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# DETERMINERS IN ADULT L2 GREEK: WHAT THEY TELL US ABOUT THE LEARNABILITY OF UNINTERPRETABLE FEATURES

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## ABSTRACT

*In Tsimpli and Dimitrakopoulou's (2007) Interpretability Hypothesis (IH), postpubertal L2ers cannot acquire LF-uninterpretable features nonexistent in the L1; no problem is anticipated regarding LF-interpretable features. We tested the IH with Greek definite and indefinite articles in the interlanguage of L1 Slavic, English and Romance adults who had received massive exposure to Greek. Oral data obtained from a picture description and a sentence repetition task offer only partial support to the IH: learners were nonnativelike only in some uses of the definite article where LF-uninterpretable features are involved; moreover they fared better at the definite than at the indefinite article, despite that the latter bears only LF-interpretable features. There were also L1 effects and task effects.*

**Keywords:** Adult L2 Greek, definite/indefinite articles, features, interpretability hypothesis

## 1. Introduction: General Background to the Study

This study investigates articles in Greek as a second language (L2) acquired at adulthood, within the Universal Grammar (UG) framework of the Minimalist Program (Chomsky 1995). In this framework lexical items in the language faculty consist of bundles of abstract features, such as number, case, gender, animacy etc. Crucially for the present study, some of these features have semantic content and are thus interpretable at the Logical Form (LF), which is the interface between the Computational System and the Conceptual-Intentional System. Other features, however, are not interpretable at LF as they merely serve grammatical operations. For example, the feature [number] is LF-interpretable when it is morphologically realized on nouns, yet it is LF-uninterpretable when it is marked on items of functional categories such as determiners or adjectives; in the latter case the respective morphological marking reflects grammatical agreement between the noun, the determiner and the adjective and is interpretable only at the phonetic form (PF), that is the interface between the Computational System and the Articulatory-Perceptual System. Also, features such as [+/-animacy] marked on pronouns (e.g. he/she/it) or [+/-definiteness] marked on determiners (e.g. a, the) in English, are LF-interpretable.

It is well known that postpubertal learners rarely reach nativelike proficiency, despite massive exposure to L2 input (e.g. Johnson and Newport 1989; DeKeyser 2000). This is often manifested as persistent selective divergence from native grammars (Franceschina 2005). An account offered for this phenomenon is Tsimpli and Dimitrakopoulou's (2007) Interpretability Hypothesis<sup>1</sup> (hereafter IH) suggesting that postpubertal language learners have access to UG principles and LF-interpretable features but lack access to LF-uninterpretable features lacking from the learners' L1<sup>2</sup>. Put differently,

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<sup>1</sup> For an earlier formulation of this hypothesis see Tsimpli and Roussou (1991).

<sup>2</sup> Besides L2 acquisition, the IH has been employed to account for phenomena in L1 acquisition, L1 attrition and Specific Language Impairment (see Tsimpli and Mastropavlou 2007 and references therein).

features related with parameterization are subject to a critical age period (see Lenneberg 1967) and resist resetting (Tsimpli and Dimitrakopoulou op. cit.: 224)<sup>3</sup>. Also, according to the IH, learners may employ LF-interpretable features to compensate for LF-uninterpretable ones (if the latter lack from their L1) in the acquisition of certain structures. This may result in successful performance but the learners' mental representation of the specific structures is still non-nativelike (and possibly unlike the mental representation of any L1 structure too)<sup>4</sup>.

Other hypotheses, however, propose that there is access both to UG principles as well as to both LF-interpretable and LF-uninterpretable features<sup>5</sup> in postpuberty (Schwartz and Sprouse 1996) and persistent divergence from the L2 norms may relate to processing problems (Prévost and White 2000) or deficient knowledge of L2 morphology (Lardiere 1998).

Greek articles provide a good testing ground for the IH as we show in the next sections. In the rest of the paper, Section 2 describes the Greek article system and Section 3 overviews previous research on L2 Greek articles and Section 4 outlines our research questions and predictions. In Section 5 we attempt to interpret our results and discuss their theoretical implications. In this final section we also refer to possible limitations of our study and suggestions for future research.

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## 2. Greek Articles<sup>6</sup>

In Greek there is an indefinite and a definite article and both inflect for gender and case; only the definite article inflects for number too. This is shown in Table 1.

INDEFINITE						
	MASCULINE		FEMININE		NEUTER	
	SINGULAR	PLURAL	SINGULAR	PLURAL	SINGULAR	PLURAL
Nominative	enas	∅	mia	∅	ena	∅
Genitive	enos	∅	mias	∅	enos	∅
Accusative	enan	∅	mia	∅	ena	∅
DEFINITE						
Nominative	o	i	i	i	to	ta
Genitive	tu	ton	tis	ton	tu	ton
Accusative	ton	tus	tin	tis	to	ta

Table 1 Greek articles

Given that in Greek there is overt morphological agreement between all members of a Determiner Phrase, both article types carry uninterpretable features such as case, gender and number<sup>7</sup>. The indefinite article always bears interpretable features too. In (1) both the overt indefinite article *ena* and the zero article ∅ are [-definite, -specific] while in (2) the indefinite article *mia* is [-definite, +specific].

- (1) *θelo ena sandwich ke ∅ biskota*  
*want-1SG a sandwich and biscuits*  
*'I want a sandwich and biscuits.'*
- (2) *iða mia orea kopela*  
*saw-1SG a beautiful girl.*  
*'I saw a beautiful girl.'*

<sup>3</sup> A similar view is expressed by the Failed Functional Features Hypothesis (Hawkins and Chan 2007).

<sup>4</sup> Although this is an important part of the IH, it will not be addressed here.

<sup>5</sup> For reasons of brevity, in the rest of the paper these features are referred to as just 'interpretable' and 'uninterpretable'.

<sup>6</sup> This presentation is limited to uses of the Greek articles that relate with our study. The same holds for the description of the learners' L1 article systems (or lack of them) in Section 5.1.

<sup>7</sup> Except the plural indefinite article, since it lacks morphological realization.

The definite article may also carry the interpretable features [+definite, +specific] as in (3). However, as Tsimpli and Stavrakaki (1999) point out, this article type is also obligatory with proper names, demonstrative pronouns, plural generic nouns in subject position, and complement clauses, as exemplified by (3)-(7), respectively.

- (3) *diavazo \*(to) vivlio pu aghorasa hthes*  
*read-1SG the book that bought-1SG yesterday*  
*'I'm reading the book I bought yesterday.'*
- (4) *\*(i) Zoi efiye*  
*the Zoi left*  
*'Zoi left.'*
- (5) *aftos \*(o) andras*  
*this the man*  
*'This man'*
- (6) *\*(Ta) liontarja ine epikindina zoa*  
*the lions are dangerous animals*  
*Lions are dangerous animals.*
- (7) *den ipe tipota ja \*(to) pu tha pame.*  
*not said-3SG nothing for the where will go-we*  
*'He didn't say anything about where we will go.'*

Tsimpli and Stavrakaki (1999) suggest that in contexts like (3)-(7) the Greek definite carries only uninterpretable case, number and gender agreement features without conveying definiteness (or specificity) to its complement.

Last, in object position both massive and singular count nouns can be complements of a zero article in Greek (8).

- (8) *Kathe proi pino kafe ke diavazo efimerida*  
*every morning drink-1SG coffee and read-1SG newspaper*  
*'Every morning I drink coffee and read a newspaper.'*

### 3. Previous Research Testing the Interpretability Hypothesis with L2 Greek Articles

The first study on L2 Greek articles that interests us here<sup>8</sup> is the one by Tsimpli (2003) where the data came from oral interviews with six bilingual speakers of Turkish and Russian. The latter language lacks articles, while in Turkish there is arguably an indefinite article<sup>9</sup> but not definite ones. The participants in Tsimpli's study had immigrated to Greece at adulthood eight or nine years before the time of the study and had had no prior exposure to Greek. Also, they had all learned Greek without instruction. Results from this study showed that all participants correctly supplied the definite article significantly less (total score: 49%, range: 10%-78%) than the indefinite one (total score: 95%, range: 85%-100%) and half of the participants exhibited ceiling performance on the indefinite article. Given that only the definite article has uninterpretable features, these results were taken as confirmation of the IH. In a subsequent study, Tsimpli and Mastropavlou (2007) compared the data from adults in Tsimpli (2003) against Mavridou's (2003) data from Turkish children. The children had been first exposed to Greek at the age of six years when they started attending a minority primary school in Greece where courses are half in Greek and half in Turkish. The data had been obtained through oral picture-based descriptions. The results showed that those of the children with six years of exposure to Greek performed better than the adults in Tsimpli's (2003) study, and were not significantly worse at the

<sup>8</sup> Most of the studies discussed in this section also investigated properties of other elements, such as clitics or grammatical agreement between members of determiner phrases. However here we limit the discussion to findings pertaining only to articles.

<sup>9</sup> There is no agreement as to whether the Turkish word *bir* (=one) is an indefinite article or a numeral. For references see, e.g., Goad and White (2009: 209, fn 1).

definite than at the indefinite article (total scores: 89% and 96% respectively). The discrepancy between the adult and the child data may further corroborate the IH, as it attests to critical period effects on the acquisition of parameterized uninterpretable features.

Dimitrakopoulou, Kalaintzidou, Roussou and Tsimpli (2004) investigated definite articles in data from oral interviews with twenty L2 Greek participants. Each of the participants spoke one, two or three of articleless languages such as Russian, Serbo/Croatian, Turkish and Georgian and had lived in Greece from three to ten years. Again all participants had acquired Greek without instruction. The analysis of results also took into account (a) the participants' age of first exposure to Greek and (b) length of exposure to the language. As found, both of these factors significantly affected the results: those who had arrived in Greece between the ages of nineteen and twenty-three and had been exposed to Greek for ten or more years had the best performance on definite articles (95%). On the other hand, those who had arrived in Greece at a later age (24+) and had resided there for only three or four years had the worst performance (54,6%). Therefore it seems that given enough input, uninterpretable features *are* learnable beyond puberty. Let us point out then that these results seem problematic for the IH as they attest to age effects rather than critical period effects.

Chondrogianni (2008) too probed the validity of the IH with respect to the L2 Greek definite article. The participants were L1 Turkish adults and children residing in Greece. The adults were between nineteen and forty-five years old and had been first exposed to the Greek when they immigrated to the country at ages ranging from twelve to thirty-three years. The children were seven to twelve years old and had had their first contact with the Greek language at kindergarden or primary school, that is when they were five or six years old. Importantly, as time of exposure to a language does not equal size or quality of input, Chondrogianni assessed the participants' level of proficiency in Greek through an independent oral test. The main results, elicited from an oral picture-description test, revealed that child and adult learners with 'high' proficiency in Greek were both very successful in producing the definite article (99.5% and 96.3% respectively) and that the difference between these two groups was not statistically significant. Differences between the two age groups were found only at intermediate levels of Greek proficiency, in favour of the children. This indicates that at some stages of L2 development language acquisition may occur at a faster rate for children but ultimately adult L2 acquirers can catch up. As stated before, Chondrogianni's results apparently disprove the IH as they point to lack of critical period effects on parameterized uninterpretable features.

The take-home point from the above literature review is that results from research on L2 Greek articles are inconclusive as to whether adults can fully acquire uninterpretable features lacking from their L1, which raises doubts about the IH. Therefore the present study aims to further investigate the issue at hand.

#### 4. Research Questions and Predictions

In view of the results from studies previously discussed, our

The main research question was this:

- Given massive exposure to an L2, can postpubertal learners acquire LF-uninterpretable features lacking from their L1?

We predicted the following.

- If the interpretability hypothesis was correct, we expected
  - (a) full mastery of the indefinite but not of the definite article,
  - (b) more problems with the expletive than with the non-expletive uses of the definite article and
  - (c) possible L1 effect, in that speakers of L1s with articles *and* expletive uses of the definite article would fare better than those whose L1 has no expletive articles and even better than those from an articleless L1.
- If, on the other hand, one or more of the above do not occur, there is reason to dispute the IH.

#### 5. The present study

In this section, first we describe the participants, then our tasks and finally we present the results.

## 5.1 The participants

The participants were 18 adult L2 Greek speakers with an age of first exposure to Greek that ranged from 20 to 38. They had all lived in Greece for a considerable amount of time (minimum: 18 years, maximum: 40 years); 12 of them had completed tertiary education and 6 secondary education. Moreover, about half of them had also received formal instruction in Greek, while the rest had learned the language naturalistically. The participants were separated into three groups according to their L1: Slavic, Germanic and Romance. More details are given in Table 2.

GROUPS	NUMBER & L1	YEARS IN GREECE	AGE AT TIME OF TESTING
Slavic	4 Russian, 2 Czech	20.7 (18-30)	46.6 (38-62)
English	6	30.3 (26-40)	56.8 (46-60)
Romance	4 Italian, 2 French	26 (18-33)	55.5 (42-65)

**Table 2** Information about the participants

The Slavic group included L1 speakers of Russian or Czech. Like all Slavic languages Russian and Czech lack indefinite or definite articles. In these two languages disambiguation between definite and indefinite reference is effected by word order. As shown by the following examples<sup>10</sup> a noun receives definite interpretation in sentence-initial position and indefinite interpretation in postverbal position (Bongartz 2006).

Russian

- (9) *Studentka prishla*  
*student<sub>NOM</sub> come<sub>3SG PAST</sub>*  
 'The student came.'

- (10) *Prishla studentka.*  
*come<sub>3SG PAST</sub> student<sub>NOM</sub>*  
 'A student came.'

Czech

- (11) *Učitelka vidi*  
*teacher<sub>NOM</sub> see<sub>3SG</sub>*  
 'The teacher sees.'

- (12) *Vidi učitelka*  
*see<sub>3SG</sub> teacher<sub>NOM</sub>*  
 'A teacher sees.'

As well known, English has both a definite and an indefinite article. However, in English the definite article is generally not used expletively, that is with proper names, demonstrative pronouns, plural generic nouns in subject position, or with complement clauses<sup>11</sup>. For reasons of economy we refer the reader to the glossed examples (4)-(7) in Section 2 where the discussed cross-linguistic difference is obvious. Unlike its Greek counterpart, the English definite article always bears the interpretable [+definite] feature. Last, in English an indefinite singular count noun must be preceded by the indefinite article, while in the same structure in Greek the use of the article is optional (see example (8) in Section 2).

Romance languages, such as Italian and French, have full articles systems that inflect for gender and number. In French, besides a definite and an indefinite article there is a partitive one. The article systems of these two languages are presented in Tables 3.

<sup>10</sup> The examples in Russian are adapted from Bongartz (2006) and those in Czech from Bongartz (2002:63).

<sup>11</sup> Exceptionally, in English the definite article may appear before few geographical names, e.g. the Sudan and generic substantivized adjectives, e.g. the rich and the famous (Longobardi 1994: 631-32). Also it is compulsory before proper names with restrictive modification, e.g., *This is not \*(the) Mary I know* and during the Easter of 2000 (Quirk and Greenbaum 1977:78). However, these exceptional uses cannot support a claim for an expletive definite article in English (see Longobardi 1994).

<b>FRENCH</b>						
	<i>indefinite</i>		<i>definite</i>		<i>partitive</i>	
	<i>singular</i>	<i>plural</i>	<i>singular</i>	<i>plural</i>	<i>singular</i>	<i>plural</i>
<i>Masculine</i>	un	des	le	les	du	des
<i>Feminine</i>	une	des	la	les	de la	des
<b>ITALIAN</b>						
<i>Masculine</i>	un/uno	dei/degli	il/lo	i/gli		
<i>Feminine</i>	una	delle	la	le		

**Table 3** Articles in French and Italian

Importantly, in both languages the definite article must precede generic plural nouns in subject position (13). Also in Italian a proper noun must be preceded by the definite article if it is premodified by an adjective, or else the definite article is optional (cf. (14) with (15)). On the other hand, in French proper names are canonically not preceded by articles (16).

- (13) \*(I) castori costruiscono dighe. Italian  
 the beavers build dams  
 \*(Les) castors construisent des digues. French  
 the beavers build part. dams  
 ‘Beavers build dams’
- (14) (Il) Gianni mi ha telefonato.  
 (the) Gianni me has telephoned  
 ‘Gianni called me up.’
- (15) \*(L’) antica Roma  
 (the) ancient Rome  
 ‘Ancient Rome’
- (16) (\*Le) Jean m’ a téléphoné  
 Jean me has telephoned  
 ‘Jean called me up.’

The above attest to that like in Greek (and unlike in English) the definite articles in Italian and French may bear only uninterpretable features such as gender and number agreement features.

Italian resembles Greek also as to that in object position both massive and singular count nouns complements of a zero article. This is shown by examples (17) and (18) respectively (from Longobardi 1994:613).

- (17) *Bevo sempre vino.*  
 ‘I always drink wine.’
- (18) *Mangio patate.*  
 ‘I eat/am eating potatoes.’

In French, on the other hand, it seems that bare nouns are generally not acceptable (Longobardi, op. cit.:616, fn 9). For example, in the French equivalents of sentences (17) and (18) the object nouns must be preceded by partitive articles: *Je bois toujours du vin*, *Je mange des pommes de terre*.

Table 4 summarizes the main differences and similarities between Greek and the L2 participants' L1s with respect to their article systems.

	<b>ARTICLES</b>	<b>EXPLETIVE ARTICLES</b>
<i>Slavic</i>	-	-
<i>English</i>	+	-
<i>Romance</i>	+	+
<i>Greek</i>	+	+

**Table 4** A cross-linguistic comparison of article systems



Also, two native speakers performed the ST task and three the final version of the SR task. Given that their performance in both tasks was perfect we decided not to include these data.

## 5.2 The tasks

We elicited oral data from a story-telling task and a sentence repetition task (hereafter ST and SR respectively). Both tasks were performed individually in two separate meetings with one of the researchers. In the ST the participants had to narrate a short story for each of eight sequences of pictures<sup>12</sup>. The SR consisted of 72 sentences and aimed at testing 6 different conditions for article use. More specifically, we included sentences in which the definite determiner had expletive (specific reference, (19)) and non-expletive (proper name (20), generic reference (21), demonstrative + Def. D (22), Def D. + Comp (23)) uses as well sentences involving the zero determiner (cf. (24) & (25)). For each condition there were 12 sentences, half grammatical and half ungrammatical. Each grammatical sentence differed from its ungrammatical counterpart only regarding the target articles. We give examples of sentences for each condition below. For now let us mention two other important features in the design of this task. Previous research with similar tasks has shown that sentences should long enough to exceed the participants' working memory – otherwise the participants may parrot sentences without understanding their meaning (see references in Vinther 2002:58). Given that sentences of 17 syllables have proved appropriate for advanced L2ers in Erlam (2006), our sentences were 17-22 syllable long, balanced across conditions. This sentence length was decided upon after piloting the task with Greek native speakers. Moreover, the target contexts appeared in middle-sentence position, given the evidence that items in sentence-initial and sentence-final position are more easily recalled (see references in Erlam 2006:477-478). Examples from the SR are presented below where asterisks and parentheses can illustrate both the ungrammatical and grammatical version of each sentence.

Definite article with specific/definite reference

- (19) *den diavasa kanena apo \*(ta) vivlia pu aghorasa propersi*  
*not read-1SG any of (the) books that bought-1SG the year before last*  
*'I didn't read any of the books I bought last year.'*

Definite article with proper names

- (20) *Prin tris meres ematha pos \*(i) Mary pali pire diazighio*  
*before three days heard-1SG that (the) Mary again took divorce*  
*'Three days ago I heard that Mary got a divorce again.'*

Definite article with generic plural nouns

- (21) *Meriki anthropi lene pos \*(i) ghates ine poli aharista zoa*  
*some people say that (the) cats are very ungrateful animals*  
*'Some people say that cats are very ungrateful animals.'*

Definite article with demonstrative pronouns

- (22) *Aghorasan se kali timi afto \*(to) spiti epidi itan poli palio*  
*bought-3PL at good price this (the) house because was very old*  
*'They bought this house at a good price because it was very old.'*

Definite article before a complementizer

- (23) *den kani tipote alo apo \*(to) na jimnazete sinexia*  
*not does-3SG nothing other than from (the) to exercise-himself all the time*  
*'He does nothing but exercising himself all the time.'*

Zero article

- (24) *Otan itan nea ekane \*(ta) taksidia poles fores kathe mina*  
*when was-3SG young did-3SG (the) trips many times every month*  
*'When she was young she traveled many times per month.'*
- (25) *den ine sosto na trome \*(ti) zahari se meghales posotites*  
*not is right to eat (the) sugar in big quantities*

<sup>12</sup> The pictures were the same as those used in Dimitrakopoulou et al. (2004). We thank Ianthi-Maria Tsimpli for providing us with these pictures.

*'It's not right to eat sugar in big quantities.'*

The sentences were randomized in two equal parts, one for each of the meetings between the participants and the researcher. Prior to testing, the sentences had been recorded by a native speaker and stored on a laptop computer. The participants were told they had to listen to sentences and repeat them as fast as possible and that if they thought a sentence was ungrammatical they were expected to repeat what they considered as its grammatical version. Responses (from the ST too) were documented on a digital tape recorder.

### 5.3 Results

We first present the results from the ST task. The data were analyzed with respect to the three types of articles, hereafter called 'determiners': definite, indefinite and zero. For each determiner, the obligatory contexts were identified and the participants' response was coded. Table 5 illustrates correct performance on each determiner type for all L2 groups.

L2 GROUPS	Definite D.	Indefinite D.	Zero D.
ENGLISH	99 (669/674)	96 (139/145)	99 (191/192)
ROMANCE	97 (455/467)	97 (124/128)	98 (91/93)
SLAVIC	96 (536/559)	86 (74/86)	89 (89/100)

Table 5 Correct performance on the ST task (raw scores in parentheses)

Turning first to the data from the definite determiner, all three groups performed highly accurately, above 90%, which indicates mastery of its use. However, the non-parametric chi-square test showed that the English group significantly outperformed both the Romance ( $\chi^2(1)=6.279$ ,  $p=.012$ , Cramer's  $V=.074$ ) and the Slavic ( $\chi^2(1)=15.661$ ,  $p=.000$ , Cramer's  $V=.113$ ) group. Moreover, all participants' errors involve omissions of the definite determiner and never incorrect suppliance, i.e. the use of the indefinite article.

The data from the indefinite determiner point out that the Slavic group exhibits certain difficulties with the use of the indefinite determiner, since it is the only group that performs below 90% on the indefinite determiners. This observation was statistically verified, as the Slavic group achieved a significantly lower score than the English ( $\chi^2(1)=4.937$ ,  $p=.026$ , Cramer's  $V=.147$ ) and the Romance ( $\chi^2(1)=6.339$ ,  $p=.012$ , Cramer's  $V=.173$ ) group. Moreover, the use of the indefinite determiners is significantly harder than that of the definite ( $\chi^2(1)=14.060$ ,  $p=.000$ , Cramer's  $V=.148$ ) determiners for this group. Additionally, the English and the Romance speakers' errors consist of omissions and not substitutions, whereas the Slavic speakers erroneously supplied the definite article in two contexts.

The same pattern is attested in the zero determiner contexts; namely the Slavic group performs significantly lower than the English ( $\chi^2(1)=18.323$ ,  $p=.000$ , Cramer's  $V=.250$ ) and the Romance ( $\chi^2(1)=6.007$ ,  $p=.014$ ,  $\eta^2=.176$ , Cramer's  $V=.176$ ) groups and its performance just misses the 90% threshold. Furthermore, the participants' incorrect responses include incorrect suppliance of the definite article.

Next, we turn to the data collected from the SR task. For the present study, the data were coded only with respect to the production of the determiners. Consequently, correct elicitation of the definite or the zero determiner was coded as "1" and incorrect as "0". Table 6 provides the participants' correct performance on the definite and zero determiners for each language group.

L2 GROUPS	Definite Determiner		Zero Determiner	
	grammatical	ungrammatical	grammatical	ungrammatical
ENGLISH	0.87 (0.10)	0.81 (0.10)	0.97 (0.07)	0.67 (0.41)
ROMANCE	0.86 (0.09)	0.85 (0.13)	0.97 (0.07)	0.53 (0.25)
SLAVIC	0.80 (0.12)	0.59 (0.14)	0.83 (0.16)	0.44 (0.25)

Table 6 Correct performance on the SR task (SDs in parentheses)

As shown in Table 6, all L2 groups perform better on the grammatical than the ungrammatical sentences, a finding which is more pronounced in the zero determiner condition. Besides, the Slavic group exhibits the lowest performance in both determiners. We conducted a 2x2 Repeated measures ANOVA with Determiner (definite vs zero determiner) and Grammaticality (grammatical vs.

ungrammatical sentences) as the within-subjects variables and Language (English, Romance and Slavic groups) as the between-subjects variables, in order to test for main effects and interactions. The statistical analyses showed that the main effects of Grammaticality ( $F(1,15)=25.272$ ,  $p=.000$ ,  $\eta^2=.628$ ), Language ( $F(2,15)=5.117$ ,  $p=.020$ ,  $\eta^2=.406$ ) and the interaction between determiner and grammaticality ( $F(1,15)=16.377$ ,  $p=.001$ ,  $\eta^2=.522$ ) were significant. The Bonferroni post-hoc tests applied to detect any language contrasts demonstrated that the Slavic group was significantly less accurate than the English group ( $p=.030$ ) and only marginally less accurate than the Romance group ( $p=.067$ ). Furthermore, paired-samples t-tests indicated that the grammatical sentences were elicited significantly more precisely than the ungrammatical ones in the definite ( $t=3.282$ ,  $p=.004$ ) and the zero ( $t=4.847$ ,  $p=.000$ ) determiner conditions.

A further analysis was run on the data in order to explore whether any differences were attested between the expletive and the non-expletive uses of the definite determiner.

Uses of Def. D.	English	Romance	Slavic
<b>Expletive use</b>			
<b>Specific</b>			
Grammatical	1 (0)	1 (0)	0.78 (0.25)
Ungrammatical	0.83 (0.21)	0.94 (0.14)	0.67 (0.21)
<b>Non expletive uses</b>			
<b>Proper name</b>			
Grammatical	0.97 (0.07)	1 (0)	0.89 (0.14)
Ungrammatical	1 (0)	0.97 (0.07)	0.69 (0.19)
<b>Generic reference</b>			
Grammatical	1 (0)	0.97 (0.07)	0.97 (0.07)
Ungrammatical	1 (0)	1 (0)	0.86 (0.19)
<b>Demonstrative + Def. D.</b>			
Grammatical	0.92 (0.09)	0.81 (0.19)	0.63 (0.2)
Ungrammatical	0.92 (0.09)	0.83 (0.15)	0.64 (0.34)
<b>Def. D. + Comp.</b>			
Grammatical	0.44 (0.39)	0.53 (0.44)	0.14 (0.16)
Ungrammatical	0.31 (0.37)	0.50 (0.49)	0.08 (0.14)

**Table 7** Correct performance on expletive and non-expletive uses on the SR task (SDs in parentheses)

The data of Table 7 illustrate that the structures involving the use of the definite determiner with a demonstrative and with a complementizer triggered the most inaccurate responses. A 5x2 Repeated measures ANOVA with Definite determiner (specific, vs proper name vs generic reference vs demonstrative + Def. D vs Def D. + Comp) and Grammaticality (grammatical vs ungrammatical sentences) as the within-subjects variables and Language (English vs Romance vs Slavic groups) as the between-subjects variable was run on the data in order to uncover possible main effects and interactions. The main effects of Definite determiner ( $F(4,12)=13.294$ ,  $p=.000$ ,  $\eta^2=.816$ ), Grammaticality ( $F(1,15)=12.646$ ,  $p=.003$ ,  $\eta^2=.457$ ) and Language:  $F(2,15)=8.749$ ,  $p=.003$ ,  $\eta^2=.538$ ) were statistically significant. Bonferroni post-hoc tests used to test for significant differences among the language groups showed that the Slavic group was significantly less accurate than the English ( $p=.010$ ) and the Romance ( $p=.006$ ) groups. Further Bonferroni post-hoc tests employed to explore the main effect of the Definite determiner indicated that the Definite + Comp condition was significantly less accurate than all other structures ( $p=.000$ : for all structures with the exception of the structure Demonstrative + Def. D:  $p=.001$ ). Besides, the L2 speakers' performance on the demonstrative + Def. D. condition was significantly lower than that involving a proper name ( $p=.012$ ) and the one in which the definite determiner had generic reference ( $p=.004$ ).

## 6. Conclusion

The focal aim of this study was to assess the predictions of the IH by comparing three L2 groups' performance on the production of determiners in L2 Greek. The two groups' first language grammaticalizes the feature [definiteness], whereas the Slavic group's first languages (Czech and Russian) do not. Our main research question was whether the Slavic speakers who had been living in Greece for at least 18 years and, therefore, have had massive exposure to Greek, can acquire LF-uninterpretable features lacking from their L1. The findings of the ST task suggest that they can, since

their performance on the production of the definite determiners exceeded the 90% threshold. Moreover, the Slavic group was more accurate on the definite than the indefinite determiner, contrary to the predictions of the IH based on the assumption that the indefinite determiner incorporates interpretable features. In addition to this, the English group performed significantly better than the Romance and the Slavic groups on the definite determiner, which argues against the hypothesis that speakers of L1s with articles *and* expletive uses of the definite article (Romance speakers) would fare better than those whose L1 has no expletive articles (English speakers) and even better than those from an articleless L1 (Slavic speakers). Therefore, the results from the ST task argue against the IH and indicate that interpretable features may also constitute a source of deficits in the second language.

However, the data from the SR task illustrate a somehow different picture. The first issue we want to focus on is the difference between the ST and the SR tasks as far as the L2 groups' correct performance is concerned. In particular, the L2 speakers manifested more difficulties with the determiners in the SR than in the ST task, with these difficulties being more prominent in the Slavic group. Besides, the Slavic group demonstrated lower accuracy on the definite determiner condition than the two other groups. Even though these results from the SR task are in line with the predictions of the IH, it is not clear why the same pattern was not observed in the ST task. One possible explanation for the divergent results in the ST and the SR tasks is the nature of the tasks themselves. The ST task allows the speakers to choose their utterances and avoid structures they feel hesitant about. On the other hand, the SR task is a more demanding task in terms of the resources required from the participant and is supposed to reflect implicit knowledge (Gallimore & Tharp 1981; Weitze et al. 2011). Our data suggest that when automaticity is required, the non native speakers do not exhibit native-like performance; for example, all groups' performance on the SR task is below 90% (at least on the definite condition). Moreover, we maintain that that in such demanding conditions the difficulties L2 speakers experience with uninterpretable features that are absent from their L1 appear more pronounced.

A final issue we would like to discuss is the effect of particular constructions on the participants' performance. More specifically, the three groups do not manifest any qualitative differences among each other in the SR task, in the sense that the most problematic structures for all groups are the ones involving the use of the definite determiner with a demonstrative and particularly with a complementizer. In the latter structure, even the English and the Romance groups perform at chance level. Notice that the definite determiner is not allowed to appear in front of a complementizer in the L1 of either group, which may have affected the participants' performance. Besides, Roussou (1991) argues that the category D in Greek may select a CP. It may, hence, be the case that the selection properties of D are not native-like in the L2 speakers of this study. An alternative account of nominalised CPs in Greek has been put forward by Tsimpli & Stavrakaki (1999). According to this explanation, the prepositioning of the definite determiner in nominalised CPs is entailed by the strong morphological requirement of Greek for Case. More specifically, it is argued that the function of the definite D in nominalised clauses is to convert the clause into a DP argument and to carry its case features. The absence of this option in the participants' L1s may have resulted in the attested difficulties with nominalised clauses. +

The inquiry and the implications of these two possibilities are left open for further research.

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