Null arbitrary subjects in Greek[1]

Abstract

The present paper investigates null arbitrary subjects in Greek that trigger either a generic or an existential interpretation. Null arbitrary subjects in Greek are permitted with 2SG, 1PL and 3PL verbal agreement. The synergy between imperfective marking alongside a clause-initial XP (overt or null) results in genericity, whereas perfective marking alongside an overt or covert clause-initial XP corroborates an existential reading. Moreover, the difference between a 2SG generic reading vs. a 2SG referential one amounts to the absence vs. the presence of a D-feature (=[DEFINITE]) on the verbal agreement morpheme/inflection (i.e. empty [D] vs. specified [D]-marked verbal agreement). Contra Alexiadou and Anagnostopoulou (1998), V-T movement is unable to delete the D-feature of the EPP on T in these arbitrary constructions. Instead, both generic and existential constructions satisfy the EPP in a uniform manner; an XP (overt or covert) merges on SpecTP and satisfies the D-feature of the EPP, whereas movement of the verb to T satisfies the remaining agreement feature bundle of T. It is further postulated that the defective verbal morphology of these constructions also satisfies an *Arb-gen* or an *Arb-ex* feature through movement to AspP.

Keywords: existential, generic, null arbitrary, D-feature, EPP.

1 Introduction

The issue of lexically overt and lexically null arbitrary constructions has been explored by a number of authors for various languages; among others, D'Alessandro and Alexiadou (2002), D'Alessandro (2007), Chierchia (1995), Cinque (1988) and Manzini (1986) have dealt with Italian *si* and

[1] I wish to thank one of the anonymous reviewers for their insightful and constructive comments. Needless to say, all errors and interpretations are entirely my own.

arbitrary *pro*, Suñer (1983) with *se* in Spanish, Egerland (2003a, 2003b) with Swedish *man* and arbitrary *pro*, Zobel (2016) with German *man*, Cabredo Hofherr (2003) with French *on*, Jaeggli (1986) with the interpretation of English *one*, and Sigurðsson and Egerland (2009) have written about Icelandic *maður*. The bulk of the literature focuses not only on overt arbitrary pronouns such as *si* in Italian, but also on implicit arbitrary pronouns that receive either a generic or an existential interpretation.[2]

Languages employ various techniques to encode an arbitrary reading. Turning our attention to Greek, Contoravdi (1987, 1989a) and Spyropoulos (2002) are the only two accounts that discuss null arbitrary subjects in Greek and only in relation to 3PL agreement. Contoravdi (1987) provides the following examples:

(1) *pro*$_{arb\text{-}ex}$[3] *skotosan* *ton* *Yani.*
kill.PST.PFV.3PL the.ACC Yani.ACC
'They killed Yani'

(2) *S* *afti* *ti* *filaki* *pro*$_{arb\text{-}gen}$ *skotonun* *tus* *filakismenus.*
in this the prison kill.PRS.IPFV.3PL the.ACC prisoners.ACC
'In this prison they kill the prisoners'

[2] The terminology employed on the phenomenon of overt and null arbitrary pronouns varies extensively. D'Alessandro and Alexiadou (2002) and Egerland (2003a) opt for the umbrella term 'impersonal' to capture both the generic and the existential variants of these arbitrary constructions. Others use the term 'impersonal' in a more narrow fashion (i.e. for existential quantification only), see Spyropoulos, 2002. In this paper I will employ the cover term 'arbitrary' to include both generic and existential implicit subject pronouns.

[3] I will use standard literature terminology (see Contoravdi, 1987, 1989a, among others) where *pro* is labeled *arb* for both its generic and its existential use. Nevertheless, for reasons of accuracy, I will use the following typological conventions: pro$_{arb\text{-}gen(eric)}$, pro$_{arb\text{-}ex(istential)}$ and pro$_{ref(erential)}$. For a different typology, see Cabredo Hofherr (2006) who introduces the following types of *pro*; *deictic* (1st and 2nd person null pronouns), *anaphoric* (3rd person null pronouns with a full set of ϕ-features), and *non-anaphoric pro* (3rd person agreement without a full set of ϕ-features).

(3) *pro*$_{arb\text{-}gen}$ *den servirun ti supa*

not serve.PRS.IPFV.3PL the.ACC soup.ACC

prin to psari

beforethe.ACC fish.ACC

'They don't serve the soup before the fish'

(Condoravdi, 1987:20)

(1) has an existential interpretation, whereas (2) and (3) a generic one. Broadly speaking these arbitrary constructions are non-referential and non-definite, as they do not identify a specific individual that fulfils the description of what the predication is about. However, null arbitrary subjects in Greek are not only encountered with 3PL verbal agreement, as discussed by Contoravdi (1987, 1989a) and Spyropoulos (2002). In reality, arbitrary readings are also possible with 1PL, and 2SG in Greek, an empirical observation that has gone unnoticed in the literature.

More specifically, the null arbitrary subject pronouns that I will investigate in this paper are exemplified in (4) - (6). In (4) the verb is marked with 1PL agreement and the interpretation is generic:

(4) *Stin Elada prota pro*$_{arb\text{-}gen}$ *vrizume ke*

in.the Greece first insult.PRS.IPFV.1PL and

meta pro$_{arb\text{-}gen}$ *zitame signomi.*

then ask.PRS.IPFV.1PL apology

'In Greece, one insults first and apologises after' (after an incident of road rage by a lorry driver)'

In (5) the verb is marked with 2SG and the sentence also encodes a generic reading, (i.e. *whoever is born rich is privileged)*:

(5) *Ean pro*$_{arb\text{-}gen}$ *ise plusios, tote pro*$_{arb\text{-}gen}$ *ise*

if are.PRS.2SG rich then are.PRS.2SG

pronomiuhos.
privileged
'if you are rich, then you are privileged/A rich person is privileged'

In (6) the verb is marked with 3PL and encodes a generic reading, namely that *Greek people work until the age of 65*:

(6) *Stin Elada* $pro_{arb\text{-}gen}$ *dulevun/ergazonte mehri ta 65.*
in.the Greece work.PRS.IPFV.3PL until the 65
'In Greece, they/people work until the age of 65'

Before I begin to investigate the properties of these null arbitrary constructions it is essential to mention that Greek also possesses two overt generic pronouns; *kanis*[4] and *o alos*[5]. When *kanis* is used as a generic pronoun the verb is always marked with 3SG agreement and the interpretation is always generic, never existential: [6]

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[4] The forms of the pronoun *kanis* that we encounter in Greek are: *kanis*= masc, *kamia*=fem, and *kanena*=neuter. In the generic use of *kanis* only the masculine pronoun is used:

(i) **Sta komotoria pigeni kamia apo varemara*
to.the hair-salons go.PRS.IPFV.3SG one.NOM.FEM of boredom
'A woman goes to the hair salons out of boredom'

[5] The forms of the pronoun *o alos* that we encounter are: o *alos*=masc, i *ali*=fem, to *alo*=neuter.

[6] *Kanis* is a pronoun that receives either the reading of *no one* (*any* for Giannakidou,1998) or *one.* Relative to the first meaning, *kanis* can also function as a quantifier/modifier to a noun, as shown in (i):

(i) *Kanis anthropos de theli fasaries.*
no.NOM man.NOM not want.PRS.IPFV.3SG trouble.ACC
'No one wants trouble'

(ii) *De thelo kanenan sto spiti mu.*
not want.PRS.IPFV.1SG no one.ACC in.the house of.my
'I don't want anyone in my house'

(7) *Stin Elada ergazete kanis mehri ta 65.*
in.the Greece work.PRS.IPFV.3SG one.NOM until the 65
'In Greece, one works until the age of 65'

On a par with *kanis*, *o alos*,[7] also occurs with 3SG marking on the verb and encodes a generic, not an existential reading:

(8) *Teties meres o alos de theli*
these days the.NOM other.NOM not want.PRS.IPFV.3SG
episkepsis.
visits.ACC
'On days like these people/one does not want visitors'

The generic pronoun *o alos* can also appear in the plural in which case the verb is marked with 3PL, though this occurs more rarely:

Kanis 'no one' functions as a negative polarity item (NPI) that gets licensed in the presence of negation. More specifically, in (i) *kanis* is an *affective polarity item/API*, whereas in (ii) *kanenan* is a *negative polarity item/NPI*, the terminological distinction is attributed to Giannakidou (1998) where the reader is referred for more detail on *kanis* as an NPI vs. API. The uses of *kanis* in (i) and (ii) fall beyond the scope of this paper.

[7] There is one more use of *o alos,* whereby the pronoun translates as 'the other person' and *o alos* modifies the NP *ipopsifios* 'candidate':

(i) *O alos ipopsifios den prolave na*
the.NOM other.NOM candidate.NOM not manage.PST.PFV.3SG to
apadisi stis erotisis.
answer.PST.PFV.3SG the.ACC questions.ACC
'The other candidate did not manage to answer the questions'

On the other hand, *o alos* can also be used without an NP to indicate an individual that the speaker and hearer do not want to refer to by name:

(ii) *O alos ute to krevati tu den*
the.NOM other.NOM not the bed of.his not
estrose.
tidy.PST.PFV.3SG
'He (i.e. Yanis) did not even tidy up his bed today'

In (i) and (ii) *o alos* functions as a personal/definite pronoun and therefore will not be examined in here.

(9) *I* *ali* *kanun* *afto* *pu*
the.NOM other.NOM do.PRS.IPFV.3PL this that
tus *volevi.*
them.ACC.CL suit.PRS.IPFV.3PL
'People do what suits them'

In this paper I will focus on the properties of null arbitrary subject constructions, and I will touch on overt generic pronouns towards the end of the paper as supplementary evidence that support the analysis put forward in section 3.[8]

Before I begin to investigate the distribution and syntax of these implicit arbitrary subjects, it is essential to mention that Greek arbitrary generic readings may also be encoded in middle and passive constructions, as shown in (10) and (11) respectively (see Condoravdi, 1989b; Lekakou 2004, 2005, 2006, 2008; Sioupi 1997, 1998, 1999; Tsimpli, 1989, among others):

(10a) *To* *kalo* *krasi* *pinete* *efkola*.[9]

[8] Greek also possesses a generic arbitrary *pro* in object position. For instance, 3SG generics are possible:

(i) *To* *kolibi* *kurazi* *pro*$_{arb\text{-}gen.}$
the.NOM swimming.NOM tire.PRS.IPFV.3SG
(ton anthropo/ton kolimviti)
(the human/the swimmer.ACC)
'Swimming is tiring'

(i) has a [+HUMAN] null object (*pro*$_{arb\text{-}gen}$). Cinque (1988) and Egerland (2003a) as well as Tsimpli and Papadopoulou (2006: 1599) argue that arbitrary objects can only be generic not existential. An analysis of null *pro*$_{arb}$ objects in Greek falls beyond the scope of this paper.

[9] Condoravdi (1989b), Lekakou (2005), McConnell-Ginet (1994), and Tsimpli (1989), *inter alia*, show that middles require a manner adverb in order to be interpreted generically. For a detailed comparative treatment of middles and their requirement for adverbs of manner, see Lekakou (2006) who shows that middles in English, Dutch, and German obligatorily

the.NOM good.NOM wine.NOM drink.3SG easily
'One can easily drink good wine'

(10b) *Ta paramithia diavazode se mikres ilikies.*
the.NOM fairy-tales.NOM are-read.3SG in young ages
'Fairy tales are read at a young age'

(11) *Poles periusies katastrafikan sto deftero pagosmio.*
many properties destroy.NACT.3PL in.the second world-war
'A lot of properties were destroyed in the second world-war'

Interesting as (10) and (11) may be, this paper will not deal with middle and passive arbitrary constructions.

Empirically, the focus of this paper is to demonstrate that the phenomenon of null arbitrary subjects in Greek is a lot more widespread than has been previously assumed, as null arbitrary subjects are permitted not only with 3PL verbal agreement, but also with 2SG and 1PL. In Section 2, I present evidence and examine each of these arbitrary constructions individually. On the basis of the data investigated in sections 2.3- 2.5 it is further shown that imperfective marking is typically associated with genericity, whereas perfective marking is associated with an existential interpretation (see also Cinque, 1988; Contoravdi 1989a, 1989b; D'Alessandro and Alexiadou, 2002; Giannakidou, 1998; Spyropoulos, 2002; Tsimpli and Roussou, 1996, *inter alia*). The empirical observations in this paper lead me to propose that there is an additional tool that assists a generic and an existential reference, the use of a clause initial locative (or temporal) XP (see Brody, 2013; Cabredo Hofherr, 2003; Holmberg and Phimsawat, 2015, among many others). These XPs designate a specific location or a particular time where (or during which) the event takes place.

require a manner adverb, whereas middles in Greek and French do not impose such a strict requirement, as shown by the Greek middles in (10a) vs. (10b).

Following Alexiadou and Anagnostopoulou (1998) and Holmberg (2000, 2010), I take Greek T to invariably possess a D-feature which I take to correspond to a [DEFINITE] feature. Conceptually, I argue that even though the inflectional ending of the verbal morpheme of a 2SG generic arbitrary reading is polysemous with the inflectional ending of the verbal morpheme of a 2SG referential reading, the two differ in the featural composition of their person feature. Adopting a geometrical feature analysis, such as those advocated by Carvalho (2017) and Harley and Ritter (2002), I explain the relationship that holds between a person feature and a D-feature. More specifically, I argue that the person feature is further decomposed into two more features; a [PARTICIPANT] and a [D] feature. The [PARTICIPANT] feature is broken down to a [SPEAKER] and an [ADDRESSEE] feature, whereas the [D] feature is further decomposed to a [DEFINITE] and a [SPECIFIC] feature. When the [DEFINITE] feature is present, then 2SG results in a referential interpretation, whereas when [D] is empty, the verbal agreement does not encode D to delete the D-feature of the EPP on T. [D] remains empty in both existential and generic constructions. To account for the non-D-marked verb in Greek null arbitrary constructions, I argue that the clause-initial XP (overt or covert) bears a D-feature, merges on SpecTP, and deletes the D-feature of the EPP. Verb-raising can satisfy the remaining bundle of agreement features on T.

Based on Collins (2018), I dispense with a null generic (and existential) operator in syntax. Instead, I put forward that in these arbitrary constructions the Aspectual Projection carries an additional *Arb*(itrary) feature. In the case of the imperfective the feature is *Arb-gen*, whereas in the case of a perfective AspP, Asp carries an *Arb-ex* feature. This *Arb* feature is present only when [D] of the verbal morphology is devoid of any content, as is the case in these arbitrary constructions. This uninterpretable *Arb* feature is also coupled with an EPP feature. The *Arb* feature probes the verb and the verb raises from V-v- Asp to satisfy this *Arb*/EPP feature. The verb then moves further up to T to delete the feature bundle available on T. This *Arb* feature on AspP is not present when the verbal morphology is fully specified (i.e. the [DEFINITE] feature is present). However, we still encounter instances of *mismatch*; constructions in which

the imperfective licenses an existential interpretation. I take such a mismatch between the imperfective and an existential arbitrary reading to be resolved post-syntactically, as a result of *coercion* (see Borer, 2005; Chierchia, 1998; Collins, 2018, *inter alia*).

To conclude, I tentatively assume that the analysis proposed here can be extended to the overt generic pronouns; *kanis* and *o alos* that occur with 3SG or 3PL (i.e. as in the case of *i ali* 'the others') verbal agreement. The indefinite pronoun *kanis* always occurs post-verbally alongside the imperfective and a clause-initial XP. This XP, as is the case with the rest of the null generic arbitrary constructions, satisfies the EPP. Conversely, the indefinite pronoun *o alos* is structurally preferred in a pre-verbal position, occupies SpecTP, but as an indefinite pronoun it does not bear a D-feature and is not capable of deleting the D-feature of the EPP. Instead, assuming that the TP projects multiple specifiers, a covert XP is merged on the outer specifier of TP and satisfies the D-feature of the EPP, whereas the indefinite pronoun *o alos* occupies inner SpecTP. In these constructions, verb movement satisfies the agreement feature bundle available on T.

This account is unique in the following respects: (i) it brings into focus evidence from null arbitrary constructions (i.e. 2SG, 1PL) that have not been reported elsewhere in the literature of Greek, (ii) it shows that the difference between a generic 2SG and a referential 2SG lies in the absence vs. presence of a [DEFINITE] feature on the verb, an assumption that (iii) goes against Alexiadou and Anagnostopoulou's (1998) account where V-T movement in Greek always satisfies and deletes the D-feature of the EPP on T, (iv) it highlights the importance of an XP (overt or covert) primarily in generic arbitrary constructions, but also in existential arbitrary structures, and finally, (v) it dispenses with null generic and existential operators in syntax by incorporating an *Arb* feature in the course of the syntactic derivation.

The article is organised as follows. In Section 2, I first outline Cinque's (1988) prototypical properties associated with a quasi-universal and a quasi-existential arbitrary interpretation and establish whether these properties hold true for Greek null arbitrary constructions. In the same

section the Greek data is discussed in some detail. The data show that null arbitrary subjects in Greek are more liberal than previously discussed in the choice of the verbal agreement (1PL, 2SG, 3PL). The evidence also reveals that, structurally, the imperfective and the XP work synergistically to license a generic interpretation, whereas the perfective alongside an overt (or covert) XP licences an existential one. Section 3 offers an analysis of these null arbitrary constructions. First, I examine the role of this XP and then I move on to analyse the featural differences between a polysemous 2SG generic and a 2SG referential verbal morpheme. I further attribute the distinct arbitrary readings to the presence of an *Arb-gen* or an *Arb-ex* feature on AspP and I show how these features are satisfied. Section 3.5 briefly discusses overt generic pronouns (i.e. *kanis* and *o alos*) and shows that the analysis proposed could be extended to also cover these constructions. On a par with null arbitrary constructions, the person feature of the verbal morphology in these overt generic pronouns has an empty [D] feature, that is, it does not encode the [DEFINITE] feature that is necessary to satisfy the EPP. Instead, as with null arbitrary constructions, an XP merges on SpecTP to satisfy the EPP.

The next section discusses the criteria proposed by Cinque (1988) to distinguish a quasi-universal from a quasi-existential arbitrary reading. For reasons of simplification (and accuracy) I will replace the terms quasi-existential and quasi-universal with the terms existential and generic, respectively (cf. Contoravdi 1987, 1989a; D'Alessandro and Alexiadou, 2002, among others). [10]

2 The Greek data

[10] I am not equating the two types of quantification here (i.e. universal (∀) = generic quantifier (GEN), that would be naïve, see Moltmann, 2006 for a distinction between universally and generically quantified sentences. Krifka et al (1995: 5) argue that generically quantified sentences 'allow for exceptions', whereas universally quantified ones do not, as they should apply to every such situation as the one described by the predicate. For instance, in the characterizing (generic) sentence: *Cretans eat a lot* it does not mean that every single Cretan eats a lot (see Krifka et al, 1995:44). This is just one of the reasons why I am opting for the term generic rather than universal.

2.1 Cinque's criteria (1988)

According to Cinque (1988:545) the generic and existential interpretations are variants of the same unitary phenomenon, that of an arbitrary reading.[11] The generic reading presupposes a generic quantifier and corresponds to an interpretation such as: *one*, *you,* or *people*. Conversely, the existential reading corresponds to existential quantification and presupposes the existence of at least one person that fits the description of what the predication is all about, i.e. *some people*, etc. Roughly, Cinque (1988) proposes the following characteristics that distinguish a generic from an existential interpretation.

The Generic/ Gen (∀ in Cinque's terms) interpretation has the following characteristics:

(12)

a. it seems to be associated with an inherent plural (i.e. a number of individuals fit the description of what the predication is all about). It is not compatible with one specific individual that fits the description.

   It roughly corresponds to an interpretation of *you* (2SG)*, one, or people*

b. it is typically [+HUMAN].[12]

c. there are no predicate restrictions observed and is not restricted to an external argument (i.e. we also encounter generic object pronouns, see footnote 8).

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[11] Cinque (1988: 545, fn 27) acknowledges that the interpretation of arbitrary sentences as quasi-universal or quasi-existential depends on the tense and aspect of the verb. On the other hand, accounts such as those by D'Alessandro and Alexiadou (2002) attribute systematically the differences between a generic and an existential *si* to the change of aspect. According to their account, the imperfective gives rise to a generic reading, whereas the perfective to an existential one. On top of aspect, Spyropoulos (2002) also credits tense for the alternation between the two readings. Essentially Cinque (1988) is advocating the same thing, but does not make aspect a pivotal element of his analysis (see also Comrie, 1976, 1985). For the opposing view which dissociates imperfectivity and tense from genericity, see Filip and Carlson, 1997.

[12] Moltmann (2006) argues that it is more generally 'conscious beings' rather than humans only that generic *one* refers to.

d. it does not permit specific time reference (e.g. present or past perfective), but instead favours generic time reference.

On the other hand, the arbitrary existential (∃) interpretation is characterised by the following properties:

(13)

a. It is legitimate with a single individual who fits the description. It roughly corresponds to an interpretation of *they*, *some people*.
b. it is typically [+HUMAN].
c. It is restricted to subject pronouns and it is usually attested with transitive and unergative verbs.[13]
d. It permits specific time reference (e.g. past perfective).

In sections 2.3- 2.5 I present the properties of each null arbitrary construction in Greek individually (i.e. 1PL, 2SG, and 3PL) and establish whether these observe Cinque's criteria. However, as null arbitrary subjects in Greek are not only encountered with 3PL verbal agreement, but also manifest with 1PL, and 2SG verbal agreement, this paper further seeks to answer the following questions:

a. Given that a 2SG arbitrary reading bears the same inflectional marking with the verbal agreement of a 2SG referential reading and these two differ in their person featural composition (i.e. a 2SG arbitrary lacks a [DEFINITE] feature, whereas a 2SG referential does not), what satisfies the D-feature of the EPP in these arbitrary constructions?
b. Does different aspectual marking (i.e. imperfective vs. perfective) systematically result in distinct arbitrary readings (i.e. generic vs. existential)?

[13] Cinque (1988) and Egerland (2003a) use the term 'ergative' to refer to unaccusative verbs. I distinguish between unergative and unaccusative verbs here and I assume that unergative verbs assign an external theta-role (i.e. an agent). On the other hand, the nominal in unaccusatives is not an external argument but a deep object (Burzio, 1986) and should really occupy SpecvP.

c. What is the role of the XP that consistently appears clause-initially in (4) and (6)? Is it always required in null arbitrary constructions?

It is now time I examined each of these Greek arbitrary constructions (i.e. 1PL, 2SG, and 3PL) individually.

2.2 The Greek Data; The Prelude

2.3 1PL *proarb*

A generic reading can be encoded with 1PL verb agreement:

(14) *Prota* *proarb-gen/ex* *tsigarizume* *to* *kremidi*
first sauté.PRS.IPFV.1PL the.ACC onion.ACC
ke *meta* *proarb-gen/ex* *prosthetume* *to*
and then add.PRS.IPFV.1PL the.ACC
maidano.
parsley.ACC
'First one should/we sauté the onions and then add the parsley'

(14) may appear in a cooking book or in a cooking blog in which case, as the writer is not necessarily the participant but is instructing his readership, then (14) yields a generic interpretation. However, (14), may also be interpreted existentially if the sentence is uttered by a chef who is cooking in a TV show at the same time as giving instructions to his audience. In this case, the existential reading of (14) is speaker-inclusive (see D'Alessandro and Alexiadou, 2002; Egerland, 2003a, among others). However, specific time reference (i.e. past perfective) cancels the generic interpretation of (14) and results in an existential interpretation:

(15) *Prota* *proarb-ex/ref* *tsigarisame* *to* *kremidi*
first sauté.PST.PFV.1PL the.ACC onions.ACC
ke *meta* *proarb-ex/ref* *prosthesame* *to*
and then add.PST.PFV.1PL the.ACC

maidano.
parsley.ACC
'First we sautéd the onions and then added the parsley'

The interpretation of (15) is: *there is an x, x a set of people (i.e. including the speaker), and x carried out y, y being sauteeing onions and adding parsley*. (15) may also ensue a referential interpretation if the speaker/presenter had a very specific team cooking with him (i.e. comprising five people) and the verb refers to the members of this team only.

1PL *pro* can also receive a generic interpretation in contexts other than those in (14). Let us assume that (16) is uttered by an angry spectator as a response to emergency TV news which just announced an incident of mass shootings in the US:

(16) *Stin Ameriki prota pro*$_{arb\text{-}gen}$ *skotonume*
in.the States first kill.PRS.IPFV.1PL
ke meta pro$_{arb\text{-}gen}$ *zitame signomi.*
and then ask.PRS.IPFV.1PL apology.ACC
'In the States, people kill first and then apologise'

Cinque (1988) associates an existential reading with transitive and unergative predicates that license an external argument rather than with unaccusatives that do not. These assumptions are not always borne out in Greek, as the unaccusative verb *vrazo* 'boil' can also trigger an existential reading:

(17) *Stin Athina pro*$_{arb\text{-}gen/ex}$ *vrazume apo ti zesti to*
in.the Athens melt.PRS.IPFV.1PL from the heat the
kalokeri.[14]
summer
'During summer, in Athens, one melts/we melt from the heat'

[14] The example is adapted from Spyropoulos (2002).

If the speaker is a resident of Athens, then (17) ensures an existential reading, as he also includes himself as one of those people who experience the extreme Athenian heat. However, one can also imagine a context where the speaker is not a resident of Athens, but his foreign audience is only familiar with Athens and not many other places in Greece, so he utters (17). In the second scenario, (17) yields a generic reading.

Further, an unergative verb such as *dulevo* 'work' in combination with past perfective marking on the verb, may result in an existential interpretation:

(18) *(Stin Ameriki)* *proarb-ex* *dulepsame* *poli* *ke* *proarb-ex*
(in.theStates) work.PST.PFV.1PL a.lot and
kerdisame *liga.*
earn.PST.PFV.1PL little
'(In the States) we worked a lot and earned a little'

Let us assume that (18) is uttered by a narrator of a documentary on Greek diaspora in the States. In this case, the reading of (18) is existential (speaker inclusive). The rest of the referents are unspecified or represented by the broader set of all Greek diaspora in the States.

Without the continuing clause, (19) would have either a generic or an existential interpretation depending on the context. However, the addition of the continuing clause below, which identifies at least one individual who fits the description of the predicate, turns the interpretation of (19) into an existential one:

(19) *Stin Elada* *proarb-ex* *dulevume* *aplos* *gia* *na*
in.the Greece work.PRS.IPFV.1PL simplyfor to
proarb-ex *epivionume.* *Mera* *beni* *mera*
survive.PRS.IPFV.1PL.Day come.PRS.IPFV.3SG day
vgeni *afto* *kani* *o* *Manolis.*
go.PRS.IPFV.3SG this do.PRS.3SG the.NOM Manolis.NOM
'In Greece we work simply to survive. Day in day out, this is what Manolis does.'

In (20), we can have a generic and an existential reading which is introduced inferentially along the lines of an overt or covert XP such as *se afti ti zoi* 'in this life':

(20) *Kalo ine na* *pro*arb-gen/ex *xerume pote*
good is to know.PRS.IPFV.1PL when
ginomaste kurastiki.
become.PRS.IPFV.1PL tiresome
'It is good to know when one becomes tiresome'

Summarising the data discussed above, 1PL is generic when the verb appears in the imperfective and when there is no single individual who fits the description. With 1PL there is normally an XP clause-initially, but this is not necessarily overt, as this XP may be presupposed as part of previous discourse (i.e. covert XP), as in (20). 1PL manifests an existential reading that tends to include the speaker when the verb is marked with past perfective, as in (18), or when the verb is marked with present imperfective and there is a continuing clause that mentions at least one individual that fits the description, as in (19). In addition, an existential reading is not as constrained in its predicate choices as assumed in Cinque (1988), given that it may also occur with an unaccusative see (17).

2.4 2SG *pro*arb

An arbitrary reading can also be encoded with 2SG verbal agreement. Cinque (1988) alongside others takes the 2SG implicit arbitrary *pro* as being associated with a generic reading. This is borne out in Greek:

(21) *Se afti ti laiki* *pro*arb-gen *psonizis*
in this the open-market shop.PRS.IPFV.2SG
fthina.
cheaply
'In this open market one shops cheaply'

Nevertheless, (21) becomes ungrammatical if the locative PP is missing unless the topic (i.e. the locative PP) has been introduced in previous discourse (i.e. if someone asks why do you keep coming back to this food market again and again) and the PP is covert, then the answer could be V1, as in (22):

(22) *(Se afti ti laiki)* *pro*$_{arb\text{-}gen}$ *psonizis*
(in this the open-market)
shop.PRS.IPFV.2SG
fthina.
cheaply
'In this open market one shops cheaply'

(22) cannot survive as a generic with the omission of the locative PP. Contra Cinque's criteria, my informants take (23) to maintain its generic interpretation despite the continuing clause that identifies at least one individual who fits the description:

(23) *Se afti ti laiki* *pro*$_{arb\text{-}gen}$ *psonizis*
in this the open-market shop.PRS.IPFV.2SG
fthina. I Maria, gia paradigma,
cheaply. the.NOM Maria.NOM for example
erhete taktika.
come.PRS.IPFV.3SG often
'In this open market one shops cheaply. Maria, for example, comes often'

Past perfective marking on the verb results in a specific reading only:

(24) *(Se afti ti laiki)* *pro*$_{ref}$ *psonises fthina.*
(in this the open-market) shop.PST.PFV.2SG
cheaply
'In this open market you shopped cheaply'

As predicted by Cinque (1988) past imperfective marking on the unaccusative verb *liono* 'melt' can result in a generic reading, if someone describes, for example, what the Greek school system is like, then part of the narration could include (25):

(25) *Stis paneladikes* *pro*$_{arb\text{-}gen/ref}$ *eliones sto*
in.the Greek-exams melt.PST.IPFV.2SG in.the
diavasma.
studying
'During the final Greek exams one/you would study until you dropped'

However, (25) can also be referential if two friends reminisce about their final school days and the one who worked particularly hard jokingly asks the other 'was I a hard working student?'. In this case the XP is not required, the speaker can simply respond with a V1 order (i.e. *eliones sto diavasma).* Conversely, when the verb appears in the past perfective, then only a referential interpretation is possible:

(26) *(Stis paneladikes)*$_{pro_{ref}}$ *elioses sto*
diavasma.
in.the Greek-exams melt.PST.PFV.2SG in.the studying
'During the final Greek exams you studied until you dropped'

The data above show that in 2SG agreement, a generic reading arises only when the verb appears in present or past imperfective and there is an XP clause-initially, overt or implicit. Conversely when the verb appears in the past perfective, then the interpretation that ensues is only referential. As predicted by Cinque's criteria, Greek arbitrary *pro* presupposes reference to humans that fit the description of what the predicate is about. More specifically, the interpretation of the 2SG *pro* in (25) is either generic, or referential. The evidence above shows that in 2SG agreement, a generic reading arises only when the verb appears in the imperfective and there is an XP clause-initially, overt or implicit.

2.5 3PL *pro*$_{arb}$

In this section we look into the properties of *pro*$_{arb}$ where the verb is marked with 3PL agreement. 3PL agreement has been noted to be arbitrary in a number of languages (see Cinque, 1988; Contoravdi 1987, 1989a; Holmberg, 2010; Spyropoulos, 2002, among others):

(27a) *Stin Kriti pro*$_{arb\text{-}gen}$ *trone saligaria.*
in.the Crete eat.PRS.IPFV.3PL snails.ACC
'In Crete they eat snails'

In (27a) the generic quantifier gives rise to the interpretation where: *it is generally/typically/usually the case that X, X being Cretan people, X usually/typically eat Y, Y being snails*. (27a) cannot be interpreted generically if the XP is omitted. Without the XP, the only interpretation of (27a) is referential (i.e. there is a group of people and this group eats snails). (27a) would retain the same generic interpretation if the XP was replaced by a subject (i.e. subjects as kinds) such as *i kritiki* 'the Cretans':

(27b) *I kritiki trone saligaria.*
the.NOM Cretans.NOM eat.PRS.IPFV.3PL snails.ACC
'The Cretans/Cretan people eat snails'

Cinque (1988: 546) predicts that any continuing clause identifying a single individual who fits the description cancels out the generic reading, a prediction that is not borne out in (28). Despite adding *i Maria* as a specific individual who fits the description of the predicate, the first part still remains generic (i.e. *It is generally true that Cretans eat snails, among those who eat snails, Maria is one of them*):

(28) *Stin Kriti pro*$_{arb\text{-}gen}$ *trone saligaria.*
in.the Crete eat.PRS.IPFV.3PL snails.ACC
I Maria molis efage ena piato.

the.NOM Maria.NOM just eat.PST.PFV.3SG a.ACC plate.ACC
'In Crete they eat snails. Maria just had a plate'

It is interesting to note, however, that if we alter the aspect of (28) (i.e. specific time reference) to past perfective, as in (29), then the sentence can be either existential or referential:

(29) *pro*$_{arb\text{-}ex/ref}$ *efagan* *saligaria.*
eat.PST.PFV.3PL snails.ACC
'They ate snails'

If (29) is uttered as a response to the question 'what did you give the kids for dinner?', then the interpretation is referential. However, (29) can also be interpreted existentially. For instance, you are entering a restaurant and there is an empty table where people have just finished eating and left. The snail shells on the empty plates indicate that they had snails for dinner. In this case (29) will be interpreted existentially.

A generic reading in 3PL is contingent on the XP and the imperfective aspect. The fact that the XP together with the imperfective aspect ensue a generic reading is further corroborated by (30) below. (30) results in a generic interpretation only if the XP *stin Elada* 'in Greece' is overt or implicit (i.e. has been introduced in previous discourse), as in the exchange in (31):

(30) *(Stin Elada)*$_{pro_{arb\text{-}gen}}$ *dulevun* *mehri ta* *65.*
(in.theGreece) work.PRS.IPFV.3PL until the 65
'(In Greece), they/people work until the age of 65'

(31)
Speaker A: *Stin Ameriki* *dulevun* *mehri ta* *67.*
in.the States work.PRS.IPFV.3PL until the 67.
'In the States they work until 67'

Xeris *pote* *pernun* *sidaxi*

know.PRS.2SG when take.PRS.IPFV.3PL retirement
stin Elada?
in.the Greece?
'Do you know when they retire in Greece?'

Speaker B: *proarb-gen* *dulevun* *mehri ta* *65.*
work.PRS.IPFV.3PL until the 65
'(in Greece) they work until 65'

If the XP *stin Elada* is not in the interlocutors' immediate awareness (in Vallduví and Engdahl's, 1996 terms), then a generic interpretation is ruled out in (30) as it would be in Speaker B's response in (31).

The change of aspect in (32) does not result in ungrammaticality. Instead, (32) is interpreted existentially:

(32) *(Se afto to project)* *proarb-ex/ref* *dulepsan*
(in this the project) work.PST.PFV.3PL
sklira gia na lisun to provlima.
hard for to solve.PST.PFV.3PL the.ACC problem.ACC
'(In this project) they worked hard to solve the problem'

In (32) the perfective aspect alongside the covert XP assist an existential interpretation. However, if the interlocutors were aware of a very specific team that participated in this project, then (32) could also be interpreted referentially. In this case the XP could be absent and the sentence could exhibit a V1 order.

It is also interesting to note that in (33) the locative XP cannot appear clause-initially when there is an overt pronominal pronoun:

(33) *(*Stin Aglia)* *afti pinun* *poli.*
in.the England they drink.PRS.IPFV.3PL a.lot
'(In England) they drink a lot'

This suggests that the overt subject and the locative XP occupy the same position in the clausal architecture or perform the same syntactic function (i.e. fill SpecTP).

Throughout the discussion of the data I have been hinting at an important observation, namely that the clause-initial XP (in collaboration with the imperfective) assists a generic reading:

(34) *Stin Aglia* *pro*$_{arb\text{-}gen}$ *pinun* *poli.*
in.the England drink.PRS.IPFV.3PL a.lot
'In England they drink a lot'

If the XP *stin Aglia* is not overt, then it will have to be presupposed and therefore will be covert. For instance, if someone asks the speaker 'what is your opinion of English people?' then the answer could be V1 (i.e. *pinun poli*). If, however, the XP is entirely absent (i.e. neither overt nor covert), then a generic reading does not arise.

Before I discuss the role of the XP, the featural make-up of the verbal agreement morpheme of each arbitrary construction, EPP satisfaction, as well as the role of the imperfective, let us remind ourselves of the properties we have identified.

2.6 Interim Summary

As we have seen in sections 2.3 – 2.5 null arbitrary subjects in Greek are encountered with 1PL, 2SG, and 3PL verbal agreement. Table 1 summarises the different null arbitrary constructions we have encountered so far and the readings that these may exhibit.

Table 1: Properties of null arbitrary subjects in Greek

Word Order	**Verbal Agreement**	**Aspect**	**Generic *pro***	**Existential *pro***	**Referential *pro***
XP (overt or covert)-V	1PL	imperfective	✓	✓	✗
XP (overt or covert)-V = existential, (XP)V= referential	1PL	perfective	✗	✓	✓
XP (overt or covert)-V= generic, (XP)V= referential	2SG	imperfective	✓	✗	✓
(XP)V	2SG	perfective	✗	✗	✓
XP (overt or covert)-V	3PL	imperfective	✓	✗	✗
XP (overt or covert)-V= existential, (XP)V= referential	3PL	perfective	✗	✓	✓

Based on Cinque's criteria for generics and existentials as these were outlined in (12) and (13), respectively, Greek null arbitrary subjects exhibit the following properties:

a. As predicted by Cinque (1988), the reference of both a generic and an existential arbitrary reading is inherently [+HUMAN]. In addition, both a generic and an existential reading refer to multiple individuals (i.e. their reference is inherently [+PLURAL]).
b. On a par with Cinque (1988), an arbitrary generic reading is available only when the verb is marked with the imperfective (i.e. generic time reference) and when there is an XP clause-initially (overt or covert). This requirement for an XP in Greek generics is far more systematic than has been previously acknowledged in the literature (see Contoravdi, 1989a; Spyropoulos, 2002).[15]
c. As shown by Cinque (1988), an existential reading usually results with specific time reference (i.e. perfective marking).
d. In line with Cinque's observations in (12), a generic reading is typically cancelled when there is a continuing clause that names at least one individual who fits the description designated by the predicate, as in (19), but unlike (23) and (28) which maintain their genericity.
e. In accordance with (12), a generic reading emerges with all different types of predicates (i.e. transitives, unaccusatives, unergatives, etc).
f. Cinque (1988) argues that an existential reading arises only with transitives and unergatives. Greek existential readings largely abide by this generalisation (for a counterexample, see (25), where an unaccusative predicate co-occurs with an existential interpretation).

[15] Condoravdi (1989a: 73, fn 4) notes the following regarding the clause-initial XPs: "their frequent presence is a consequence of the need to make such utterances more informative by restricting the domain of quantification. The need for descriptive content is particularly important for pro$_{arb}$ and *they* in their generic use since the relevant sentences express regularities about human entities directly and without any restrictions the utterance would be hopelessly uninformative."

690
691 The remainder of this paper will focus on the syntax of these null
692 arbitrary constructions. I begin with examining the role of the XP, upon
693 which an arbitrary reading is dependent.
694
695 **3. The Analysis**
696 **3.1 The Role of the XP**
697
698 The function of this locative XP[16] has been examined in various studies
699 that deal primarily with word order phenomena (cf. Alexiadou, 1996, 1999;
700 Borer, 2005; Pinto, 1997; Sheehan, 2006; Zubizarreta, 1998). Most of these
701 studies agree that the XP situated clause-initially functions as a *range*
702 *assigner/stage-topic/restrictor*, that is, assigns range or restricts the event
703 expressed by the predicate to a certain place (i.e. locative adverbial) or to
704 a certain time (i.e. temporal adverbial), see Borer, 2005; Cardinaletti and
705 Stark, 1999; Spyropoulos, 2002, among others. However, previous accounts
706 of Greek null generic subjects (Contoravdi, 1989a; Spyropoulos, 2002)
707 have not offered an analysis on the role of these XPs. The present account
708 is unique in at least three ways: (a) in outlining a wide array of empirical
709 evidence unreported in previous literature, data which reveal that null
710 arbitrary subject readings in Greek are possible beyond 3PL verbal
711 agreement, (b) in acknowledging that a null generic reading in Greek is
712 contingent upon two factors; imperfective marking on the verb (as has also
713 been assumed by Contoravdi, 1989a; Giannakidou, 1998; Lekakou, 2005;
714 Spyropoulos, 2002; Tsimpli and Roussou, 1996, among others), and the
715 presence of an XP, and (c) in explaining that the featural composition of
716 the verb in arbitrary constructions is less rich than in referential ones, as
717 the person agreement in these arbitrary constructions lacks a [DEFINITE]
718 feature.[17]

[16] I have been using mostly locative XPs avoiding temporal XPs, as these may turn the event from atelic to telic. Borer (2005), chapter 9 and Cabredo Hofherr (2006) reach a similar conclusion, namely that temporal expressions do not share the same nominal (subject-like) properties that locative expressions have.

[17] See Lekakou and Pitteroff (2018) who analyse impersonal middles and identify that this 'additional modifier', as they label the manner or other adverbial PP, is required for

Cinque's (1988) data from Italian are very similar to the ones from Greek at least when it comes to the generic reading encoded by 3PL, but Cinque (1988) does not offer any insight into the role of this XP. (35) features a transitive, (36) an unergative, and (37) an unaccussative verb:

(35) *Li, odiano gli stranieri.*
there hate.PRS.IPFV.3PL the.ACC foreigners.ACC
'There, they hate the foreigners'

(36) *Qui, lavorano anche di sabato.*
here work.PRS.IPFV.3PL even on Saturday
'Here, they work even on a Saturday'

(37) *Qui, vanno a scuolagia a quattro anni.*
here go.PRS.IPFV.3PL to schoolwhen four years old
'Here, they go to school at the age of four'

(Cinque, 1988:545)

The generic interpretation of (35) – (37) is assisted by the presence of the locative adverbs *li* and *qui*. Oddly, in the absence of these clause-initial adverbs, the sentences cannot survive as V1. So, the first question we need to ask ourselves is why this is the case. It is important to remember that an XP cannot co-occur with an overt pronominal as in (33), repeated below for convenience as (38):

(38) *(*Stin Aglia) afti pinun poli.*
(in.theEngland) they drink.PRS.IPFV.3PL a.lot

pragmatic reasons. Lekakou (2005) and Pitteroff (2014) among others have argued that the NP inside the PP is the logical subject, required to restrict informationally the generalization of the impersonal middle. Effectively, the pronoun and the PP are coindexed, as "the obligatory pronoun associates with the modifier, thus linking it semantically to the subject position" (Lekakou and Pitteroff, 2018:13).

'(In England) they drink a lot'

The locative XP in (38) can be replaced by the nominative subject *i Agli* 'English people' and perform the function of a kind-referring subject, as is typical in generics (see Krifka et al, 1995). Evidence that the locative XP in (38) resembles a kind-denoting subject comes from the following distributional observation: the locative XP cannot precede the pronoun *afti*, as the two compete for the same position (i.e. SpecTP), but it can directly follow the pronominal *afti* (i.e. *afti stin Aglia*). This indicates that these overt or covert locative XPs in generics have a nominal character, or else appear to display subject-like properties (cf. Cabredo Hofherr, 2006). Although this is less obvious in existentials, I assume that these XPs have a nominal 'flavour' in all Greek arbitrary constructions. Their nominal character corroborates the fact that these XPs also bear a D-feature which can satisfy the EPP on T.

Holmberg (2010) investigates the null generic subject pronoun in Finnish and shows that this does not have enough lexical content to be of the referential type that *pro* of the null subject type is. Even though the Finnish generic pronoun triggers 3SG subject agreement, is assigned nominative case, has ϕ-features as well as a [+HUMAN] feature, due to the lack of lexical content (behaves like an indefinite NP rather than a DP) it remains at SpecvP and is invisible to the EPP. This is the reason why generic sentences in Finnish require an XP to appear clause-initially, as in (40). In the absence of a locative XP, an expletive merges there to satisfy the EPP, as in (41):[18]

(39) ** Istuu* *mukavasti* *tässä.*
sit.PRS.IPFV. 3SG comfortably here
'One sits comfortably here'

(40) *Tässä istuu* *mukavasti.*
here sit.PRS.IPFV.3SG comfortably

[18] In Holmberg and Nikanne (2000) this tendency for the first position to be filled was attributed to the topic status of Finnish.

780 ‘One sits comfortably here’
781
782 (41) *Sitä istuu mukavasti tässä.*
783 EXPL sit.PRS.IPFV. 3SG comfortably here
784 ‘One sits comfortably here’
785
786 (Holmberg, 2010: 204)
787
788 According to Homberg (2010) a null generic pronoun marked with
789 3SG person agreement (or 3PL in other languages) is in complementary
790 distribution with a 3SG (or 3PL) referential *pro*. More specifically his
791 analysis makes the following predictions: (i) in partial pro-drop languages
792 like Finnish and Brazilian Portuguese there is a null generic pronoun with
793 3SG, but 3SG cannot also have a null definite subject pronoun unless this is
794 logophorically bound extra sententially (i.e. across sentences), conversely
795 (ii) in consistent null subject languages such as Greek and Italian, 3SG or
796 3PL verbal agreement permits a null definite pronoun, but 3SG or 3PL does
797 not allow for a null generic subject. Holmberg (2010) further argues that
798 these consistent null subject languages choose either overt generic
799 pronouns (i.e. *si* in Italian) to express the generic ‘one’, or, in the case of
800 Greek, choose 2SG verbal agreement to encode genericity (i.e. generic
801 *you*). With respect to Greek, (ii) is correct in that 3SG in Greek permits only
802 an overt generic pronoun (i.e. *kanis* or *o alos*). However, (ii) does not
803 capture the more complex empirical pattern that holds for Greek
804 genericity; a null generic subject does not only occur with 2SG, but also
805 with 1PL (cf. the data in section 2.3), and 3PL in Greek permits either a null
806 generic pronoun or an overt one (i.e. *i ali*, see example (9)).
807 Holmberg (2010) demonstrates that the Finnish generic pronoun is
808 specified for Case, person (i.e. 3SG) and number, but does not satisfy the
809 D-feature of the EPP on T. This is why an expletive or another adverbial
810 satisfies the EPP. Holmberg postulates that partial pro-drop languages do
811 not have a D-feature on T, as consistent ones like Greek do.[19] I will follow

[19] Although Holmberg (2005, 2010) does not elaborate any further on the absence of D in partial pro-drop languages, I believe that he is aware that reducing the typological

Holmberg (2005) in assuming that T in Greek possesses a D-feature. In this case there are two important questions that emerge from the null arbitrary constructions investigated here: (i) what satisfies the D-feature of T in these constructions and, furthermore, (ii) what is the featural content of the 2SG generic vs. the 2SG referential verbal inflection given that the inflectional ending of the verbal morphology in these cases is polysemous.

In order to be able to answer (i) and (ii) above, I first present some theoretical assumptions that dominate the literature on the modes of EPP-satisfaction and on the featural composition of T and then discuss the featural make-up of the verbal morphology in Greek arbitrary constructions. In order to address (ii) I adopt and modify a feature geometry account similar to those advocated by Béjar (2003), Carvalho (2017), and Harley and Ritter (2002), among many others. Feature geometry has typically been advanced to account for the more complex pronoun agreement patterns that we encounter across various languages. However, in this work feature geometry is adopted to account for the agreement patterns of the verbal morphology. It is shown that in Greek arbitrary constructions, the standard ϕ-features (i.e. person, number and gender, etc) are not enough to account for the properties of these verbal agreement morphemes and their corresponding interpretations. Instead, these ϕ-features are decomposed into more lexical features (i.e. [D], [ANIMATE], [HUMAN], etc). These features are arranged in a hierarchical/geometric fashion. In feature geometry, categories such as *animacy* and *specificity* are grammaticalized and participate in the derivation in the form of features so that we can explain more complex agreement patterns that appear cross-linguistically (i.e. constraints on which features can co-occur, etc). Specifically, it is shown that the internal composition of person in the verbal morphology of arbitrary constructions is featurally less specified (i.e. lacks a [DEFINITE] feature), than the featural specification of person in referential verbal morphology (see also Gruber,

distinction between partial pro-drop languages and consistent null subject languages to a D-feature only does not come without its unwarranted consequences, as in partial pro-drop languages definite subjects should be ruled out altogether from SpecTP.

2011). In effect, the arbitrary (i.e. generic and existential) verbal morphology is not 'nominal' enough to carry a D-feature and satisfy the corresponding D-feature of the EPP. To resolve this situation, it is further argued that an (overt or covert) XP merges on SpecTP and satisfies the EPP in both types of arbitrary constructions.

3.2 EPP on T as D

Alexiadou and Anagnostopoulou (1998), following Chomsky (1995), have put forward the idea that the EPP requirement of T (=a referential feature in their account) can be satisfied either by head movement (i.e. V-T movement), as the verbal morphology is nominal enough to encode a D-feature, or by movement of a DP- subject from SpecvP to SpecTP. There is a third mode of EPP satisfaction which explains the presence of expletives such as *there* and *it* in English. According to this last mode of EPP-satisfaction the expletive, or expletive-like-element (see Holmberg, 2000 on Icelandic stylistic fronting) merges on SpecTP and satisfies the D-feature of the EPP. A genuine expletive lacks some ϕ -features but has a person feature and as such is capable of satisfying the D-feature of the EPP (Chomsky, 2000). Furthermore, Alexiadou and Anagnostopoulou (1998) argue against an expletive *pro* in the system of Greek, given the absence of definiteness restriction effects in the language. An element that does not have an effect on LF should not be present and a covert expletive in Greek does not have an interpretive effect. Essentially, Alexiadou and Anagnostopoulou (1998) argue that SpecTP in the system of Greek is inert and V-T movement is what invariably satisfies the EPP on T. Effectively, they roughly divide languages into Null Subject Languages that have rich verbal agreement in which the verbal agreement is D-marked and satisfies the EPP via verb movement (i.e. Greek) and languages such as English which lack rich verbal agreement and opt for one of the other two modes of EPP satisfaction. In addition, their system does not make any predictions in relation to the presence of a referential *pro* in the sense of Rizzi (1982). To do justice to the authors, a referential

876 *pro* is redundant in their system given that the verbal morphology is
877 nominal enough to satisfy the D-feature of the EPP.
878 The questions that arise at this point are (a) what this D-feature
879 amounts to, and (b) what the categories that may bear a D-feature are. I
880 take this D-feature to be a feature that represents definiteness, but not
881 necessarily specificity.[20] Rohrbacher (1999) and Van Gelderen (2011)
882 argue that from the ϕ-feature bundle, person is the feature that
883 determines the presence or absence of D in the verbal agreement
884 morpheme (cf. Alexiadou and Anagnostopoulou, 1998:519, fn 29). For
885 instance, if the verbal morphology encodes person (e.g. 2SG, etc), then it is
886 considered nominal enough to match and delete the uninterpretable D-
887 feature of the EPP. However, the assumption that the 2SG person
888 invariably encodes a D-feature is still not able to account for a 2SG generic
889 vs. a 2SG referential interpretation and none of the authors above
890 demonstrate the link between a D-feature and a person feature. In line
891 with Alexiadou and Anagnostopoulou (1998) and Holmberg (2000, 2005), I
892 take Greek T to invariably possess a D-feature which I take to correspond
893 to a [DEFINITE] feature.
894 In order to shed light on the relationship that holds between a
895 person and a D-feature, I first argue that the person feature is further
896 decomposed into two more features; a [PARTICIPANT] and a [D] feature. In
897 turn, the [PARTICIPANT] feature can be further broken down to a [SPEAKER]
898 and an [ADDRESSEE] feature, whereas the [D] feature is further
899 decomposed to a [DEFINITE] and a [SPECIFIC] feature. When the
900 [PARTICIPANT] and the [D] features are fully specified the result is a 1ST or
901 2ND person referential interpretation. However, as I demonstrate in the next
902 section, the absence of a [DEFINITE] feature on the Goal V in Greek has the
903 following two consequences: (a) results in an arbitrary interpretation, and
904 (b) requires the uninterpretable D-feature of T to participate in a *second*
905 *cycle of Agree* (Béjar, 2003), so as to find another lexical item that bears

[20] I dissociate definiteness from specificity (see Ihsane and Puskas, 2001; Alexiadou et al ,2007, among others). I also refrain from taking a position that a D-feature is always referential, as not all EPP satisfiers are referential (i.e. pure expletives), see Holmberg 2000, 2010.

the requisite D-feature. Aside from the person feature that also includes [PARTICIPANT] and [D], the Greek feature bundle of T also possesses number, Case, as well as an [ANIMATE] and a [HUMAN] feature to capture the fact that arbitrary constructions presuppose reference to humans (for a similar view see Holmberg and Phimsawat, 2015). As number in both types of arbitrary constructions (i.e. generics and existentials) designates reference to multiple humans, then number is invariably marked as [GROUP]= PLURAL.[21] It is now time we investigated in some detail the featural composition of the verbal agreement of these arbitrary constructions.

3.3 Decomposing arbitrary V; empty D

First of all, I take the inflectional ending of the verbal morpheme of a 2SG generic arbitrary reading to be polysemous with the inflectional ending of the verbal morpheme of a 2SG referential reading. Polysemy here captures the fact that the inflectional paradigm of a given verb has multiple instances of the same forms. The idea is that the inflectional ending of a verbal form carries different readings and enters the paradigm listed in the lexicon as many times as the readings it carries. For example, the root of a 2SG referential agreement and the root of the 2SG generic agreement is the same, so the forms of the paradigm cannot be accidental, as would be in the case of homophony (cf. Lyons, 1977). The main difference between a 2SG generic and a 2SG referential reading is that the first behaves like an indefinite (see Contoravdi, 1989a) whereas the second behaves as a definite.[22] This case of polysemy provides direct empirical evidence that a 2SG referential verbal form is internally more complex than a 2SG generic verbal agreement. These distinct interpretations of a 2SG verbal agreement

[21] Krifka et al (1995) and Laca (1990) also point out that habitual generics refer to plural entities.

[22] Zobel (2016) argues that impersonal pronouns behave neither as definite pronouns (i.e. as argued by Kratzer, 1997), nor as indefinites (cf. Contoravdi, 1989a; Moltmann, 2006, among others).

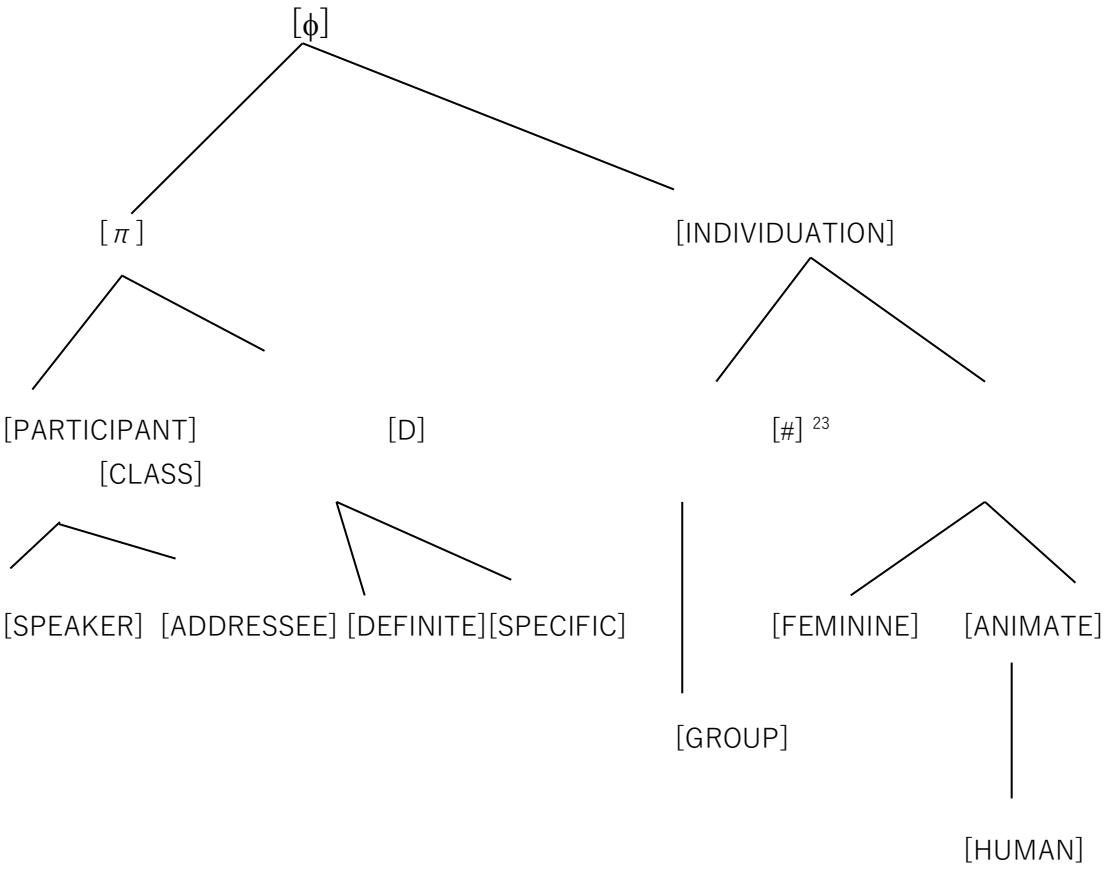
cannot be captured simply by postulating that a person feature is either present or not (i.e. +/- person).

The first analyses that arrange features in a geometrical fashion emerged in phonology, as certain combinations of phonological features in the languages of the world could only be accounted for in a hierarchical manner (Clements, 1985). Given that similar language specific combinations also occur in pronominal and other agreement systems, a geometrical feature organisation was put forward to account for the morphological features of person, number, class, and gender (Harley, 1994; Harley and Ritter, 2002; Ritter, 1997, among others). Greenberg (1963) was the first to note that the way these morphological features interact cannot be explained as an unordered bundle of features which can only be assigned a +/- value (Chomsky, 2000). Such binary values cannot account for a number of more complex combinatorial possibilities that we encounter across languages or for the exact interaction between person, number, and gender features (i.e. gender depends on number, arbitrary and referential interpretations that arise with the same pronoun, etc.). For instance, in traditional syntactic approaches to agreement, a 2SG arbitrary and a 2SG referential verbal agreement, like the ones we encounter in Greek, can only be accounted for by postulating that a 2SG arbitrary interpretation lacks a person feature, whereas in a 2SG referential interpretation a person feature is present. Nevertheless, in both readings the verb is marked for 2SG person. This evidence compels a more detailed person feature composition in order to demonstrate that this language specific interpretation of person is dependent on the interaction of a richer inventory of formal ϕ-features (i.e. person).

Based on Harley and Ritter's (2002) as well as on Béjar's (2003) geometric representation of morphosyntactic features, Carvalho (2017) puts forward an analysis that explains the distinct interpretations encountered in the pronoun system of Brazilian Portuguese (BP). More specifically, he demonstrates that a binary system where a ϕ-feature is either present or absent (á la Chomsky, 1995 and subsequent work) is not a sufficient model to account for all the different properties and interpretations of the BP pronoun system. For instance, the BP 2SG

pronoun *você* may be interpreted either referentially or generically. Given that both pronouns are specified for person (i.e. 2SG) Carvalho shows that it is not person *per se* that triggers these distinct interpretations. Instead, it is the more intricate internal composition of the person agreement that is responsible either for a generic or for a referential interpretation. Effectively, he proposes the following featural composition of BP pronouns:

(42) **ϕ-feature agreement in BP pronouns**



(Carvalho, 2017:80)

[23] [#] signals the number category for plural pronouns in BP, whereas the absence of [#] marks singular BP pronouns. Consider Carvalho (2017:72-73) on why [#] is empirically necessary.

(42) shows that features of pronominal arguments are grouped in classes under the dominant (root) node [ϕ] which stands for ϕ-feature agreement. The intermediate category [π] represents person. In Harley and Ritter's (2002) analysis person is represented solely by the category [PARTICIPANT] which further dominates a [SPEAKER] and an [ADDRESSEE] feature. The [PARTICIPANT] feature refers to the participants in the discourse and as such it is only present with 1st and 2nd person agreement. Specifically, the [SPEAKER] feature is encountered when the discourse person is the speaker, as is the case with 1st person, whereas the [ADDRESSEE] feature represents the hearer in the discourse and is typically attested with 2nd person pronouns. 3rd person pronouns are not specified for [PARTICIPANT], as 3rd person does not count as person (cf. Carvalho, 2017; Harley and Ritter, 2002, *inter alia*). On the other hand, a [DEFINITE] feature refers to an individual that is present in the universe of discourse, whereas a [SPECIFIC] feature denotes a specific/familiar individual (see Carvalho, 2017: 70). In Carvalho's system, [π] is a necessary intermediate category, given that person is not only broken down to [SPEAKER] and [ADDRESSEE], but [π] further dominates a [D] feature, as illustrated by (42).[24] This [D] feature constitutes the nominal part of the pronoun and further comprises of a [DEFINITE] and a [SPECIFIC] feature. Essentially, the person agreement encodes [D] when at least one of its features (i.e. [DEFINITE] and/or [SPECIFIC]) are present, otherwise D remains empty and [π] is underspecified for [D]. [25] The system presupposes an implicational

[24] Béjar (2003:48-50) argues that [π] is a notational variable that may be abstract in content, but crosslinguistic evidence requires it to be invariably present. For instance, Béjar (2003) observes that 3rd person pronouns may lack [PARTICIPANT], but may possess a [DEICTIC] feature as part of [π]. I will adopt [π], and assume that as [π] entails a range of different person-related features, it is always present, even in Greek 3rd person verbal agreement, despite the fact that in 3rd person the [PARTICIPANT] feature is absent (cf. Carvalho, 2017; Harley and Ritter, 2002).

[25] Béjar (2003) and Carvalho (2017) use the notions of *deficiency* and *underspecification* interchangeably. A form is deficient if it lacks at least one internal feature (Carvalho, 2017:110), whereas a form is maximally underspecified if it presents only the features that maximally define its category, cf. Carvalho, 2017:113 who follows McFadden, 2007.

relationship (i.e. entailment)[26] whereby [DEFINITE] cannot occur in the absence of the distinctive feature [D] and [D] exists only if [π] does, etc (see Bejar, 2003; Carvalho, 2017; McFadden, 2007, among others). In (42) [INDIVIDUATION] stands for the traditional category of number and [GROUP] corresponds to plural. On the other hand, [CLASS] corresponds to the traditional category of gender as well as other nominal information, hence why aside from [FEMININE] it also includes [ANIMATE] and [HUMAN] features.

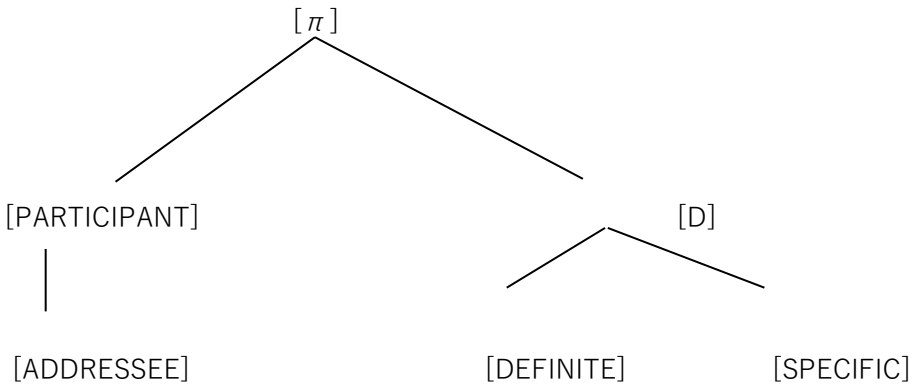
Carvalho further argues that when [D] is empty, then the reading that ensues can only be arbitrary. Effectively, the generic 2SG pronoun *você* is deficient because it lacks one or more internal features (see Carvalho, 2017:63). This distinct featural structure of the 2SG referential *você* and the 2SG arbitrary *você* are exemplified in (43a) and (43b), respectively:

(43a) **2SG referential *você* (BP)**

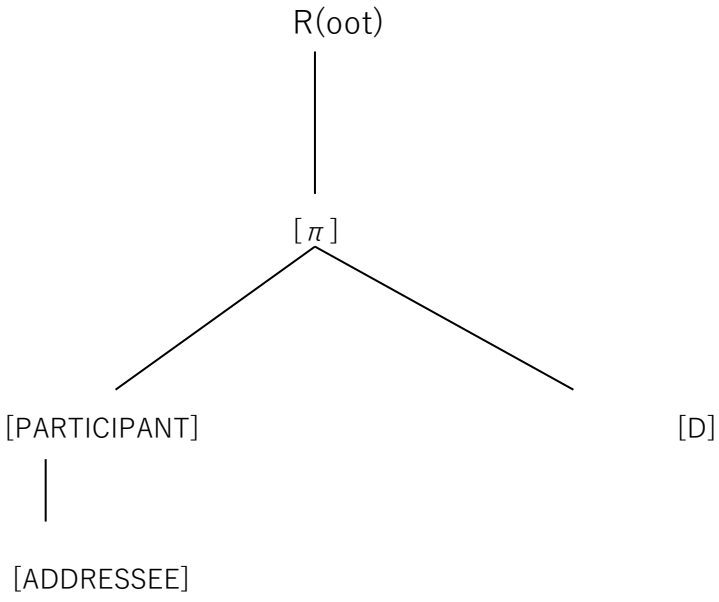
R(oot)

One such case is the 3SG generic construction where only [π] and [D] are present, but these are minimally specified (i.e. devoid of any features), as shown in (46b).

[26] "Given two elements A and B on a hierarchical order, the presence of B requires the presence of the other element (A)" (Carvalho, 2017:86).



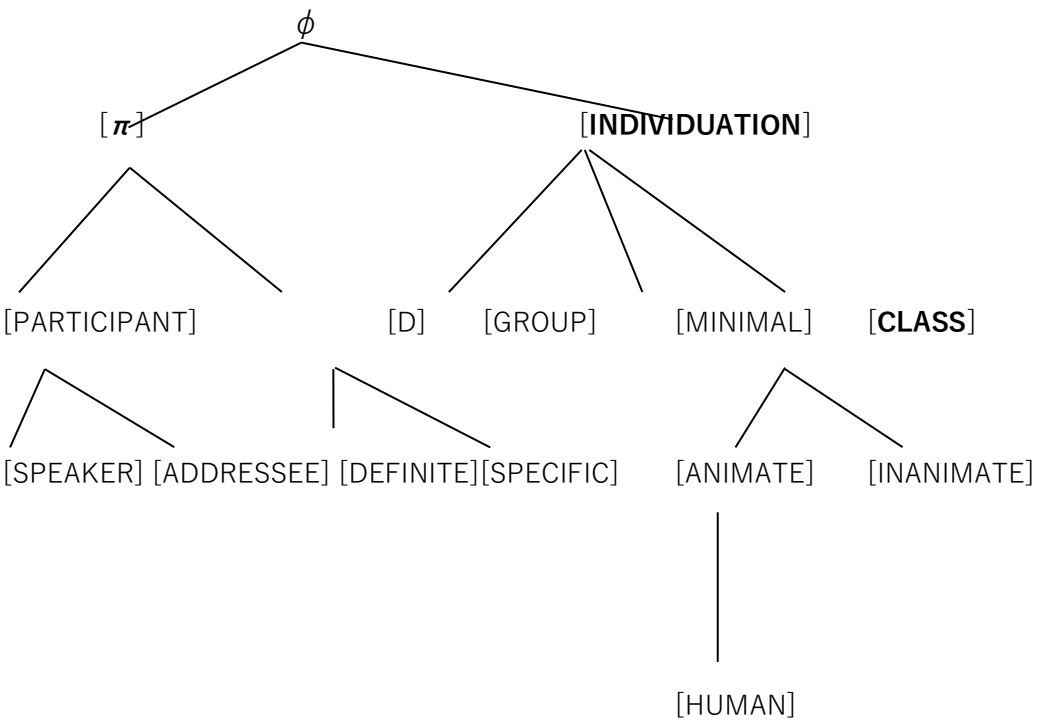
(43b) **2SG arbitrary *você* (BP)**



(Carvalho, 2017:71)

Following Carvalho (2017), I put forward (44) to account for the featural composition of the verbal agreement morpheme in arbitrary and referential constructions in Greek:

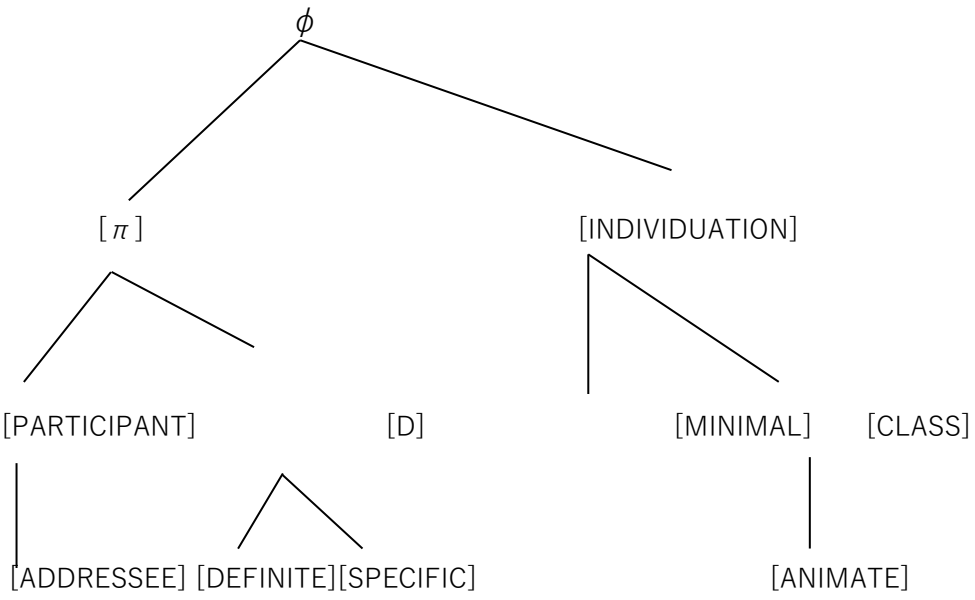
(44) **Greek ϕ-feature verbal agreement**



Based on (44), one should note that [π], [INDIVIDUATION], and [CLASS] are not actual features, but labels that represent the traditional categories of person, number, and gender. Each of these categories consists of a bunch

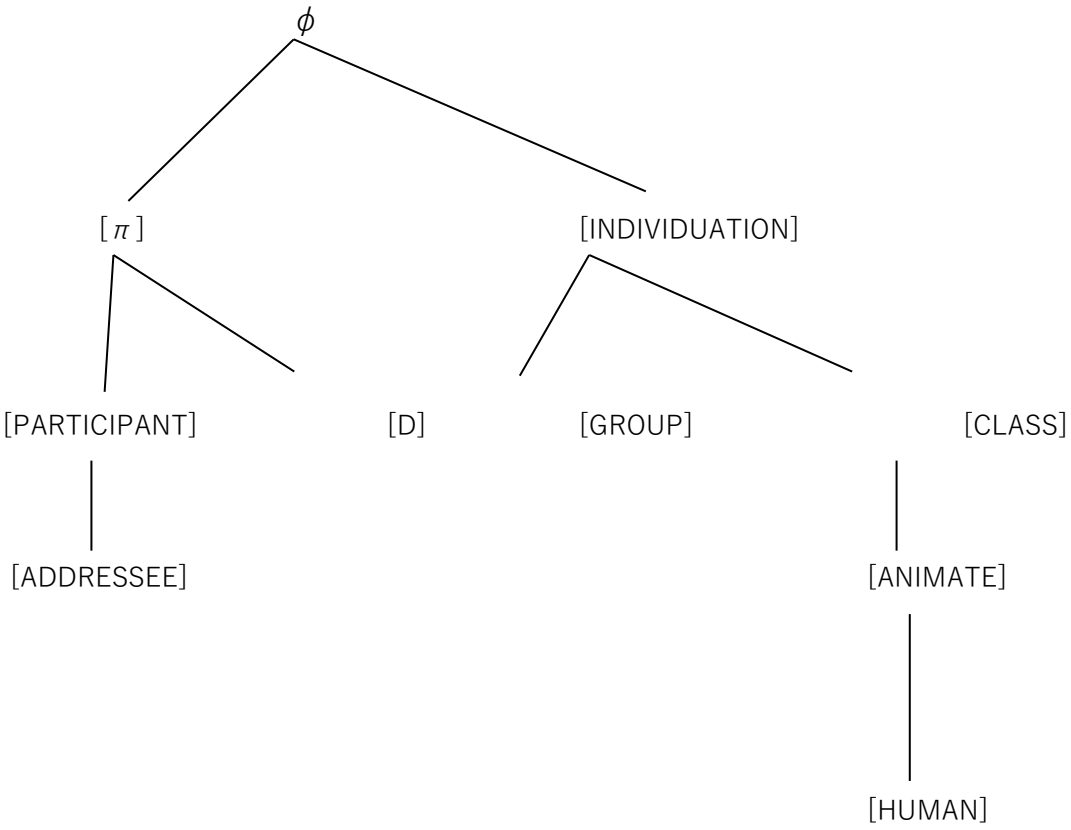
of features which determine various interpretations of verbal agreement. For instance, according to (45a), the verbal inflection of a 2SG referential agreement will bear the features of [PARTICIPANT] and [ADDRESSEE], whereas [D] will also include the features of [DEFINITE] and [SPECIFIC]. In addition, [INDIVIDUATION] will bear the feature [MINIMAL] to signal singular, whereas [CLASS] will further include an [ANIMATE] feature, as demonstrated by (45a):

(45a) **Greek 2SG referential agreement**



Conversely, in a 2SG verbal morpheme with a generic interpretation the [PARTICIPANT] will still comprise an [ADDRESSEE] feature, but [D] will remain empty as the verbal morpheme in this case is neither [DEFINITE] nor [SPECIFIC]. In the case of [INDIVIDUATION], the verbal agreement morpheme will bear the feature [GROUP] for plural, whereas [CLASS] will also dominate an [ANIMATE] and a [HUMAN] feature, as illustrated by the schema in (45b):

(45b) **Greek 2SG generic agreement**

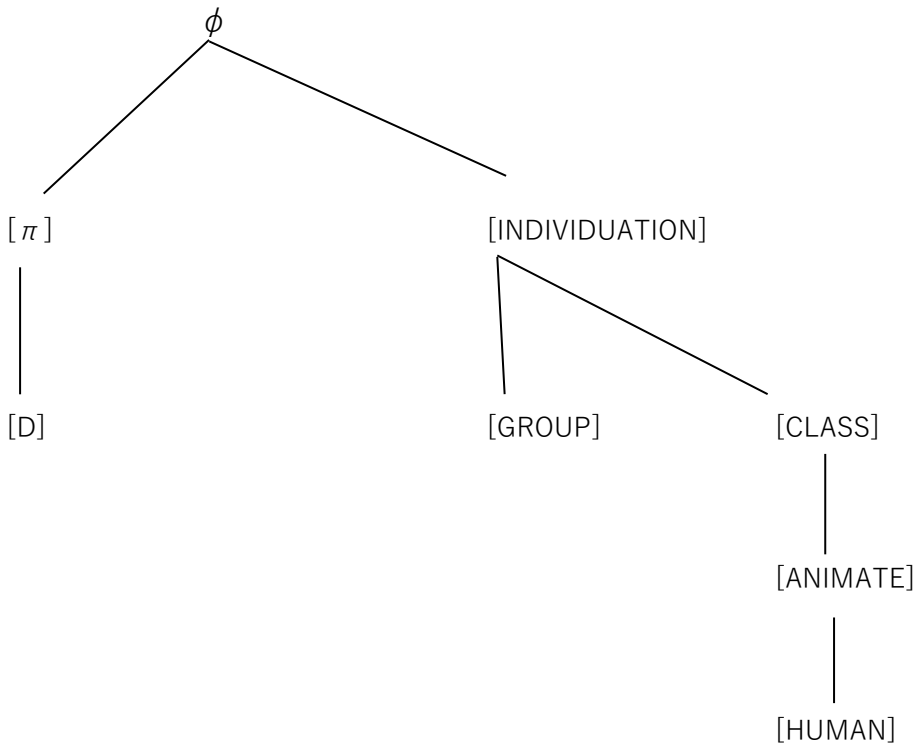


According to the featural composition of the 2SG verbal inflectional morpheme, in a 2SG generic interpretation the verbal morpheme is deficient (i.e. it lacks one or more internal features such as [DEFINITE]) and as a result it does not encode a D-feature to satisfy the D-feature of T (i.e. the EPP). I will assume that the distinct interpretations of a 2SG generic and a 2SG referential reading stem from the fact that the verbal agreement in the first instance enters the derivation with [D] devoid of any content (i.e. lacks a [DEFINITE] feature), whereas in the second instance the verb enters the derivation with a specified [D] feature (i.e. possesses a [DEFINITE] feature). Effectively, the verbal agreement of these 2SG generic constructions cannot satisfy the D-feature of the EPP. On the other hand, when these constructions are referential, the person feature is fully specified and capable of deleting the uninterpretable D-feature of T.

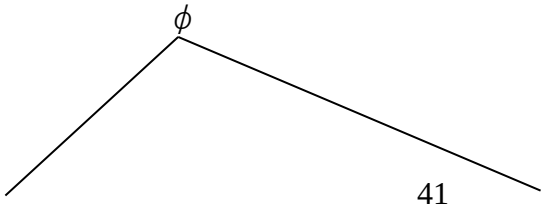
In line with Carvalho (2017) who takes 3SG agreement to be underspecified, I too will assume that in a 3SG generic verbal agreement

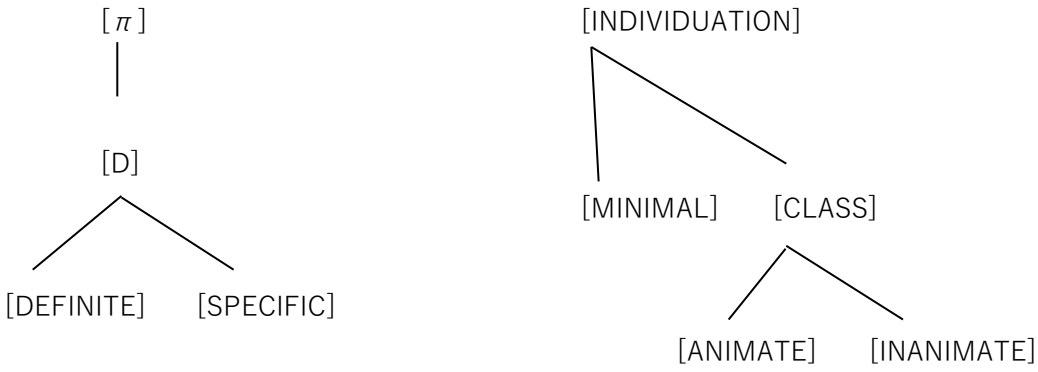
[π] is minimally specified as it lacks a [PARTICIPANT] and even though [D] is present, it is completely devoid of any features, as shown in (46a). On the other hand, (46b) shows that a referential 3SG verbal agreement also lacks a [PARTICIPANT] feature, but [D] is more specified (i.e. bears the necessary [DEFINITE] feature), and thus is able to satisfy the D-feature of the EPP. The two featural representations are depicted below:

(46a) **Greek 3SG generic verbal agreement**



(46b) **Greek 3SG referential verbal agreement**





The question that emerges at this point is whether there is any featural difference in the verbal morphology of a generic vs. an existential interpretation, as in the case of 1PL where we encounter both arbitrary constructions. Cinque (1988:545) demonstrates that an existential and a generic interpretation "[..] are just two *contextual variants* of one and the same *arb* [..]" Evidently this also holds true in the Greek null arbitrary constructions, as there are no differences in the featural composition of a 1PL generic and a 1PL existential verbal morphology; both have an empty [D] feature as part of their [π]'s internal composition. However, even though the π-agreement composition of a generic and an existential construction may be the same, the two types of constructions differ in that: (a) a generic reading favours the imperfective aspect, whereas an existential favours the perfective aspect, and (b) an imperfective verb in which [D] is devoid of content bears an *Arb-gen* feature on AspP, whereas an existential construction where the verb is marked with the perfective aspect and [D] is also devoid of content encodes an *Arb-ex* on AspP (see the discussion in section 3.4).

Under the feature geometry approach adopted here and the more complex ϕ-agreement structure of the verbal agreement morpheme, the *Agree* operation established between an uninterpretable and an interpretable feature is not affected (see Chomsky, 1998, 2000). Once two features Agree, then the two features establish a *matching* relationship which is subsequently followed by *valuation* of these uninterpretable features. Valuation and subsequent deletion of uninterpretable features

first presupposes match, but Carvalho (2017), following Béjar (2003) and McFadden (2007), argues that not all features between the Probe and the Goal need to be shared. As a matter of fact, the Probe need not be as featurally complex as the Goal (i.e. *full matching identity*), a simple intersection rather than full matching identity is sufficient in order for an Agree relationship to be established. Intersection holds from the top to the bottom of the feature tree structure and match is determined by entailment not by strict identity, whereby entailment holds only interpretable features. According to Béjar (2003:54): "Probe (F) and Goal (F') match if Goal (F') entails root Probe (F)." As correctly predicted by Béjar (2003), if entailment did not only hold interpretable features and uninterpretable features could also be specified via entailment, then what we would expect to see is an 'overapplication of match'. To pre-empt such an undesirable consequence, Béjar (2003:54) postulates that: "Q is not automatically specified for all features entailed by an uninterpretable feature [F-] in Q."

Valuation of a feature either results in the feature being deleted, as in Chomsky's (1998, 2000) theory, or otherwise the feature being rendered inert, as advocated by Béjar (2003). I will opt for feature deletion here. Match does not necessarily result in valuation and that has to do with how underspecified the Probe is (cf. Béjar, 2003; Carvalho, 2017). For instance, as shown in table 2, the Probe T of a 3SG generic agreement is specified for [π [D]] and the verbal agreement is specified for [π [D]] too. In essence, both Probe and Goal are minimally specified. In this case, the Probe with [π] at its root matches with the Goal, but as [π] is empty, nothing gets valued. For valuation to occur the matching features of the Goal must be a superset of the matching features of the Probe: "G(oal) values P(robe) iff f'(G) entails f(P)", (Béjar 2003:65). Except for 3SG and 3PL arbitrary agreement, in all other cases present in table 2, the matching features of the Probe are a subset of the matching features of the Goal, hence why there is valuation of [π]'s internal features. In Greek arbitrary constructions we do not encounter any instances where the Probe is more specified than the Goal, so the features of the Goal always follow the entailment requirement that is necessary for valuation.

There is one more important point that I am obliged to address here and that is whether the person-feature bundle is evaluated as a constituent (i.e. as a bundle) or whether each feature is evaluated independently. Following Béjar (2003), I will assume that π-agreement features are evaluated individually and not as constituents. For instance, if the specification of the Probe is [π [PARTICIPANT] [D]], as in 2SG generic (cf. table 2 below), and the Goal is specified for [π [PARTICIPANT] [ADDRESSEE] [D]], then, each feature gets valued independently and not as part of a constituent (i.e. *value=[π [PARTICIPANT] [D]]). This means that in a 2SG generic verbal agreement only [PARTICIPANT][27] gets valued, given that [PARTICIPANT] is further specified including the feature of [ADDRESSEE]. Conversely, [D] does not get valued as it lacks any further specification. Béjar (2003:35, fn 7) observes that the benefit from features being valued separately is that the Agree operation becomes cyclic. This means that if at the end of the first cycle of Agree there remain uninterpretable features (e.g. [D] in 2SG generic), then a second cycle of Agree will apply, whereby these uninterpretable features will Probe and get evaluated by a matching Goal that exists in their local domain. If there is no matching feature in their local domain, as is the case with Greek arbitrary constructions, then a lexical element with matching features will merge on SpecTP to delete the D-feature.

Based on the different verbal agreement patterns and their corresponding referential vs. arbitrary interpretations, I propose that an Agree relation established between T (Probe) and V (Goal), will result in the valuation of the following π-agreement features:

Table 2: Person Feature Composition and Valuation

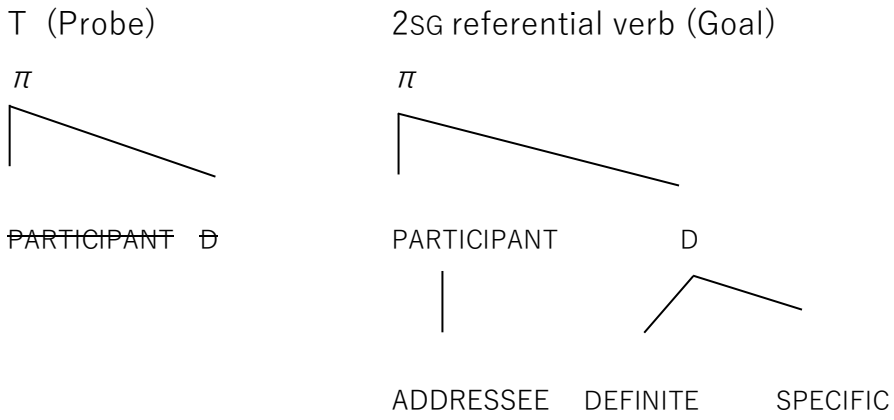
PERSON FEATURE	PROBE T	GOAL V	VALUE

[27] In Table 2, I leave out [π] from receiving a value because: (i) I take [π] to be only a label for the category of person and not a feature *per se,* and (ii) particularly in 3SG and 3PL arbitrary constructions, [π] is totally empty. For a different view see Béjar, 2003 who assumes on one end that [π] is a notational variable and on the other that it can get valued as if it were a feature.

2SG (generic)	[π [PARTICIPANT] [D]]	[π [PARTICIPANT] [ADDRESSEE] [D]]	[PARTICIPANT] yes, [D] no
2SG (referential)	[π [PARTICIPANT] [D]]	[π [PARTICIPANT [ADDRESSEE]] [D [DEFINITE] [SPECIFIC]]]	[PARTICIPANT] yes, [D] yes
3SG (generic)	[π [D]]	[π [D]]	____
3SG (referential)	[π [D]]	[π [D [DEFINITE] [SPECIFIC]]]	[D] yes
1PL (arb)	[π [PARTICIPANT] [D]]	[π [PARTICIPANT [SPEAKER]] [D]]	[PARTICIPANT] yes, [D] no
1PL (referential)	[π [PARTICIPANT] [D]]	[π [PARTICIPANT [SPEAKER]] [D [DEFINITE] [SPECIFIC]]]	[PARTICIPANT] yes, [D] yes
3PL (arb)	[π [D]]	[π [D]]	_____
3PL (referential)	[π [D]]	[π [D [DEFINITE] [SPECIFIC]]]	[D] yes

Based on Table 2, a 2SG referential T comprises a [π] feature which has both a [PARTICIPANT] and a [D] feature. First, T's uninterpretable features match with the interpretable features available on V and establish an Agree relationship. However, the [π] feature of T (i.e. the Probe) is not specified any further than a [PARTICIPANT] and a [D] feature, that is, it does not include the internal features of [SPEAKER] [ADDRESSEE], [DEFINITE] and [SPECIFIC], etc. Given that the Goal is featurally more specified than the Probe (i.e. also includes an [ADDRESSEE] and a [SPECIFIC] feature) both the [PARTICIPANT] and the [D] feature (i.e. 2SG referential), as shown below, are evaluated and subsequently deleted:

(47)



In the above construction [PARTICIPANT] receives the value of [ADDRESSEE] and [D] receives the value of [DEFINITE] and [SPECIFIC].

As expected, [π] of a referential 2SG /3SG verbal agreement is richer than the corresponding generic 2SG /3SG agreement in its internal π-feature composition, as the referential constructions also include a [DEFINITE] feature necessary to delete the D-feature of the EPP. In all the arbitrary constructions above (i.e. 2SG, 3SG, 1PL, and 3PL), the D feature of the Probe does not find a matching D-feature on the Goal (i.e. [D] of the Goal is empty). In effect V-T movement in these arbitrary constructions does not value or delete the D-feature of T. As mentioned earlier and demonstrated in Table 2, one of the benefits of the ϕ-feature decomposition is that the Probe features are evaluated independently and not as a bundle (cf. Béjar, 2003:35). I assume that the same happens with the person agreement features that we looked at here. As such, in the arbitrary constructions at hand, the Probe D remains visible and active and seeks another Goal to Agree with and value the D-feature. Agree becomes a cyclic operation and can take place as many times as there are still active and unvalued ϕ-features in the derivation. Following Béjar (2003), I propose that in these arbitrary constructions, the D feature of T enters a *second cycle of Agree* during which the Probe seeks another matching Goal. As there is no other eligible candidate to Agree with the D-feature of the Probe in the local domain of T, these arbitrary structures are rescued through XP Merge on SpecTP.

All the generic constructions we have examined so far required either an overt XP or a covert one (i.e. has been introduced in the discourse

before). So, the alternative in these generic constructions where the verb lacks a D-feature, is to assume that the XP bears a D-feature and merges on SpecTP to satisfy the D-feature of T. Based on standard literature consensus (Alexiadou 1996, 1999; Borer, 2005; Pinto, 1997; Sheehan, 2006; Zubizarreta, 1998), I take these XPs to be stage topics or else range assigners.[28] Stage topics, whether overt or covert, are scene setting elements that provide locative (or temporal) information (i.e. set the stage) on the scope of the predication. Borer (2005) analyses these XP elements as being under the scope of existential quantifiers and alludes to these occupying a SpecTP position, the EPP related position. What is more, Basilico (2003) has argued that a covert stage-topic (i.e. a type of *pro*), attested in some of the small clauses he discusses, bears at least a D-feature. Adopting Basilico's idea, I will assume that the D-feature of an XP represents a [DEFINITE] feature, as if it were an overt subject (i.e. a kind-referring subject, cf. Krifka et al, 1995):

(48) *I Agli/ stin Aglia pinun poli.*
The English/ in-the England drink.PRS.IPFV.3PL a-lot
'English people/In England they drink a lot'

The subject above *i Agli* 'English people' is definite, but not specific which corroborates the claim here that the relevant feature for D-feature satisfaction is a syntactically present [DEFINITE] and not a [SPECIFIC] feature. In (48) the D-feature of T is satisfied either by the subject or by the overt XP that Merges on SpecTP. [29]

All the generic constructions we have examined so far required either an overt XP or a covert/presupposed one (i.e. has been introduced

[28] For different views but in a similar vein, see Holmberg, 2010 who postulates the existence of logophorically dependent elements that bind 3SG null subjects and Frascarelli, 2007 who argues that referential *pro* can refer to topics that are not part of the same sentence.

[29] I am aware that there is variation in the judgment of the speakers on whether the XP in (48) can appear clause-initially only and/or clause-finally. It is important to mention that of the informants I have consulted, all agree that the XPs used here sound more natural in clause initial position.

in the discourse before). The assumption entertained here is that even in generic arbitrary sentences such as (3) repeated below for convenience as (49), there is a covert stage topic, such as *stin Elada* 'in Greece', or *sta estiatoria* 'in restaurants', or *edo* 'here'[30] that will merge on SpecTP and satisfy the EPP:

(49) *proarb-gen* *den* *servirun* *ti* *supa*
not serve.PRS.IPFV.3PL the.ACC soup.ACC
prin *to* *psari.*
beforethe.ACC fish.ACC
'They don't serve the soup before the fish'

(Condoravdi, 1987:20)

Conversely, in referential 2SG null constructions the verbal morphology possesses a fully specified person feature (i.e. specified for both [PARTICIPANT] and [D]). In these referential constructions, as correctly predicted by Alexiadou and Anagnostopoulou (1998), the interpretable person feature also comes with a specified [D] feature which enters an Agree relation with the D-feature of the EPP, satisfying it via V-T movement. The most significant theoretical implication that emerges from these 2SG generic constructions is that V-T movement does not satisfy the EPP in Greek uniformly, as has been argued by Alexiadou and Anagnostopoulou (1998). Instead, the same language may employ different modes of EPP satisfaction (i.e. Merge XP vs. Move X) for different derivations. Syntactically, whichever option is taken depends on the features borne by the verbal morphology.[31]

[30] Carvalho (2017) based on Cowper and Hall (2002) shows that in some languages the [DEFINITE] feature can be further decomposed into a [DEICTIC] and a [DISTAL] feature. In the case of locative adverbs such as *edo* 'here', the relevant feature may well be a [DEICTIC] feature. Investigating this, admittedly important issue, falls beyond the remit of this paper.

[31] 3SG generic constructions that require an overt generic pronoun such as *kanis* or *o alos* to appear postverbally (and preverbally in the case of *o alos*) are analysed in a similar

Before I end this section, a careful reader may have noticed that although I have been using throughout the empirical part of this paper the term arbitrary *pro*, until now, I have not made any mention of *pro*$_{arb}$ in the syntactic architecture of these constructions. There are two options here, either: (a) to assume that *pro*$_{arb}$ is licensed in SpecvP and Agrees with the features of T, or (b) the distinct morphological structure of the verb in these constructions suffices to differentiate between an arbitrary and a referential interpretation, making *pro*$_{arb}$ redundant in a similar way to the redundancy of referential *pro* in Alexiadou and Anagnostopoulou's (1998) account. If I opt for (b), then *pro*$_{arb}$ is essentially 'absorbed' by the verbal agreement morphology. According to Holmberg (2005, 2010), reflexive binding (i.e. Principle A) would constitute evidence towards the presence of *pro*$_{arb}$ whereby *pro* will bind the reciprocal phrase *o enas ton alon* 'each other' as in (50):

(50) *Stin Elada prota vrizume o enas*
in.the Greece first insult.PRS.IPFV.1PL the.NOM each.NOM

ton alon ke meta zitame
the.ACC other.ACC and then ask.PRS.IPFV.1PL
signomi.
apology.ACC
'In Greece, first we insult each other and then we apologise'

(50) survives whether we put forward the existence of *pro*$_{arb}$ or not. In (50) it could be a *pro*$_{arb}$ that c-commands and binds the reciprocal *o enas ton alon* 'each other', but we could also argue that the reciprocal is c-commanded and bound by the closest antecedent (i.e. the verb that moves from V-v-Asp-T). I will indeed postulate that the nominal part of the verbal agreement can bind the reciprocal. Since the presence of *pro*$_{arb}$ in the syntactic architecture does not have an impact on the analysis advocated

manner to the null arbitrary constructions, given that they also require an overt or covert XP (i.e. D-marked) to appear clause-initially and satisfy the EPP, cf. section 3.5.

in this paper, I will go with option (b) whereby *pro*$_{arb}$ is not structurally motivated.[32]

3.4 Gen and ∃ as Arbitrary Features on AspP

The analysis that predominates in the literature of generics is that of Chierchia (1995) and Krifka et al (1995), among others who postulate that there is a null sentence level operator (i.e. on C) which licenses the requisite generic reading through variable binding. Based on this account there is a variable and this variable is bound by the relevant operator (generic or existential) that is available in the derivation.[33] In the case of an arbitrary generic construction, the generic operator is dyadic.[34] A dyadic generic operator presupposes that a generic sentence must have at least one restrictor to generalise over. This restrictor is equated with a situation variable (cf. Krifka et al, 1995:35). When the interpretation is generic, then this variable cannot tie to a specific situation or to a particular object, instead it attributes a more generalised property. Traditionally, a generic operator is viewed as a covert adverb of quantification corresponding to the adverbs *generally*, *usually*, *typically*, etc (cf. Chierchia 1995; Krifka et al 1995). This adverb of quantification defines a generic relationship that holds between the predicate and its subject. The clause-level operator modifies the predicate. Effectively, the semantic analysis of (51) where

[32] For a different view, on the existence of *pro*$_{arb}$ in languages which also license referential *pro*, see Contoravdi, 1987:25. Her account makes the strong prediction that *pro*$_{arb}$ can only occupy a subject position, not an object position. If this is true, then her analysis will not be able to accommodate the null generic object constructions attested in Greek, see footnote 8.

[33] On an elaborate overview of generic operators, see Krifka et al, 1995, among others.

[34] The operator is dyadic in the sense that it relates the restrictor to the scope, that is, the sentential generic operator modifies the situation expressed by the whole clause. There is also the theoretical camp that advocates a monadic generic verb phrase operator that modifies the predicate (see Carlson, 1977). As observed by Carlson (1989) and Krifka et al (1995), the dyadic generic operator accounts that followed were more accommodating for a number of reasons (cf. Krifka et al, 1995).

the generic operator binds the variable is represented as in the tripartite structure of (52)[35] (see Krifka et al, 1995:33ff; Contoravdi, 1989a, among others):

(51) *Stin Aglia pinun poli.*
in.the England drink.PRS.IPFV.3PL a.lot
'In England they drink a lot (of alcohol)'

(52) *Typically (GEN) if there is a drinking situation s, s involving an individual x who is from England, x drinks a lot in s.*

Conversely, in an existential arbitrary construction there is an Existential operator that is located at C-level (contra Diesing, 1992, but in line with Borer, 2005). As we have observed, the XP and the imperfective trigger a generic interpretation in the Greek null arbitrary constructions, whereas the XP and the perfective result in an existential interpretation. Therefore, it is safe to assume that on the basis of the aspectual distinction (i.e. imperfective vs. perfective) the imperfective co-occurs with a Generic Operator, whereas the perfective licenses an Existential operator. The analysis just outlined makes the strong prediction that for any instances where the imperfective is present, an existential reading is ruled out, a prediction that is not borne out by (53):

(53) *Htes stin Plaka pulusan palia*
yesterday in.the Plaka sell.PST.IPFV.3PL old.ACC
vivlia.
books.ACC
'Some people were selling old books in Plaka yesterday'

(Spyropoulos, 2002:88)

[35] The tripartite structure involves the Gen operator, a restrictor (i.e. where the operator ranges over) and the scope.

In (53), the imperfective marking on the verb alongside the temporal adverb *htes* 'yesterday' result in an existential reading.[36] Aside from the apparent mismatch between aspect and interpretation in (53), there are other considerations that render a null Generic operator an unappealing syntactic device. Collins (2018) presents a wide array of arguments on why a null generic operator cannot be present in syntax. I mention a fraction of his arguments below.

First, if a Gen operator is an adverb of quantification (i.e. usually, typically, mostly, etc), then such an adverb is an adjunct and no adjunct is syntactically obligatory. Furthermore, a covert element, as is a Gen operator, should be present only if it has an effect in the interpretation of the structure, something that a Gen operator does not seem to have. What is more, the tripartite structure of a Gen operator cannot explain generic scope ambiguity structures such as *hurricanes arise in this part of the Pacific* (see Collins, 2018: 41), where the restrictor can be either *hurricanes* or *this part of the Pacific*. To complicate things further, Liebesman (2011) argues that the wide scope reading of *this part of the Pacific* is existential not generic. To this list of arguments, we need to add the real issue of a null Gen operator; it is present in the syntactic derivation but not featurally motivated in syntax. Collins (2018: 61) has similar concerns: "The *real* disunity of genericity [….] is that there is no univocal linguistic feature that supports it, and we should not assume that any semantic feature must find a home at logical form, even if as an indexical. If logical form is to be a linguistic form, and not a mere theoretical artefact, then it needs to be realized in syntax, or at least constrained by it."

[36] In Slavic languages, and most notably in Russian, the past imperfective aspect amongst its traditional usages (i.e. habitual) has also a *factual* one, as it describes a complete action and competes in usage with the perfective (see Grønn, 2003 for the properties and distribution of the Russian factual imperfective). This factual imperfective, a term coined by Grønn (2003), can have either an existential or a presuppositional interpretation. (53) is one such case of a factual existential imperfective, the sense of (53) is that it describes the existence of a fact (i.e. a complete event). The temporal adverbial *htes* assists this existential interpretation of (53), as it provides a *discourse reminder* (term by Grønn, 2003) offering a temporal perspective on the state of the speaker. This factual existential usage of the past imperfective in (53) does not impact on the pivotal argument put forward here and elsewhere in the literature that only the imperfective aspectual marking correlates with genericity (cf. Contoravdi , 1987; D'Alessandro and Alexiadou, 2002; Giannakidou, 1998; Lekakou, 2005; Spyropoulos, 2002; Tsimpli and Roussou, 1996, among many others). It falls beyond the scope of this work to investigate the properties and distribution of the Greek factual past imperfective. Thanks to one of the reviewers for raising my attention to this specific effect of the past imperfective.

If the reader agrees with the above considerations, as I do, then, one will also concur that we need to find a syntactic trigger for these arbitrary constructions.

The scholarly consensus (cf. Cinque, 1988; Contoravdi, 1989a; D'Alessandro and Alexiadou, 2002; Delfitto and Bertinetto, 2000; Giannakidou, 1998; Krifka et al, 1995; Lekakou ,2005, 2006; Spyropoulos, 2002; Tsimpli and Roussou, 1996, among others) agrees that for a generic reading to come about the verb has to be marked with the imperfective aspect, whereas an existential reading is triggered when the verb is aspectually marked with the perfective. Essentially, an atelic/unbounded reading seems to be a prerequisite for a generic interpretation, whereas a bounded interpretation is the prerequisite for an existential interpretation as shown by (54) and (55) respectively:

(54) *Stin Aglia pinun poli.*
in.the England drink.PRS.IPFV.3PL a.lot
'In England they drink a lot'

(55) *(Stis exetasis) elioses sto diavasma.*
(in.the exams) melt.PST.PFV.2SG in.the reading
'(In the exams) you studied until you dropped'

In an attempt to address the strong correlation that holds between the imperfective and genericity, Alexiadou (1997) and D'Alessandro and Alexiadou (2002), propose that the imperfective head also carries a Generic feature, whereas the perfective does not. This Generic feature is present in an Asp(ectual)Projection that is situated above VP and below TP:

(56) [CP …[TP …[Aspect P …[vP…[VP …]]]]][37]

(adapted from D'Alessandro and Alexiadou, 2002: 39)

[37] I do not adopt their SpeechActP(rojection) that is situated below CP and above TP.

For D'Alessandro and Alexiadou (2002) the Asp head bears an interpretable generic feature and the person feature of *si* gets its uninterpretable feature valued as generic.[38] One of the shortcomings of their account, to which the authors admit to, is that the order of interpretable vs. uninterpretable features in their analysis is unorthodox and the reverse of what is advocated in Chomsky's theory. According to Chomsky (1999) an interpretable feature should be borne by *si*, the pronoun, whereas AspP, the functional projection, should bear an uninterpretable one. In the analysis to follow I will only retain their core idea (i.e. a generic feature available in syntax) as my departure point and advance it further. [39]

More specifically, I claim that whenever the verb is not fully specified (i.e. empty [D] feature) and is marked with the imperfective aspect, then there is an uninterpretable *Arb-gen* feature on the head of AspP. Correspondingly, when the verb is again not fully specified, but is marked with the perfective aspect, then there is an uninterpretable *Arb-ex* feature available on the head of AspP. These two arbitrary features are satisfied only by the underspecified verbal morphology exhibited in these arbitrary constructions. I further put forward that these *Arb* features are also coupled with an EPP requirement.[40] Recent Minimalist assumptions render an EPP feature as the only possible trigger for movement (see Chomsky 2002, 2004, 2007, 2008, etc). The uninterpretable *Arb* feature (*Arb-gen* or *Arb-ex*) Probes the corresponding interpretable *Arb* feature of the verb and the two enter an Agree relationship. In principle, this Agree relationship should be an in-situ one, but the presence of an EPP feature alongside *Arb* dictates that the verb moves to the head of AspP to satisfy both an *Arb* feature and the EPP. Essentially, the verb moves from V-v-Asp and satisfies this *Arb* feature and it subsequently moves to T to satisfy T's

[38] In D'Alessandro and Alexiadou's (2002) account it is the person feature of the verb that gets valued as generic once it enters an Agree relation with AspP head.

[39] It is not unheard of to incorporate a semantic feature in the course of the syntactic derivation. For instance, Espinal and McNally (2011) postulate a formal LOC feature that is borne by the verb, so they can account for bare nouns that participate in existentials.

[40] Landau (2007) shows that the EPP always works in tandem with another feature (i.e., D on T, wh on C, etc). Whenever EPP is satisfied so is the other feature it is combined with.

features. It should be noted that this *Arb* feature is only present when the verb lacks a [D] feature specification (i.e. lacks a [DEFINITE] feature). Further, the type of aspect that marks the verb determines the type of *Arb* feature (i.e. *Arb-gen* or *Arb-ex*) available on AspP, namely when the verb is marked with the imperfective, then the feature available on AspP is *Arb-gen*, whereas when the verb is marked with the perfective then the feature available on AspP is *Arb-ex*. This *Arb* feature is not present when the [D] of [π] is fully-specified, as in a 2SG referential construction.

The theoretical advantage of the account above is that it incorporates arbitrariness as a feature in the syntactic derivation.[41] However, the analysis here would fail to account for the apparent mismatch that is observed in (53). In (53) the imperfective requires the obligatory presence of an *Arb-gen* in AspP. Satisfying *Arb-gen* should only result in a generic interpretation which is not borne out by (53). In (53), the presence of the temporal adverb *htes* alongside the past imperfective blocks the generic reading, given that the temporal adverb *htes* and the past imperfective verb denote telicity (i.e. complete event) as they introduce a very specific time span to a past imperfective event. I will assume that this type of *mismatch* between the imperfective and an existential interpretation is the result of *coercion,* a process that takes place at a post syntactic level.[42]

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[41] The alternative to the present analysis would be to follow Beghelli and Stowell (1997:8) who argue that scope assignment is the 'by-product of agreement processes' and certain quantificational phenomena (i.e. Wh-operator, Gen-operator, Neg-operator, etc) have designated structural positions in the clausal structure. Movement of lexical elements to these positions takes place to check these quantificational features (for different versions of the same core idea, see also Kratzer and Shimoyama, 2002; Moltmann 2006, and more recently Tsoulas and Yeo, 2017). Kratzer and Shimoyama (2002) argue that there are uninterpretable features such as Gen, Neg, and ∃ carried by lexical elements and their interpretable counterparts are the corresponding operators. If we follow Kratzer and Shimoyama (2002) and assume that the Gen and ∃ operators, situated at C-level in the arbitrary constructions, are interpretable, then we cannot really establish a regular Probe-Goal Agree relationship, as the interpretable operator cannot probe an uninterpretable feature lower down in its c-command domain (for alternatives cf. Gil and Tsoulas, 2013).

[42] The notion of coercion was first introduced by Chierchia (1998) as a type-shifting semantic process and advocated, among others, by de Swart (1998:360) under a

Even though it falls beyond the remit of this work to deal with the overt generic pronouns *kanis* and *o alos* in any detail, yet in the next section I bring into focus a set of data that support the analysis above.

3.5 Possible extension to the overt pronouns; *kanis* and *o alos*

First of all, *kanis* 'one' as a generic pronoun survives only in a postverbal position, as demonstrated by (57):

(57) *To* *himona* *arosteni* *kanis* *efkola.*
in.the winter get-ill.PRS.IPFV.3SG one.NOM easily
'During winter one easily gets ill'

If we try to test the position of generic *kanis*, it becomes evident that the postverbal position is the only legitimate one:

(58a) *Sto* *Bangladesh* *dulevi* *kanis* *apo* *mikri*
in.the Bangladesh work.PRS.IPFV.3SG one.NOM from young
ilikia.
age
'In Bangladesh, one works from a young age'

Discourse Representation Theory (DRT) model on duration adverbials *for* and *in* in English, by Borer (2005) for mass count nouns and lately by Collins (2018) who takes the position that genericity is nothing more but the result of coercion. Coercion, according to de Swart (1998:360), attempts to resolve, amongst other things, aspectual conflicts through the use of mechanisms that are non-syntactic but contextual. I remain agnostic on the exact mechanism of coercion that is in operation for these constructions at a post-syntactic level, but the theoretical advantage of coercion here is that it does not affect the main observations of this work; XPV(imperfective, *Arb-gen* feature)→ generic, XPV(perfective, *Arb-ex*) → existential. Effectively, in cases where there is imperfective marking, but the semantic interpretation is existential, other contextual factors obviate the generic reading and this mismatch is resolved post-syntactically via coercion (cf. Lekakou ,2005).

(58b) ??? *Sto Bangladesh kanis dulevi apo*
in.the Bangladesh one.NOM work.PRS.IPFV.3SG from
mikri ilikia.
young age
'In Bangladesh, one works from a young age'

(58c) * *Kanis dulevi apo mikri ilikia sto*
one.NOM work.PRS.IPFV.3SG from young age in.the
Bangladesh.
Bangladesh
'In Bangladesh, one works from a young age'

On a par with null generic subjects, (57) and (58a) reveal that a clause-initial XP is also required when the overt generic pronoun *kanis* is present. In addition, as with null generic subjects, the perfective aspect does not combine well with the overt generic pronoun *kanis*:

(59) **(Sto Bangladesh) dulepse kanis apo mikri*
in.the Bangladesh work.PST.PFV.3SG one.NOM from young
ilikia.
age
'One worked from a young age in Bangladesh'

The examples above reveal that *kanis* supports our analysis of generics whereby: (i) the person feature of the verbal agreement is underspecified (i.e. [D] lacks a [DEFINITE] feature) and is unable to delete the D-feature of the EPP, (ii) the EPP is satisfied via merge of the XP to SpecTP, and (iii) raising of the verb satisfies the *Arb-gen* feature of AspP.

On the other hand, *o alos*, the other overt generic pronoun, appears in a preverbal position, combines with the imperfective and does not necessarily require an XP clause-initially:

(60) *O alos kani afto pu*

the.NOM other.NOM do.PRS.IPFV.3SG this.ACC that
ton *simferi.*
him.ACC.CL benefit.PRS.IPFV.3SG
'One does whatever benefits him/her'

(61) *Stin Athina* *o* *alos* *agorazi*
in.the Athens the.NOM other.NOM buy.PRS.IPFV.3SG
mono ta *aparetita.*
only the.ACC necessary.ACC
'One buys only the necessities in Athens'

(62) *O* *alos* *ekane* *afto* *pu*
the.NOM other.NOM do.PST.PFV.3SG this.ACC that
ton *sinefere.*
him.ACC.CL benefit.PST.IPFV.3SG
'The other person (i.e. Yanis) did whatever benefited him'

Unlike the overt generic pronoun *kanis*, *o alos* is preferred preverbally, as in (60), and it may, as in (61), or may not be preceded by an XP, as in (60). On a par with *kanis* and the null arbitrary constructions a generic reading cannot be sustained when the verb is in the perfective, only a referential one is possible in (62). In the generic constructions illustrated by (60) and (61) the 3SG person agreement lacks a [PARTICIPANT] feature and [D] is empty (i.e. lacks a [DEFINITE] feature). Effectively, the 3SG verbal agreement in (60) and (61) satisfies the *Arb-gen* feature of AspP, but does not encode the requisite D-feature and as such it cannot delete the D-feature of the EPP. Given that an XP is not obligatorily present in these constructions, we can assume either that there is a covert XP that merges on SpecTP, or that the generic pronoun is moved to SpecTP. I will adopt the first position, as I cannot really see how the pronominal, *o alos*, which behaves like an indefinite pronoun carries the requisite D-feature to satisfy the EPP. Since both the XP (overt or covert) and the generic pronoun occupy SpecTP,

then we will have to make recourse to multiple specifiers according to which the XP will be merged on the outer SpecTP.[43]

4 Concluding Remarks

It was shown that Greek null arbitrary subject constructions may encode either a generic or an existential interpretation. We encounter null arbitrary subject constructions in Greek not only with 3PL verbal agreement, as has been assumed in the literature, but also with 2SG, and 1PL. Given that the inflectional ending of the verbal morpheme of a 2SG generic arbitrary reading is polysemous with the inflectional ending of the verbal morpheme of a 2SG referential reading, I have shown that structurally the two constructions differ in the featural make-up of their verbal morphology. Assuming that the EPP represents a D-feature which I take to correspond to a [DEFINITE] feature, the verbal morphology of an arbitrary construction is deficient, as the person feature is not fully specified (i.e. [D] is empty). In effect, the verb in these constructions does not encode a D-feature necessary to delete the D-feature of the EPP. Instead, the XP that is located in clause-initial position is what encodes a D-feature and merges (overtly or covertly) on SpecTP to satisfy the D-feature of the EPP. On the other hand, the verbal morphology in the referential constructions is specified for a [DEFINITE] feature, and as a result V moves to T to satisfy the D-feature of the EPP.

The direct theoretical consequence of such an analysis is that Alexiadou and Anagnostopoulou's (1998) typology in which languages like Greek always satisfy the EPP via V-T movement does not hold true. Instead this work showed that depending on the derivation, EPP may be satisfied through various modes (i.e. Move X vs. Merge XP). It was further shown systematically that a generic reading arises when there is a clause-initial XP (overt or covert) and the verb is marked with the imperfective aspect, whereas an existential reading is triggered in the presence of perfective verbal marking and an overt or covert XP. On the basis of these facts, this

[43] Chomsky (2007, 2008) and Richards (2015) argue that merging in multiple specifiers should not be constrained or ordered.

work dispenses with the presence of null generic and existential operators at the clausal level, and instead, generates an *Arb* feature in AspP. When the verb is marked with imperfective aspect, then, AspP possesses an uninterpretable *Arb-gen* feature, whereas when the verb is marked with perfective aspect then AspP possesses an uninterpretable *Arb-ex* feature. Movement of the verb in these arbitrary constructions first deletes the corresponding *Arb* feature and subsequently moves further up to T to delete the remaining ϕ - agreement bundle.

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