* 'frighten' is always inflected in the middle. This verb pair was partly replaced by *phobéomai* (middle) 'fear' / *phobéō* (active) 'frighten' in Classical Greek, with valency encoded by voice alternation, coherently with the distribution of voice in other verb pairs (see Sections 3 and 5).

Possibly labile animate verb pairs are *maθéno* 'learn' / 'teach' (see Section 5.1) and *θimóno* 'be angry' / 'anger' (see Section 5.2). In the first case, however, there is a suppletive alternative for t*he tran*sitive member of the verb pair, *ðiðásko* 'teach', which is the only possibility in ambiguous contexts. Ambiguity with this verb pair may arise due to syntactic transitivity of the plain verb. In the case of the meanings 'be angry / anger', we saw that several verb pairs exist. Beside the

labile verb *θimóno, eknevrízo / eknevrízo* may either encode the alternation through voice, or, with its active forms, provide a suppletive alternative to transitive *θimóno*. Finally, voice encodes valency alternation with another animate verb, *krívome* 'hide' / *krívo* 'conceal'.

In this connection, the verb *aníyo* 'open' is especially interesting. As we showed in examples (12) and (13), the verb is normally labile. In the unusual case that it occurs with an animate subject, the spontaneous event is marked by the middle voice as shown in (14). Remarkably, this is not an isolated case. Alexiadou and Anagnostopoulou (2004: 126) argue that some other verbs may either be labile with inanimate subjects or encode valency alternation through voice with animate subjects, with the middle voice functioning as anticausative. One such verb is *leróno* 'dirty', as in (25)-(27) (adapted from Alexiadou and Anagnostopoulou 2004).

(25) *o* *ɣiánis* *lérose* *to* *trapezomándilo*
ART.NOM John.NOM dirty.PST.3SG ART.ACC tablecloth.ACC
'John dirtied the tablecloth.'

(26) *to* *trapezomandilo* *lerose/lerothike* *apo* *mono* *tu*
ART.NOM tablecloth.NOM dirty.PST.ACT/MID.3SG from alone 3SG.GEN
'The tablecloth got dirty by itself.'

(27) *o* *ɣiánis* *leróθike/*lérose*.
ART.NOM John.NOM dirty.PST.MID/*ACT.3SG
'John got dirty.'

Similarly, the verb *stravóno* 'crook' / 'bend' is labile. It also has the colloquial meaning 'to blind someone' / 'make someone lose their sight temporarily', and in the middle it can occur with animate subjects and means 'become blind':

(28) *to* *xerúli* *strávose*
ART.NOM handle.NOM bend.PST.3SG
'The handle got bent.'

(29) *o* *ɣiánis* *strávose* *to* *xerúli*
ART.NOM John bend. PST.3SG ART.ACC handle.ACC
'John bent the handle.'

(30) *ta* *fóta* *mas* *strávosan*
ART.NOM.PL light.NOM.PL 1PL.ACC bend.PST.3PL
'The lights blinded us.'

(31) *o* *ɣiánis* *stravóθike*
ART.NOM John bend.PST.MID.3SG
'John lost his sight.'

The preference of animate subjects for overt marking of valency reduction through the middle voice seems to be connected with the likelihood for verb pairs in this group to have animate or inanimate subjects when they denote spontaneous events. Indeed, 'open' belongs in the group of inanimate verbs in Nichols, Peterson and Barnes (2004), and 'dirty' and 'bend' can also be ascribed to the same group. Non-overt marking would more likely trigger an agentive reading of the animate subject, hence the need for overt marking. In addition, with some of these verbs a human participant might also act intentionally. In such cases, the plain verb inflected in the middle leaves open the possibility for a reflexive reading. Let us consider the verb *tendóno* 'stretch' in Babiniotis' (1998) dictionary.

(32) *min* *tendónis* *to* *skiní,* *θa* *spási*
NEG stretch.IMPER.2SG ART rope FUT break
'Don't stretch the rope, it will break.'
TRANSITIVE ACTIVE

(33) *me* *aftes* *tis* *ambules* *to* *ðérma*
with DEM.ACC.PL ART.ACC.PL ampoule.ACC.PL ART skin
tendóni
stretch.PRS.3SG
'The skin stretches with these ampoules.' INTRANSITIVE ACTIVE

(34) *tendóθike* *ɣiá* *na* *ði* *ti*
stretch.PST.MID.3SG for to see.SUBJ.PFV.PRS.3SG what
ɣinótan
happen.PST.MID.3SG
'He stretched himself so he could see what was happening.' REFLEXIVE MIDDLE (INTENTIONAL)

(35) *kíta* *pós* *tendónete,* *ótan* *akúi*
look.IMPER.2SG how stretch.PRS.MID.3SG when hear.PRS.3SG
kopliménda
compliment.ACC.PL
'Look how he stretches (gloats), when he hears compliments.' REFLEXIVE MIDDLE (UNINTENTIONAL)

Notably, verbs that can be labile with inanimate subjects but encode valency alternation through voice with animate ones do not only denote events that typically involve inanimate participants, but also belong to the 'costly' group according to Haspelmath (2016). This means that, on the one hand, animate subjects with active forms are likely to be taken as denoting agents as already pointed out above, while on the other hand the middle voice leaves open the possibility both of a spontaneous and a reflexive interpretation. These options are not available for inanimate subjects, as inanimate participants are typically unable to bring about or control events. As animate participants are more versatile, it comes as no surprise that animate subjects need heavier marking on the verb for disambiguating valency.

It can further be noted that, as signaled by Alexiadou and Anagnostopoulou (2004), deadjectival verbs tend to be labile. These include *aðiázo* 'empty', *asprízo* 'whiten', *kokinízo* 'redden', *mavrízo* 'blacken', *kaθarízo* 'clean', *strongilévo* 'round', *platéno* 'widen', *steɣnóno* 'dry', *stenévo* 'tighten', *skuréno* 'darken', *kaθisteró* 'delay', *alázo* 'change', *ksepaɣóno* 'defreeze'. Interestingly, most of these verbs usually take inanimate subjects. On the other hand, among deadjectival verbs that also feature middle morphology, kseréno 'dry up' belongs in the inanimate verbs group, but *treléno* 'madden' is animate and *zesténo* 'warm up' is also mostly used with animate subjects, hence again pointing to a bigger need for disambiguation of the verbal valency in cases in which an active form of the verb would allow for an agentive interpretation of the subject.

More in general, it is remarkable that even for verbs that virtually never allow inanimate subjects, such as 'eat' / 'feed', marking is made explicit by suppletion: in this framework, the increase of suppletive pairs in Modern Greek, partly as a recent development that limits lability, offers more evidence for a sharp distinction between inanimate subjects / lability on the one hand and animate subjects / overt marking on the other hand.

5 From Ancient to Modern Greek

In this section we discuss the changes that took place during the time span elapsed from the Homeric Greek stage described in Section 3 to Modern Greek as illustrated in Section 4. We start by outlining the developments emerging from Classical Greek, and argue that the opposition between the middle and the active voice, which already functioned as main strategy for the encoding of the anticausative alternation, became even more extended (Section 5.1). We then show that voice opposition underwent a major change leading to the marginalization of its role in

the anticausative alternation, and argue that this development was accompanied by the rise of lability (Section 5.2). As will be shown, the majority of these changes began in late Hellenistic Greek and were consolidated in Medieval Greek.

5.1 Classical Greek

We have argued in Section 3 that the use of voice opposition for the encoding of valency alternation was on the rise in Homeric Greek, and that some verb pairs featured old *media tantum* with active counterparts that constituted an innovation in Homer. This development proceeded further in post-Homeric Greek. Among fear verbs, *atúzomai* 'be terrified' only has middle forms in Homer; in later epics, the active *atúzō* is also attested, with the meaning 'cause terror' (Luraghi 2020: 231). The pair *deídō* 'fear' / *deidíssomai* 'frighten' was still used in post-Homeric Greek, but remained marginal in comparison with the much more frequent pair *phobéomai* 'fear' / *phobéō* 'frighten, threaten'.[12] This verb pair is also attested in Homer, but only with the meaning 'flee' / 'put to flight' (Luraghi 2020: 288–289). The verb pair *édaon* 'learn' *dédae* 'teach', with which valency alternation was indicated by reduplication, hence a transitivizing strategy, disappeared after Homer, and only the pair *didáskomai* 'learn' *didáskō* 'teach' featuring voice opposition remained.

Besides the verbs in Table 1, more verbs that were *media tantum* in Homer developed active forms in Classical and post-Classical Greek, even though some remained sporadic. Examples are *geúomai* 'taste' / *geúō* 'let taste' from Herodotus (5th century BCE), *maínomai* 'be furious' / *maínō* 'make furious' in 5th century Attic tragedy and comedy , *meilaínomai* 'become black' / *melaínō* 'make black' in Aristotle (4th century BCE), *théromai* 'become warm' / *térō* 'warm up' (the active form is attested in Apollonius Rhodius, 3rd century BCE, and Nicander, 2nd century BCE).[13] Thus, the role of voice in the encoding of valency alternation, which was already relevant and still on the rise in Homeric Greek, became even more relevant in Classical Greek, and expanded its relevance in the group of animate verbs. Hence, from the point of view of basic valency Ancient Greek can be considered a detransitivizing language, with voice alternation providing

12 See the data in the Perseus database: http://www.perseus.tufts.edu/hopper/wordfreq?lang=greek&lookup=fobe%2Fwhttp://www.perseus.tufts.edu/hopper/wordfreq?lookup=deidi%2Fssomai&lang=greek http://www.perseus.tufts.edu/hopper/wordfreq?lookup=dei%2Fdw&lang=greek

13 See also Lavidas (2010: 67), who also argues that some active intransitive verbs became labile in post-Homeric Greek, and mentions *zéō* 'boil', attested in Apollonius Rhodius (3rd century BCE) in the meaning 'make boil'.

the most frequent strategy whereby the unmarked active voice encodes induced events while the middle voice encodes plain events.

5.2 The middle voice from Classical to Modern Greek

In the Hellenistic and Medieval Greek period, the verb system underwent major changes, which also affected voice. While a complete assessment of the developments that affected the middle voice from Classical Greek up to Modern Greek falls outside the scope of our paper, it needs to be mentioned that some functions of the middle voice, notably the reciprocal and the autobeneficiary were dropped or strongly limited, while the passive function became more relevant. Indeed, passive is often described in reference handbooks as the main function of the Modern Greek middle (Holton, Mackridge and Philippaki-Warburton 1997: 211–216). Contrasting the frequency of middle functions in Ancient and Modern Greek unveils a number of tendencies that we shortly summarize below.

(a) Decrease in the token frequency of *media tantum*: in Homer (8th c. BCE) *media tantum* account for 15.9% total occurrences of the 200 most frequent verbs (see Section 3), while in a corpus of literary Modern Greek from the 1980s they cover 8.5% (Stamatiou 2017, henceforth LitMG). This tendency emerges at an early stage, as the number of oppositional middles is on the rise from Homeric Greek onward as we pointed out above (see further Schwyzer 1959).

(b) Even though the Modern Greek middle largely preserves the semantics of the Ancient Greek middle, token frequency shows a different distribution of the various meanings. Among the 50 most frequent verbs in Homer, out of 15,818 occurrences middle tokens account for 4050, of which 2209 are oppositional middles. Among these occurrences, 861 are from verbs that do not show any semantic differences between voices.

We restricted the observations to verbs with passive, reflexive/reciprocal/autobeneficiary and anticausative middles, and compared them with the verb samples form literary Modern Greek. Comparison yields the results in Table 7 that confirm Holton, Mackridge and Philippaki-Warburton's (1997) description, and show a reversal in the ratio passive / anticausative in the functions of middle forms of verbs in Modern Greek as compared to Homeric Greek.[14]

14 The figures in Table 7 point to a sharp decrease of the reflexive, reciprocal and autobeneficiary functions. Concerning the latter, Lavidas (2010: 108) argues that the decline already started in the Hellenistic Koine.

Table 7: Token frequency of middle voice functions in Homeric and Modern Greek.

	PASSIVE	REFL/REC/AUTOB	ANTICAUSATIVE
Homer	19,6%	38,3%/	42,1%/
LitMG	63,9%	12,1%	24%

Indeed, as we have argued in Section 4, the role of voice in the encoding of valency orientation has become more limited as compared to Ancient Greek. Most important in this connection is the rise of lability, which was restricted in Ancient Greek and which we found as extensively used in the encoding of valency alternation in Modern Greek. Karantzola and Lavidas (2014) identify the following patterns in the diachrony in post-Classical Greek:

i. Intransitive verb with active morphology → labile verb, e.g. Ancient Greek *eksamartánō* 'fail' (intr.) → Hellenistic Koine *eksamartánō* 'fail' (intr.)/ 'do wrong to someone' (tr.)
ii. Intransitive verb with active/middle morphology → alternating verb (active causative, active/nonactive anticausative), e.g. Classical Greek *leukaínō* (ACT)=*leukaínomai* (MID) 'become white' → Hellenistic Koine *leukaínō* (ACT intr.)=*leukaínomai* (MID) 'become white'/ *leukaínō* (ACT tr.) 'whiten'
iii. Intransitive verb with middle morphology → alternating verb (causative type with active morphology and anticausative type with middle morphology), E.g. Classical Greek *hḗdomai* 'enjoy' (MID intr.) → Hellenistic Koine *hḗdomai* 'enjoy' (MID intr.)/ *hḗdō* 'enjoy' (ACT tr.)

With regard to the exact origin of labilization, it should be noted that none of the pairs under examination involved the labil*e* strategy in Ancient Greek apart from *hízō* 'sit' / 'seat', for which the mediopassive *hízomai* was also available for the plain meaning.[15] Another verb that could occasionally encode valency alternation through lability is *auksánō* (ACT tr.) 'increase'/ *auksánomai* (MID intr.) 'increase'

15 Lavidas (2010: 68) discusses some cases of verbs that he considers labile in Ancient Greek. Notably, however, he does not distinguish between P- (or Patient-preserving) lability and A- (or Agent-preserving) lability (see Dixon 1994; Letuchiy 2009). Only the former is relevant for the anticausative alternation, which involves events in which a patient undergoes a change of state either spontaneously (plain) or because it is brought about by another participant (induced). On the other hand, A-lability refers to transitive verbs used without a direct object, preserving the Agent in subject position. In traditional Indo-European linguistics this is called 'absolute' use of transitive verbs, and in Ancient Indo-European languages it does not require any special marking, as in e.g. *siōpáō* 'stay silent (intr.)' / 'keep secret (tr.)' mentioned by Lavidas (2010: 68).

→ *hē selḗnē auksánei* (ACT intr.) 'the moon increases (in size)' Aristotle, *Analytica priora et posteriora* 78b (4th c. BCE). This influence on other verbs must have been especially successful when the anticausative meaning of a verb could be expressed by both its active and a non-active form, cf. *leukaínō* (ACT)=*leukaínomai* (MID) 'become white'.

5.3 Developments within verb pairs

In the following sub-sections the pairs of Table 6 with diachronic changes in their strategies will be discussed as part of the verb-specific approach of our paper. More specifically, we will focus on the following pairs: 'learn' / 'teach' (Section 5.3.1), 'be angry' / 'anger' (Section 5.3.2), 'fear' / 'frighten' (Section 5.3.3), 'catch fire' / 'set fire' (Section 5.3.4), 'break' / 'break' (Section 5.3.5), 'open' / 'open' (Section 5.3.6), 'dry' / 'make dry' (Section 5.3.7), 'be straight' / 'straighten' (Section 5.3.8), and 'turn over' / 'turn over' (Section 5.3.9).

5.3.1 'Learn' / 'teach'

As was mentioned in Section 4, the presence of *ðiðáskome/ ðiðásko* 'learn' / 'teach' in Modern Greek is due to influence of Katharévousa, which was the official language of Greece for nearly 150 years (1830–1976), which replaced *ðiðáxnome/ ðiðáxno*, the direct descendant of the ancient verb that occurs in some Medieval Greek and Modern Greek varieties. In Modern Greek, the active form *ðiðásko* 'teach' provides an induced counterpart to plain *maθéno* 'learn', which is the only possible choice in cases in which lability would bring about ambiguity, as argued at length in Section 4.

The labile *maθéno* stems from the Classical Greek *manthánō* 'learn' and was formed on the basis of the aorist stem *math-* and the derivational suffix *-ain-*. The Ancient Greek *manthán*ō had a mediopassive future (*mathḗsomai*), but true passive uses of the verb were rare, as only seven occurrences can be found in Classical Greek and all them are attested in Plato, as shown in (36).

(36) *mathḗmata* *mēdamê* *toutôn* *iatikà*
lesson.NOM.PL not this.GEN.PL healing.NOM.PL
ek *néōn* *manthánētai*
out_of young.GEN.PL learn.SUBJ.PRS.MID.3SG
'No healing lessons at all are learnt from a young age.' Plato, *Timaeus* 87b (4th c.BCE)

Given the fact that the ditransitive use of the verb with the semantic extension to 'teach' does not seem to be attested until the vernacular late Medieval Greek texts, the change most likely took place at some point in the early Medieval period of the language (5th-10th c. CE) and not earlier. An example is (37).

(37) *máθe* *to* *tsangárin* *to* *peðín* *su*
learn.IMPER.2SG ART.ACC shoemaker.ACC ART.ACC child.ACC 2SG.GEN
'Teach your child to be a shoemaker.' *Ptochoprodromica* 3.112 (12th c. CE)

As regards the course of this change, it is uncertain whether the mediopassive morphology of the future tense of the verb could have played a role in the reanalysis of the active future forms that started to appear in late Hellenistic Koine.[16] Among our verb pairs, this is the only case in which the plain member of the pair is transitive and the induced member can be ditransitive. From the point of view of the rise of lability, we witness an extension to the ditransitive construction of a transitive verb. Morphology remains active throughout this development.

5.3.2 'Be angry' / 'anger'

The Modern Greek labile *θimóno* stems from the Ancient Greek media tantum *thumóomai* 'be angry', whose active intransitive forms first appear in Hellenistic Koine*: ethýmōsen Ephraím* 'Ephrem got angry' *Septuagint*, *Hosea* 12.15. The labilization of the verb must have been completed relatively recently, as in Medieval Greek (Karantzola and Lavidas 2014: 1036) the intransitive meaning was still expressed by the middle form of the verb. The causative *thumóō* in the Hellenistic Koine was modeled after other pairs with voice alternation and similar meaning, cf. Classical Greek *kholóomai/ kholóō* 'be angry' / 'get angry', *eksorgízomai/ eksorgízō* 'be enraged' / 'enrage'.

When compared with *maθéno*, which also developed lability, *θimóno* shows a different morphological development, as the plain verb, as we highlighted, originated from a *medium tantum*, i.e. a verb that only featured middle morphology. Only later an active causative counterpart was created. In Modern Greek, only active forms survive, covering the semantics of both the ancient active and the ancient middle.

16 *Mathḗsete* (ACT) 'you will learn' in Galen, *De compositione medicamentorum per genera libri vii* 13.450 (2nd c. CE); see the discussion of example (41) in Section 5.3.6.

5.3.3 'Fear' / 'frighten'

This verb pair constitutes an interesting case of preservation of an otherwise marginal, if not absent, pattern, that is, augmentation. In Homer, the verb pair *deídō / deidíssomai* features augmentation, as a suffix *-iss* is added to the base. Note, however, that this is a peculiar formation, as the suffix is normally used as denominal, and derives factive verbs from adjectives or nouns (Schwyzer 1953: 733). In this case, *deidíssomai* is certainly based on the non-derived verb as it also contains reduplication, while the noun *déos* 'fear' does not (see Chantraine 1977: 255–256). The two members of the verb pair show different voice, but, as remarked in Section 3, they do so incoherently with the valency reducing function of the middle voice in other verb pairs: indeed, the plain verb is an *activum tantum*, while the induced verb is a *medium tantum*. In Classical Greek, this verb was increasingly replaced by *phobéomai* 'fear' / *phobéō* 'frighten', which encodes valency alternation through voice as many other verb pairs. This provides evidence for the fact that valency encoding through voice was still on the rise in Homer (see Section 5.1). By the time of the New Testament, the pair *deídō / deidíssomai* had disappeared, and only the adverb deinós 'terrible, awful' occurs twice.

In the meantime, the verb *phobízō* 'frighten' had made its appearance in inscriptions from the first century BCE, and *phoberízō* 'frighten' is attested even earlier, in the Greek translation of the Bible (*Septuagint*), which was accomplished from the 3rd century BCE onward. These verbs are both denominal: the former is based on the noun *phóbos* 'fear', and the latter on the adjective *phoberós* 'frightening', plus the addition of the similative suffix *-iz-*. These two verbs eventually replaced *phobéō* and, as we have argued in Section 4, their Modern Greek outcomes *fovízo* and *foverízo* express the meaning 'frighten' and represent the induced counterpart of *fováme* 'fear', which in its turn derives form the Classical Greek middle *phobéomai* 'fear'. As derivation with the suffix *-iz* remains productive in Modern Greek, the two verbs are still analyzable as denominal (see Section 4).

5.3.4 'Burn (intr.)' / 'burn (tr.)'

As mentioned in Section 4, Modern Greek *kéo* presents a split strategy, as the active and mediopassive intransitive forms have different meanings and are in complementary distribution, whereas Ancient Greek *kaíō* had voice alternation and its active form could not be used intransitively. The intransitive use of the active form is attested in Medieval Greek. According to Lavidas (2010: 146) it likely originated in transitive structures with object omission.

(38) *eán* *káfsi* *me* *to* *pir*
if burn.ACT.3SG 1SG.ACC ART.NOM fire.NOM
'If the fire burns me' John Malalas, *Chronographia* 18.16 (5th-6th c. CE)

(39) *to* *pir* *kéi*
ART.NOM fire.NOM burn.ACT.3SG
'The fire burns.'

5.3.5 'Break' (intr.) / 'break' (tr.)

While Ancient Greek *rhḗgnumai/ rhḗgnumi* involved voice alternation, Modern Greek *spáo* is used for both meanings, as does its synonym *rayízo*, which actually stems from the ancient verb. In fact, the diachrony of *rayízo* is worth examining, as it may have facilitated the labilization of *spáo*. More specifically, it was formed from the aorist stem *rhag-* of the ancient verb: Classical Greek *er-rhág-ēn* (MID)→ late Hellenistic Koine/ early Medieval Greek *e-ráɣ-in* (MID) → **e-ráɣ-is-a* (ACT)→ present tense *raɣ-íz-o* (ACT).

Spáo, with its variant *spázo*, comes from the Ancient Greek *spáō* 'draw'. This verb was mostly used in the middle in Homeric Greek. The meaning later expanded to 'tear' and, in Classical Greek, the middle voice was increasingly limited to the passive function. It eventually acquired the meaning 'break'. The role of animacy should be mentioned at this point, as the middle form *spázome* is used in Modern Greek with an animate subject with the meaning 'I am annoyed/ enraged', as already in Medieval Greek, example (40).

(40) *Axiléfs* *espázeto* *ði'* *ekínin*
Achilles.NOM break.PST.MID.3SG for DEM.ACC
'Achilles was hurting about her' *Achilleid* (e cod. Brit. Mus. addit. 8241) 567 (14th c. CE).

5.3.6 'Open' (intr.) / 'open' (tr.)

Modern Greek *aníɣo* stems from the ancient *anoígnumi* (<*aná* + *oígnumi*) and the first attestations of its active intransitive use can be found in the Hellenistic Koine, as Lavidas has shown (2010: 113), citing an occurrence from the New Testament, in which however the middle voice is still routinely used. According to Lavidas (2010: 113–114), an intransitive interpretation of some forms with active morphology may have been facilitated by phonological developments of Koine

Greek, as the third person singular middle *anoígetai* had become phonologically identical to the second person plural active *anoígete*, as shown by orthographic errors, as in (41), in which the form *anúgete* should be emendated in *anoígetai*.[17]

(41) *kroúei* *thúran* *kaì* *anúgete* (*anoígetai*)[17]
push.PRS.3SG door.ACC and open.PRS.2PL open.PRS.MID.3SG
'He pushes the door and it opens.' (Wilcken 1927, 79.7 p. 365).

Note that a passive interpretation is also possible, as the following context makes clear that another person is involved, met by the agent of *koúei* 'push' after the opening of the door. The whole passage goes as follows: "I saw Ptolemaios walking in the street with a knife in his hand, he knocks on a door, it opens / it is opened and there is a scuffle as he wants to harass him (i.e. the person who opened the door)."

5.3.7 'Dry' / 'make dry'

As shown in Section 4, the pair 'dry' / 'make dry' is not only expressed by *kserénome/ kseréno*, whose voice alternation is identical to its Ancient Greek ancestor *ksēraínomai/ ksēraínō* 'dry' / 'make dry', but also by the labile *steɣnóno*, which is used in different contexts.

Steɣnóno stems from the Ancient Greek *stegnóomai/ stegnóō*, which could be a Hellenistic Koine formation, as it is attested only in Hippocrates' *Epidemics I*[18] (5th c. BCE) in Classical Greek and its initial meaning was 'make something watertight' with voice alternation. The intransitive use of the active verb is attested in Medieval Greek and it must have developed similarly to the previous pairs in discussion. An examples is (42).

(42) *ta* *ommátia* *tu* *uk* *estéɣnosan*
ART.NOM.PL eye.NOM.PL 3SG.GEN NEG dry.PFV.PST.3PL
'His eyes didn't dry up.' *Achilleid* l. 1754 (14th c. CE)

17 The emendation comes from the edition by Wilcken (1927: 365–366), who also provides the translation; see further Shushan (2006: 133).
18 This is perhaps an indication of the spuriousness of the text.

5.3.8 'Be straight' / 'straighten'

Both the Modern Greek *isióno* and the obsolete *isiázo* stem from the ancient verbs *isóō* and *isázō*,[19] whose meaning was 'make equal' and whose strategy was voice alternation. The first attestations of the lability of these verbs come from Medieval Greek/ Early Modern Greek (Kriaras 2006), e.g.

(43) *sti* *ziɣarán* *esáza*
in_ ART scale.ACC be_equal.PST.3PL
'They matched on the scale' *Erotocritus* A37.

As argued in Section 4, animacy plays an important role again, as *isiázome* (MID) is used with animate subjects with various meanings, e.g. 'make amends', 'stretch oneself out'. This was already the case in Medieval Greek, as shown in (44).

(44) *isiásti* *o* *príngipas* *metá* *ton* *vasiléa*
be_equal.PST.MID.3SG ART.NOM prince.NOM with ART.ACC king.ACC
'The prince made amends with the king' *Chronicle of Morea* H 2624 (14th c. CE).

5.3.9 'Turn over (intr.)' / 'turn over (tr.)'

The Modern Greek *ɣirízo* is related to the Hellenistic Koine *gyróō* 'make round' (<*gûros* 'ring, circle'). Quite interestingly, the intransitive use of the active verb is attested already in late Hellenistic Koine: *gyrṓsas* 'as he coiled himself up' Oppian, *Cynegetica* 3.440 (2nd-3rd c. CE). The labile use of *ɣirízo* is further attested in the vernacular Medieval Greek texts, in which the intransitive mediopassive is also used, but only with animate subjects with various meanings, e.g. 'turn (myself) around', 'change my mind' etc. (Kriaras 2006).

As regards the fate of the Ancient Greek *stréphomai/ stréphō*, it underwent a phonological change, as it became *strívo* in Medieval Greek,[20] and also a semantic one, as its meaning shifted from 'turn' to 'twist' / 'rotate'. In Modern Greek *strívo*, always with active morphology, is also labile, as shown by the two occurrences in (45).

19 The *-i-* is due to the reshaping of the adjective *ísos* 'equal' with the suffix *-ios* in Medieval Greek: *ísios* 'straight'.
20 Perhaps by analogy to *trívo* 'rub' (<Ancient Greek *tríbō*).

(45) *Prospáθisa* *na* *strípso* *to* *xerúli*,
try.IMPF.PST.1SG COM rotate.PFV.PRS.1SG ART.ACC handle.ACC
alá *ðen* *éstríve*
but NEG rotate.IMPF.PST.3SG
'I tried to turn the handle, but it wasn't turning.'

As noted in Section 4, *stréfome / stréfo* does exist in Modern Greek with its ancient meaning, but it is a reintroduction from Katharévousa restricted to higher registers.

6 Discussion

The diachrony of the Greek language shows both similarities and differences between the earliest and the latest language stages. Comparing Ancient with Modern Greek, it is noticeable that, at both temporal stages, inanimate verbs show a much more uniform pattern of valency alternation than animate verbs. The latter feature a variety of strategies in Homeric Greek, but a clearer prevalence of voice in Classical Greek, with a sizable percentage of suppletive pairs. Modern Greek in turn shows a preference for suppletion, with voice still playing a relevant role, and a limited degree of lability. On the other hand, inanimate verbs consistently encode valency alternation through voice in Homeric Greek and through lability in Modern Greek.

As we have argued in Section 5, the active/middle opposition was still on the rise in Homer, and an increasing number of verb pairs adopted this strategy to indicate valency alternation in Classical Greek. At the dawn of the Hellenistic age, in the Koine, one can detect a tendency for different types of verb, mostly active but also some *media tantum*, to develop lability, hence being used both transitively and intransitively. As we argued in detail in Sections 4 and 5.3, this tendency involved by the most part inanimate verbs, but also some animate ones. Among the latter, *θimóno* 'get angry' / 'anger' shows that the direction of labilization is not necessarily from active to labile, as this labile verb originated from an Ancient Greek medium tantum *thumóomai* 'be angry'.

Interestingly, labile verbs that normally take inanimate subjects such as *isióno* 'become straight' / 'straighten' or *aníɣo* 'open (intr./tr.)' can be used only as transitive with animate subjects. If they are occasionally used as intransitive with animate subjects, they show middle inflection, pointing to a tendency for animate subjects to need overt marking in connection with valency change. We remarked in Section 4 that this is connected with common expectations for animate subjects to be agents with such verbs, and with possible reflexive reading of the

middle voice, which, in such cases, leaves open an interpretation of the event as intentional or non-intentional (compare for example (34) and (35)).

In general, however, overt marking is preferred even by verb pairs that denote events almost only restricted to human subjects. In some cases, there may be a syntactic motivation for this, as in the case of *maθéno / ðiðásko* 'learn' / 'teach': while the plain verb can also be labile when it occurs in a ditransitive construction (see example (7)), possible ambiguity prevents it to occur with the meaning 'teach' elsewhere, as argued at length in Section 4 (see examples (8) and (9)).
For the pair 'get angry' / 'anger', we found that several verbs are available, featuring both lability, as *θimóno* (intr.) / *θimóno* (tr.) and *nevriázo* (intr.)/ *nevriázo* (tr.), and voice, as *eknevrízome / eknevrízo* or *tsatízome / tsatízo*.

In this framework, it is interesting to note that the pair 'sit' / 'seat' features lability in the perfective stem (*kaθíso* (intr.) / *kaθíso* (tr.)), and that lability for this verb already originated in Homeric Greek (*hízō* (intr.) / *hízō* (tr.)) thus constituting a stabile feature of the verb pair. Similarly, in the imperfective stem the verb pair shows two different stems at both stages, *káθome / kaθízo* in Modern Greek and *hêmai / hízō* in Homeric Greek. We considered the latter an instance of suppletion and the former an instance of augmentation, even though both members of the verb pairs are etymologically related. In whatever way one considers the morphological relation between members of the two verb pair, this constitutes a remarkable instance of preservation of the same patterns.

A similar development concerns the pair 'fear' / 'frighten', discussed in Sections 4 and 5.3.3, in which augmentation (*deídō / deidíssomai*) was attested in Homeric Greek. It was then replaced by voice in Classical Greek (*phobéomai / phobéō*), but eventually augmentation was restored, as shown in Modern Greek (*fováme / fovízo*).

Letuchiy (2010) matched lability against Haspelmath's (2016) spontaneity scale, to see whether verbs denoting spontaneous events tend to be labile with more frequency than verbs that denote events that rank lower on the scale. He found that this is only true for detransitivizing languages: in his sample, these are French, German, Romanian, Udmurt and Greek. Let us now consider Table 8, in which we show how inanimate verb pairs included in our sample rank on the spontaneity scale as represented in Table 2.

The first observation is that our verbs are evenly distributed over the whole scale, ranging from first to 28th position. Hence, our data do not seem to support the claim that events that rank lower on the scale tend to be encoded more easily by labile verbs as opposed to events that rank higher. The same even distribution characterized voice alternation in Ancient Greek, thus offering evidence for the replacement of the latter strategy with lability in Modern Greek, at least as long as inanimate verbs are concerned.

Table 8: Verb pairs on the spontaneity scale.

	RANKING ON THE SPONTANEITY SCALE	MEANING	ANCIENT GREEK	MODERN GREEK
1	1	boil	(voice)	labile
2	3	dry	voice	voice (labile)
3	10	turn	voice	labile
4	12	burn	voice	voice/labile
5	27	open	voice	labile
6	28	break	voice	labile

As we described voice alternation as a detransitivizing strategy already at the Homeric Greek stage, we can observe a shift in basic valency from detransitivizing orientation to unoriented for what concerns inanimate verbs. In addition, leaving aside the other languages mentioned by Letuchiy (2010), one can note that Modern Greek can be considered to be detransitivizing only inasmuch as it relies on voice opposition for a minority of verb pairs, since prevailing strategies, i.e. lability and suppletion, are both undetermined.

7 Conclusion

In this paper, we discussed changes in the encoding of basic valency in Greek over a time span of three millennia. From the data surveyed in the paper, it turns out that, in spite of preferred strategies that can be singled out at every language stage, a stabile feature of the Greek language is a split between animate and inanimate verbs, whereby animate verbs show a much wider range of variation in the choice of strategies at all language stages, while inanimate verbs are much more uniform.

The strategy adopted by most inanimate verbs in Homeric and in Classical Greek was voice alternation, whereby the middle morphology occurred on plain verbs and active morphology on induced ones. We argued that voice opposition represented a reduced strategy at the Homeric Greek stage, and characterized Ancient Greek as an intransitivizing language (Section 3). At the Classical Greek stage, the extent to which voice was involved in the encoding of valency alternations also increased for animate verbs, as shown in Section 5.1.

A shift toward lability started in the Hellenistic Koine and continued during the Middle Ages: at this stage, the role of voice in the encoding of valency alternations was strongly reduced, and several verbs, especially in the inanimate group, became labile. In Section 5.2, we argued that this shift was accompanied by a

reduction of several other functions of the middle voice, which became increasingly connected with the passive function. As discussed in Sections 5.3.1–5.3.9, the verb pairs that we surveyed in our analysis show various developments, whereby labilization often affected the active voice, but might also take ancient *media tantum* as its starting point, as in the case of *thimóno* 'get angry' (Section 5.3.2).

In Table 9 we summarize the distribution of different strategies for the encoding of basic valency from Homer to the present.[21] While voice plays the most important role as a means for the encoding of valency changes in Ancient Greek, its relevance is more limited in Modern Greek, though still covering a number of verb pairs. The extent to which suppletion is used remains virtually unchanged at all language stages, while the most important change consists in the rise of lability, which features prominently especially among inanimate verbs. Interestingly, the only verb pair that shows lability in Homeric Greek, 'sit' / 'seat', is animate.

Table 9: The encoding of valency alternations from Ancient to Modern Greek.

	ANCIENT GREEK			MODERN GREEK	
	ANIMATE		INANIMATE	ANIMATE	INANIMATE
	HOM.	CL.			
PERIPHRASIS	1	1	-	1	-
SUPPLETION	4	3	1	4	1
AUGMENTATION	2	1	1	2	-
VOICE	4	6	8	3	3
LABILITY	1	1	-	3	6

Changes in orientation are summarized in Table 10. Tentatively, we also add the indication of the prevalent strategy reconstructed for PIE, that is augmentation, and, even more tentatively, we introduce an intermediate stage at which voice alternation should better be described as conjugation class change, rather than as a reduction strategy. In the slot of animate verbs in Ancient Greek, the arrow indicates the extended role of voice in Classical Greek as compared to Homeric Greek. In the corresponding Modern Greek slot, we show that, though suppletion is the most frequent strategy, we still think that the variety of strategies does not allow for one to be considered prevalent, as even suppletion only accounts for less than half of the verb pairs.

21 The sum is higher than the number of verb pairs because some of them rely on multiple strategies.

Table 10: Valency orientation from Proto-Indo-European to Modern Greek.

	*PIE	??	ANCIENT GREEK		MODERN GREEK
ORIENTATION	Transitivizing	(Undetermined)	Detransitivizing		Undetermined
STRATEGY	Augmentation	(Conj. class change)	ANIMATE	No prevalent strategy ↓ Voice	No prevalent strategy / Suppletion
			INANIMATE	Voice	Lability

Abbreviations

1	1st person
2	2nd person
3	3rd person
ACC	accusative
ACT	active
ART	article
ASSOC	associative
C.	century
COM	complementizer
FUT	future
G.ACT	generalized active
G.APPL	generalized applicative
GEN	genitive
IMPER	imperative
IMPF	imperfective
intr.	intransitive
MID	middle
NEG	negation
NOM	nominative
O	direct object
PFV	perfective
PL	plural
PRS	present, non-past
PST	past
REFL	reflexive

S subject
SG singular
SUBJ subjunctive

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