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Relating BE and HAVE via transitivity: Evidence from Greek

Anna Kampanarou, University of Crete, GR & Institute of Modern Greek Studies, Aristotle University of Thessaloniki, GR, annakamp@gmail.com, akampana@auth.gr

This paper explores the syntax of BE and HAVE, with a focus on Greek stative (existential and possessive) sentences, and argues against the need to postulate multiple BEs and HAVEs in this context, on the grounds that HAVE, in all its guises, behaves as a transitive verb, whereas BE behaves as an unaccusative. By adopting Myler's (2016; 2018) proposal, which comprises an analysis based on suppletive allomorphy, I maintain that BE and HAVE are PF-exponents of the same semantically vacuous v-head, i.e., v_{BE}, and the choice between them is determined by transitivity: HAVE realizes v_{BE} when the structure is transitive, whereas BE does so when the structure is intransitive. By relating transitivity to Voice, as per Kratzer (1996), this translates into the assumption that HAVE appears when a transitive Voice head is projected in the structure, whereas BE is merged in the absence of this projection.

1 Introduction

Close inspection of the distribution of BE- and/or HAVE[1]-sentences intra- or cross-linguistically has revealed significant variation in the possible interpretations these sentences may have. Existence or presence, assignment of a property or a characteristic to an entity, and various possession types are only a few of their possible meanings. In the course of this article, most of these interpretations are brought into scrutiny.

Several authors have postulated that each interpretation derives from a different BE or HAVE. Under their assumptions, a given language may have multiple instances of BE and HAVE, each with a specific semantic content (Brugman 1988; Brunson & Cowper 1992; Belvin 1993; Jensen & Vikner 1996; Rothstein 1999; Tham 2004). For instance, Jensen & Vikner (1996) argue for two HAVEs at least in Danish: (a) a semantically contentful one that contributes a *control*, as they call it, relationship between two entities (1a), i.e., an alienable possession relationship, and (b) a semantically vacuous one that does not introduce any relationship, but, instead it picks up the one that its complement holds with a specific second entity, i.e., an inalienable possession relationship (1b):

(1) Danish

a. *Anne har en bil.*
Anne HAVE.3SG a car
'Anne has a car.'

b. *Anne har en søster.*
Anne HAVE.3SG a sister
'Anne has a sister.' (Jensen & Vikner 1996: 25,27 ex.1,8)

In contrast, a robust body of research has adopted the view that each language has one BE and, if it is a HAVE-language, one HAVE as well. Both items are treated as having no semantic content on their own; variation in their interpretation derives from the distinct types of complements they select. Along these lines, BE and HAVE are considered verbal copulas, i.e., functional elements void of any semantic content that select non-verbal predicates and grant them access to verbal projections (Bach 1967; Lyons 1968; Williams 1980; Partee 1985; Moro 1997; 2000; Adger & Ramchand 2003; Pustet 2003; Mikkelsen 2005; den Dikken 2006, i.a.).

At the same time, approaches that examine the syntax of HAVE together with BE deliberated whether the number of copulas in a language can be reduced even further, i.e., whether BE and HAVE are derivationally related to each other, and, thus, all the sentences containing them can be reduced to one single structure.

[1] 'BE' and 'HAVE' in small capitals refer to the copulas in general, without any language-specific characteristics. Lowercase 'be' and 'have' correspond to the instantiations of these copulas in English.

One part of the literature that stems from transformational assumptions postulates a derivational relationship between the two: HAVE derives from BE when a preposition incorporates into it (Lyons 1967; Freeze 1992; Kayne 1993; Tellier 1994; Kempchinsky 1996; Belvin & den Dikken 1997; Broekhuis & Cornips 1997; Ouhalla 2000; Levinson 2011, i.a.). This seminal hypothesis is primarily based on the observation that the possessive meaning 'to have' in languages like Russian (2) and Finnish (3) arises through combining the copula BE with a preposition. The latter is either overt as a preposition heading the possessor-PP (2) or covert regulating the (adessive) case marking on the Possessor (3).

(2) Russian
U menja *byla* *sestra.*
at 1SG.GEN BE.PST.F sister.NOM.F
'I had a sister.' (Freeze 1992: 554)

(3) Finnish
Peka-lla *on* *auto.*
Pekka-ADE BE.3SG car.NOM
'Pekka has a car.' (Mahieu 2013: 21)

However, given the several shortcomings of this reasoning, the alternative view, according to which HAVE is distinct from BE, eventually gained more ground. Specifically, as pointed out by Harves (2003), Tham (2004), Hartmann (2008), and Levinson (2011), among others, the 'HAVE = BE + P' hypothesis could not be maintained because copular uses of BE in the sense of Higgins (1979) (see 47b, 48 in Section 3) cannot be associated with prepositions. Even when limiting this hypothesis to existential and possessive constructions, it incorrectly predicts that possessors should always bear a marking similar to locations. This is, however, falsified through data from various languages, including Greek (see Clark 1978; Creissels 2014, i.a.).

Further, if BE- and HAVE- existential and possessive sentences derived from the same structure, the restriction on post-verbal definite noun phrases (i.e., the so-called *Definiteness Effect/Restriction*) which they both exhibit should have had the same origin; however, this has been convincingly argued to be false (see Bassaganyas-Bars & McNally 2019 and references therein). Finally, the fact that, in its original form, this hypothesis puts forth movement of an X'-constituent, which goes against the Structure Preservation Hypothesis of Emonds (1976) and Chomsky (1986), further contributed to its abandonment (see also the discussion at the beginning of 2.2.2).

For this reason, most researchers were led to hypothesize that HAVE-sentences do not reduce to the same syntax as BE-sentences. BE and HAVE are still semantically vacuous items acquiring content through their complement, yet each appears in a different syntactic frame. Hoekstra (1994), Belvin (1996), Ritter and Rosen (1997), and Jung (2011), among others, argued that a HAVE-sentence is structurally more complex than a BE-sentence because it involves more

functional projections, including *Agreement* and *Tense*. Hoekstra (1994) was the first to propose that HAVE is the transitive copula.

More recently, Myler (2018; 2016) implemented the same idea within a Distributed Morphology framework that adopts Kratzer (1996), according to which being transitive means that the verbal projection merges a Voice layer. Therefore, the original hypothesis was translated into the assumption that HAVE's structure includes Voice while BE's does not.

Myler (2016; 2018) maintains that both BE and HAVE create *light verb constructions* in the sense that, as copulas, they introduce a little v without a lexical root. This presupposes a non-lexicalist perspective that follows the Late Insertion Hypothesis of Distributed Morphology (Halle and Marantz 1993; 1994). According to this, the copulas do not have a phonological matrix in the syntactic derivation. Their phonological matrix is inserted during Vocabulary Insertion at PF. Particularly, it is inserted in a configurational way, i.e., as PF reads off the syntactic configuration that has been fed to it (Embick and Noyer 2001). At the same time, the semantic interpretation is determined as LF processes the whole derivation.

Building on this foundation, Myler proposes that BE and HAVE are suppletive allomorphs of v_{BE}. The latter is the meaningless variant of little v that appears when v does not bring eventive semantics but links non-verbal predicates to clausal projections. This little v introduces a type-neutral identity function (4) and does not add any argument to the structure (Wood 2015). This also means that it does not add anything to the semantics built underneath it. It simply passes up the tree everything that has been constructed so far in the derivation (Myler 2016: 42). Under this assumption, v_{BE} constitutes the emptiest (in terms of semantic content) 'flavor' of little v.

(4) $[\![v_{BE}]\!] \Leftrightarrow \lambda x.x$

Myler (2018) proposes that v_{BE} can have one or multiple realizations. For instance, it is argued to have one realization in Finnish (3) and four in Spanish (see footnote 2). In languages like English, v_{BE} has a two-fold realization, i.e., two allomorphs. The allomorphy is downward determined by Voice.[2] HAVE is the allomorph that appears when transitive Voice projects on top of v_{BE} (5a). The transitive Voice is distinguished from other types as it has φ-features and a projected specifier position, marked as '{D}' below due to Schäfer (2008) (see also Embick 1998; 2004).[3] BE is the

[2] The suppletion of the copulas may also be conditioned upward, e.g., by the status of v's complement. For example, Myler (2018) shows how the complement of v determines the *ser /estar* distinction in Spanish, a language where v_{BE} has four realizations: *ser, estar, haber,* and *tener*. (see also the discussion about HAVE's and BE's nominalizations in Section 3.1).

[3] Besides φ-features, Schäfer (2008) introduces a typology of Voice delineated by two characteristics: syntactic and semantic (in)transitivity. A Voice head is *syntactically transitive* when it projects a specifier, while it is *syntactically intransitive* when it does not. Similarly, a Voice head is *semantically transitive* or *thematic* when introducing a thematic role for its argument. In contrast, it is *semantically intransitive, athematic*, or *expletive* when it does not. These distinctions are used throughout this paper.

elsewhere case, i.e., the v_{BE} allomorph that appears in any environment other than the marked one described above (5b).

(5) a. $v_{BE} \Leftrightarrow$ HAVE / Voice$_{\{D\},\, \varphi}$ _____
b. $v_{BE} \Leftrightarrow$ BE / elsewhere

This paper presents empirical and theoretical evidence primarily from Greek sentences suggesting that BE and HAVE are copulas related via transitivity. This does not amount to the hypothesis that HAVE derives from BE when the structure is transitive but substantiates Myler's view.

The structure of this paper is as follows: In Section 2, I present the evidence provided by Greek HAVE-sentences in favor of (5a). In Section 3, I consider BE-sentences in the same language, while in Section 4, I conclude the discussion.

2 HAVE as the transitive copula

Greek is a language that uses HAVE quite extensively. This article focuses mainly on the stative uses of HAVE. Specifically, it examines possessive sentences, sentences with an experiencer or causer subject, modal and existential constructions. The complete picture of the distribution taken into consideration is presented below.

Firstly, Greek uses HAVE to express several possessive readings, similar to English. As presented in (6), the language marks the Possessor subject with nominative and licenses as an accusative case marked Possessee, a nominal that denotes an asset (*amaksi* 'car'), a kinship term (*aðerfi* 'sister'), a body part (*ble matja* 'blue eyes'), or a symptom/disease (*ponokefalo* 'headache').

(6) *I* *Maria* *exi* *amaksi/* *aðerfi* */ble* *matja*
the.SG.NOM Mary.NOM HAVE.3SG car.SG.ACC sister.SG.ACC blue eye.PL.ACC
/ponokefalo.
headache.SG.ACC
'Mary has a car/a sister/blue eyes/a headache.'

Adding to this, the post-verbal nominal can also denote a physical sensation (*pina*, 'hunger'), a psychological state (*fovo* 'fear'), or an abstract property (*kalosini* 'kindness').

(7) *I* *Maria* *exi* *(meɣali)* *pina/fovo* *me* *tis*
the.SG.NOM Mary.NOM HAVE.3SG large hunger/fear.SG.ACC with the
araxnes/ *kalosini.*
spider.PL.ACC kindness.SG.ACC
'Mary has an (extreme) hunger/ a fear of spiders/kindness.'

Even though the possessive interpretation of the nominative subject is the most common, the same constituent can be interpreted as an experiencer, provided a CP follows HAVE. As presented in (8), it is most natural for the CP-internal subject to be raised as the object of the copula:

(8) *O Janis ixe to moro na klei ja*
the.SG.NOM John.NOM HAVE.PST.3SG the.SG.ACC baby.SG.ACC to cry.3SG for
ðeka lepta.
ten minutes
'John had the baby crying for 10 minutes.'

The labeling of these sentences as *experiencer* HAVE-sentences traces back to Belvin (1996), Belvin and den Dikken (1997), and Harley (1997; 1998). The term refers to the equivalent sentences in English where the subject of HAVE seems affected by the event or state described in the CP-complement. In this case, the subject is not involved in the event/state of the complement clause. However, if it is, it may receive an additional causer-interpretation. For instance, the sentence in (9) can either mean that Mary had left John washing the clothes while she was doing something else (experiencer reading) or that she had made him do so (causer reading):

(9) *I Maria ixe to Jani na pleni ta*
the.SG.NOM Mary.NOM HAVE.PST.3SG the.SG.ACC John.ACC to wash.3SG the
ruxa oli mera.
clothes.ACC all day
'Mary had John be washing the clothes all day.'

Moreover, the same copula is used as a modal expressing obligation when appearing with a *na*-clause complement. This is a situation attested in many HAVE-languages, as discussed in Bhatt (1998).

(10) *O Janis exi na ɣrapsi mia eryasia.*
the.SG.NOM John.NOM HAVE.3SG to write.3SG an assignment
'John has to write an assignment.'

Finally, HAVE is used in Greek existential sentences, i.e., in the counterpart of English *there-be* sentences:[4]

[4] Note that there are a few additional uses of HAVE that are not discussed in this paper. HAVE is also used in Greek with event-denoting complements, like *parti* 'party', or, as pointed out by an anonymous reviewer, complements that can be coerced to an event interpretation:

(i) *O Janis ixe [parti]/ [polus asθenis] simera.*
the.SG.NOM John.NOM HAVE.PST.3SG party.SG.NOM/many.ACC patient.PL.ACC today.
'John threw a party/ had many patients (to examine) today.'

HAVE is also used as an auxiliary in the formation of Perfect. BE is used for the Perfect as well, although the language does not show the BE/HAVE auxiliary selection found in Romance languages:

(ii) *To ðema [exi paraðoθi]/ [ine paraðomeno].*
the.SG.NOM package.SG.NOM HAVE.3SG deliver.N.ACT.INF BE.3SG delivered
'The package has been/is delivered.'

(11) *Exi* *pola* *vivlia* *sto* *trapezi.*
HAVE.3SG many.ACC book.PL.ACC on.the.SG.ACC table.SG.ACC
'There are many books on the table.'

The syntactic behavior and the morphological makeup of all non-existential uses of HAVE are considered first (2.1). Existentials are considered in turn (2.2).

2.1 Non-existential HAVE-sentences

2.1.1 The subject of HAVE is an external argument

Starting from possessor HAVE-sentences, it has already been presented that they can express various facets of possession (6,7). A closer look at them reveals that a human possessor may exhibit properties of an intentional agent. This discloses that the subject possessor is an external argument. These properties become evident as the subject passes two criteria for agenthood found in Alexiadou et al. (2015); it licenses modification by the adverb *skopima/epitiðes* 'deliberately' and controls a purpose clause (12).

(12) a. *O* *Janis* *exi* *skopima/epitiðes* *amaksi* *(ja* *na piɣeni*
the.SG.NOM John.NOM HAVE.3SG deliberately car.SG.ACC in.order to go.3SG
sti *ðulja).*
to.the.SG.ACC work.SG.ACC
'John deliberately has a car (to go to work).'

b. *O* *Janis* *exi* *skopima* *meɣalo* *kipo*
the.SG.NOM John.NOM HAVE.3SG deliberately big.SG.ACC garden.SG.ACC
(ja *na* *kalieɾyi* *zarzavatika).*
in.order to grow.3SG fresh.produce.PL.ACC
'John deliberately has a big garden (to grow fresh produce).'

In addition, HAVE-sentences host non-human or non-animate possessors only if they are in an expected or standardized (if not part-whole only) relationship with the entity denoted by the object (13a). If a non-animate entity relates to a second non-animate entity that does not constitute an integral part or a standardized associate, a PP that includes a pronoun co-indexed to the subject must be added (13b). This type of sentence is often called a *locative HAVE-sentence*.[5]

[5] Interestingly, locative HAVE-sentences appear in almost the same contexts as existential HAVE-sentences. For example, (13b) can alternate with the existential in (i).

(i) *Exi* *ena* *vivlio/stilo/suver* *sto* *trapezi.*
HAVE.3SG a.ACC book/pen/coaster.SG.ACC on.the.SG.ACC table.SG.ACC
'There is a book/pen/coaster on the table.'

(13) a. *To* *trapezi* *exi* *tesera* *poðja/* *lefko*
the.SG.NOM table.SG.NOM HAVE.3SG four.ACC leg.PL.ACC white.ACC
trapezomadilo.
tablecloth.SG.ACC
'The table has four legs/a white tablecloth.'

b. *To* *trapezi*$_i$ *exi* *ena* *vivlio/stilo/suver*
the.SG.NOM table.SG.NOM HAVE.3SG a book/pen/coaster.SG.ACC
**(pano* *tu*$_i$*).*
on it.GEN
'The table has a book/pen/coaster on it.'

In other words, non-human entities fit into a plain HAVE-sentence only if (a) they are in an inalienable possession relationship, i.e., they are inseparable by definition, or (b) they are expected to be associated with each other. Interestingly, this signals that the subject of plain HAVE-sentences (human or non-human) is licensed only if it is closely related to the object and controls it, i.e., only if it is somewhat "agentive" towards it. Along these lines, this could serve as a first indication that the subject of HAVE is an external argument.[6]

A reviewer suggests that although this is attested cross-linguistically, the two types of sentences are not equivalent. For instance, Myler (2016: 329) presents that English locative HAVE-sentences are less susceptible to the Definiteness effect than existentials. The situation in Greek is similar yet not identical, as extensively discussed in Kampanarou (2023). Nevertheless, as the comparison between these types of sentences is more informative about how the predication is built, I will not discuss it further in this paper. Besides the references above, the reader is referred to Déchaine et al. (1994), Harley (1998), and Cowper (2017), among others, for more details.

[6] Note that the pairs able to fit into each type of sentence may vary among speakers. This is also confirmed by one of the reviewers who considers that (13b) is acceptable without the locative PP. The same reviewer also provides the following examples illustrating that the locative PP is not always necessary in the case of a non-standardized association between non-human entities:

(i) (?)*o* *kanapes* *exi* *mia* *γata.*
the.SG.NOM sofa.SG.NOM HAVE.3SG a.ACC cat.SG.NOM
lit. 'The sofa has a cat.'

(ii) *i* *duzjera* *exi* *enan* *kuva.*
the.SG.NOM shower.bath.SG.NOM have.3SG a.ACC bucket.SG.ACC
lit. 'The shower bath has a bucket.'

Although some of my informants consider them better than (13b), most judge them as almost unacceptable. This means that speakers do not identify the same degree of "closeness" between entities. Further, one could say that conceptualizing an entity as a container (as is the case with *duzjera* 'shower bath' in (ii)) facilitates its association with other entities that can be conceived of as contents. Interestingly, a reviewer confirms a similar variation in English (see also the references in footnote 5).

This variation in the judgments corroborates the assumption that the licensing of specific entity-pairs is determined by pragmatics. What is crucial for our purposes is that for any given speaker, there will be pairs of entities conceptualized as having a close, control, or "agentive" relationship and pairs of entities that will not. The former ones will be those fitting into a plain HAVE-sentence.

This conclusion is fortified by the fact that the subject of HAVE can be read as an experiencer or a causer, two interpretations typical of external arguments, particularly those introduced by Voice.

In (14), the nominative subject bears the role of the experiencer of the situation described in the dependent clause. Crucially, the licensing of modification by *skopima* 'deliberately' and the acceptability of a purpose clause suggest that the subjects are external arguments introduced by HAVE, not arguments of the CP-complement that have been raised to a sentence-initial position.[7]

(14) a. *O Janis$_i$ ixe skopima to sinoðiɣo*
the.SG.NOM John.NOM HAVE.PST.3SG deliberately the.SG.ACC co-driver.SG.ACC
na tu$_i$ milai (ja na ton$_i$ kratai ksipnjo sti ðiaðromi).
to him talk.3SG in.order to him keep awake at.the trip
'John deliberately had the co-driver talking to him (to keep him awake during the trip).'

b. *I Maria ixe (skopima) to skilo$_i$*
the.SG.NOM Mary.NOM HAVE.PST.3SG deliberately the.SG.ACC dog.SG.ACC
na trexi ja na ton$_i$ kurasi.
to run.3SG in.order to him tire.ACT.3SG
'Mary (deliberately) had the dog running to tire him up.'

The same conclusions apply to causer HAVE-sentences as they also pass the tests for agenthood.

(15) *I Maria ixe skopima to Jani na*
the.SG.NOM Mary.NOM HAVE.PST.3SG deliberately the.SG.ACC. John.ACC to
skupizi tin avli ja na sfugarisi ekini meta.
sweep.3SG the.SG.ACC backyard.SG.ACC in.order to mop.3SG she.NOM later
'Mary deliberately had John sweeping the backyard, so she mops it up later.'

This behavior of possessors, experiencers, and causers supports the hypothesis that they are external arguments. The compatibility of these sentences with ability modals substantiates this hypothesis further.

Hackl (1998) notes that verbal passives, which arguably have an external argument that stays implicit, are acceptable under an ability modal, while stative or adjectival passives, which lack such an argument, are not. Alexiadou (2018) extends this criterion to object-experiencer verbs. This criterion predicts that predicates with external arguments should be acceptable under an ability modal. This prediction is indeed borne out in HAVE-sentences as presented below.

[7] A reviewer adds that, in this case, HAVE's subject could not raise to its surface position from within the CP-complement because of the accusative object's intervention.

To illustrate this, consider first that, according to Giannakidou and Staraki (2013), Greek distinguishes lexically between two types of modals. The language uses the impersonal *bori* as an epistemic possibility modal, i.e., like English *might,* and personal *boro,* as an expression of ability or deontic modality. Therefore, the criterion tailored for Greek predicts that a verb has an external argument if it is acceptable under personal *boro* in its reading as an ability modal. The behavior of Greek *exo*-sentences in (16) implies that they do have an external argument:

(16) a. *O Janis ke i Maria borun na exun*
the.SG.NOM John.NOM and the.SG.NOM Mary.NOM can.3PL to HAVE.3PL
ðio amaksja. I misθi tus ine kali.
two.ACC car.PL.ACC the.PL.NOM wage.PL.NOM their BE.3PL good.PL.NOM
'John and Mary can possess two cars because their wages are high.'

b. *O Janis bori na exi to sinoðiɣo na*
the.SG.NOM John.NOM can.3SG to HAVE.3SG the.ACC co-driver.SG.ACC to
milai oso oðiɣa.
talk.3SG as drive.3SG
'John can have his co-driver talking to him while he drives.'

Moreover, the argument structure of the nominalization of possessive sentences provides additional evidence for the external status of HAVE's subject. To give some background, Markantonatou (1995) and Alexiadou (2001) show that the internal argument of a nominalization in Greek bears genitive case while the external argument of a nominalization deriving from a transitive verb merges in an *apo* 'by'-*phrase*. The fact that a *by*-phase introduces the possessor in the nominalization of HAVE suggests that it is an external argument.

Keep in mind that the prefixed form *katoxi* nominalizes the copula as plain **oxi* '*lit.**hav-ion' is unattested in the language. This nominalization is licit only in the context of possession or ownership. Crucially, *katoxi* is a nominalization of *exo* even though there is a prefixed verb *kat-exo* in Greek which also means 'possess'. This is evidenced by the fact that (17b) is a paraphrasis of the sentence in (17a) that can contain only the verb *exo*. *Katexo* is unacceptable in this case (see more in Kampanarou, 2023):[8]

(17) a. *I eryazomeni exun/*kat-exun ðikeoma aðias*
the.PL.NOM employee.PL.NOM HAVE/PREF-HAVE.3PL right.SG.ACC leave.SG.GEN
ðeka imeron.
ten day.PL.GEN
'The employees are entitled to a ten-day leave.'

[8] As a reviewer points out, although the verbs *exo* and *katexo* are very close semantically, their interpretations in the context of possession do not overlap. *Exo* is more appropriately described as an individual-level predicate, closer to English *own*, while *katexo* as a stage-level one, more like English *possess*. Either way, the key observation for our reasoning is that regardless of the differences in their verbal form, the prefixed form *katoxi* nominalizes both. A possible explanation for this is provided in 3.1, where the nominalization of BE is also taken into consideration.

b. *i* *kat-ox-i* *ðikeomatos* *aðias* *ðeka* *imeron*
the.SG.NOM PREF-HAVE-SG.NOM right.SG.GEN leave.SG.GEN ten day.PL.GEN
apo *tus* *eryazomenus*
by the.PL.ACC employee.PL.ACC
'the entitlement of a ten-day leave by the employees'

As presented below, the possessor cannot appear in genitive, i.e., as the internal argument of the nominalization (18a). Only the possessee can. The example in (18b) shows that the possessor surfaces in an *apo*-phrase, the Greek equivalent of a *by*-phrase. This implies that the possessor is an external argument (see more in 3.1).

(18) a. *i* *kat-ox-i* *katikias* */* ton* *neon*
the.SG.NOM PREF-HAVE-SG.NOM residence.SG.GEN the.PL.GEN youngster.PL.GEN
lit. 'the possession of a residence/*of the youngsters'

b. *i* *kat-ox-i* *katikias* *apo* *tus*
the.SG.NOM PREF-HAVE-SG.NOM residence.SG.GEN by the.PL.ACC
neus
youngster.PL.ACC
lit. 'the possession of a residence by the youngsters'

Finally, there are modal HAVE-sentences that constitute cases of obligatory control; the subject of HAVE must be co-referring with a dropped subject in the embedded clause (19). These sentences differ from the above in that their subject is also thematically related to the verb of the *na*-clause complement.

(19) *O* *Janis* *exi* *(* i* *Maria)* *na* *pai* *stin* *Athina.*
the.SG.NOM John.NOM HAVE.3SG the.SG.NOM Mary.NOM to go.3SG to.the Athens
'John has (*Mary) to go to Athens.'

As a detailed discussion of modal *exo*-sentences would require a comparison with other modals in Greek, an in-depth study is left for future research. Nonetheless, I refer to some key characteristics implying that these sentences involve Control instead of Raising, i.e., that their subject is merged as an external argument.

First, Bhatt (1998) argues against a control-analysis and claims that modal HAVE-sentences involve Raising based on English and Hindi data. However, the distribution in these languages is the complete opposite of Greek, as described so far. An important piece of evidence for the author is that in English sentences, the subject of *have* may not be the bearer of the obligation (20a). As presented in (19) and (20b), this does not hold for Greek.

(20) a. *Bill has to be consulted by John on every decision.* (John being the bearer of obligation) (Bhatt 1998: 7, ex. 17)

b. *O Vasilis exi na oðiɣiθi apo to Jani
the.SG.NOM Bill.NOM HAVE.3SG to direct.N.ACT.3SG by the.SG.ACC John.ACC
sto spiti.
to.the house
int. 'Bill has to be directed home by John (who bears the obligation).'

The behavior of the idiom *to milo pefti kato apo ti milja, lit.* 'the apple falls under the apple tree = like father like son' provides further support for a control-analysis. If the subject of modal *exo* was raised to this position from within the *na*-clause, the non-compositional meaning of the idiom should have been preserved. However, this is contrary to fact (21a). Hypothesizing Control instead of Raising is also justified, according to a reviewer, through examples like (21b), which show that the subject of a second modal (*boruse* 'could'), i.e., *o Janis* 'John', controls at the same time the subject of *exi* 'has' and *ɣrapsi* 'writes'.[9]

(21) a. #*To milo exi na pesi kato apo ti milja.*
the.SG.NOM apple.SG.NOM HAVE.3SG to fall.3SG under from the apple.tree
int. 'The son has to be like (his) father.' (*lit.* 'The apple has to fall under the apple tree.')

b. *O Janis boruse na exi na ɣrapsi mia*
the.SG.NOM John.NOM could to HAVE.3SG to write.3SG an.ACC
eryasia.
assignment.SG.ACC
'John could have had an assignment to write.'

The observations above suggest that the subject of *exo* is introduced as an external argument, even in its use as a modal. However, it remains to be explored whether it is an argument of the *exo* that merges in v or a different one that merges as a modal. If the first scenario is true, the fact

[9] An anonymous reviewer brought to my attention another type of HAVE-sentence that involves obligatory control and a clausal complement. In this type of sentence, *exo* 'have' is followed by a clausal complement headed by a *wh*-word like *pu* 'where' in (i) or *pjon* 'who' in (ii).

(i) *Den exo pu na pao.*
NEG HAVE.1SG where to go.1SG.
lit. 'I don't have where (=anywhere) to go.'

(ii) *Den exume pjon na kalesume.*
NEG HAVE.1PL who.SG.ACC to call.1PL
lit. 'We don't have who (=anyone) to call.'

In these cases, too, the subject is thematically related to *exo* and the verb contained in the clausal complement. Although these data are interesting, I will not inspect them closely in this article as this would require considering their relation to negation, *wh*-fronting, and the inner structure of *na*-clauses, particularly with respect to their aspect marking. Due to space reasons, this is left for future research. For present purposes, it is essential to note that these sentences constitute another example of an *exo*-sentence implicating obligatory control.

that the verb still surfaces with Active Voice morphology implies that its subject is external and merged in [Spec, VoiceP]. The following section capitalizes on this idea.

To sum up, this section has shown that the subject in possessor, experiencer, and causer HAVE-sentences is introduced as an external argument based on (a) the fact that the subject of *exo* realizes thematic roles typically assigned to external arguments, (b) the compatibility of HAVE-sentences with ability modals, and (c) the fact that the possessor appears in a *by*-phrase in the nominalization of the possessive *exo*-sentence. A question that remains open is whether modal HAVE-sentences should be exempted from this generalization, even though preliminary evidence suggests they should not.

At this point, it must be specified that claiming that the subject of *exo* is external is not an issue debated in the literature, as a reviewer confirms. However, further substantiating this claim was the first essential step towards arguing that HAVE is the transitive counterpart of BE. The second step is to show that HAVE's external argument is introduced by a transitive Voice head and, hence, that HAVE is the allomorph that merges in the presence of such Voice head. The following section is dedicated to this.

2.1.2 The external argument of HAVE is introduced by Voice

Even though HAVE's subject can bear the whole range of thematic roles a Kratzerian Voice head can assign, the fact that this subject can be an intentional causer, as evidenced in (15) above, is crucial. Drawing on previous work, Alexiadou et al. (2015) argue extensively that intentional DP-causers, as *o Janis* 'John' in (22), are constituents introduced by Voice.

(22) *O* *Janis* *espase* *to* *vazo.*
the.SG.NOM John.NOM break.PST.3SG the.SG.ACC vase.SG.ACC
'John broke the vase.'

Furthermore, the morphological makeup of experiencer HAVE-sentences, an example of which is added below, is also indicative of a Voice projection:

(23) *O* *Janis* *ixe* *ton* *idravliko* *na* *pernai*
the.SG.NOM John.NOM HAVE.PST.3SG the.SG.ACC plumber.SG.ACC to place.3SG
solines *oli* *mera.*
pipe.PL.ACC all day
'John had the plumber placing pipes all day long.'

Even though the status of the experiencers is generally controversial, the subject-experiencer in the above cases is in direct parallel with the subject-experiencers of Belletti and Rizzi's (1988) Class I psych verbs for which there is a consensus in the literature. Class I verbs are unambiguously stative and behave like transitive predicates (Hale and Keyser 2002). Implementing the work of

Belletti and Rizzi (1988), Pesetsky (1995), and Anagnostopoulou (1999) within a de-compositional model stemming from Kratzer (1996), this type of experiencer is a version of a State Holder, introduced by a (stative) Voice head and assigned to the DP that occupies its specifier position in the configuration presented in (24).[10] This implies that this Voice head is syntactically and semantically transitive because it introduces a specifier position and assigns a thematic role to it accordingly (Schäfer 2008; Wood 2015).

(24) $[_{TP}$ T $[_{VoiceP}$ DP Voice [vP]]]

Anagnostopoulou and Sevdali (2020) suggest that the case pattern in sentences like (23) acts as a supplementary argument for the same hypothesis. The authors explain that, generally, Greek experiencers are not introduced only by Voice. They are most often introduced by a High Applicative (v_{APPL}). When this happens, they get assigned dative (morphological genitive) (25a) or nominative case. However, introduced-by-v_{APPL} experiencers receive nominative case only if they do *not* have a *theme* DP-object (25 b,c) (Anagnostopoulou and Sevdali 2020: 25, ex. 51):

(25) a. *Tu* *Jani* *tu* *ponai* *o* *lemos* *(tu).*
the.SG.GEN John.GEN 3SG.CL.GEN hurt.3SG the.SG.NOM throat.NOM his
'John has a sore throat.' (*lit.* 'John's his neck (his) hurts.')

b. *O* *Janis* *ponai* *ston* *lemo* *(tu).*
the.SG.NOM John.NOM hurt.3SG to.the.SG.ACC throat.SG.ACC (his)
'John has a sore throat.' (*lit.* 'John hurts in his neck.')

c. *O* *Janis* *ponai.*
the.SG.NOM John.NOM hurt.3SG
'John hurts.'

Consequently, based on their conclusions, we can argue that the nominative on the experiencer subject of *exo* is not the case of an experiencer introduced by v_{APPL} because the verb has a DP as a theme object, e.g., *ton idravliko* 'the plumber' in (23). We must assume that Voice is present and introduces this type of experiencer.

Moreover, the fact that the verb bears Active Voice morphology indicates not only that the subject surfaces in [Spec, VoiceP] but that it externally merges in this position.

To give some background, it is widely accepted in the literature that adopts Kratzer's (1996) de-compositional view of the verbal structure that morphological Active Voice (henceforth *Act)* in Greek is assigned either in the absence of the syntactic projection of Voice (i.e., in unaccusative verbs) or in the presence of a φ-featured item in [Spec, VoiceP]. Building on Embick (1998) and

[10] See Verhoeven (2010), Alexiadou & Iordăchioaia (2014), and Alexiadou (2018) for an excursus on how Voice introduces experiencers in psych verbs.

much subsequent work, Alexiadou et al. (2015) hold specifically that Act in Greek appears either as default in the absence of a syntactic projection of Voice (26a) or when a regular (i.e., thematic and non-expletive) Active Voice head appears (26b). In contrast, non-Active Voice morphology (henceforth *NAct)* appears in (26c), i.e., when a Voice head with no specifier (marked as '{-D}') is projected.

(26)	*Syntactic structure*	*Voice morphology*
a.	[vP [ResultP √__]]	*active*
b.	[VoiceP DP [vP [ResultP √__]]]	*active*
c.	[MiddleVoiceP$_{\{-D\}}$ NAct [vP [ResultP √__]]]	*non-active*

The rule in (27) captures the condition that determines NAct. This rule outlines that the syntactic head of Voice is instantiated by NAct whenever it lacks a specifier. As extensively argued in the literature, Greek is a language in which NAct is highly syncretic as it is used for reflexives, reciprocals, anticausatives, middles, deponents, and passives (Manzini et al. 2016; Oikonomou & Alexiadou 2022). In this system, the non-active version of the Voice head is most appropriately described as *Middle Voice*.

(27) Voice → NAct/___ (no specifier).[11]

Turning our focus back to Active Voice, Oikonomou (2011) is more specific on (26b) and claims that only external merge to its specifier position can lead to Act if Voice is projected.

As non-existential HAVE-sentences have an external argument, they are not unaccusative. Since they have an external subject and an internal object, they behave as typical transitive verbs. Therefore, the fact that they surface with Act can only mean they have a Voice head with a projected specifier position filled via external merge. Consequently, it must be assumed that the external argument of HAVE is introduced by Voice. Notably, the Voice system of Greek implies the obligation for external merge. Other languages may fill the same position via internal merge (see, for instance, Szabolcsi's 1981; 1983 seminal hypothesis on the 'possessor that ran away from home').

In summary, this section supported the view that the external argument of HAVE is introduced by a Kratzerian transitive Voice. Apart from the thematic roles the subject of *exo* realizes and the agentive properties it exhibits regardless of the theta-role (see the discussion in 2.1.1), the nominative-accusative case pattern in experiencer *exo*-sentences and the Active Voice morphology

[11] Alternative analyses hold that Voice is a feature on v attracting a theta-role not available for lexicalization that appears only in the case of NAct (Tsimpli 2006) or a binary feature valued as [± active] distinguishing root-stems in the lexicon (Joseph & Smirniotopoulos 1993). Manzini et al. (2016) argue that NAct appears on the verb when the root introduces an open argument position that is LF-interpreted through different mechanisms. Crucially, independent of the framework and their background assumptions, researchers agree that NAct in Greek must receive special treatment.

on the copula in all its non-existential uses constitute evidence for the presence of a syntactically and semantically transitive Voice head. The following section shows that the morphological characteristics of existential HAVE-sentences in Greek fortify this conclusion.

2.2 Existential HAVE-sentences

This section focuses on existential HAVE-sentences in Greek, namely *exi-sentences*. It shows that the invariant form of the copula and the accusative case marking on the post-verbal nominal mandates the postulation of an expletive *pro* (2.2.1). Moreover, it argues that this null pronoun is inserted in the [Spec, VoiceP] because the copula surfaces with Act (2.2.2). This corroborates the claim that HAVE is the transitive copula. Specific cross-linguistic evidence that could constitute counterarguments to this analysis is discussed in 2.2.3.

2.2.1 Case assignment and agreement

Delveroudi (1992) and Kampanarou (2021a) show that HAVE-based sentences constitute the most common way to introduce new discourse referents, i.e., to achieve the existential function. In this type of sentence, Greek exploits an invariable verb form of HAVE, namely *exi,* which bears third-person singular marking. The post-verbal nominal is marked with accusative case.

(28) a. *Exi* *ena* *vivlio* *sto* *trapezi.*
HAVE.3SG a.ACC book.SG.ACC on.the.SG.ACC table.SG.ACC
'There is a book on the table.'

b. *Exi* *pexniđja* *sto* *patoma.*
HAVE.3SG toy.PL.ACC on.the.SG.ACC floor.SG.ACC
'There are toys on the floor.'

Greek is not unique in exhibiting an existential construction with a non-agreeing HAVE-copula, as this pattern is recurrent within the Romance family. Bentley et al. (2015) and Cruschina (2015) describe that in most cases whereby a Romance language uses HAVE in existentials, the nominal surfaces in the accusative, and the verb appears invariant, non-agreeing with this nominal. French and Spanish offer examples of this distribution in Romance; in (29), the verbal item retains a third-person singular marking even though the sentence's unique nominal argument is plural (see 2.2.3. for the exception of Brazilian Portuguese and Serbian).

(29) a. French
Il *y* *a* *des* *livres* *sur* *la* *table.*
EXP PROF HAVE.3SG some books on the table
'There are some books on the table.' (Cruschina 2015: 35)

b. Spanish
Ha-y *unos* *libros* *sobre* *la* *mesa.*
HAVE.3SG-PROF some books on the table
'There are some books on the table.' (Cruschina 2015: 35)

The idiosyncrasy of the accusative case marking on the unique nominal argument of the sentence is also attested in Icelandic, outside the context of existentials. The so-called *stray accusative constructions*, as named by Haider (2019), are part of a transitivity alternation. In this language, there are verbs that, in their transitive use, mark their objects with accusative (30a). When the same verbs appear in what looks like an intransitive (anticausative) use, the unique argument of the construction still surfaces with accusative creating a 'stray accusative' construction (30b).

(30) *Icelandic*
a. *Stormurinn* *rak* *batinn* *a* *land.*
the.storm.NOM drove the.boat.ACC on land
'The storm drove the boat onto land.'
b. *Batinn* *rak* *a* *land.*
the.boat.ACC drove on land
'The boat drifted onto land.' (Schäfer 2008: 291)

Schäfer (2008) analyzes the above as the covert version of German *es*-constructions like the ones in (31).

(31) German
als *es* *den* *Mann* *ins* *Lokal* *trieb.*
when EXP the.ACC man.ACC in.the bar drove
'When (it happened and) a man drove into the bar.' (Schäfer 2008: 283)

For Schäfer (2008), *es* in German is a "defective" expletive, i.e., an expletive with reduced φ-features that cannot be questioned or focused but can be merged in the position of an external argument. The covert version of this expletive, i.e., what Haider (2019) labels a *quasi-argument*, occupies the same position in Icelandic. For both researchers, the presence of *es* in German and the quasi-argument in Icelandic is obligatory for case reasons (among other reasons).

Even more interestingly, Wood (2017), who investigates the whole set of Icelandic sentences with 'stray accusative' subjects, concludes that accusative subjects in this language are never thematic arguments of morphologically intransitive verbs. This is what he calls the *Accusative-Subject Generalization* (ASG).[12] To see whether such a hypothesis can be maintained for Greek, we should first consider how Case is assigned in this language.

[12] I thank a Glossa reviewer for bringing this to my attention.

Initially, Anagnostopoulou and Sevdali (2020) argue that accusative in Greek qualifies as a dependent case following Marantz (1991) and Baker (2015). Specifically, it is assigned under the rule in (32) (Anagnostopoulou and Sevdali 2020: 1025):

(32) If DP_1 c-commands DP_2 in TP, then assign U (accusative) to DP_2.

In addition to the above, Alexiadou and Anagnostopoulou (2021) contend that nominative qualifies as the unmarked case in the TP domain and is not assigned under agreement with T. However, agreement always goes with nominative when both nominative and accusative are present, as reported at least as early as Philippaki-Warburton (1970) (see also Catsimali 1990; Spyropoulos 1999; Kotzoglou 2013).

Therefore, the fact that the post-verbal nominal in *exi*-sentences is marked with accusative (28) presupposes that there is a higher constituent that acts as a case competitor. More specifically, as the rule in (32) suggests, the latter must appear within the TP domain in a c-commanding position.

Out of all the overt items, the only potential case competitor would be the locative prepositional phrase since it is the sole constituent that includes a case-marked item, i.e., a determiner phrase (DP) like *to trapezi* 'the table' in (28a) or *to patoma* 'the floor' in (28b). However, an adverb could easily replace the prepositional phrase:

(33) *Exi* *ena* *vivlio* *eki* *pera.*
HAVE.3SG a.ACC book.SG.ACC there over
'There is a book over there.'

In the presence of the adverb, the post-verbal nominal is still marked with accusative case. Therefore, the locative constituent does not provide the competitor for the dependent accusative. In fact, Baker (2015: 185) extensively argues that PPs do not qualify as competitors for the dependent case algorithm (see also Anagnostopoulou and Sevdali 2020). The author attributes this to the preposition delineating a phase that makes the DP that follows it inaccessible to case assignment processes.

This means there is no overt case competitor for the accusative nominal in *exi*-sentences. Thus, a covert (phonetically null) item of a (pro)nominal status must be postulated instead. The (pro)nominal status is mandatory so the item can be case-marked.

The data from Icelandic and German above hints that this item is also an expletive. Additional cross-linguistic evidence regarding existential constructions corroborates this assumption. In particular, Francez (2007) claims that expletives are not universally available, i.e., they are not available cross-linguistically. However, when a language has them, they are mandatory in the context of existentials. This means they are obligatorily used to mark the different functions

among locational sentences, e.g., between existentials and locatives. In contrast with existentials that introduce new discourse referent (34a), locatives establish the location of a presupposed entity (34b).

(34) a. *There is a man at the door.*
b. *A man is at the door.*

Cross linguistically, expletives are not only used in BE-sentences, as in English. The French and Spanish examples in (29) and the Catalan sentence in (35) illustrate that expletives are also exploited in HAVE-sentences.

(35) Catalan
Hi ha la policia al pati.
PROF HAVE.3SG the police in.the courtyard
'There are the police in the courtyard.' (Leonetti 2008)

Greek is a language with no overt expletives but has an expletive *pro* in its inventory (Iatridou & Embick 1997). In the seminal work of Rizzi (1986), expletive *pro* is the emptiest null pronoun as it bears no theta-role and no features that need to be identified (see also Haider 2019).

Although Rizzi assumes that such a null pronoun exists in all VS(O) orders, Alexiadou and Anagnostopoulou (1998) convincingly show that this does not hold for VS(O) orders in Null-Subject languages, including Greek (see also Philippaki-Warburton 1987). In this paper, the authors put forward a parametric difference in the EPP-feature checking between English-type languages and Greek-type languages: English must have a DP moved to [Spec, TP] to check this feature, while Greek need not; EPP in the latter case is checked through the V-to-T-movement, and this suffices because the verb bears morphological marking for person and number. Thus, a thematically expletive *pro* cannot be postulated for unaccusative verbs in Greek.

In the same paper, the authors introduce a second parameter that creates a sub-division within English-type and Greek-type languages. This parameter refers to licensing [Spec, TP] as an A- or an A'-position. That is, languages are further differentiated depending on whether their [Spec, TP] position is a place for derived subjects (see also Biberauer 2009).

An argument used by the authors to support the first parameter is a difference in the Definiteness effects: English unaccusatives exhibit such an effect, as they preclude definite DPs in the post-verbal position, while Greek unaccusatives do not (36).

(36) a. **There arrived each child.*
b. *Irθe (to) kaθe peði.*
arrive.PST.3SG the.SG.NOM every child.SG.NOM
'Each child arrived.'

The case of existentials, though, is different as both languages exhibit the same Definiteness Effect (henceforth *DE):* definite noun phrases that denote presupposed entities are disqualified from the post-verbal position (37).

(37) a. **There is the coffee on the table.*

b. **Exi* *ton* *kafe* *sto* *trapezi.*
HAVE.3SG the.SG.ACC coffee.SG.ACC on.the.SG.ACC table.SG.ACC
lit. 'There is the coffee on the table.'

This suggests that the DE in existentials is different from the DE in unaccusatives. Bassaganyas-Bars and McNally (2019) show that the DE in existentials is triggered for pragmatic and semantic reasons. Existential sentences are used to introduce new discourse referents. The referents must be pragmatically novel and of a particular semantic type. The denotation of presupposed entities is not allowed. Definite determiners or strong quantifiers, in the sense of Milsark (1974), that lead to this type of denotation are excluded from this context.

Alexiadou and Anagnostopoulou (1998: 512–513) agree on this point. They claim that "We take the non-universality of DR (= DE) effects in unaccusative, unergative, and transitive constructions as evidence that DR effects are *syntactically* triggered in these contexts. For existential contexts, we maintain that DR effects are *semantically* triggered as these contexts assert existence. […] In other words, we do not subscribe to proposals (cf. Hoekstra & Mulder 1990, Moro 1997, among others) according to which DR effects in unaccusative, unergative, and transitive constructions should be treated on a par with DR effects in existential *there* contexts." Furthermore, for Greek HAVE-constructions where the verb shows third-person singular Agreement, and the nominal exhibits DR effects and accusative case marking, the authors "[…] have reason to assume that they are null expletive constructions.". Therefore, the accusative case marking in *exi*-sentences and the fact that the DE in them is not the same as the DE in unaccusatives leads us to postulate an expletive *pro* in *exi*-sentences.

Consequently, the structure of the *exi*-sentence in (38a) should be as in (38b).

(38) a. *Exi* *ena* *vivlio* *sto* *trapezi.*
HAVE.3SG a.ACC book.SG.ACC on.the.ACC table.SG.ACC
'There is a book on the table.'

b. $_{TP}$[pro$_{DP1}$ exi [ena vivlio$_{DP2}$ [sto trapezi]]]

Since *pro* is the highest argument in the TP domain it is assigned the unmarked nominative case. Then, according to Alexiadou and Anagnostopoulou (2021), it controls agreement. As expletive *pro* yields default agreement, which is always manifested as third-person singular marking

(Iatridou & Embick 1997), the verb *exo* always appears as *exi*. Thus, the accusative case marking on the post-verbal nominal constitutes evidence of an expletive *pro*.

At this point, an anonymous reviewer wonders whether the fact that the unique overt argument of an *exi*-sentence bears accusative case questions the validity of the hypothesis that accusative is a dependent case and, thus, its use as an argument for postulating *pro*. Instead, they propose that Chomsky's approach to Case as Agree fares better in this context since the accusative can be captured as the manifestation of Agree with v (or Voice if necessary).

Although *exi*-sentences could be considered an environment supporting the existence of agreement with v/Voice in Greek, I hold that the analysis advocated in this paper is more cohesive. First, it is crucial that regardless of the case-assignment mechanism, *pro* would have to be independently postulated to explain why *exi* surfaces invariably. This means that even if the accusative were assigned via Agree with v/Voice, *pro* would still have to be posited to regulate the third-person-singular agreement on the verb (cf. Preminger 2014). As a parallel, this is argued to happen with weather verbs (39), which also appear invariant, and when licensing overt arguments, they mark them with accusative case.

(39) *Vrexi* *(karekles).*
rain.3SG chair.PL.ACC
lit. 'It rains chairs = It rains cats and dogs.'

As further evidence, witness that any order whereby the nominal surfaces pre-verbally (a restriction that applies to both existentials (40a) and weather verbs (40b)) is ungrammatical, as a second reviewer suggests. This sharply contrasts with Greek unaccusatives (40c), as already shown in Alexiadou & Anagnostopoulou (1998). Such a contrast follows if *pro* is present only in the former two cases but not in the latter.

(40) a. **Vivlia* *exi* *sto* *trapezi.*
book.PL.ACC HAVE.3SG on.the.SG.ACC table.SG.ACC
lit. 'Books (there) are on the table.'

b. **Karekles* *vrexi.*
chair.PL.ACC rain.3SG
lit. 'Chairs (it) rains'

c. *O* *Janis* *eftase.*
the.SG.NOM John.NOM arrive.PST.3SG
'John arrived.'

Moreover, cross-linguistic evidence points toward the presence of an expletive. Apart from the discussion regarding the cross-linguistic examples in (29–31) and (35), arguing for a phonetically null case competitor is not unknown to the literature, though not uncontroversial. Wood (2017)

postulates a covert expletive clitic-like item for Icelandic 'stray-accusatives', while Baker & Bobaljik (2017) posit a covert cognate object for ergative unergatives in several languages.

Finally, apart from the fact that the Agreement-with-v/Voice hypothesis would undermine the postulation of a uniform case-assignment mechanism in the language, by assuming Agree, we would have to accept that Agreement precedes Case, i.e., Agree is an operation that is triggered *to* assign case. However, recent work by Bobaljik (2008), Preminger (2014), and Baker (2015), among others, suggest that Case precedes Agreement, i.e., the latter is dependent on the former and not the other way around. Alexiadou & Anagnostopoulou (2021) provide evidence that this also holds for Greek.

Therefore, I maintain that assuming expletive *pro* and a dependent-case status for the accusative in *exi*-sentences not only accounts for the morphological make-up of these sentences but also preserves the generalization of a uniform case-assignment algorithm in the language.[13]

Then, given that *pro* merges in the structure, it remains to be seen where it is inserted. In virtue of the hypothesis that [Spec, TP] in Greek is not a position for introducing constituents, we should postulate a lower locus of insertion for *pro*. The following section argues that *pro* is introduced in [Spec, VoiceP].

2.2.2 Active Voice morphology

Recall that based on the rules proposed by Alexiadou et al. (2015) and their specification by Oikonomou (2011), Act appears either in the absence of Voice or if Voice is projected and an

[13] A reviewer raises a second objection regarding the expletive status of *pro*. According to them, the claim the *pro* is expletive cannot be maintained because it goes against Burzio's (1986) Generalization, according to which a verb can assign accusative case to its object iff it assigns a theta-role to its subject, i.e., its external argument. Although this generalization has been highly influential, I contend it does not create a problem for the present analysis because its application in the current framework is questionable.

To be more specific, in its original form, Burzio's Generalization assumes that the verb itself is responsible for theta-role assignment and Case assignment. In other words, in his view, both processes occur at the same level; they are visible and dependent on each other. However, the DM-based framework adopted in this paper accepts that theta-role assignment and Case assignment are two independent processes: theta roles are not treated as information brought by the verb but as LF-interpretations determined by the structure as a whole. On the other hand, structural Case is determined in the course of the derivation, solely based on the hierarchy between arguments and the domains in which they appear. This means that neither process is dependent on the other.

Finally, it is crucial that the long discussion on Burzio's Generalization has stressed that its original statement needs reformulation. A considerable body of work has concluded that the correlation between theta-roles and Case that Burzio's Generalization presupposes is problematic in several ways (see Reuland 2000; Woolford 2003 and references therein). Even though the contributions are numerous, and their details differ, they agree that the generalization must focus on the fact that the object gets nominative case when there is no (nominative) subject. Thus, given this recent consensus, Burzio's Generalization, in its revised version, not only becomes relevant to our framework but also makes a statement that is particularly close to the view of Case as being assigned through the Dependent Case algorithm.

item externally merges to its specifier position. Therefore, the active Voice marking on *exi* means that either of the above conditions is met. This section suggests that Voice is present and [Spec, VoiceP] is filled by *pro*.

To argue for it, consider that the absence of Voice would make the structure unaccusative.[14] The accusative case marking on the post-verbal nominal suggests that this copula cannot be unaccusative. Myler (2016) concurs with the view that HAVE is never unaccusative judging by (a) its passivizability, (b) *-able* affixation availability, (c) contrasts with raising verbs, and (d) assignment of Genitive of Negation in Polish. Piotrowska (2021) adds to his argumentation, which is not presented in detail due to space reasons, evidence from Swedish, Danish, and Norwegian.

It is the case then that Act on *exi* can only derive if a Voice projection is present and has its specifier filled by an item that externally merges in this position. Given that *pro* has been shown to exist independently, I propose that this is the element occupying this position.

Unlike non-existential *exo*-sentences, the expletive *pro* does not receive a thematic role, i.e., it does not need thematic integration and is merged as a true expletive. This is confirmed by the fact that in *exi*-sentences, the adverbial material that identifies the semantic import of the external arguments is unacceptable (41). In this case, Voice is semantically intransitive or athematic:

(41) **Exi skopima peðja sto parko.*
HAVE.3SG deliberately kid.PL.ACC at.the.ACC park.SG.ACC
int. 'There are deliberately kids at the park.'

Complementary evidence against the assumptions that *pro* could be introduced higher in [Spec, TP] or lower in [Spec, vP] strengthens the hypothesis that *pro* cannot be inserted in any position other than the specifier of Voice.

On the one hand, the TP cannot be the domain in which *pro* is introduced because, on the basis of phase theories derived from Chomsky (2000), *pro* must be merged before the spell-out as it determines the Voice morphology of the verb. Since Voice constitutes a phase sent to spell-out (Alexiadou et al. 2015: 111–112, ft 19, 21), *pro* must be merged in this position and not late-inserted (Embick 2010; Bobaljik 2012). Moreover, similar subject expletives like German *es* and the expletive quasi-argument in Icelandic, as well as French *il*, that are *not* of a locative nature (like English *there*, French *y,* etc.) are also considered to be merged in the same position according to Longa et al. (1998) and Czinglar (2002). Last, recall that Alexiadou and Anagnostopoulou (1998) argue that [Spec, TP] in Greek is an A'-position, i.e., a place for derived, not first-merged subjects (see also Kotzoglou 2013).

[14] This was a fundamental premise of the 'HAVE = BE + P' hypothesis and a major criticism it received in view of the facts suggesting that HAVE-sentences are not unaccusative.

On the other hand, we can neither assume that *pro* is merged in the vP-domain because (a) Alexiadou and Anagnostopoulou (1998) show, based on the distribution of adverbials, that pre-verbal subjects (including expletive *pro*) are introduced in a position higher than the lexical projection of the verb, i.e., VP or vP, and (b) assuming a de-compositional analysis of the verbal phrase means that v is separate from Voice and unrelated to argument structure. Alexiadou et al. (2015) and Panagiotidis et al. (2017) argue extensively for this, particularly for Greek.

Finally, the merge of an expletive *pro* could be seen as a strategy for making a construction impersonal, as an alternative to passivization. The language opts for using the expletive null pronoun instead of marking the structure as passive.

Recall that passive in Modern Greek requires NAct. However, *exo* has a gap in its inflectional paradigm; it does not have a non-active form as **exome.* It, therefore, mandates the merge of a thematically inert empty pronoun to take part in an impersonal construction while using its unique active forms. Since the lack of a non-active form naturally follows from the Vocabulary Insertion rules proposed in this article, it further corroborates the present analysis.

It is the case, then, that HAVE in Greek projects Voice even in its use as an existential, and it has *pro* being externally merged in the specifier position. The nominative subject occupies the same position in non-existential HAVE-constructions, i.e., in possessor, experiencer, and causer *exo*-sentences.

In the latter case, Voice is syntactically and semantically transitive. In *exi*-sentences, the Voice projection is syntactically transitive while semantically intransitive. Thus, to answer a question posed by a reviewer, this completes the typology of Voice proposed by Alexiadou et al. (2015), as it constitutes an example of a type considered unattested in Greek. Specifically, the authors discuss causative verbs. They conclude that three out of four Voice types are exploited in causatives: a thematic active Voice in the structure of transitive causatives (42a), a thematic non-active Voice in all Greek passives (42b) and an athematic non-active in Greek marked anticausatives (42c). Athematic active Voice was argued to appear only in Romance *se*-anticausatives and German *sich*-anticausatives (43). The current proposal suggests that the latter type of Voice is also attested in Greek *exi*-existentials.

(42) a. *O* *Janis* *katestrepse* *to* *vazo.*
the.SG.NOM John.NOM destroy.PST.3SG the.SG.ACC vase.SG.ACC
'John destroyed the vase.'

b. *To* *vazo* *katastrafike* *apo* *to* *nipio.*
the.SG.NOM vase.SG.NOM destroy.PST.N.ACT.3SG by the.SG.ACC toddler.SG.ACC
'The vase was destroyed by the toddler.'

c. *To* *vazo* *katastrafike.*
the.SG.NOM vase.SG.NOM destroy.PST.N.ACT.3SG
'The vase was destroyed.'

(43) German
Die Tür hat sich geöffnet.
the door HAVE.3SG REFL opened
'The door has opened.' (Alexiadou et al. 2015: 104)

To sum up, Section 2.2 demonstrated that *exi*-existentials involve a syntactically transitive Voice head by drawing evidence from the case and agreement pattern as well as the Voice morphology they exhibit. In other words, HAVE was argued to be transitive even in its existential/impersonal use. To further substantiate this, I briefly consider some additional cross-linguistic evidence.

2.2.3 Discussing some possible cross-linguistic counterexamples

At this point, a reviewer wonders whether the distribution in languages like Brazilian Portuguese (hereafter BP) or (occasionally) Serbian, whereby the post-verbal nominal in HAVE-existentials surfaces with nominative case marking, creates a problem for the current analysis that uses case as indirect evidence for HAVE's transitivity. To answer this briefly, although the analysis I adopt does not immediately predict such cases, I propose that it can account for them without creating doubts about its fundamental claims. In other words, nominative post-verbal nominals in some languages do not imply that accusative case-marked nominals in other languages cannot constitute evidence for transitivity. Even though space reasons prevent us from investigating these data thoroughly, I review some key points to show how an analysis in this framework would work. I use BP as an example.

First, note that BP existentials use the invariant form *tem*, which is part of the paradigm of the HAVE-copula *ter* 'hold, have' (Creissels 2014) (44). The situation is very similar to Greek.

(44) Brazilian Portuguese
Tem muitos livros na biblioteca.
HAVE.3SG many.NOM book.PL.NOM in.the library
'There are many books in the library.' (Avelar 2009b: 140)

As argued in Avelar (2009a), the interpretation of *tem* as an existential appeared when the syncretism in the verbal forms arguably led the language to lose its *pro*-drop status. In this period, BP started diverging from a typical *pro*-drop language status towards a status where null referential subjects became rarer and rarer, i.e., a status where referential subjects needed to be overtly realized. That is, although, in a previous stage, the sentence in (45) would be interpreted as a transitive possessive sentence with a dropped subject meaning '(S)he has several pants inside the closet', in this second stage, the only interpretation of the sentence that survived is the existential one. European Portuguese (EP) never entered this new stage and retained the original interpretation.

(45) Portuguese
Dentro do armário tem várias calças.
inside of.the closet HAVE.3SG several pants
EP: '(S)he has several pants inside the closet.'
BP: 'There are several pants inside the closet.' (Avelar 2009b: 146)

Avelar (2009a) points out that, in this new stage, BP replaced the original referential argument with the locative phrase itself. In a Freeze (1992)-style analysis, the locative prepositional phrase is initially introduced within a P(reposition)-based predication layer. Then, due to the EPP, it is raised to the subject position, i.e., to [Spec, TP]. Although he does not specify it, his analysis predicts that a phonetically null locative argument is raised to the subject position in the absence of an overt locative phrase. If this is true, there is evidence that the nominative case on the nominal/pronoun is assigned following the principles of the Dependent Case algorithm as proposed by Marantz (1991) and Baker (2015). Since there is no competitor for the nominal within the sentence, it is assigned the unmarked case, i.e., nominative. Crucially, nominative case marking does not mean that there is nothing above or below the nominal but nothing that qualifies as a case competitor.

Moreover, there is supporting evidence that *tem* is transitive in BP, even in its use as an existential in this second stage. As reported again by Avelar (2009b), the personal pronoun *você* can appear as the subject of *tem* without taking away the existential interpretation of the sentence:

(46) Brazilian Portuguese
a. *(Você) tem prédios altíssimos em Nova York.*
you HAVE.3SG buildings very.high in New York
'There are huge buildings in New York.'
b. *(Você) tem muitos jogadores brasileiros em times europeus.*
you HAVE.3SG many players Brazilians in teams Europeans
'There are many Brazilian football (soccer)-players in European teams.' (Avelar 2009b: 152)

For reasons explained in the same paper, *você* must first be introduced in a thematic position and then raised to the TP. For Avelar, *você* is introduced in [Spec, PP], leaving open the question of how the overt locative, e.g., *em Nova York* or *em times europeus* in (46), is introduced in the structure. Under current assumptions, *você* could be merged in [Spec, VoiceP]. This would be compatible with its requirement to be first-merged in a thematic position, and would allow reserving the same predicative structure postulated in the absence of *você*.[15]

[15] A similar situation is described for Serbian existentials by Hartmann and Milicevic (2008), who report that although the post-verbal nominal is most often in genitive, it can appear in nominative when the phrase is in the third person

Therefore, as with Greek, independent evidence leads to the conclusion that *tem*-sentences in BP are transitive, i.e., they include a Voice head with a projected specifier. Whether the nominative case in the post-verbal nominal can be used as an argument for this needs to consider how case assignment is determined in this language. What is crucial is that the distribution does not contradict the analysis pursued in this paper and the claim that the accusative case is an argument for the transitivity of *exi*-sentences in Greek.

Consequently, as Section 2 has argued that HAVE includes a transitive Voice head in all its guises, it supports the idea that it is the transitive copula. Specifically, the fact that all its stative uses are unified due to the presence of Voice allows us to abandon a multiple-HAVE hypothesis and assume that there is only one HAVE in the language. This partially confirms that BE and HAVE are related via transitivity. To fully argue for it, it must be shown that BE is the non-transitive variant of HAVE. The following section tackles this issue.

3 BE as the intransitive copula

As was the case with Greek HAVE, *exo*, Greek BE, *ime*, also has a variety of interpretations. The copula is used in existentials (47a), predicational sentences (including locatives) (47b), specificational (48a), identificational (48b), and equative (48c) clauses. For present purposes, I will only consider existential and locative sentences because there is a consensus in the literature for the copula-status of BE in the rest of these cases (Bowers 1993; Moro 1997; Adger & Ramchand 2003; Pustet 2003; Rothstein 2004; Mikkelsen 2005; den Dikken 2006; Heycock 2020).

(47) a. *Ine kati peðja sto parko.*
BE.3PL some.NOM kid.PL.NOM at.the.SG.ACC park.SG.ACC
'There are some kids at the park.'

b. *I Maria ine omorfi/ sto spiti.*
the.SG.NOM Mary.NOM BE.3SG beautiful.SG.NOM at.the.SG.ACC house.SG.ACC
'Maria is beautiful/at home.'

(48) a. *I proeðros ine i Maria.*
the.SG.NOM chairwoman.SG.NOM BE.3SG the.SG.NOM Maria.NOM
'The chairwoman is Maria.'

singular and preceded by *jedna* 'one' or *neka* 'some' which are taken to be overt expressions of the existential quantifier. The authors claim that, in this case, nominative can be considered a lexical case assigned by the quantifiers, i.e., not the unmarked case. Moreover, Frasson (2023) proposes that the genitive case in Serbian existentials is the elsewhere case assigned to the post-verbal nominal when an expletive *pro* appears in [Spec, TP]. Therefore, neither Serbian data seem to undermine the current proposal. Further research on how Case is assigned in the languages with non-accusative post-verbal nominals will reveal whether they constitute counterarguments to our analysis.

b. *Afti* *(i* *trayuðistria)* *ine* *i* *Adel.*
this.SG.NOM the.SG.NOM singer.NOM BE.3SG the.SG.NOM Adele.NOM
'This (singer) is Adele.'

c. *O* *Toni* *Stark* *ine* *o* *Aironman.*
the.SG.NOM Tony.NOM Stark BE.3SG the.SG.NOM Ironman.SG.NOM
'Tony Stark is Ironman.'

Additionally, I will consider examples where *ime* is used as a possessive, as part of a BE-WITH-construction (49).

(49) *I* *Maria* *ine* *me* *pireto/* *mavra* *ruxa/* *kokina* /red.PL
the.SG.NOM Maria.NOM BE.3SG with fever.SG.ACC black.PL clothes.ACC
malja.
hair.PL.ACC
'Mary is with fever/black clothes/red hair.'

Given this diversity of interpretations, the same question posed for HAVE is repeated for BE: is there anything unifying these uses of *ime,* or does each use derive from a different *ime?* To answer this question, I focus first on the status of *ime's* subject (3.1) and then on the morphological make-up of the copula itself (3.2).

3.1 The subject of BE is not an external argument

To begin with, it is clear that the variation in the interpretations of *ime's* subject is nowhere near the possibilities exhibited by an *exo*-sentence. The subject of an *ime*-sentence is most often the bearer of a characteristic, property, or identity. This also accounts for the possessive interpretation in the BE-WITH sentence, where possession is construed as an accompaniment property of the subject. In other words, *ime's* subject does not have interpretations typical of external arguments.

In addition, *ime*-sentences cannot appear under ability modals, suggesting they lack an external argument:[16]

[16] As suggested by a reviewer, some *ime*-sentences can be found under the scope of an ability modal given specific contexts. The reviewer provides the example in (i), which is acceptable when one talks about John and Mary as being quite well-off:

(i) *O* *Janis* *ke* *i* *Maria* *borun* *na* *ine* *aneti* *me* *ta* *eksoða* *tus.*
the.NOM John.NOM and the.NOM Mary.NOM can.3PL to BE.3PL relaxed.PL with the expenses their
'John and Mary can be relaxed with their expenses.'

(ii) *O* *Janis* *ke* *i* *Maria* *borun* *na* *exun* *eksoxiko.*
the.NOM John.NOM and the.NOM Mary.NOM can.3PL to HAVE.3PL vacation.house.SG.ACC
'John and Mary can have a vacation house.'

(50) a. **O Janis ke i Maria borun na ine sto*
the.SG.NOM John.NOM and the.SG.NOM Mary.NOM can.3PL to BE.3PL at.the
spiti.
home
'John and Mary can be at home.'

b. **O Janis ke i Maria borun na ine me*
the.SG.NOM John.NOM and the.SG.NOM Mary.NOM can.3PL to BE.3PL with
ðio peðja.
two kid.PL.ACC
lit. 'John and Mary can be with (=have) two kids (offspring).'

c. **Borun na ine kati peðja sto parko.*
can.3PL to BE.3PL some.NOM kid.PL.NOM at.the park
lit. 'There can be some kids at the park.'

Moreover, in the nominalization of *ime*, the subject does not surface as an external argument introduced in a *by*-phrase but as an internal argument bearing genitive case marking (51). This contrasts with the nominalization of *exo* (cf. ex. 17–18 in 2.1.1).

(51) a. *i parusia [tis Marias /*apo ti Maria]*
the.SG.NOM presence.SG.NOM the.SG.GEN Mary.GEN by the.SG.ACC Mary.ACC
stin ekðilosi
at.the reception
'the presence of Mary at the reception'

b. *i parusia [tu vivliu /* apo to*
the.SG.NOM presence.SG.NOM the.SG.GEN book.SG.GEN by the.SG.ACC
vivlio] sti vivlioθiki
book.SG.ACC at.the library
'the presence of the book at the library'

Note that as suggested by a reviewer, the claim that *parusia* nominalizes *ime* and *katoxi* nominalizes *exo* seems controversial because, strictly speaking, *katoxi* has *katexo* as its morphological verbal counterpart, while the morphological association between *i-* in *ime* and *-us-* in *parusia* is not transparent. In the following paragraphs, I briefly explain why *katoxi* and *parusia* can be argued

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However, notice that the ability expressed in this case differs from that expressed in a HAVE-sentence (ii). In the case of HAVE, the modal conveys that the subject has some sort of skill and is, thus, able to perform the necessary actions to get an outcome, i.e., to be the owner of a vacation house. In contrast, the ability described in (i) is different: it is the ability to perform/behave in a way compatible with the outcome, i.e., being relaxed with their expenses. Crucially, this is not an ability tied to agency and, thus, indicative of external arguments. Apart from Hackl (1998), who introduces these distinctions, Willer (2021) summarizes how several proposals have captured and explained these nuances (see also Giannakidou & Staraki 2013; Ramchand 2018).

to constitute true nominalizations of *exo* and *ime*. However, space reasons prevent us from discussing the phenomenon to its full extent (see Kampanarou 2023 for more details).

First, recall that it has been shown, based on ex. (17) in 2.1.1, that *katoxi* can nominalize sentences containing *exo* only, i.e., sentences where *katexo* is unacceptable. This means the semantic interpretations available to *katoxi* are not equivalent to *katexo's.* Second, it is essential that nominalizing *exo* and *ime* is available only for a subset of their uses: possession for *exo* and locative/existential for *ime.* Arguably, as presented in Kampanarou (2021b; 2023), these are the only cases where the copulas select a small clause complement headed by a small p-head, which acts as a RELATOR (in the sense of den Dikken 2006) between two entities. Although this p-head stays silent in their verbal forms, it is forced to be realized (as the prefixes *kat-* in *katoxi* and *par-* in *parusia*) to avoid a violation of Myers' (1984) generalization (52):

(52) Zero-derived words do not permit the affixation of further derivational morphemes.

According to Kampanarou (2023), possessive *exo-* and locative/existential *ime*-sentences involve a phonetically null (=zero) predicative p-head that incorporates into the verb. In other words, *exo* and *ime* qualify as zero-derived words in these specific contexts. Since the nominalization is an affixation process, Myers' Generalization needs to be stipulated by the author to explain why it cannot take place: nominalization, as an affixation process, would clash since the nominalizing head, i.e., the affix, would have to select a zero-derived word.

For this reason, the language adopts a different strategy since there is an available one. It opts for a different allomorph (stem) that does not involve zero derivation because the p-head is overt. Indeed, stem allomorphy regulated by contexts similar to the ones described below is familiar in the language (see Kolliakou 1995; Markantonatou 1995; Ralli 2004; 2005). The conditions for this allomorphy can be summarized in purely descriptive terms as follows. The notation 'n' represents the nominalizing head. At the same time, {D} refers to the projection of a specifier, thus $\text{Voice}_{\{+D\}}$ to a syntactically transitive Voice head, i.e., a Voice head with a projected specifier.

(53) a. $v_{BE} \Leftrightarrow$ *katox-* / [n [$\text{Voice}_{\{D\},\ \varphi}$ _____ pP]]
b. $v_{BE} \Leftrightarrow$ *ex-* / $\text{Voice}_{\{D\},\ \varphi}$ _____
c. $v_{BE} \Leftrightarrow$ *parus-*/ [n [$\text{Voice}_{\{-D\},\ \varphi}$ _____ pP]]
d. $v_{BE} \Leftrightarrow$ *im-* / $\text{Voice}_{\{-D\},\ \varphi}$ _____

(53) presents an allomorphy of v_{BE} being regulated downward and upward, i.e., by projections that are higher or lower than it (v_{BE}'s position is noted as '___'). This set of rules captures that v_{BE} becomes realized as *katox-* when it is selected by a nominalizing head that in turn selects a syntactically transitive Voice head and a small p-predicate (53a), whereas *ex-* realizes it in any other case in which it appears under a syntactically transitive Voice head (53b). In general, in

the presence of a syntactically intransitive Voice head, it is realized as *im-* (the reasons why this is so are presented in 3.2) (53d). However, in the marked context of a $\text{Voice}_{\{\text{-D}\}}$ that selects a pP and is nominalized by n, v_{BE} is realized as *parusi-* (53c).

Intriguingly, the observation that *exo* and *ime* cannot be nominalized in their non-(overtly)-prefixed form, i.e., there is no **oxi* 'hav-ion' or *#usia* 'be-ion'[17] can receive a different explanation that relates to their status as copulas/light verbs. Consider that other Greek light verbs like *kano* 'do, make' and *jinome* 'become' or their English counterparts also lack nominalizations. Suppose these are copulas, i.e., functional items void of any semantic content, that merge as exponents of *v,* i.e., not of the [v + root] complex as is the case with lexical verbs. Then, they are expected to lack nominalizations since, in order to form them, a lexical root is required, so there is a stem for the affix to attach. The only cases where this becomes possible is with *exo* and *ime* in the contexts described above, where the incorporation of an overt p-head renders v acquire a phonological matrix, and hence, a lexical stem that allows further affixation processes (see Kampanarou, 2023 for more).

Thus, it can be argued that *katoxi* and *parusia* are nominalizations of *exo* and *ime,* even though the former as a form can also nominalize *katexo,* and the latter is not transparently related to *ime.*

To sum up, the behavior of *ime*-sentences with regard to ability modals and nominalizations indicates that the subject of *ime* is not an external argument. The lack of a wide range of interpretations for *ime's* subject signals the absence of Voice's semantic import.

To support this further, consider that *ime*-sentences do not generally pass the agentivity test of *deliberately*-modifiers (54a). An exception could be made for some locative sentences that allow this type of modifier for a minority of speakers (54b):

(54) a.* *I Maria ine skopima omorfi/ me palto/ (i)*
the.SG.NOM Mary.NOM BE.3SG deliberately pretty.NOM with coat.ACC the
proeðros.
chairwoman.NOM
lit. 'Mary is deliberately beautiful/with coat/(the) chairwoman.'

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[17] In Modern Greek, a homonymous abstract nominal is attested. However, its interpretation is not that of BE's nominalization but that of 'essence, substance':

(i) *i usia tis ipoθesis/omilias*
the.SG.NOM essence.SG.NOM the.SG.GEN case/speech.SG.GEN
'the essence of the case/speech'

(ii) *fisiki/xrostiki usia*
natural/coloring.SG.NOM substance.SG.NOM
'natural/coloring substance'

b.??*I* *Maria* *ine* *skopima* *sto* *spiti* *(ja* *na*
the.SG.NOM Mary.NOM BE.3SG deliberately at.the house in.order to
paralavi *ta* *paketa).*
receive.3SG the packages
'Mary is deliberately at home to receive the packages.'

The above distribution indicates that *ime* lacks an external argument, and its subject should be analyzed as an internal one. The unavailability of modification by *deliberately* also points towards the conclusion that *ime* lacks a projection of Voice and is unaccusative. The nominative case marking on the post-verbal nominal in its use in an existential sentence (55a), particularly when contrasted with the accusative marked nominal in an *exi*-existential (55b), suggests that this hypothesis is on the right track.

(55) a. *Ine* *poli* *markaðori* *sto* *trapezi.*
BE.3PL many.NOM marker.PL.NOM on.the.SG.ACC table.SG.ACC

b. *Exi* *polus* *markaðorus* *sto* *trapezi.*
BE.3SG many.ACC marker.PL.ACC on.the.SG.ACC table.SG.ACC
'There are many markers on the table.'

However, the fact that the copula surfaces with NAct morphology separates it from typical Greek unaccusatives. This morphological characteristic of *ime* is discussed in the following section.

3.2 BE as an unaccusative deponent

Ime is a deponent, meaning it is a member of an idiosyncratic group of verbs in Greek that surfaces only with NAct and, strictly morphologically speaking, does not have an Act-marked alternate.

The category of deponents has attracted much attention in the literature (Baerman et al. 2007; Kallulli 2007; 2013; Papangeli and Lavidas 2009; Oikonomou 2011; Grestenberger 2014; 2018; Alexiadou 2019, i.a.). For Zombolou and Alexiadou (2014), who distinguish four classes of deponents, *ime* belongs to the *unaccusative* class.

Recall that NAct in Greek is considered to appear when a specifier-less Voice head is structurally present. The rule describing its distribution is repeated below:[18]

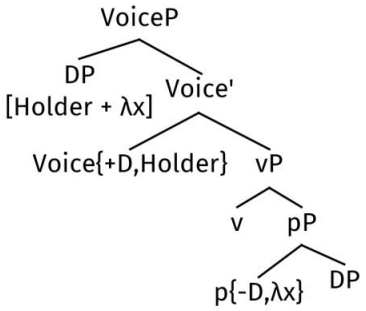
[18] Note that if we had adopted alternative analyses that treat Voice as a feature appearing in the derivation (Tsimpli 2006, Manzini et al. 2016) or on the stem (Joseph & Smirniotopoulos 1993), the environment conditioning NAct should have been described in terms of features.

(56) Voice → NAct/___ (no specifier)

Oikonomou (2011) shows that NAct in Greek is also assigned if a specifier position is projected and filled via internal merge. Alexiadou (2019) adds a third possibility, particularly for deponents. She argues that NAct in deponents also derives when a Voice head with a specifier position is forced to be projected to host an argument late saturating (in the sense of Kastner 2017) a thematic role licensed earlier in the structure.

Specifically, in her view, [Spec, VoiceP] is projected to provide a merge position for the DP satisfying a role (λx) licensed by a specifier-less ({-D}) p-predicative head. The DP introduced in [Spec, VoiceP] ultimately receives the role assigned by p (λx) and the one assigned by Voice (Holder). The derivation she assumes is as follows:

(57) The structure of deponents in Greek (Alexiadou 2019)



In any case, a Voice projection must be assumed to explain the NAct morphology on *ime.* Crucially, this Voice projection is distinct from the one posited for *exo* because, under any view, the Voice projected in *ime-sentences* is not a typical syntactically and semantically transitive Voice head. Thus, our hypothesis that the BE-HAVE alternation is based on suppletion can still be maintained.

Nonetheless, the data presented in (3.1) suggest that there is no semantic import by Voice, meaning that if present, it does not introduce a thematic role as Alexiadou (2019) assumes. Moreover, even if the subject of *ime* appeared in [Spec, VoiceP], *ime*-sentences should be acceptable under the ability modal *boro,* and their subject should surface as a *by*-phrase in their nominalization, similar to *exo*. However, these predictions are not borne out, as exemplified in (50) and (51).

This short discussion leads us to adopt a more straightforward solution and propose that the NAct on *ime* results from a Voice projection that lacks a specifier altogether. This means that the rule in (56) regulates its Voice morphology.

It is the case, then, that the structure of BE in Greek includes a Voice projection that lacks a specifier position (58b). On the other hand, HAVE has a structure with a typically syntactically transitive Voice head (58a).

(58) a. vBE ⇔ *exo* / Voice$_{\{D\},}$ _____
b. vBE ⇔ *ime* / Voice$_{\{-D\},}$ _____

Even though Myler's (2016) analysis considers BE the elsewhere realization, the Greek data support the assumption that it is the intransitive variant of v_{BE}. Although this is not synonymous with being the elsewhere realization, it is a subcase of it. Still, HAVE and BE are suppletive allomorphs, PF-exponents of a root-less v_{BE} conditioned by Voice. A syntactically transitive Voice head qualifies as a marked environment that triggers the realization of v_{BE} as *exo*, whereas a syntactically intransitive Voice head leads to its realization by *ime*.

Importantly, this suppletion algorithm is strictly configurational. PF reads off structures, i.e., it does not take into account the semantic information of each head or node. This has been confirmed in the case of HAVE-sentences in Greek, where v_{BE} is argued to be realized as *exo* in the presence of a syntactically transitive head that is (in possessor, experiencer, and causer *exo*-sentences) or is not (in existential *exi*-sentences) semantically transitive.

4 Conclusion

To sum up, this article has advocated the hypothesis that BE and HAVE are related via transitivity based on evidence from Greek. Specifically, it has been argued that HAVE in Greek, i.e., *exo,* is the exponent of the transitive variant of the meaningless v_{BE}. It always merges under a syntactically transitive Voice head, which is semantically transitive and hosts the nominative subject in all its non-existential uses. In its existential use, Voice is semantically intransitive but remains syntactically transitive and has its specifier position occupied by an expletive *pro* which is argued to exist independently. In contrast, *ime,* i.e., Greek BE, instantiates the intransitive variant of v_{BE}. It is the exponent of the same meaningless head whenever the latter appears under a syntactically and semantically intransitive Voice head.

Abbreviations

1 first person; 2 second person; 3 third person; ACC accusative; ADE adessive; EXP expletive; F feminine; GEN genitive; INF infinitive; M masculine; N neuter; NOM nominative; N.ACT non-active Voice; PROF proform; PREF prefix; PRT discourse particle; PL plural; PST past; SG singular.

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Competing interests

The author has no competing interests to declare.

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