CASE ALTERNATIONS IN ANCIENT GREEK PASSIVES AND THE TYPOLOGY OF CASE

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Abstract

This paper presents and discusses evidence that genitive and dative objects regularly become nominative in Ancient Greek passives of monotransitives and ditransitives. This is a typologically and theoretically significant state of affairs for two reasons: (i) As is well-known, non-accusative objects are, in many languages, not allowed to enter into Case alternations, a fact which has been accounted for in the GB/ Principles & Parameters literature on the basis of the assumption that non-accusative objects – proto-typically datives - bear inherent, lexical or quirky Case. By the same reasoning, Ancient Greek genitives and datives must be concluded to have structural Case. (ii)
Even in languages where Dat-Nom alternations do obtain, they are often limited to ditransitives, a fact which can been taken to suggest that dative qualifies as structural Case only in ditransitives. A language like Ancient Greek which allows genitive and dative objects to become nominative in all passives (monotransitives and ditransitives) shows that it is, in principle, possible to have a linguistic system where genitive and dative qualify as structural Cases in both monotransitives and ditransitives. Case-theories must be designed in such a way as to allow for this option. We argue for an analysis of Case alternations which combines the view that alternating datives and genitives enter the formal operation Agree with a morphological case approach to the distribution of overt case morphology. We furthermore compare Ancient Greek Dat-Nom and Gen-Nom alternations in passives to Icelandic Dat-Nom and Gen-Nom alternations in middles, pointing to a number of interesting differences in the two types of alternations which depend on (i) the types of non-accusative arguments entering Agree, (ii) the verbal head (Voice or v) entering Agree with non-accusative objects and (iii) the rules of dependent case assignment in connection to the role of nominative in the two languages.

**Keywords**

Passivization, structural Case, inherent Case, lexical Case, morphological case, Voice, v, Ancient Greek, Icelandic.

**CASE ALTERNATIONS IN ANCIENT GREEK PASSIVES AND THE TYPOLOGY OF CASE**
1. Introduction: Goals and some Background

This paper investigates the nature of dative and genitive Case in Ancient Greek, a language where both cases alternate with nominative in passives. In the literature, the nature of dative and other non-accusative objective Cases has been a matter of considerable debate. One can roughly identify three views expressed, in different forms, in GB and Minimalist writings: (a) A standard assumption is that dative is non-structural Case, usually called “inherent” (Chomsky 1986). Inherent dative, like other inherent cases, is retained throughout the derivation. Being thematically licensed, it does not alternate with nominative in passives and unaccusatives. A related approach claims that dative is lexical case, which is idiosyncratically determined by the selecting verb and hence retained throughout the derivation. Woolford (2006) argues that lexical and inherent Case are distinct, lexical Case being idiosyncratically determined and inherent thematically licensed. Both are non-structural, though, and hence do not alternate with nominative. (b) According to another view, which has been motivated by research on Icelandic (Zaenen, Maling and Thráinsson 1985 and many others following them), dative is quirky Case, i.e. it is idiosyncratically determined by the selecting verb and, as such, it does not alternate with nominative in NP-movement environments. However, quirky arguments do qualify as subjects in such environments with respect to a number of subjecthood criteria. In the framework of Principles & Parameters, this has led to proposals dissociating case realization from (EPP/Case) Licensing (as in Marantz 1991; Harley 1995; Schütze 1997; McGinnis 1998; Anagnostopoulou 2003; cf. Yip, Maling & Jackendoff 1987). (c) One can also find mixed positions in the literature. Dative is held to be ambiguous, qualifying as structural Case in certain languages and as inherent or lexical or quirky
in others. Dative arguments entering into case alternations have been argued to bear structural Case (see among others Broekhuis & Cornips 1994; Svenonius 2002, 2006; see Alexiadou, Anagnostopoulou & Sevdali 2014 for extensive discussion and more references). Dative has been claimed to have a double status even within one and the same language: in certain environments it is structural Case while it is inherent/lexical in others (see Harley 1995, Sadakane & Koizumi 1995 for datives in different types of Japanese causatives; Webelhuth 1995 for datives in German ditransitives).

The three views just outlined reflect the diverse crosslinguistic properties of datives and other non-accusative objective cases. At least three types of languages have been identified: (i) Languages like Russian (see Pesetsky and Torrego, to appear), where dative and instrumental are idiosyncratically selected by monotransitive verbs (i.e. behaving as lexical Cases), such as ‘help’ and ‘manage’. These cases never alternate with nominative in passives and, moreover, arguments bearing dative and instrumental are syntactically inactive and do not participate in passivization.

(ii) Like Russian, Icelandic has idiosyncratic cases (called quirky) e.g. the dative and genitive determined by the selecting verbs. These are retained throughout the derivation and do not become nominative in passives. Unlike Russian, though, quirky arguments display subject-properties in Icelandic passives (Andrews 1982, Zaenen, Maling and Thráinsson 1985), a fact which has been interpreted (Marantz 1991 and many following him) as evidence that they are capable of being promoted to subject position, i.e. undergoing EPP-driven movement to Spec-TP.

(iii) Finally, there are also contexts where dative arguments enter into case alternations and thus qualify as bearing structural Case. For example, in German and Dutch datives surface as nominative in a particular type of passive formed with the
auxiliaries 

In this paper, we discuss Ancient Greek, a language which has been reported to show a Gen-Nom and a Dat-Nom alternation, but this has only been noted in passing in previous formal literature (Adams 1971; Feldman 1978; Larson 1988). Conti (1998), who carefully documents Gen/Dat-Nom in Ancient Greek monotransitives in a descriptive framework is the only exception to this, and our paper is based on Conti’s generalizations. We present evidence that the Dat-Nom and the Gen-Nom alternations are productively attested in monotransitive and ditransitive passives. Diachronic evidence from the way the phenomenon evolved in Ancient Greek monotransitives suggests that the gradual change in the status of genitives and datives from inherent Cases in the period of Homer to structural Cases in Classical Greek is due to a shift from a stage where they had well-defined semantic functions to a stage where these were obscured or lost.

Following standard practice in the literature, we call benefactives, goals and sources in ditransitives “indirect objects” (IOs) and themes “direct objects” (DOs). Following a long tradition within GB/Minimalism, we are employing passivization as a diagnostic tool for analyzing non-accusative arguments (datives and genitives) as inherent, quirky or structural Cases. The study of passivization in connection to Case
has always sustained a privileged position within recent linguistic theories. As Siewerska (1984) notes, a lot of major linguistic theories have actually evolved out of different approaches to passive constructions. Passivization of dative IOs is generally problematic for many linguistic theories. Before concluding this introductory section we provide a brief and non-exhaustive overview of different frameworks and their stance with respect to the theoretical issue at the heart of this paper.

As already outlined, the problem our data pose within GB/Minimalism relates to the characterization of dative and genitive case as inherent or structural Case. This is also the case in LFG, to which we will return shortly. In other theories, passivization of IOs poses different but related theoretical questions. Adams (1971), focusing on Ancient Greek passives, notes that any transformational-type grammar, case-grammar or similar approach would have a problem accommodating these data, because in all of these approaches the passive rule must somehow ‘make reference to’ the theta role of the IO. Feldman (1978) discusses passivization in Ancient Greek ditransitives in the context of Relational Grammar (Perlmutter 1983; Perlmutter & Postal 1983; Perlmutter & Rosen 1984, Postal & Joseph 1990), and in particular in connection to the rule of 3-to-1 advancement (see also Shimizu 1975 and Dubinsky 1990 on Japanese). In the relational framework, passivization of a recipient/goal IO is usually seen as a two-step process: first the IO turns into DO (‘dative shift', i.e. 3-to-2 advancement) and then the DO turns into a subject (2-to-1 advancement). Ancient Greek is viewed as a counterexample to this process, since there is no “3-to-2 advancement/ dative shift” strategy turning the IO into a DO. The IO is invariably dative/genitive in most environments in Ancient Greek. Adopting this basic “advancement” approach in the Principles and Parameters framework, Larson 1988 (365-366) analyzes Ancient Greek as a language that allows direct
advancement/promotion of an IO to subject in ditransitives, without the ‘intermediate’ step of the double object ‘John gave Mary a book’ construction, with two accusative internal arguments. Larson views the parametric availability of dative passives in Ancient Greek and Japanese as an argument in favor of his passive analysis of dative shift in terms of inherent Case suppression (see Larson’s table 1 on p. 362). He suggests that the locus of parametrization of English-type languages, with 3-to-2 advancement feeding subsequent 2-to-1 advancement, vs. Ancient Greek/Japanese type languages, with direct 3-to-1 advancement, lies in the locus of absorption of inherent dative Case: whether it is suppressed by dative shift (in English) or passivization (in Ancient Greek and Japanese). Passivization of non-accusative second arguments of two-place verbs in Ancient Greek within a functional grammar framework is further discussed in Mulder (1988). In analyzing the seemingly non-uniform behavior of IOs in Ancient Greek (on the one hand, they become nominative under passivization, but on the other hand they exhibit other non-arguemental behavior, such as non-occurrence of attraction of the relative pronoun and restrictions on verbal adjective formation), Mulder (1988) argues that their behavior can be attributed to a complex interaction between a Semantic Function hierarchy and another more syntactic hierarchy, similar to the Moravcsik (1974) hierarchy, where arguments are ranked as Subj > DO > IO. According to Mulder, non-accusative IOs are hybrid elements that in some respects behave like arguments (vis à vis passivization) but in other respects do not. We are taking a similar position in this paper, implemented in terms of the analytic tools available in the Principles & Parameters framework and the Minimalist Program.

Butt (2006) provides a comprehensive overview of current theories of Case focusing on linking theories like LFG and Role and Reference grammar and how they
deal with the behavior of quirky datives in passives. More specifically, dative arguments and passivization have been famously discussed within LFG in the work of Zaenen, Maling and Thráinsson (1985) on Icelandic. The framework assumed in this work is a linking-type model where morphological case is realized as part of a hierarchy (quite similar to Marantz’s 1991 approach to m-case realization; cf. Yip, Maling & Jackendoff 1987)³. In this hierarchy, GB/Minimalist structural Case is described as default or elsewhere case and is situated fairly low. Quirky case is viewed as ‘irregular’, and GB/Minimalist inherent case is characterized as semantically predictable case that is subject to syntactic restrictions. In their work, Zaenen, Maling and Thráinsson (1985) focus on configurations where dative is preserved under passivization: they compare Icelandic to German, and argue that dative is a quirky subject in the former but not in the latter. If they had focused on data where dative alternates with nominative, there would still be a problem of how to best characterize this Case, since this type of dative has an idiosyncratic distribution in actives and yet it alternates in passives.

In this brief overview of the previous non-GB/Minimalist literature, we see that there have been some attempts to provide an explanation for dative/genitive–nominative alternations, especially in ditransitives, which however are rather inconclusive. The present paper aims to provide an analysis within a Minimalist framework taking into account the fact that there is no ditransitive-monotransitive asymmetry in Ancient Greek. Our analysis builds on a number of recent approaches to dative and genitive case which dissociate the passivizability of indirect object arguments from the existence of dative shift and recognize that any argument is, in principle, allowed to enter the formal operation Agree, the structural licensing condition underlying Case alternations. We hope that our investigation will contribute
to the discussion of dative-nominative alternations in other frameworks as well.

The paper is organized as follows. In section 2 we summarize some relevant properties of Ancient Greek morphosyntax. In section 3 we present the basic facts of Case alternations in Ancient Greek passives of monotransitives and ditransitives. In section 4 we explore how Ancient Greek alternations can be accommodated in terms of existing theories of Case, and we conclude that the Ancient Greek data support modular theories which treat case-alternations as the result of structural licensing relations combined with morphological case spelling out these relations at PF. In section 5 we compare Ancient Greek to Icelandic, pointing to and accounting for a number of interesting differences in the distribution of Dat-Nom and Gen-Nom alternations attested in the two languages. Finally, in section 6 we summarize.

2. Some relevant properties of Ancient Greek morphosyntax

The term 'Ancient Greek' is equivalent to 'Classical Greek' and refers to the dialect of Greek spoken in Athens in the 5th and the 4th century B.C. Our collection of data relies on Ancient Greek grammars, the use of corpora (such as Perseus Digital library and Thesaurus Linguae Grecae), as well as the data and generalizations collected and discussed in Conti (1998) concerning specifically Case alternations in monotransitives. We make two preliminary notes on the data: First, the construction we are looking at, the passive, is rare and as such the data are quite limited. In the active-passive alternations presented below, the passive examples are original and the active ones reconstructions. Second, the lack of native speakers renders it difficult to label some constructions as ungrammatical. For some structures grammarians are fairly confident in claiming that they are unattested and they implicitly take them to
be ungrammatical, but it is nonetheless possible that even if a construction is not instantiated in the corpus it could be grammatical. We point to two such cases in section 3, where we discuss Case alternations in monotransitives and ditransitives. 

Before turning to the specific issue of passivization of objects in Ancient Greek, we summarize some relevant facts of Ancient Greek morpho-syntax: the passive/middle distinction, word order, agreement and morphological case.

2.1 Middles and passives in Ancient Greek

Ancient Greek has three morphological voices: active, passive and middle. Passives and middles are identical in form in all tenses apart from future and aorist (both of which are perfective). The following table illustrates the basic morphological paradigm of verb luo: ‘loosen’ in the first person singular.

<table>
<thead>
<tr>
<th>tense</th>
<th>Active</th>
<th>Middle</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>Lu-o:</td>
<td>Lu-omai</td>
<td>Lu-omai</td>
</tr>
<tr>
<td>Imperfective past</td>
<td>Elu-on</td>
<td>Elu-ome:n</td>
<td>Elu-ome:n</td>
</tr>
<tr>
<td>Aorist</td>
<td>Elu-sa</td>
<td>Elus-ame:n</td>
<td>Eluth-e:n</td>
</tr>
<tr>
<td>Future</td>
<td>Lu-so:</td>
<td>Lus-omai</td>
<td>Luthes-omai</td>
</tr>
<tr>
<td>Perfect</td>
<td>Leluk-a</td>
<td>Lelu-mai</td>
<td>Lelu-mai</td>
</tr>
<tr>
<td>Pluperfect</td>
<td>Eleluk-e:n</td>
<td>Elelu-me:n</td>
<td>Elelu-me:n</td>
</tr>
</tbody>
</table>

Table 1: Morphological paradigm of the three voices in Ancient Greek

As discussed in Lightfoot (1979), Rijksbaron (2002), George (2005) and all major Ancient Greek grammars including Schwyzer (1953/2002), the Ancient Greek passive is historically derived from the middle. Proto-Indo-European (PIE; as pre-Homeric Greek and Sanskrit) had a morphological distinction only between active
and middle, and the passive emerged as an extension of the use of the middle (Clackson 2007).

According to the traditional definition (see George 2005: 2, 5, fn. 9, and ch. 1 more generally), the general function of the Ancient Greek middle is to “indicate that the effects of the action described by the verb in some way affect the subject of the verb”. This vague description seeks to unify a number of functions which seem to resist a uniform characterization. The most common uses of the Ancient Greek middle involve reflexivity. The use of the middle form to express direct reflexivity is confined to particular verb classes, like verbs of ‘natural habitual action’ (Gildersleeve 1900) or verbs expressing ‘external and natural acts’ (Smyth 1920). Examples of the middle expressing direct reflexivity are louomai ‘wash oneself’, trepomai ‘turn oneself’, gymnazomai ‘exercise oneself’ but also apagchomai ‘hang oneself’. Another use of the middle is the one described as indirect reflexivity whereby the middle form indicates that the subject has a ‘special interest’ in the state of affairs in which he/she is involved. This is the most frequent use of the middle, according to Smyth (1920), and is exemplified in (1) with an example taken from Lightfoot (1979):

(1) Ho stratio-te-s lou-etai ton hippo-n

The soldier-NOM wash-3 SG-PRES-MID the horse-ACC

‘The soldier washes the horse (for his own interest)’

A way to view these middles is to say that they contain an implicit benefactive argument, one that is ‘absorbed’ by the middle morphology (Lightfoot 1979). According to this analysis, indirect middles are hidden ditransitives/applicatives with
an overt accusative theme and an absorbed dative benefactive argument, as schematized in (2):

\[
(2) \quad \left[ V_{\text{mid}} + \text{DP}_{\text{ACC}} \right] = \left[ V + \text{DP}_{\text{DAT}} + \text{DP}_{\text{ACC}} \right]
\]

As the following examples from Rijksbaron (2002: 148; his examples 429 and 430) show, benefactive arguments are indeed morphologically dative in Ancient Greek.

(3) (…) deipn-a basil-ei paraskeuaz-ein

meals-ACC king-DAT prepare-ACT-INF

‘(to command) the preparation of meals for the king’

(Herodotus, Historia 7: 32)

In reciprocal middles the morphology indicates reciprocal rather than reflexive reduction, e.g. machomai ‘fight one another’, dialegomai ‘talk to one another’ etc.9

The uses of the middle described so far express different forms of theta-role reduction and could, in principle, be subsumed under a uniform definition according to which middle morphology marks any of several valency reduction operations (or 'absorbs' several theta-roles). However, this is not always the case, as in the examples in (4) cited by George (2005: 5) as providing straightforward evidence that the middle morphology does not always mark theta-role reduction:

(4) a. Ho Achilleu-s pher-ei to depas

The Achilles-NOM carry-ACT-PRES-3 SG the goblet-ACC

‘Achilles is carrying the goblet’
b. Ho Achilleu-s pher-etai to depas

The Achilles-NOM carry-MID-PRES-3 SG the goblet-ACC

‘Achilles is carrying the goblet (as a winner)/Achilles wins the goblet’

Both (4a) and (4b) involve only two theta-roles, an agent-subject and a theme-object. The presence of middle morphology in (4b) does not signify a change in the argument structure of the verb, but rather the fact that the subject is affected to a greater extent by the action denoted by the predicate. In (4b) Achilles does not simply carry the goblet but rather he wins it. 10

In addition to the above-mentioned uses, the middle is also employed in anticausatives and passives (see extensive discussion and examples in Lavidas 2007/2010). Following standard literature (Manzini 1983; Jaeggli 1986; Roeper 1987; Baker, Johnson & Roberts 1989; Klaiman 1991; Levin & Rappaport Hovav 1995; Reinhart 2000; Chierchia 1989/2004 and many others), we assume that the object is promoted to subject in both passives and anticausatives, but passives contain an implicit external argument, as can be detected by the availability of optional oblique phrases (by-phrases etc.), while anticausatives lack it. 11 The two can be easily kept apart in languages like English which distinguish them morphologically (e.g. the boat sank vs. the boat was sunk), but this is not so easy in languages where one and the same (non-active, middle, reflexive) morphology marks them both, in opposition to the active (see Alexiadou & Anagnostopoulou 2004 and references cited therein for discussion of the difficulties one is confronted with in the case of Modern Greek). Ancient Greek also seems to be a language in which the passive-anticausative syntactic distinction is obscured by morphological syncretism. Even though it underwent a transition from a two-voice system (active-middle; PIE, pre-Homeric
Greek) to a three-voice system (active-middle-passive; Homer, Classical Attic), there is no one-to-one correspondence between morphological middles and anticausatives, on the one hand, and morphological passives and syntactic passives, on the other. First, only the (perfective) future and aorist (past) have a middle-passive opposition; in all other tenses/aspects one and the same morphology ('middle' i.e. non-active) is employed for both anticausatives and passives. Moreover, according to the literature (see e.g. George 2005, ch. 1; Lavidas 2007/2010 for discussion and references), unambiguous syntactic passives showing detransitivization, object to subject promotion and the presence of an oblique external argument can surface with middle morphology in Ancient Greek, even in the future and aorist where passive morphology is available.

For the purposes of the present discussion, it is not important to investigate the extent to which anticausative vs. passive syntax is aligned with the morphological distinction between a middle and a passive morphology. We will assume that a defining property of the syntactic passive is that an oblique external argument, prototypically an agent, can be included. The external argument in Ancient Greek passives can be included as a PP (most frequently hupo + genitive) or as a bare dative (the latter mainly in the perfect and constructions related to it; see George 2005 for extensive discussion of these and other forms in which external arguments are realized). We will thus treat all constructions showing the three crucial characteristics of passivization, namely, (a) detransitivization, (b) 'promotion' of object to subject (i.e. the 'logical object' surfaces with Nominative Case) and (c) an oblique external argument as syntactic passives, regardless of their morphology.

A final note concerning by-phrases. In the literature it has been questioned whether the presence of a by-phrase unambiguously identifies the passive in Ancient
Greek because, as frequently stated, by-phrases can also accompany morphologically active verbs with a ‘passive meaning’ (Schwyzer, 1953/2002: 284 and 298):

(5) Poll-oi huph’ Hektor-os androphon-oio thne:sk-ontes
   Many-NOM by Hector-GEN man-slaying-GEN die-PRTCPL-AOR-ACT
   pipt-o:sin
   fall-ACT-PRES-3 PL
‘Many shall fall dying by man-slaying Hector’ (Homer, Iliad: A 242)

In (5) a prototypical by-phrase huph’ Hektoros ‘by Hector’ is accompanying the morphologically active participle thne:skontes ‘dying’. Under the assumption that the passive must necessarily be marked by non-active morphology, examples like (5) provide evidence that by-phrases do not always signify the passive in Ancient Greek, unlike English. Following George (2005: p. 7 fn. 16, p. 17) we will generally disregard constructions like (5) which are limited to very few verbs. George proposes that such instances are lexical suppletive passives to transitive verbs of a different lexical root, e.g. apokteino: ‘kill’ – apothne:sko: ‘die’, poieo: ‘do/act’ - pascho: ‘suffer’ (see also Gildersleeve 1900 and Rijksbaron 2002). Being very limited, such cases do not seriously undermine the generalizations that in Ancient Greek (i) the passive bears non-active (middle or passive) morphology and (ii) the passive contains an implicit external argument that can be modified by PPs.

2.2 Word order

For languages like English, French and Icelandic, word order is a reliable diagnostic
for the status of elements in a clause. Word order has been used as a diagnostic for
subjecthood, as well as in relation to the dative alternation, where double object/
applicative constructions obligatorily show the Goal>Theme order and prepositional
ditransitives the reverse Theme>Goal order.\textsuperscript{17} It is therefore important to point out
that Ancient Greek word order is extremely free, exhibiting extensive scrambling as
well as discontinuity in the clausal domain and inside phrases (Devine & Stephens
2000 and Mathieu & Sitaridou 2005). In view of this, word order cannot serve as a
reliable diagnostic for the position of DPs in Ancient Greek clauses (e.g. A vs. A’,
Subject vs. object in NP-movement constructions etc.).

2.3 Agreement and distribution of morphological cases

Passive in Ancient Greek follows the standard subject/nominative – verb agreement
pattern that the language in general does. The verb obligatorily agrees with the
nominative subject in the passive as well as in the active. Ancient Greek has robust
subject/nominative-verb agreement and subject/nominative pro-drop,\textsuperscript{18} a few cases of
default agreement (with raising predicates like dokei ‘it seems’ and true impersonals
like dei / chre: ‘must’ for example) and no object agreement. Nouns inflect in five
morphological cases: nominative, genitive, dative, accusative and vocative. Table (2)
illustrates this with the masculine noun logos ‘reason’ of the second declension:

<table>
<thead>
<tr>
<th>Case</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>Log-os</td>
<td>Log-oi</td>
</tr>
<tr>
<td>Vocative</td>
<td>Log-e</td>
<td>Log-oi</td>
</tr>
<tr>
<td>Accusative</td>
<td>Log-on</td>
<td>Log-ous</td>
</tr>
<tr>
<td>Genitive</td>
<td>Log-ou</td>
<td>Log-o:n</td>
</tr>
<tr>
<td>Dative</td>
<td>Log-o:i</td>
<td>Log-ois</td>
</tr>
</tbody>
</table>

\textit{Table 2: Morphological paradigm of a masculine noun of the second declension}
Nominative is reserved for subjects of finite clauses while objects of verbs can appear in all three objective cases, namely genitive, dative and accusative. All major grammars of Ancient Greek (Goodwin 1894, Jannaris 1897, Smyth 1920, Schwyzer 1953/2002) state that verbs take as their objects either DPs or infinitival and finite clauses, but not PPs. The same holds for ditransitives: they generally only subcategorize for two morphologically case-marked object DPs, not a noun and a PP.\textsuperscript{19} The morphological case of the object depends on the selecting predicate: verbs of particular verb classes take objects in particular cases. Prepositions also assign different cases to their DP complements: some prepositions assign accusative, others dative and others genitive.

It is sometimes the case that verbs and prepositions may assign more than one case with a concomitant change in the meaning of the verb. For example, the verb \textit{lumainomai} means ‘destroy’ when the (inanimate or animate) object is accusative, while it means ‘offend’ with a dative animate object. Complex verbs formed by a prefixal/incorporating preposition and a verbal root assign to their object DPs the morphological case determined by the preposition. For example, verbs formed with the preposition \textit{en} ‘in’ take objects carrying dative case, just like DP complements of the P head \textit{en} (see 12 below for examples of such verbs). This is an important fact, as will be discussed in section 4.

3. \textit{Case alternations in Ancient Greek Passives: monotransitives and ditransitives}

3.1 \textit{Distribution of cases with monotransitive verbs}
Ancient Greek monotransitive verbs take objects in all three objective cases. Accusative is by far the most common case for objects. For this reason, traditional grammars do not list the verb classes that take accusative objects, the way they do with verbs taking objects in other cases. As summarized by Luraghi (2010: 5-6), accusative is the case surfacing on totally affected themes undergoing a change of state and on themes undergoing a change of location. It occurs with (highly transitive) verbs of creation, destruction and verbs of killing, but it may also surface on non-affected themes (e.g. on objects of subject experiencer verbs such as ‘fear’).

According to traditional grammars, the following verb classes take objects surfacing with dative case:

(6) **Verb classes selecting for dative DP objects**

- **Verbs denoting appropriateness** (*armozo*: ‘is appropriate’ etc.)
- **Equality/agreement** (*omoiaz*: ‘resemble’, *isoumai* ‘be equal to’ etc.)
- **Friendly or adversary feeling or action** *(epikouro*: ‘assist’, *timo:ro*: ‘punish’, *phthono*: ‘be jealous of’ etc.)
- **Persuasion, submission, meeting** *(peithomai* ‘trust, obey’, *epomai* ‘follow’, *meignumai* ‘join’ etc.)

Complementing the traditional generalizations above, Luraghi (2010: 7-9) summarizes the main uses of dative objects as follows: (i) The dative occurs with
verbs selecting for animate objects not undergoing a change of state such as ‘help’ (p. 7, ex. (12)). (ii) On objects of experiencer verbs like ‘hate’ and ‘rejoice, like’ (she calls them ‘stimuli’; p. 8, ex. (14)). (iii) On objects of verbs like ‘use’, in which case they are inanimates and semantically close to the instrumental (modifier) function of the Ancient Greek dative (p. 8, ex. (13)). (iv) With verbs requiring a comitative interpretation of their objects, such as ‘follow’, in which case they alternate with PPs introduced by comitative prepositions (p. 9, ex. (17), (18)).

The verb classes in (7) take objects in the genitive case:

(7) **Verb classes selecting for genitive DP objects**

- **Memory** (*mimne:iskomai* ‘remember’, *epilanthanomai* ‘forget’ etc.)
- **Beginning/ending** (*archo*: with the meaning ‘begin’, *pauomai* ‘finish’ etc.)
- **Taking care of** (*epimelomai* ‘take care of’, *amelo*: ‘neglect’, *kataphrono*: ‘look down upon’ etc.)
- **Wanting, enjoyment, being part of** (*epithumo*: ‘want, desire’, *ero*: ‘love’, *koino:no*: ‘have a share of, take part in’ etc.)
- **Losing, needing** (*steromai* ‘lose’, *apor:*, *deo:/deomai* ‘need’ etc.)
- **Feeling/perception** (*aptomai* ‘touch’, *akouo*: ‘listen’ etc.)
- **Attempt, success/failure** (*peiro:/peiromai* ‘try’, *apotugchano*: ‘fail’ etc.)
- **Ruling** (*archo*: with the meaning ‘rule, govern’, *turanno*: ‘be a monarch’ etc.)
- **Comparison** (*pleonekto*: ‘exceed’, *pro:teuo*: ‘come first’, *meionekto*: ‘be worse than’ etc.)

Luraghi (2010: 6-7) discusses the distribution of the genitive focusing specifically on the conditions under which it alternates with the accusative: (a) Highly transitive
verbs with affected objects undergoing a change of state may take accusative or
genitive complements. In this case, the genitive signifies a partitive meaning, i.e. the
action expressed by the verb affects only a part of the genitive object (as opposed to
the accusative which signifies total affectedness). According to Luraghi, this genitive
typically occurs with indefinite NPs, a phenomenon reminiscent of partitive Case in
e.g. Finnish (Kiparsky 2005 among many others). (b) Like the dative, the genitive
frequently surfaces on ‘stimuli’ objects of experiencer verbs. In some cases, the
genitive alternates with the accusative with no obvious difference in meaning.
However, there are also verbs which take accusative objects when the experiencer
subject has agent-like properties and genitive objects when the experiencer subject
lacks them. A verb behaving this way is orégein ‘reach (out)’. (c) Some semantically
related verbs, such as verbs of ruling (like ärchein ‘govern’ (p. 6, ex. (10)),
exclusively or almost exclusively take the genitive (they may take the dative, to a
limited extent, but never the accusative). (d) Finally, with a spatial meaning, the
genitive has a use reminiscent of the ablative expressing distance/ separation (p. 7, ex.
(11)). In this case it does not alternate with the accusative.

3.2. Case alternations in monotransitives

Example (8) instantiates the Acc-Nom alternation familiar from all nominative-
accusative languages with a passive and overt case morphology:21

\[ \text{ACC-NOM} \]

(8) a. Ho didaskal-os graph-ei te:n epistole:-n
    The teacher-NOM write-3 SG-ACT the letter-ACC
‘The teacher is writing the letter’

b. **He: epistle:** hupo tou didaskal-ou graph-etai

The letter-*NOM* by the teacher-*GEN* write-*3 SG-PRES-PASS*

‘The letter is written by the teacher’

Examples (9), (10) are two instances of the Dat-Nom alternation:

**DAT-NOM**

(9) a. Athenai-oi epiboule-ousin *he:m-in*

Athenians-*NOM* betray-*ACT-*PRES-*3 SG* us-*DAT*

‘The Athenians are betraying us’

b. *He:m-eis* hup’ Athenai-o:n epiboule-o-metha

We-*NOM* by Athenians-*GEN* betray-*PASS-*PRES-*1 PL

‘We are betrayed by the Athenians’ (Thucydides, *Historia I*: 82.1)

(10) a. Ho Odusse-us ephthon-e:se *Palame:de:ei* dia

The Ulysses-*NOM* envy-*ACT-*AOR-*3 SG* Palamedes-*DAT* because

sophia-n

wisdom-*ACC*

‘Ulysses was jealous of Palamedes because of his wisdom’

b. *Palame:de:-s* dia sophia-n ephthone:th-e:

Palamedes-*NOM* because wisdom-*ACC* envy-*PASS-*AOR-*3 SG

hupo tou Odusse-o:s

by the Ulysses-*GEN*

‘Palamedes was envied by Ulysses because of his wisdom’

(Xenophon, *Memorabilia IV*: 2.33)
Finally, examples (11), (12) illustrate the Gen-Nom alternation:

**GEN-NOM**


They-NOM oppress-ACT-PRES-3 PL whoever-GEN from city-GEN

est-e ]

be-ACT-PRES-2 PL

‘They oppress whoever is from the city’

b. [Hos-oi eks’ aste-os est-e ] skeps-asthe

whoever-NOM from city-GEN be-ACT-PRES-2 PL think-ACT-PRES-2 PL

oti hupo tout-o:n houto: sphodra e:rch-esthe

that by them-GEN so much oppress-PASS-AOR-2 PL

‘And whoever (of you) are from the city, think how much oppressed

you are by them’\(^{22}\) \(\text{(Lysias, Against Eratosthenes: 92)}\)

(12) a. Katapse:phe:z-o: tin-os

Condemn-ACT-PRES-1 SG someone-GEN

‘I condemn someone’

b. Ekeino-s katepse:phis-the:

He-nom condemn-PASS-AOR-3 SG

‘He was condemned’ \(\text{(Xenophon, Historia V: 2.36)}\)

Conti (1998: 16-19) argues conclusively that the availability of Gen-Nom and Dat-Nom alternations is a productive feature of Ancient Greek syntax by examining the active-passive alternation in the texts of several authors (drawn from the* Thesaurus*
Linguae Graecae corpus) covering different periods of Ancient Greek: Homer, Herodotus, Lysias, Thucydides, Plato, Xenophon, Demosthenes, Plutarch and Lukian. In each of these authors, passivization of 119 verbs selecting for genitive or dative objects is investigated. Conti takes into account the fact that dative and genitive objects of transitive verbs may alternate with accusatives under the following conditions (Conti 1998: 19-20):

1) With verbs like *epicheiréo*: accusative surfaces on inanimate objects (and the verb means ‘try/ begin’) and dative on animate/human objects (and the verb means ‘attack’).

2) With verbs like *akroàomai* ‘listen to’ the genitive occurs on animate objects (immediate perception) and the accusative occurs on the communicated message (indirect perception).

3) With verbs like *pleonektéo*: choice of case signifies a difference in meaning; the verb means ‘cheat’ when the animate object bears accusative and ‘exceed’ when it has genitive.

4) Verbs like *memphomai* (‘scold’) select either for a dative or for an accusative object, with no obvious difference in meaning.

5) Finally, in some cases case correlates with animacy/gender distinctions (a phenomenon reminiscent of differential object marking).23 When the object is masculine or feminine (animate) it bears dative or genitive case, when it is neutral (inanimate) it bears accusative (according to Conti, a verb displaying this alternation is *chairo*: *(chairomai)* ‘be joyful/ be happy about/with’).

Conti (1998: 21-22) disregards passives based on verbs that allow their objects to surface as accusative, such as *akouo*: 'listen to' or *enochleo*: 'disturb', as well as passive constructions with a neutral subject which could be accusative in the active,
and only considers passives that couldn’t possibly have a transitive source with an accusative object. The examination of such clear-cut instances of passivization leads to the following picture of Gen-Nom and Dat-Nom alternations in Ancient Greek (see Conti 1998, section 3):

(a) Even though passivization was not a productive process in the period of Homer which means that there are not many attested passive examples available, there are enough examples to show that Gen-Nom alternations began to exist in passives, especially with so-called partitive genitive objects (complements of verbs like *eldomai/eēldomai* 'try to achieve something' and *anasso*: 'govern'). It is unclear whether Dat-Nom alternations also occurred in that period since examples of this alternation at that time were limited to locative objects of the verb *naío*: 'live' which also took accusative objects. Herodotus had productive Gen-Nom alternations and presented some uncontroversial instances of Dat-Nom alternations. Both alternation-types became widespread in later texts, being more common in some authors (Thucydides, Plato, Demosthenes, Plutarch) than in others (Lysias, Xenophon, Lukian). They took place in passives based on verbs from various semantic classes (see Conti 1998: 31 for a list of verbs productively showing the two alternations).

(b) Not all Ancient Greek verbs selecting for genitive and dative objects form passives showing Gen-Nom and Dat-Nom alternations. There are aspectual and thematic restrictions: (i) Stative and experiencer-subject verbs generally disallow the passive; but, even in the few cases when the medio-passive form has a passive meaning, the nominative subject does not have the same interpretation as the genitive or dative object of the corresponding active verb (an example discussed in Conti is the passive of the verb *cholómai* 'be angry', see the examples on p. 35). (ii) Verbs selecting for ablative genitive objects and comitative or locative dative objects (e.g.
eiko: 'distance oneself, avoid', dialegomai 'discuss') do not form passives. The few verbs that do (e.g. naio 'live' and pleonektéo: ‘exceed/cheat’) also select for accusatives in the active, and the corresponding passives could be analyzed as featuring Acc-Nom alternations.

(c) Passives showing the Gen-Nom and the Dat-Nom alternation are productively formed with verbs showing agentive involvement and object-affectedness (of (a part of) the inanimate or animate object towards which the action is directed) or object involvement in the event expressed by the verb (as a person participating in the event, an object employed as the instrument etc.). Such verbs are e.g. agnoéo: 'ignore', adikéo: 'do an injustice to', aíréo: 'take, grab', aíro: 'lift, praise', blápto: 'harm', miséo: 'hate', nikéo: 'win', o:pheléo: 'help', ple:sso 'hit', phéugo: 'avoid', chráomai 'use', among others (see Conti 1998, p.41-42 for an extensive list of verbs).

3.3 Distribution of cases with ditransitive verbs

Recall from section 1 that we call benefactives, goals and sources in ditransitives “indirect objects” (IOs) and themes “direct objects” (DOs). Recall furthermore from section 2.3. that Ancient Greek does not have an alternation between a DP-PP frame and a double object construction of the type found in English (‘dative shift’; see Oehrle 1976, Perlmutter & Rosen 1984, Larson 1988 among many others).25 Ancient Greek ditransitives show the following case patterns:

(13) Case arrays in Ancient Greek ditransitives26

(i) Accusative IO - Accusative DO
(ii) Dative IO - Accusative DO

(iii) Genitive IO - Accusative DO

(iv) Dative IO – Genitive DO

Let us briefly go through the verb classes instantiating the four different case patterns in (13). The verb classes in (14) take two accusative objects:

(14) **Accusative IO – Accusative DO**

(for example *ero:to* : *tina ti* – ask someone (ACC) about something (ACC))

- **Asking, demanding, deprivation, dressing/undressing** (*ero:to*: ‘ask’, *apaiteo*: ‘order’, *endo*: ‘dress’, *ekduo*: ‘undress’ etc.)
- **Teaching, reminding** (*didasko*: ‘teach’, *hupomimne:isko*: ‘remind’ etc.)
- **Action, reporting, benefit** (*o:phelo*: ‘benefit’, *lego*: ‘say’ etc.)

The verbs in (15) take a dative and an accusative object:

(15) **Dative IO – Accusative DO**

(for example *lego*: *tini ti* – ‘say to someone (DAT) something (ACC)’)

- **Equating, mixing** (*iso/:eksiso*: ‘equate’, *eikazo*: ‘gather, presume’, *meignumi* ‘mix’ etc)
- **Complex verbs with the prepositions epi-, en-, sun-** (*epitasso*: ‘assign/enjoin’, *epitrepo*: ‘entrust/transfer’, *energazomai* ‘create, produce’,)
ksugcho:ro: ‘give up something for someone’

The verb classes in (16) take a genitive and an accusative object:

(16)  **Genitive IO – Accusative DO**

(for example estio tinos ti – feed someone (GEN) with something (ACC))

- Receiving, driving, attraction (lambano: ‘receive’ etc.)
- Listening, learning, informing (akouo: ‘listen’, manthano: ‘learn’, punthanomai ‘be informed’ etc.)

Finally, the verbs in (17) take a dative IO and a genitive DO.

(17)  **Dative IO – Genitive DO**

(for example phthono: tini tinos – envy someone (DAT) for something (GEN))

- Taking part, transmission (metecho:/koino:no: ‘take part in’, metadido:mi ‘transmit’)
- Concession (paracho:ro: ‘concede’ etc.)
- The verb phthono: ‘envy’

On the basis of the above lists, the following generalizations can be stated concerning the relationships between theta-roles and cases:27
(i) The prototypical goal verbs have a dative – accusative frame, with the goal surfacing as dative.

(ii) Verbs formed with a prefix independently assigning dative again have a dative–accusative frame (cf. (6) above with prefixal monotransitives taking dative objects).

(iii) Genitive IOs are sources (with receiving and listening verbs) or possessors (acquiring the theme with feeding/feeling verbs or losing the theme with emptying, preventing, depriving verbs).

(iv) Theme arguments are restricted to accusatives.

(v) With verbs selecting for a dative and a genitive, the dative is the human affected IO and the genitive the (often inanimate) theme DO.

3.4. Case-alternations in ditransitives

In a nutshell, both IO and DO objects can, in principle, alternate with nominative in Ancient Greek passivized ditransitives, regardless of their Case (DAT, GEN or ACC). With class (i) verbs only the accusative IO/goal argument alternates and not the accusative DO/theme. With verbs of classes (ii) and (iii) both the IO and the DO can, in principle, alternate,28 while for class (iv) the data are unclear. Specifically:

(i) With verbs taking two accusative objects (the ACC-ACC class), only the IO can be passivized, we believe for principled reasons29 that are orthogonal to our main discussion of Case-alternations. Smyth (1920: 396), states that “in double accusative constructions, the object that denotes the person is the one that turns into nominative in passives”:
Active: ACC - ACC

(18) a. Hon ouk edidax-an kalon ouden

who-ACC not teach-ACT-AOR-3PL good-ACC no-ACC

‘He, whom they have not taught anything good’

Passivized: NOM – ACC

b. hos ouk edidachth-e: kalon ouden

who-NOM not teach-PASS-AOR-3SG good-ACC no-ACC

‘He, who has not been taught anything good’

(20) (Herodotus, Historiae 3.81)

(ii) Either the IO or the DO may turn into nominative under passivization with verbs taking a dative IO and an accusative DO (the DAT-ACC class). Examples of Dat-Nom alternations are provided in (19) and (20)30.

Dat– Nom alternations

Active: ACC - DAT

(19) a. All-o ti meiz-on hum-in epitaks-ousin

Something else-ACC bigger-ACC you-DAT order-ACT-PRES-3PL

‘They will order you to do something else bigger/greater’

Passivized: ACC - NOM

b. All-o ti meiz-on hum-eis epitachthes-esthe

Something else-ACC bigger-ACC you-NOM order-PASS-PRES-2 PL

‘You will be ordered to do something else, bigger.’

(Thucydides, Historia I: 140,5)
Active: ACC - DAT

(20) a. De:marato-s edo:s-e aut-o:i do:ro-n
   Demaratos give-ACT-AOR-3 SG him- DAT present- ACC
   ‘Demaratos gave him a present’

Passivized: NOM - ACC

b. houto-s d’edo:th-e: do:ron men hupo De:marat-ou
   he- NOM then give- PASS-AOR-3SG gift- ACC by Demaratos-GEN
   ‘He was given a gift by Demaratos’
   (Diodorus Siculus, Historia: 17.76.6)

Examples where accusative DOs become nominative are presented in (21) and (22):

Acc – Nom alternations

Active: ACC - DAT

(21) a. Epitrep-o: te:n phulak-e:n toisi
   Entrust-ACT-PRES-1 SG the guard-ACC they-DAT
   ‘I entrust the guard to them’

Passivized: DAT - NOM

b. Toisi epetrap-t-o he: phulak-e:
   They-DAT entrust-PASS-PRES-3SG the guard-NOM
   ‘The guard is entrusted to them’ (Herodotus, Historia VII, 10)

Active: DAT - ACC

(22) a. Ekein-o:i edok-e aut-e:n te:n cho:ra-n
he-DAT give-ACT-AOR-3SG this-ACC the land-ACC

‘He gave this land to him’

Passivized: DAT - NOM

b.  Ekein-o:i  aut-e:  he: chora  edoth-e:
   He-DAT  this-NOM  the  land-NOM  give-PASS-AOR-3SG

‘This very land was given to him/that man’

(Xenophon, Historia III, 1.6)

(iii) When the verb takes a genitive IO and an accusative DO (the GEN-ACC class), the situation is as with DAT-ACC verbs: arguments bearing both cases (IOs and DOs) alternate. An example of a Gen-Nom alternation is provided in (23) and an Acc-Nom alternation in (24).

Gen – Nom alternation

Active: GEN - ACC

(23)  a. Apetem-on  to:n strate:g-o:n  tas kephal-as
       Cut off-ACT-AOR-3PL  the generals-GEN  the heads-ACC

‘They cut the heads from the generals’

Passivized: NOM-ACC

b.  Hoi strate:g-o:i  apetme:th-e:san  tas kephal-as
    The generals-NOM  cut off-PASS-AOR-3PL  the heads-ACC

‘The generals were beheaded / The generals had their heads cut off’

(Xenophon, Anabasis II: 6.29)

Acc-Nom alternation
Active: ACC- GEN

(24) a. Hout-oi kolu-ousi tous polemi-ous te:s horm-e:s

They-NOM hinder-ACT-PRES-3 PL the enemies-ACC the attack-GEN

‘They hinder the enemies with the attack’

Passivized: NOM - GEN

b. Hoi men polemi-oi te:s horm-e:s eko:luth-e:san

The enemies-NOM the attack-GEN hinder-PASS-AOR-3 PL

‘The enemies were hindered with the attack’

(Polybius, Historiae: 6, 55. 3)

(iv) Regarding the final class, i.e. verbs taking a dative and a genitive object, the situation is unclear. Grammars do not explicitly discuss their passivization patterns, and we haven’t located any instances of this construction in corpora, unsurprisingly, given how much rarer the passive is than the active. We will therefore have to disregard this class for now.

In conclusion, the examples presented above are sufficient to establish that in Ancient Greek both the IO and the DO may become nominative with ditransitives selecting for a genitive/dative IO and an accusative DO. That is, all three objective cases (ACC, DAT, GEN) become nominative in ditransitive passives, as in monotransitive ones.

Apart from the occasional mention of the Ancient Greek ditransitive data as outlined in the introduction, Lavidas (2007/2010) is the only recent work that discusses the paradigm presented in this paper, but he limits the discussion to ditransitives. His main claim is that the fact that the dative can be absorbed in passives of ditransitives constitutes evidence that Ancient Greek non-active Voice
(middle and passive) was still able to assign accusative Case. In this paper we provide a different account for the Ancient Greek paradigm, not based on the concepts of Case-assignment and Case-absorption.

4. An account of Case Alternations in Ancient Greek

The puzzle posed by Ancient Greek for current theories of Case is that datives and genitives combine the distribution of inherent/lexical/quirky Cases in actives with the distribution of structural/dependent Cases in passives, qualifying as “mixed” Cases (section 4.1). We propose to allow for the parametric availability of alternations of this type within current Minimalist Case theory through the hypothesis that alternating datives and genitives bear an uninterpretable Case feature which renders them active for Agree (section 4.2). We illustrate how this proposal works for monotransitives and ditransitives (section 4.3).

4.1. Ancient Greek alternations and their implications for theories of inherent/lexical vs. structural Case

In the GB/ Minimalist literature, two lines of approaches towards Case-alternations have been proposed, syntactic ones and morphological ones (see Bobaljik & Wurmbrand 2008; Pesetsky & Torrego, to appear, for recent overviews).

According to standard syntactic approaches, Case alternations take place whenever structural objective Case, realized as accusative in languages with overt case morphology, cannot be assigned (or checked or licensed; i.e. in passives and unaccusatives), forcing movement of the DP object to the subject position where
Nominative can be assigned (checked/ licensed) by finite Inflection (due to the Case Filter; Vergnaud 2008). Arguments bearing inherent Case (realized as dative, genitive, instrumental, partitive etc.) do not enter into comparable alternations because nonstructural Case is licensed in connection to theta-marking and is retained throughout the derivation. What is crucial for the standard approaches is that the identity of particular cases, Nominative, Accusative, Dative etc., is linked to particular structural licensing configurations.

Morphological case approaches (m-case approaches; Zaenen, Maling and Thráinsson 1985; Yip, Maling and Jackendoff 1987, Marantz 1991; Harley 1995; McFadden 2004; see Bobaljik 2008: 297-302 for an overview) argue that the abstract syntactic licensing responsible for the syntactic distribution of DPs (EPP and/or Structural Case) does not determine the actual case morphology DPs bear and should be dissociated from the algorithm determining morphological case realization at the Morphological component. Case-alternations are linked to the way in which the syntactic licensing relations established in passives and unaccusatives are interpreted by spell-out hierarchies at PF. In what follows, we concentrate on how Case-alternations with monotransitive and ditransitive verbs have been treated in terms of Marantz’s (1991) and Harley’s (1995) characterization of the algorithms determining morphological case realization.

Marantz proposes that there are four types of morphological case, assigned via the disjunctive hierarchy in (25). More specific cases take precedence over less specific ones placed lower in the hierarchy:

(25) case realization disjunctive hierarchy:

- lexically governed case
- dependent case (accusative and ergative)
- unmarked case (environment-sensitive; nominative in IPs, genitive in DPs)
- default case

Lexically governed/quirky case (dative, genitive, instrumental, partitive etc.), is the most specific case, as it is idiosyncratically determined by particular lexical items.

Dependent case (accusative in nominative-accusative languages and ergative in ergative languages) comes next in the hierarchy and is realized in a certain domain in opposition to another argument (higher or lower) not bearing lexical case. Accusative is dependent case downwards, realized in opposition to a higher DP not bearing lexical case, while ergative is dependent case upwards realized in opposition to a lower DP not bearing lexical case:

(26) Dependent case is assigned by V+I to a position governed by V+I when a distinct position governed by V+I is:
  a. not “marked” (not part of a chain governed by a lexical case determiner)
  b. distinct from the chain being assigned dependent case

Dependent case assigned up to subject: ergative
Dependent case assigned down to object: accusative

Unmarked case is unmarked for specific syntactic environments, namely clauses or DPs. The unmarked case in clauses is nominative for nominative-accusative languages and absolutive for ergative languages, while the unmarked case in DPs is genitive. Finally, default case is realized in environments where no other rules can
apply. In this system, Acc-Nom alternations arise in contexts not allowing dependent accusative assignment due to the absence of a higher DP bearing environment sensitive nominative, i.e. in passives and unaccusatives. This is schematized in (27):

(27) a. Subj kissed Obj b. was kissed Obj
    ___    ACC    ___
    NOM  NOM

In the transitive (27a) there are two DPs requiring m-case, the subject and the object. The first case in the hierarchy is lexical, which is unavailable in this example. The next case is dependent, which is assigned on the object in the active (27a), in opposition to the subject. On the other hand, dependent case cannot be assigned in (27b) which contains a single argument. In the next step, the caseless subject in (27a) and the caseless object in (27b) receive environment sensitive nominative. Note that the object in (27b) is eligible to receive nominative in this account, regardless of whether it undergoes EPP-driven movement to the subject position or it stays in its base position. Unlike arguments bearing dependent case, arguments bearing lexically determined cases do not alternate, because lexical case is idiosyncratically assigned by particular lexical items and is always assigned first, winning out over alternative case assignments. Thus, if an object in a configuration like (27) is selected by a verb assigning lexical dative, genitive, instrumental etc., this case will not be affected by the presence or the absence of a higher subject and there will be no Case alternation comparable to the one in (27a) vs. (27b).

Harley (1995) proposes an extension to Marantz’s dependent case approach aiming to accommodate the distribution of dative case in contexts where it is regularly
and predictably realized, such as ditransitives and causatives. She proposes that dative is canonically realized on the second argument checking a structural case feature in domains where three arguments are eligible to receive m-case, subject to the Mechanical Case Parameter in (28) (Harley 1995: 161):

(28) The Mechanical Case Parameter (MCP)

a) If one case feature is checked structurally in the clause, it is realized as Nominative (mandatory case);
b) If two case features are checked structurally in the clause the second is realized as Accusative;
c) If three case features are checked in the clause, the second is realized as Dative and the third as Accusative;
d) The mandatory case in a multiple case clause is assigned in the top/bottom AgrP.

Consider a configuration like (29) containing three objects:

(29) a. Subj gave IO DO   b. was given IO DO
    NOM   ___   ___       NOM ___
    DAT   ___         ACC
    ACC

In the active (29a) there are three arguments checking a structural case feature in the clause, and case assignment proceeds as specified by (28c) in a top/bottom fashion, starting from the mandatory nominative (see 28d). The first case assigned is
nominative on the subject, the IO comes second and bears dative and the lowest DO comes third and bears accusative. On the other hand, the passivized ditransitive (29b) only contains two arguments since the external argument is absent. Case assignment in this configuration falls under (28b): the higher IO bears mandatory nominative while the lower DO bears accusative. Building on Sadakane & Koizumi (1995), Harley analyses two types of Japanese causatives in terms of (28), one in which dative alternates with nominative and one in which dative is preserved (see Harley 1995: 152-171 for the details). In order to account for their different behavior, Harley proposes that there are two types of dative Case in Japanese, structural which enters structural Case checking and falls under the MCP algorithm and quirky which does not undergo structural Case checking and does not fall under the MCP.

Note now that Harley’s MCP predicts an asymmetry between ditransitives and monotransitives with respect to Nom-Acc alternations. Dative is expected to be realized on an argument checking structural Case only in the former context. If an object surfaces with dative case in monotransitives, then this can only be quirky case. The system is set up in such a way that dative can be realized by the virtue of the MCP only when three arguments check structural case in a clause, i.e. in active ditransitives, not when two structural cases are checked, as in active monotransitives. This prediction appears to be borne out in German and Dutch where, arguably, datives alternate in ditransitives and not in monotransitives (in passives formed with the auxiliaries bekommen/ krijgen ‘become’ which are licit only in ditransitives, not in monotransitives; see Alexiadou, Anagnostopoulou & Sevdali 2014 for discussion and references)\(^3\).

However, other languages do not corroborate this claim. In Japanese passives, the \textit{dative goal/recipient/addressee} argument of ditransitives can become nominative, as
is well-known:

    Naomi-NOM Ken-DAT love.letter-ACC hand-PAST
    ‘Naomi handed Ken a love letter.’

b. Ken-ga Naomi-ni labuletaa-o watas-are-ta.
    Ken-NOM Naomi-DAT love.letter-ACC hand-PASS-PAST
    ‘Ken was handed a love letter by Naomi.’ Ishizuka (2010: 81f.)

Importantly, Ishizuka (2012: 82) and Iwasaki (2002) report that in Japanese, the direct object of a substantial number of monotransitive verbs is realized not as an accusative DP but as a dative DP, and these datives (ni-directional and kara-source obliques) can be raised to the nominative position in the passive.

(31)  a. Naomi-ga Ken-ni kisu(-o) sita.
    Naomi-NOM Ken-DAT kiss-ACC do.PST Active
    ‘Naomi kissed Ken.’

b. Ken-ga Naomi-ni kisu(-o) s-are-ta.
    Ken-NOM Naomi-DAT kiss-ACC do.PASS.PST Passive
    ‘Ken was kissed by Naomi’

In section 3, we saw extensive evidence that datives alternate in both environments in Ancient Greek (recall examples (8) – (12) where all cases alternate in monotransitives and (18) – (24) where all cases alternate in ditransitives). This is not predicted by the MCP. The additional facts that (i) IOs bear either dative or genitive in Ancient Greek
ditransitives and that (ii) genitives also alternate with nominative complicates things even further.

To sum up, Ancient Greek presents a challenge to standard syntactic and morphological approaches to Case, as dative and genitive case have a mixed status. On the one hand, they have the distribution of lexical, quirky or inherent cases in actives but, at the same time, they behave like accusatives *vis à vis* passivization. This means that theories of Case must be modified in order to allow for the parametric availability of datives/genitives of this type. We turn to this issue in the next section.

4.2. *Structural datives and genitives enter Agree.*

In current minimalist literature, the difference between structural and lexical/inherent Case has been expressed in terms of their varying licensing conditions. Structural objective Case is licensed by transitive v or Voice, i.e. a functional head different than V, the theta-assigner of the object. By contrast, arguments bearing lexical/ inherent Case are licensed by their theta-assigners, V or a zero P in monotransitives, applicative v in ditransitives, and, perhaps, certain monotransitives as well. In this vein, McFadden (2006) and McIntyre (2006) propose that there are applicative monotransitives; and Wood (2012) argues that arguments bearing dative case in German and Icelandic are not licensed in a uniform way.

In Chomsky (1995, 2000, 2001), the different licensing conditions of arguments bearing structural and inherent Case are linked to feature interpretability, which, in turn, is linked to the *activity condition* of goals which enables them to enter the formal operation Agree with designated probes. Structural Case is viewed as an uninterpretable feature (uCase) that needs to be checked and eliminated (in Chomsky
1995), and in later literature as the reflex of an uninterpretable phi-set on a goal (the presence of which activates the goal) which is erased under matching with the probe (in Chomsky 2000), or as a feature that enters the derivation unvalued and receives its value under Agree (in Chomsky 2001). Inherent Case is interpretable (iCase), valued etc. and is therefore inactive and does not enter Agree, though inactive elements may cause defective intervention effects.

As mentioned in section 1, there are also crosslinguistically “in between” cases, namely when certain arguments behave as if they simultaneously have structural and lexical Case. A famous example in the literature comes from Icelandic, where quirky subjects display all the syntactic effects standardly attributed to arguments bearing Structural Case and yet they retain their idiosyncratically determined case morphology, they do not alternate with nominative in passives and they do not enter agreement with the inflected verb (Zaenen et al. 1985; Marantz 1991; Bobaljik 2008 and others). To account for them, Chomsky (1995) and McGinnis (1998) propose that quirky subjects in Icelandic bear inherent Case and have an additional Structural Case feature. A different type of example illustrating the mixed behavior of dative arguments comes from Basque. Řezáč (2008) investigates dative agreement in Basque and argues that dative arguments in different dialects of Basque are either totally opaque or transparent for Agree. Transparent datives enter Agree with the inflected verb for more or fewer phi-feature specifications depending on the dialect, a fact showing that the degree to which dative arguments enter Agree is an additional point of cross-linguistic variation. Řezáč argues that the variability in the behavior of datives is due to their status as PPs which renders them opaque because PPs are phases (Abels 2003). Dative PPs can be transparent when a phi-probe on P is present, which enters Agree with the DP selected by P transmitting the phi-
features of this DP outside the opaque PP domain. The result is *Agree transparency*.

Ancient Greek provides evidence that there is a link between the presence of dative case and the presence of a P head assigning it, but it also provides evidence that the transparency of alternating dative PPs has a different source. Recall from section 3 that monotransitive and ditransitive complex verbs formed with prepositions assigning dative case such as *en-*,- *sun-*,- *epi-*,- *para-*,- *hupo-* and the adverb *omou* inherit from the prepositions their dative assigning capacity. At least for verbs of this class it is plausible to propose that they are formed by preposition incorporation. This results in a configuration where the complex verb has a PP complement headed by the trace of the incorporated preposition, exactly as proposed by Baker (1988 ch. 5) for applicative constructions in Bantu languages. Moreover, the preposition incorporation data reveal that there is a link between preposition incorporation and Agree, since the dative complements of the incorporated prepositions have been seen in section 3 to alternate. Crucially, it is the process of preposition incorporation itself that makes the PPs in question transparent. If PPs are phases, then the phase-lifting effect of P incorporation follows from the hypothesis that movement of certain phase heads extends the phase to the higher projection (den Dikken 2007, Gallego 2005, 2010, Gallego and Uriagereka 2006, Wurmbrand, Alexiadou & Anagnostopoulou 2012), in the spirit of Baker’s 1988 Government Transparency Corollary. It is unclear, however, whether this treatment generalizes to all dative assigning monotransitive and ditransitive verbs and to all genitive assigning monotransitive and ditransitive verbs. Even though it is often assumed in the literature that morphologically marked arguments bearing oblique cases are PPs, it has also been argued that not all dative and genitive objects have the same structural analysis. Datives can be PPs headed by a zero P (Řezáč 2008; Pesetsky 2013; Wood 2012 for some Icelandic datives), PPs or
DPs introduced by an applicative head (Anagnostopoulou 2005b for ditransitives in Greek and Romance; Cuervo 2003 for ditransitives in Spanish and Romance; McFadden 2006, McIntyre 2006 for monotransitives in German; Wood 2012 for ditransitives in Icelandic) or DPs introduced by the verb (see Wood 2012 and section 5 below for Icelandic dative themes in monotransitives).

In view of the above considerations, we propose, following Chomsky (1995, 2000, 2001), that opaque dative and genitive arguments are inactive for Agree. On the other hand, transparent dative and genitive arguments are active for Agree. We furthermore assume that active dative and genitive arguments have an uninterpretable Case feature (uCase) which enters Agree with a functional head, Voice or T, unlike inactive/ inert dative and genitive arguments.36 As will be seen immediately, there are several formal ways of capturing the inactivity of inherent datives/genitives.

According to Conti (1998), the phenomenon of Gen-Nom and Dat-Nom alternations in Ancient Greek monotransitives diachronically evolved in close connection to gradual changes in the case system of the language. Initially, each morphological case had a range of well-defined semantic interpretations, and Gen-Nom/Dat-Nom alternations did not occur. Later on, the one-to-one correspondence between form and meaning was obscured, and different cases came to look as if they were idiosyncratically selected by particular verbs, resulting in a situation where close semantic functions were expressed through different cases. With verbs expressing an action controlled by the subject and directed towards an object, the partitive genitive and the dative expressing participation had a meaning close to the accusative; the core meaning in all three situations was that of an object affected by the event expressed by the verb. The genitive differed from the accusative w.r.t. partial vs. total affectedness, and the dative differed from the accusative w.r.t. animacy and type of
involvement (datives often expressed persons or things particularly affected by the action expressed by the verb). Gen-Nom and Dat-Nom alternations started taking place at the stage where the two cases, genitive and dative, acquired a meaning close to the meaning of the accusative. This, according to Conti, explains why the process started with partitive genitives: their meaning was closer to the meaning of accusative than that of datives expressing participation. It also explains why instrumental dative objects began to alternate later than datives expressing participation: instrumental datives have a meaning more remote from the accusative than participation datives.

Conti's detailed documentation of how the phenomenon developed over time provides a key towards understanding of what it means to proceed from a system where genitive and dative arguments are fully inherent to a system where they qualify as structural. At the former stage, genitives and datives were associated with a particular meaning ('inherent'). Gradually, however, they lost their distinctive interpretations and acquired meanings that were very close to those of structural accusative DPs, which were licensed by functional heads in the vP spine. At that stage, they were re-analyzed as bearing an uninterpretable Case feature, a change that was then gradually generalized to more types of genitive and dative arguments (though not all; see section 3 above for the observation that ablative genitive objects and comitative or locative datives were never alternating).

But what was the status of datives and genitives before they came to possess a uCase feature and, more generally, what is the formal difference between datives and genitives that do not enter Agree and those that do? As a first approximation, this difference can be expressed as an iCase vs. uCase opposition, following Chomsky. The transition Conti describes can then be viewed as a transition from a system where datives/genitives bear iCase to a system where they bear uCase, a hypothesis clearly
supported by the semantic differences she describes. In turn, this transition can be made to follow from the Principle of Feature Economy in (32) invoked by Van Gelderen (2008ab; 2009; 2011) in order to explain cyclical diachronic change in a number of different empirical domains:37

(32) Feature Economy38

Minimize the semantic and interpretable features in the derivation, e.g.

\[
\text{Semantic} > [iF] > [uF]
\]

Van Gelderen argues that semantic features are not economical in the computation since they make the elements they combine with computationally inert. Interpretable features are slightly more economical in their interactions since they can value uninterpretable features. Finally, uninterpretable features act as probes and are the most economical in keeping the derivation going.

But note that an analysis in terms of an iCase vs. uCase opposition makes most sense if both types are assumed to be DPs, and this is incompatible with the evidence from verbs with incorporating prefixes which shows that at least one group of structural datives in Ancient Greek are PPs active for Agree due to the process of P incorporation. For these datives at least, we must assume that they are PPs, and we could generalize this treatment to more datives, analyzing the inherent vs. structural opposition as a PP vs. DP difference. When dative/genitives are DPs they bear uCase. On the other hand, when they are PPs they are opaque, because the DP bearing uCase is embedded under P. PPs can become transparent, though: via P-incorporation, as with Ancient Greek prefixal verbs, or when P bears a phi-probe, as Řezáč (2008) suggests. See Alexiadou, Anagnostopoulou & Sevdali (2014) who argue that the
auxiliaries “bekommen” and “krijgen” in German and Dutch passives showing a Dative-Nominative alternation also result from the P-incorporation strategy. As a final note on this issue, observe that if an analysis in terms of PP opaqueness is generalized to all inherent datives, then the postulation of an iCase feature becomes superfluous. As pointed out by an anonymous reviewer, this might be a welcome result, because expressing the difference between inherent and structural datives as a PP – DP distinction makes it easier to ensure the right distribution of transparent and opaque datives in terms of c-selection. In the iCase proposal, it is not easy to prevent inserting a DP with an interpretable case feature in one of the contexts where transparency is found.

As a final step, we propose that the abstract Agree relation between DPs and functional heads in the clause is indirectly reflected on the actual case morphology arguments bear, following m-case approaches. More specifically, objects entering Agree due to the presence of an uninterpretable Case feature [uCASE] have structural case in the sense of Marantz (1991) and Harley (1995). We propose the following rules for m-case spell-out in Ancient Greek:

(33) a. \([\text{uCASE}] \rightarrow \text{NOM} \) iff the DP is not c-commanded by another structurally case-marked DP (within the domain of finite T).

b. \([\text{uCASE}] \rightarrow \text{DAT} \) iff the DP is c-commanded by another structurally Case marked DP within the domain of finite T and is sister to verb1, verb2, verb3, preposition 1, preposition 2……

c. \([\text{uCASE}] \rightarrow \text{DAT} \) iff the DP is c-commanded by another
structurally Case marked DP within the domain
of finite T and is m-commanded by applicative
v1 (benefactive/goal).

d. \[uCASE] \rightarrow \text{GEN iff the DP is c-commanded by another}
structurally Case marked DP within the domain
of finite T and is sister to verb4, verb5, verb6,
preposition 3, preposition 4…….

e. \[uCASE] \rightarrow \text{GEN iff the DP is c-commanded by another}
structurally Case marked DP within the domain
of finite T and is m-commanded by applicative
v2 (source/possession).

f. \[uCASE] \rightarrow \text{ACC iff the DP is c-commanded by another}
structurally Case marked DP within the domain
of finite T.

The rules in (33) express the fact that DAT and GEN are more specific forms than
ACC. They are conditioned by the same environment which conditions accusative
assignment with an additional condition which takes into account the closest relevant
verb or applicative v or P. Being more specific, dative and genitive block the
assignment of accusative, which is the Elsewhere case assigned to objects whenever
the conditions for the more specific forms do not apply. Thus, (33) on the one hand
expresses the “irregular” distribution of dative and genitive, as opposed to the regular
distribution of accusative objects in actives, and on the other hand captures the fact
that all three cases alternate with nominatives in passives.

A last note is necessary concerning the question of how to best characterize
the distinction between alternating datives and genitives in Ancient Greek monotransitives and ditransitives and quirky datives and genitives in Icelandic, which undergo EPP-driven movement to subject position retaining their case morphology. Following Řezáč (2008) we propose that quirky datives/ genitives are PPs entering partial Agree which, in turn, depends on the accessibility of the phi-features they contain (see Řezáč 2008 and Bejar 2008 for proposals to derive partial vs. complete Agree from differences in the feature structures of the relevant probes). In the calculation of dependent case assignment at PF, quirky case qualifies as “lexically governed” case (see Marantz 1991 and Bobaljik 2008 for extensive discussion), despite entering partial Agree. This entails that only dative and genitive DPs entering complete Agree qualify as dependent cases in the sense of (33).

4.3. Agree and m-case in monotransitives and ditransitives

Let us now illustrate how the analysis sketched above works. Starting from monotransitives, we will assume that T and Voice enter Agree with arguments carrying [uCASE]. In actives, T enters Agree with the external argument (EA in (34) below) and Voice Agrees with the internal argument, as shown in (34a). In passives, the phi-features on passive Voice are inactive, and the object enters Agree with T, as illustrated in (34b).

\[
\begin{align*}
(34) \quad a. \ & [TP \ \{uφ\} \ [VoiceP \ \{iφ, \ uCASE\} \ \{Voice \ \{uφ\} \ [VP \ V \ \{iφ, \ uCASE\} \ \{DP \ \{iφ, \ uCASE\}\}]]] \\
& \text{active} \\
\quad b. \ & [TP \ \{uφ\} \ [VoiceP \ \{VoicePASS \ [VP \ V \ \{iφ, \ uCASE\} \ \{DP \ \{iφ, \ uCASE\}\}]]] \\
& \text{passive}
\end{align*}
\]
Consider now the examples as in (9) repeated from above:

(9)  

a.  
\[\text{Athenians-NOM betray-}\text{ACT-PRES-3 SG us-DAT}\]

‘The Athenians are betraying us’

b.  
\[\text{We-NOM by Athenians-GEN betray-PASS-PRES-1 PL}\]

‘We are betrayed by the Athenians’ (Thucydides, Historia I: 82.1)

In (9a) the object \(he:m-in\) enters Agree with Voice and its \(u\text{CASE}\) feature is spelled out as DAT by (33b). The EA \(Athe:nai-o:in\) enters Agree with T and its \(u\text{CASE}\) feature is spelled out as NOM by (33a). In the passive (9b), rule (33b) does not apply since \(he:m-eis\) is not c-commanded by another structurally Case marked DP in the domain of T; its \(u\text{CASE}\) feature is spelled out as NOM by (33a). In a similar manner, active examples where the object bears GEN are subject to (33a) and (33d), and examples where the object surfaces with ACC are subject to (33a) and (33f). The single argument in passives is assigned NOM by (33a).

Proceeding to ditransitives where both cases, DAT/GEN of the IO and ACC of the DO are allowed to alternate, we propose that Voice enters Agree with both the IO and DO under Multiple Agree. Multiple Agree as a way to license two goals by a single probe in ditransitives has been independently proposed by Anagnostopoulou (2005a) and by Nevins (2007) for languages showing PCC effects. Baker (2008, 2011) also proposes that Voice enters Agree with both the IO and the DO in ditransitives. Under the Multiple Agree proposal, the \(u\varphi\) of Voice in (35a) enters Agree with both the DAT and the ACC arguments. We assume that the IO and the
DO are contained in an applicative phrase (ApplP), remaining agnostic whether this is a high or a low applicative in the sense of Pylkkänen (2002). The two objects entering Agree are then assigned dependent case at PF since they are c-commanded a higher structurally Case marked DP in the domain of T: DAT is assigned in opposition to the higher EA falling under (33c), and ACC is assigned in opposition to the higher DAT falling under (33f). In passives, Voice is defective (and non-phasal) in not introducing an EA and not containing a phi-probe. The two arguments thus enter Multiple Agree with T.

(35)  
\[ \text{TP} \ T \ [\text{} \ [\text{VoiceP} \ \text{EA [iφ, uCASE]} \ \text{Voice [uφ]} \ [\text{ApplP} \ \text{IO [iφ, uCASE]} \ \text{vAPPL [DO [iφ, uCASE]]}] \] active \]
\[ \text{TP} \ T \ [\text{} \ [\text{VoiceP VoicePASS [ApplP IO [iφ, uCASE]} \ vAPPL [DO [iφ, uCASE]]}] \] passive \]

In the absence of an external argument in passives, one of the two dependent cases (ACC or DAT) cannot be assigned in opposition to a higher position and, therefore, the argument that would bear it surfaces with environment sensitive NOM. The other argument bears the dependent case (DAT/ GEN or ACC) that it also bears in the corresponding active, in opposition to the higher NOM argument (the derived subject). We still need an algorithm to decide which argument will surface with nominative and which one with dependent accusative or dative in (35b). The simplest decision mechanism would be locality: The first dependent case cannot be assigned, and the higher argument surfaces with nominative. The second/lower argument bears dependent case in opposition to the higher NOM. Assuming that the underlying order of arguments is IO>DO, as in (35), this makes NOM>ACC passives of ditransitives,
as in (19b) repeated from above, easy to handle:41

(19) b. All-o ti meiz-on hum-eis epitachthe:s-esthe
      Something else-ACC bigger-ACC you-NOM order-PASS-PRES-2 PL

   ‘You will be ordered to do something else, bigger.’

   (Thucydides, Historia I: 140,5)

NOM>DAT/GEN passives of ditransitives, as in (36), (see footnote 28), are more
difficult to analyze. Something extra needs to be stated in order to account for them.

(36) Ho stratos epitachthe:s ekastoisi
       The fleet-NOM assign-PASS-PARCPL each-DAT-PL

   ‘The fleet (that was) assigned to each’ (Herodotus, Historiae: 95, 1)

This is a general problem for all theories dealing with locality in languages allowing
the DO to move across the IO. See Ura (1996); McGinnis (1998); Anagnostopoulou
(2003, 2005b); Haddican (2010), among others, for some proposals. Anagnostopoulou
specifically appeals to scrambling of the intervening IO, in order to account for the
grammaticality of worden-passives in Dutch. Since Ancient Greek had extensive
scrambling, as pointed out in section 2.2., it is possible that the IO scrambling strategy
is employed in cases where the DO raises to T, obviating the locality effect. Another
possibility is to appeal to the availability of inverse DO>IO orders (we actually see
them in some of the ditransitive examples in section 3, e.g. (19), (24)), either as
alternative base orders (see Anagnostopoulou 2003: 117-129 based on Collins and
Thráinsson 1996 on the so-called ‘inversion’ constructions of Icelandic) or as alternative orders derived from local movement of the DO to an outer specifier of the vAPPL introducing the IO. See Anagnostopoulou (2003: 151-161, 2004) for symmetric double object languages like Swedish and Norwegian showing such orders under object shift, unlike non-symmetric Danish which never permits them. See also Haddican (2010) who builds on this account for symmetric British English. In such DO>IO serializations, the DO is closer to T than the IO, and it is expected to enter Agree first surface as nominative. Other options are also discussed in the literature cited above. In order to choose among the various possibilities for Ancient Greek we would have to closely investigate the relevant environments. This is a separate project, though, which we hope to be able to address in future work on Ancient Greek ditransitives and their diachronic evolution.

Before we conclude, we would like to briefly consider an alternative possibility to account for the data presented here. One could propose that Ancient Greek non-active Voice, spelled out as middle and passive, has the capacity of absorbing dative Case as a language-specific property (following and modifying a proposal by Papangeli 2004 and Reinhart & Siloni 2005). This hypothesis receives independent support from the observation that dative benefactive arguments can arguably be absorbed by the middle morphology in ‘indirect reflexivity’ constructions of the type illustrated in (1). In such an analysis, dative reflexivization and dative alternations in passives would be treated on a par. Even though this hypothesis is plausible, we have not pursued it further for the following reason: the diachrony of Greek shows that dative reflexivization and dative absorption in passives do not temporally coincide (Lavidas 2007/2010). More specifically, Ancient Greek lost dative reflexivization constructions in the period of Koiné while it retained the option
of dative-nominative alternations at that stage. Dative/genitive-nominative
alternations were lost much later, in the period where monotransitive predicates could
no longer assign dative and genitive to their objects, namely in Medieval Greek.

In the next section, we compare the Ancient Greek pattern to a very different
pattern of Dat-Nom and Gen-Nom alternations attested in Icelandic.

5. Two different patterns: Ancient Greek vs. Icelandic

Ancient Greek Dat-Nom and Gen-Nom alternations show three characteristic
properties. The first two are clear from the previous discussion; the third one can be
deduced from the lists of monotransitive verbs assigning dative and genitive (cf. 6-7).

(37) Characteristics of Dat/Gen-Nom alternations in Ancient Greek:

(i) Dative and genitive alternations take place in passives.

(ii) The dative and genitive affected in ditransitives is the case of the IO. The DO
generally surfaces with ACC in Ancient Greek ditransitives.42

(iii) Dative and genitive are assigned to — and absorbed from43 — objects of
monotransitives that are human/animate, partially affected, not measurers,
ever themes of motion, never objects of causative verbs.

As will be discussed in this section, although Icelandic too exhibits a
dative/genitive – nominative alternation, it presents a very different system. In
particular:

(38) Characteristics of Dat/Gen-Nom alternations in Icelandic:
(i) Dative and genitive alternations never happen in passives. They occur in -st
middles, certain anticausatives and adjectival passives.

(ii) The dative alternating in ditransitives is never the case of the IO. The DO may
surface with (alternating) DAT in Icelandic ditransitives.

(iii) Themes of motion and objects of causative monotransitive verbs may bear
dative case. The dative and genitive 'absorbed' in constructions showing Case-
alternations is the Case of themes.

We argue that the differences between Ancient Greek and Icelandic reduce to three
factors: (i) In Ancient Greek dative and genitive arguments enter complete Agree,
regardless of whether they are PPs or DPs. By contrast, only DP dative and genitives
enter complete Agree in Icelandic. (ii) Two different heads in the vP domain enter
Agree with alternating dative/genitive arguments in the two languages, v in Icelandic
vs. Voice in Ancient Greek (see also Alexiadou, Anagnostopoulou & Sevdali 2014).
(iii) In Icelandic, nominative functions as an ‘elsewhere’ case in the domain of the
finite clause, unlike Ancient Greek where nominative is a mandatory case.

5.1. Icelandic Dat-Nom alternations and their differences from Ancient Greek

It is well known that Icelandic has morphologically distinct nominative, accusative,
dative and genitive case. Even though the majority of objects bear accusative case
(accusative is said to be the default case for objects, just as nominative is the default
case for subjects; see Maling 2002 for discussion and references), nominative,
genitive and dative also occur on objects (for examples see Thráinsson 1979 and
many others), and dative objects are very common (Maling 1996, 2002, Barðdal
There are three differences between Ancient Greek vs. Icelandic alternations that we will discuss in turn:

**Difference a:** As extensively discussed in the literature on Icelandic, the main environment where dative becomes nominative are -st Middles, as in (39a,b) (see Zaenen & Maling 1990, Sigurðsson 1989, 2009a,b, Anderson 1990, Svenonius 2002, Schäfer 2008, Wood 2012):

(39) a. Óg týndi úrinu
   I-nom lost the watch-DAT
   ‘I lost the watch’

   b. Úrið týndi-st
   The watch-NOM lost-MIDDLE
   ‘The watch got lost’

An important difference between the middle and the periphrastic passive in Icelandic is that the former does not imply agency while the latter does (see Sigurðsson 1989 for detailed discussion). For example, middles do not license by-phrases (40c) while periphrastic passives do (40b) (Sigurðsson 1989: 268; Svenonius 2006):

(40) a. Lögreglan drap hundinn
   The police-NOM killed the dog-ACC
   ‘The police killed the dog’

   b. Hundurinn var drepinn (af lögreglunni)
   The dog-NOM was killed by the police
   ‘The dog was killed by the police’
Moreover, there are two groups of anticausatives in Icelandic (Zaenen & Maling 1990: 143f.): those in which theme objects alternate and those where they retain their case. Similarly to accusative objects, dative objects alternate with nominative in anticausatives falling under the former category, as illustrated in (41a,b). Crucially, passives never show a comparable alternation, i.e. DAT is retained in the passive based on ‘sink’ (41c):

\[(41)\]

\begin{align*}
\text{a. } & \text{Skipstjórinn} \quad \text{sökti } skipinu \\
& \text{The captain-NOM sank the ship-DAT} \\
& \text{‘The captain sank the ship’}
\end{align*}

\begin{align*}
\text{b. } & \text{Skipið} \quad \text{sökk} \\
& \text{The ship-NOM sank} \\
& \text{‘The ship sank’}
\end{align*}

\begin{align*}
\text{c. } & \text{Skipinu} \quad \text{var sökt} \quad \text{af skipstjóranum} \\
& \text{The ship-DAT was sunk by the captain} \\
& \text{‘The ship was sank by the captain’}
\end{align*}

In contrast, passives are the typical environment where the DAT-NOM alternation takes place in Ancient Greek, in the sense that there is no agentivity restriction in the environments that Dat-Nom and Gen-Nom alternations take place.\textsuperscript{45}
Difference b: According to Maling (2002), dative objects in Icelandic can be themes undergoing a change of location.

(42) a. þeir mokuðu skiðlínun burt
they shoveled snow-drift-the-DAT away
b. þeir mokuðu skaflinn
they shoveled/dug through snow-drift-ACC

Svenonius (2002) argues that dative vs. accusative distribution on theme objects in Icelandic is conditioned by aspect: whenever a verb denotes a pair of subevents which do not perfectly overlap, then the object surfaces with dative. Accusative surfaces on objects when the two events perfectly overlap. Jónsson (2010: 5) argues instead that accusative on themes of motion highlights “the (forceful) contact with the object, whereas the dative highlights the movement of the object”. Regardless of what the correct generalization is for Icelandic, what is important is that DAT can be assigned to themes. By contrast, DAT is never assigned on themes or objects of causatives in Ancient Greek (see Lavidas 2007/2010 for extensive discussion).

Difference c: Sigurðsson (1989) points out that only direct object theme datives alternate in ditransitives. The dative case of benefactive/goal indirect objects does not alternate (Jónsson 2010 provides a list of some verbs that can do this). This holds for the -st verbs, where dative indirect objects (IOs) stay dative, even under -st:

(43) a. Jón gaf mér þetta tækifæri.
John-N gave me-DAT this opportunity-ACC

‘John gave me this opportunity.’ (Sigurðsson 1989:270)
Compare (43) to (44), taken from Sigurðsson & Wood (to appear). For ditransitive verbs that take two dative objects, only the DO dative becomes nominative; the IO remains dative:

(44) a. þeir úthlutuðu okkur velli til 12:00
    they-NOM allocated US-DAT field-DAT until 12:00
    'They allocated a field to us until 12:00'

b. Okkur úthlutaðist völlur til 12:00
    US-DAT allocated-st field-NOM until 12:00
    We got allocated a field until 12:00

By contrast, as we have seen extensively in section 3, it is the DAT of the IO argument which becomes NOM in Ancient Greek passives of ditransitives.

Following Wood (2012) who builds on McFadden (2004) and Maling (2001) we will assume that there are three types of dative objects in Icelandic: (i) Dative objects introduced by an applicative v in ditransitives and certain monotransitives. (ii) Dative objects introduced by a silent preposition. (iii) Dative objects which are DPs introduced by the verbal root. Crucially, it is only the third type, DO datives, which alternate in Icelandic. Wood assumes a decomposition of verbs along the lines of Alexiadou, Anagnostopoulou & Schäfer (2006), Marantz (2001) and others according to which, verbs are syntactically decomposed into a Voice, a v and a Root component,
as illustrated in (45):

(45) [Voice [v [ Root ]]]

He proposes to tie direct object datives to some feature or property of a special type of the little v head in (45), $v_{DAT}$, given that this head is responsible for event semantics, thus accounting for the aspectual properties of dative distribution discussed by Svenonius (2002, 2006; see above). Following Schäfer (2008) and Sigurðsson (2009a) Wood (2012) analyses –st in Icelandic middles as an exponent of an expletive subject in Voice. This explains why there is never an implicit external argument in these constructions. He furthermore proposes that there is an impoverishment rule operative at PF in Icelandic which deletes the feature leading to dative case assignment at PF in the context of expletive Voice.46

(46) $v_{DAT} \rightarrow v / [\text{VoiceP} -st \text{Voice } _{}}$

When dative case cannot be assigned to direct objects due to the impoverishment rule in (46), then nominative is employed as the ‘Elsewhere’ case assigned when nothing else is available to assign case. Crucially, the rule in (46) will not have any effect on dative assigned by the applicative head in ditransitives (and some monotransitives) or on dative assigned by P. It limits the environments in which Dat-Nom alternations take place in Icelandic to middles/anticausatives.47

5.2. Icelandic vs. Ancient Greek and the role of nominative

Icelandic and Ancient Greek case alternations have two properties in common. The
first one concerns the fact that dative behaves similarly to genitive in both languages: both cases alternate in the relevant environments. The second similarity is that both languages show no ditransitive vs. monotransitive asymmetry, unlike e.g. Standard German and Dutch where datives alternate only in ditransitives (Alexiadou, Anagnostopoulou & Sevdali 2014). For Icelandic, the dative alternation in monotransitives is completely regular and productive and applies to all transitive verbs taking a dative (and to a lesser degree a genitive) direct object, as long as they can form –sₙ middles. Ditransitive examples with an alternating theme dative are more difficult to construct, but they are possible, as was shown in (44). These similarities can be accounted for under the hypothesis that in both languages, alternating dative and genitive arguments enter Agree with a functional head.

However, the two languages differ in the kinds of alternating arguments, themes in Icelandic vs. non-themes in Ancient Greek, and in the environments of alternations, middles in Icelandic vs. passives in Ancient Greek. Starting from the first difference, we saw that Agree in Icelandic takes place with dative and genitive direct objects which have the categorical status of DPs and are selected by the verbal root. PPs headed by a null preposition and arguments introduced by applicative heads in monotransitives and ditransitives enter incomplete Agree (i.e. have quirky Case) and hence do not alternate, as was discussed in section 4.2. By contrast, in Ancient Greek complete Agree is generalized to all datives, except for the ones retaining their contentful zero prepositions (e.g. comitatives, ablatives).

In order to explain the different contexts where alternations take place, namely the middles vs. passives difference, we propose to appeal to different properties of the respective Voice systems (see Alexiadou, Anagnostopoulou & Sevdali 2014). The key insight we will build on comes from Svenonius (2002, 2006), Schäfer (2008),
Sigurðsson (2009a) and Wood (2012) who argue that alternating dative and genitive in Icelandic is assigned by a head lower than Voice and, therefore, is not affected when passive Voice is present. Specifically, we will adopt the basic architecture of verbs argued for in Alexiadou, Anagnostopoulou & Schäfer (2006), Marantz (2001) and others in (45) where verbs decompose into Voice, v and a Root. This decomposition makes available two heads that could in principle be involved in dative Case licensing, namely Voice and v. In Ancient Greek, active Voice enters Agree with datives and genitives while passive Voice is deficient and Agree takes place between datives/genitives and T, in the way we described in section 4. On the other hand, the lower head v licenses dative DOs in Icelandic, as we saw, and Voice [+ passive] does not block assignment of dative. Following Wood (2012), we assume that the PF impoverishment rule (45) deletes the feature leading to dative and genitive case assignment in the context of expletive –st Voice in Icelandic middles, anticausatives and adjectival passives. Nominative is then employed as an Elsewhere case for the objects which cannot be licensed otherwise.

This brings us to the final difference between Icelandic and Ancient Greek, namely the fact that the dative and genitive case realized on alternating direct objects in Icelandic cannot be characterized as “dependent cases” in the sense of the m-case rules in (33). Crucially, dative and genitive surface on direct objects in Icelandic passives in the absence of a higher c-commanding nominative (see e.g. example (41c) above and many examples in Svenonius 2002, 2006, Schäfer 2008, Sigurðsson 2009a, Wood 2012 and others). This means that the dependent case rules (33b) and (33d) are inappropriate to handle Icelandic. We propose to link this difference between Ancient Greek and Icelandic to a parametrization in the properties of nominative case across languages. In a language like Ancient Greek, nominative is a mandatory case which
must be assigned taking priority over all other cases (Harley 1995, Alexiadou & Anagnostopoulou 2006). As a result, there is never a situation where an argument eligible to receive accusative or dative can do so in the absence of a higher nominative. On the other hand, nominative assignment is not obligatory in Icelandic, and arguments can receive dative, genitive or accusative in the absence of a higher nominative in their domain. Nominative is only assigned as an elsewhere case to arguments that cannot receive case otherwise, as in the Dat-Nom and Gen-Nom alternations in Icelandic middles.

We suspect that this is a broader parameter differentiating languages, one that explains e.g. why the Russian examples in (47) are ungrammatical (from Torrego & Pesetsky, to appear), while their German counterpart in (48) is not:

**Russian**

(47) a. *Bylo pomoženo studentam (*any word order, any case pattern)
was helped students-DAT
b. *Bylo upravleno zavodom (*any word order, any case pattern)
was managed factory-INSTR

**German**

(48) Mir wurde geholfen
Me-DAT was-3sg helped
‘I was helped’

As argued for in Zaenen, Maling and Thráinsson (1985) and many others, German datives in constructions like (48) are not quirky subjects; they bear inherent dative of the kind found in the Russian example in (47a). The difference in status between the
ill-formed Russian (47a,b) and their well-formed German counterpart (48) can be explained by appealing to the properties of nominative case in the two languages. Nominative is mandatory in Russian, as in Ancient Greek, and (47a,b) are ungrammatical because dative and instrumental are inherent cases and nominative can’t be realized. On the other hand, nominative is not obligatory in German, similarly to Icelandic, and therefore (48) is well formed.

6. Summary

In this paper, we investigated dative-nominative and genitive-nominative alternations in Ancient Greek passives. The specific questions we posed concerned (a) the nature of dative and genitive Case, i.e. whether they are inherent or structural, and (b) the conditions determining the environments of alternations (monotransitives, ditransitives, passives and middles). Based on synchronic, diachronic and comparative evidence we argued that the correct approach to dative/genitive Case is a mixed approach according to which, dative and genitive can be inherent/lexical, structural or quirky Cases, both across languages and within one and the same language. We proposed an analysis for Ancient Greek Case alternations that combines the following proposals: (i) The core property determining Case alternations is Case (un-)interpretability. (ii) Arguments with uninterpretable Case enter Agree. (iii) A generalized dependent case assignment algorithm at PF treats dative and genitive arguments entering complete Agree on a par with accusative arguments. We then compared Ancient Greek to Icelandic and we argued that the differences between the two languages stem from variation in (i) the kinds of arguments undergoing complete Agree (PPs/DPs vs. DPs), (ii) the heads entering Agree with dative arguments (Voice
vs. v) and (iii) the nature of nominative case (mandatory or not).

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2 Throughout the paper, “case” is used for morphological case and “Case” for Abstract Case.

3 We will come back to the role of hierarchies in our discussion on m-case approaches to case, in section 4.

4 Due to the rarity of passives and in particular passives of verbs selecting for datives, genitives and passives of ditransitives, most of our examples are from the following Ancient Greek grammars: Goodwin (1894), Jannaris (1897), Smyth (1920), Schwyzer (1953/2002). When an example is from a corpus we state so explicitly. Again, due to the rarity of the construction we do not limit ourselves to a subpart of the Ancient Greek texts, as one would normally do in order to exclude texts of an extreme literary style.

5 Regarding the use of reconstructed examples for the active, the standard practice in the relevant literature is either to entirely omit the active examples (exactly because they are frequent, easy to find, and available to every grammar or dictionary of Ancient Greek – this is the practice employed by Luraghi 2003, 2004, 2010 and George 2005 among others), or to use reconstructed examples for the active (Feldman 1978: 500 (examples 4a, 4b, 5a, 6a and even the ungrammatical reconstructed 7); Adams 1971: examples (4-6), (18-20), (23-25); Larson 1988: 366 (example 46 from Feldman 1978); Mulder 1988: 223 (examples 8, 23, 24); Rijksbaron 2002: 138 (examples (404-405 among others). Our practice in this paper is that when something is uncontroversial, frequent and cited in many sources we do not provide an original example but a reconstructed one. When something is controversial and
infrequent (such as all the passive examples) then we provide the original example.

An anonymous reviewer points out that it would be helpful to discuss the basis on which we have decided in particular cases whether we take unattested to mean ungrammatical. In the present paper, there are two relevant cases to consider. First, according to Conti (1998) there are some genitive and dative objects of monotransitive verbs that are non-alternating throughout the history of Greek (see section 3.2 for discussion). In this case, we take “unattested” to mean ungrammatical because we think that the unavailability of the passives of these verbs is due to a larger pattern of thematic/semantic restrictions on passivization of verb classes that lies beyond the scope of this paper (cf. the discussion on Conti 1998 in section 3.2). Secondly, it is not clear from the data available to us how dative and genitive objects behave under passivization with verbs selecting for a dative IO and a genitive DO (see section 3.4 below for discussion). In this case, we just remain agnostic about this construction, i.e. we do not take “unattested” to mean “ungrammatical”. In principle, we expect both the dative IO and the genitive DO to be able to alternate in passives based on these verbs. In this paper we do not use reconstructed “ungrammatical” sentences at all.

Cf. the main functions of the IE middle described by Wackernagel (1950: 124-9), namely direct and indirect reflexives, reciprocals and verbs of taking (George 2005: 5). See the discussion of many languages showing a fundamental active/middle opposition (Klaiman 1991, Palmer 1994). Modern Greek has the same type of opposition (see Alexiadou & Anagnostopoulou 2004, Alexiadou, Anagnostopoulou & Schäfer, 2015, for discussion and references).

The Ancient Greek examples are transcribed according to the conventions used in the Perseus Digital Library. In the original examples we separate the stem from the endings with hyphens and in the glosses, we include all the information that is conveyed in the word in question separated by hyphens. However, we should note a complication of this system: it is often the case that when the tense or the voice or the aspect of a verbal form changes, the stem changes as well as the ending. To take a random example, the active present of ‘see’ in Ancient Greek is hore-o: while the passive aorist is h:

\[ o::phth-e:n. \]

The hyphen convention is therefore used only to separate the stem from the ending; it does not necessarily indicate that the ending alone is used to convey the morphological information that exists in the glosses.

There is also a function which has not common and has entirely disappeared from Greek in later times. It can be called ‘causal middle’: middle morphology is employed in a construction that can be translated as ‘have someone do something’ or ‘have something be done to someone’:

(i) Themistokle:-s Kleophanto-n ton huto-n hippe-a men Th-NOM Cl-ACC the son-ACC horseman-ACC then edidax-et o:phelo: good-ACC

‘Themistocles had his son Cleophantus, taught to be a good horseman’

(Plato, Menexenus: 93d)

Examples like this seem to instantiate what has been characterized as cases where “the [subject] stood in an experiential disposition to the predication” (see George 2005, fn. 8)).

As argued for in Alexiadou, Anagnostopoulou & Schäfer (2006, 2015) this description of the passive vs. anticausative distinction in English, Modern Greek, German, Hebrew is an oversimplification. However, it is sufficient for the purposes of the present discussion.

The beginnings of a morphological passive are found in Homer and the transition was completed by the time of Classical Attic, according to Schwzyer 1953/2002 and Klaiman 1991 (among others).

For example, George (2005: 16) states: “As I am using the term passive in a functional rather than formal sense, it is generally immaterial whether the verb in question has a peculiar passive form or one that can also be middle. When, as occasionally will be the case, the syncretism of middle and passive does seem to have affected agent construction (as with o:phelo: ‘help, support’), special mention will be made of the fact. For the most part, however, both morphologically distinct passives and those that share their morphology with middle verbs behave similarly as far as agent marking is concerned”. Lavidas (2010: 79) writes: “The middle type is not identified with specific structures (reflexive or anticausative), nor is the passive type identified with the passive structure in Classical Greek. I suppose, therefore, that it is concerned with, at least from the Classical era onwards, two different morphological types of the same non-active category, which are used alternately. For this reason, I prefer and propose the terms non active form I and non active form II, and I do not use the traditional terms middle and passive form”. Lavidas (2010: 79, fn. 18) refers to Haacke (1852), Kowaleck (1887), Wistrand (1941), Zsilka (1966) and others for providing evidence for this.
We note, though, that this question cannot be answered by simply listing counterexamples to the equation passive morphology = passive syntax and middle morphology = anticausative syntax. One would have to look at how systematic these counterexamples are, what kind of external argument theta roles are expressed by the oblique PPs present in apparent future and aorist passives showing middle morphology, and whether there is a possible explanation for cases of apparent optionality in the distribution of middle and passive morphology in anticausatives and passives. We leave these questions for future research.

Most of our examples have an external argument PP or dative in order to make sure that they are true passives. Note that some of our examples also contain perfect passive participles modified by oblique agents (usually datives).

For example, Lavidas (2007/2010) based on examples like (5) claims that Ancient Greek passives lack a passive Voice of the type argued for in Kratzer (1996). We come back to this in footnote 45.

Particularly interesting, in this respect, is the discussion of DAT>ACC vs. ACC>DAT ('inversion') orders in Icelandic (Holmberg & Platzack 1995; Collins & Thráinsson 1996 and others).

As pointed out by an anonymous reviewer, given the freedom of word-order, we cannot be a priori sure that the right description for Ancient Greek is that it displays subject agreement and subject pro-drop rather than nominative agreement and nominative pro-drop. For this reason, we remain neutral with respect to the two options. The main point of the paper is not affected, as long as nominative case, nominative agreement and pro-drop reflect an Agree relationship between the nominative DP and T.

Ancient Greek verbs may, in fact, take prepositional complements, but such cases are considered exceptional. One and the same verb may take a DP object in more than one case or a PP complement, with a change in meaning (see also the discussion in the main text). Consider, for example, the verb lego: ‘to speak’ which has the following possibilities: lego: ti (acc) ‘say something’, lego: tini (dat) ti (acc) ‘say something to someone’, lego: kata tinos (P+gen) ‘speak against someone’, lego: huper tinos (P+gen) ‘speak in someone’s defense’, lego: pros ti (P+acc) ‘speak in reference to something’ etc. Later, however, PPs spread in the diachrony of Greek replacing datives and to a certain extent genitives (Luraghi 2003; Bortone 2010 for discussion and references).

Other verbs of beneficence and maleficence, like o:phelo: ‘help, support’, blapto: ‘hinder, damage’ take accusative objects, i.e. this verb class, as many verb classes, is not homogeneous with respect to the case they assign. In this sense, the distribution of different cases is idiosyncratic in Ancient Greek, similarly to Russian and Icelandic mentioned in section 1. And yet, such idiosyncratic cases alternate in Ancient Greek. See section 4 for theoretical discussion of this issue.

Examples (8)-(12) are taken from Ancient Greek grammars: Goodwin 1894, Jannaris 1897, Smyth 1920 and Schwzyer 1953/2002.

This is an example that features the phenomenon of Case attraction in headless relative clauses. The pronoun that introduces the relative clause in (11a) “ho:n” appears in the genitive, because the headless relative serves as the object of “archousi”, which assigns genitive. In the passive example (11b), the pronoun “hosoi” appears in the nominative, because the whole (headless) relative clause is the subject of the passivized verb.

According to Lucia Athanassaki (personal communication), this is not a productive feature of Ancient Greek syntax, unlike e.g. Spanish ‘a’-marking.

Conti (1998: 33) characterizes such verbs as stative and process denoting (“...Verben, die einen Zustand bzw. einen Prozess zu beschreiben scheinen...”), but from the list of verbs provided, i.e. metecho: 'take part', brimóomai 'get angry', eòika 'be similar', thymóomai 'be angry', prépo 'be appropriate', e:domai 'be happy', it can be concluded that they are stative and psych-verbs.

The situation with respect to the availability of PPs as objects of ditransitives starts to change as early as the 3rd century BC, when morphological dative case is beginning to disappear from the system of Greek (Humbert 1930, Luraghi 2003 and Horrocks 2006 among others) and is subsequently replaced by PPs as well as the genitive and the accusative case.

This list is not exhaustive as there is another class of ditransitives, that take a DP and a clause as their complements, such as verbs that roughly mean say, order, hope, and urge. We do not discuss these verbs here for reasons of space.

In view of the following generalizations, it is tempting to speculate that the different case patterns reflect different underlying structures or different applicative heads (see Anagnostopoulou 2001, 2003, 2005b; Pylkämnen 2002 for discussion of different types of ditransitives and applicatives within and across languages). In this paper, we are not going into this issue, which necessitates further research and is largely orthogonal to our present discussion of Case alternations. However, it is worth
noting that verbs of the GEN-ACC class are highly reminiscent of Pylkännen’s (2002) ‘low source applicatives’. Verbs belonging to the DAT-ACC class are, in principle, amenable either to a low recipient applicative analysis or to a high applicative analysis where the IO is assigned a recipient/affected role. The low analysis seems particularly plausible for prefixal verbs taking DAT-ACC complements. Note that Ancient Greek productively employs ‘free/ adjunct-like’ benefactive, malefactive, experiencer datives, as well as a dative traditionally called dativus iudicantis ‘dative of reference’, see e.g. Luraghi (2003: 63-65); these would qualify as high applicatives, but it is unclear whether they alternate. Moreover, note that the distinction between teach, which selects for two accusatives, and give which selects for a dative and an accusative also exists in Modern Greek (see Anagnostopoulou 2001). As a matter of fact, as noted by anonymous reviewer, the double accusative pattern with verbs meaning ‘teach’ is actually quite widespread, at least within Indo-European. German also follows it (e.g. with lehren), in spite of the fact that verbs with two accusative objects are otherwise extremely uncommon in the language. Finally, we would also like to point out that some of the verbs listed in (14)-(17) do not have ditransitive verb equivalents in English and other languages, while others do. In the main text, we provide and discuss examples with verbs that have good ditransitive equivalents in other languages (we thank an anonymous reviewer and Heidi Harley for their feedback concerning this point).

Ditransitives allowing both the IO and the DO to surface as subjects in passives are usually said to give rise to ‘symmetric passives’ and are discussed in the literature in relation to Japanese (Miyagawa 1997 and many others), Swedish and Norwegian (Holmberg & Platzauck 1995), British English (Baker 1988, Woolford 1993, Haddican 2010), Kinyarwanda (Baker 1988). See section 4 below for further discussion.

A similar asymmetry between ACC-ACC verbs vs. GEN/DAT-ACC verbs obtains in Modern Greek (Anagnostopoulou 2001, 2003) and German (Alexiadou, Anagnostopoulou & Sevdali 2014). In double accusative ditransitives formed with the verbs ‘teach’, ‘serve’, ‘pay’, ‘feed’ in Modern Greek and ‘lehren’ in German it is absolutely impossible for the theme to surface as a nominative subject in passives containing an accusative goal. Anagnostopoulou (2001) argues that these verbs in Modern Greek do not include an applicative head, the accusative goal is an argument of the verbal root and the theme argument has the status of an adjunct modifying an abstract theme incorporating into the root: it is therefore immobile. Anagnostopoulou (2001) argues that this analysis extends to English “teach”, “pay”, “serve”, “feed”. She points out that English also shows an asymmetry between verbs like ‘give’ and verbs like ‘teach’ w.r.t. passivization: theme passivization in the presence of a DP goal is much worse with ‘teach’ than with ‘give’ and does not improve when the goal is pronominalized, unlike ‘give’-verbs. The hypothesis that double accusative verbs in Modern Greek and their English counterparts are not applicatives explains why they can have an accusative DP goal as their sole complement and may form adjectival passives with the goal as a subject in both English (Levin & Rappaport 1986) and Modern Greek. By contrast, with verbs like ‘give’, ‘send’, ‘tell’ etc. selecting for a genitive IO and an accusative DO in Modern Greek, a dative IO and an accusative DO in German, and two DPs with no overt morphology in English, which are applicatives, the goal is introduced by vAPPL, the accusative DO is a true argument of the root which can therefore surface as a nominative subject in passives. In Modern Greek, the higher genitive IO (which retains its case obligatorily, unlike Ancient Greek) undergoes clitic doubling when the DO undergoes movement to Spec,TP surfacing as nominative, for locality reasons (Anagnostopoulou 2001, 2003 for extensive discussion).

An anonymous reviewer wonders whether we can find both the dative and the accusative object alternating with nominative in passivization with one and the same verb. Our reply is that this is what we expect to find on the basis of what we know from other languages with symmetric passives. In our corpus search so far, we have so far identified three verbs that can be shown to be truly symmetrical in the sense pointed out by the reviewer: epitasso: ‘assign/ enjoin’, epitrepo: ‘entrust/transfer’ and dido:mi ‘give’. The first two are prefixal verbs. In the main text, we see the former exhibiting the Dat-Nom alternation in (19). Now, consider the following example (we omit the active counterpart of the example in question, as the active frame is presented in 19a):

i. Ho stratos epitachte:s ekastoisi
   The fleet-NOM assign-PASS-PARCPL each-DAT-PL
   ‘The fleet (that was) assigned to each’ (Herodotus, Historiae: 95, 1)

Example (i) exemplifies passivization of the DO, while (19b) exemplifies passivization of the IO, both with the verb epitasso:. Contrast also (20) and (22) in the main text: the former exemplifies passivization of the IO with the verb dido:mi, while the latter passivization of the DO with the same
verb. Our main empirical point is that all cases in Ancient Greek can alternate with nominative in passivization, and these data in addition show that there are indeed verbs that are entirely symmetrical exhibiting passivization of both the IO and the DO. As already mentioned, our suspicion is that all truly ditransitive verbs falling under the GEN-ACC and DAT-ACC classes will turn out to be truly symmetrical because we see no immediate reason why the symmetrical behavior should be limited to epi-tasso, epitrepo and dido:mi. As far as we know from other languages, either a language has the option to move the lower object across the higher one in applicatives or not. See Anagnostopoulou and Sevdali (2014) and many others for discussion. But notice that our main point concerning case alternations will not be affected even if it turns out that there are some verbs in these classes that are truly symmetrical and others that are not.

31 Failure to assign structural accusative has been linked to the absence of an external argument (Bruzio 1981, 1986), a correlation known as Burzio's Generalization. Kratzer (1996) and Chomsky (1995) propose to express this correlation through the hypothesis that structural accusative Case is licensed by a functional head Voice or v which introduces the external argument. When this head is missing accusative cannot be assigned and the external argument is absent.

32 Our data are a problem for algorithmic m-case approaches like the ones proposed by Marantz (1991) and Harley (1995), as discussed in the text. Yip, Maling and Jackendoff’s (1987) Case in tiers approach is another algorithmic approach that we do not discuss explicitly in the paper, where case is a morphological property that is assigned to the DPs of the clause post-syntactically, according to a hierarchy or an algorithm. Bobaljik (2008) offers a recent proposal on the interaction between case and agreement, where both are argued to be post-syntactic, morphological processes and case on DPs is again decided based on a hierarchy. Note that these approaches are not the only implementations of the idea that case is a morphological phenomenon, as an anonymous reviewer points out. There is a lot of recent work, mostly within the Distributed Morphology framework (Halle & Marantz 1993) where case is argued to be a morphological phenomenon. McFadden (2004, 2006, 2009) argues for such a system where roughly speaking case “interprets” syntax. McFadden (2006) actually focuses on German dative case, which he takes not to alternate with nominative in passives (but see Alexiadou, Anagnostopoulou and Sevdali 2014). McFadden reaches a conclusion similar to ours, whereby dative is a mixed case with both lexical and structural properties.

33 For a comparative discussion of languages that do indeed illustrate this asymmetry in the behavior of monotransitives vs. ditransitives vs. languages that don’t, see Alexiadou, Anagnostopoulou & Sevdali (2014). See also Alexiadou, Anagnostopoulou and Sevdali (2014) for a slightly different way of characterizing what a “mixed Case” amounts to.

34 We thank Heidi Harley for her comments concerning P-incorporation in Ancient Greek.

35 Looking at the incorporation cases from this perspective, Heidi Harley (editorial comments on a previous draft) suggests that P-incorporation could be connected to P’s loss of an interpretable Case feature to assign. If this correlation is correct, then it is expected that P-incorporation was not productive in Homer and it became productive in Classical Greek. From a preliminary search of the relevant data this seems to be confirmed. Most of these prefixed verbs, monotransitive and ditransitive, are not attested at all in Homer. Exceptions are the monomorphic verbs “epikouro:’” (help) and “epicheiro:’” (try) and the ditransitive verb “epitrepo:’” (allow). The monomorphic ones are attested once and twice, respectively (only the latter with a dative complement). The ditransitive “epitrepo:’” is attested several times in actives and once in a middle construction featuring a nominative theme and a dative goal.

36 We thank Heidi Harley for drawing our attention to the relevance of van Gelderen’s work.

37 Note that it is not clear how to express in Režač’s system the diachronic change described by Conti (1998) from the period of Homer, where datives were opaque, to Classical Greek, where datives became transparent. We would have to assume that features are added on the P head, while usually diachronic change is explained through feature loss (Roberts 2007).

38 The reason why we are adopting an m-case approach is because it is simpler than a syntactic approach, especially when it comes to case alternations in ditransitives that would necessitate more stipulations in a purely syntactic approach.

39 Following a suggestion by Heidi Harley (editorial comments to a previous draft) who suggested an expansion of the dependent case spell-out rules to include context-dependent conditioning. As will be discussed in section 5, these rules are assumed to specifically describe Ancient Greek, a language where nominative case is mandatory in the sense of Harley (1995) and Alexiadou & Anagnostopoulou (2006). In other languages, e.g. Icelandic, nominative is not a mandatory but rather an
elsewhere/default case. As a result, there are environments where (alternating) dative surfaces as dative in the absence of a higher structurally marked DP.

41. We are assuming that the surface ACC>NOM order in (19b) results from scrambling of the ACC across the NOM from an underlying NOM>ACC order.

42. Except for the DAT-GEN class which we are disregarding here as we have no evidence concerning passivization.

43. ‘Absorption’ and ‘assignment’ are employed here as descriptive terms.

44. Genitive objects are considerably less frequent than dative objects (see Wood 2012 for discussion and references). Similarly to Ancient Greek, Icelandic has both Dat-Nom and Gen-Nom alternations.

45. Dat-Nom alternations in Ancient Greek would be claimed to be very similar to Dat-Nom alternations in Icelandic if we adopted a proposal by Lavidas (2007/2010) that Ancient Greek lacks a true passive in the sense of lacking a Voice head [+passive] (see e.g. Lavidas 2007 ch. 7 for detailed argumentation). Lavidas’s proposal crucially relies on the observation that by-phrases can also accompany morphologically active verbs with a ‘passive meaning’ as was seen in section 2.1, ex.11.

46. One could attempt to pursue the idea that ‘dative absorption’ in both Ancient Greek and Icelandic happens in environments lacking a Voice [+ passive], which, in turn, would entail that the defining property of Voice [+ passive] is the absorption of accusative Case exclusively (a strong version of Burzio’s Generalization). In other words, we could propose that dative and genitive alternations never happen in true passives, this being the reason why they take place only in Icelandic middles, stative passives and unaccusatives and in Ancient Greek ‘passives’ (which, under Lavidas's reasoning, wouldn't be passives at all). We have not pursued this idea further because the comparison between Ancient Greek and Icelandic to be presented in this section shows that there are systematic differences in the case system of the two languages correlating with the different environments in which dative and genitive alternations take place. Analyzing Ancient Greek on a par with Icelandic with respect to dative/genitive alternations would obscure this correlation.

47. Schäfer (2008) offers an alternative analysis of the Icelandic alternation. In his system, the causative predicates that mark their objects with dative involve a Voice$_{DAT}$ head, which interrupts structural case assignment and has the property of assigning inherent dative to the internal argument in its c-commanding domain. In anticausatives, where no such head is present, the theme argument will surface with nominative.

48. One final observation is important to keep in mind, namely the fact that the proposed impoverishment rule is not specific to dative. Icelandic also has direct object genitives (to a much lesser degree than datives). Just like datives, genitives alternate with nominative in –st middles but stay intact in passives; Thráinsson 2007: 290):

(i). Ég óska nýrra starfsmanna
    I-nom wish for new employees-gen
    ‘I seek new employees’

(ii). Nýrra starfsmanna er óskað
     New employees-gen are wished-for
     ‘New employees are sought’

(iii). Nýr starfsmenn óskast
    New employees-nom are wished-for-mid
    ‘New employees are sought’

Therefore, just like in Ancient Greek, genitives are similar to datives in their ability to alternate with nominatives, but of course the environment is consistent to what we have observed in Icelandic so far: genitives alternate in middles, not in passives.