

Article

Bidirectional Language Contact Effects at the DP Domain: The Case of Greek and Vlach Aromanian Speakers

Ianthi Maria Tsimpli ¹, Alexandra Prentza ^{2,*} and Maria Kaltsa ³ 

¹ Department of Theoretical and Applied Linguistics, Faculty of Modern & Medieval Languages & Linguistics, University of Cambridge, Cambridge CB3 9DP, UK; imt20@cam.ac.uk

² Department of Linguistics, School of Philology, Faculty of Philosophy, University of Ioannina, 45110 Ioannina, Greece

³ Department of Theoretical and Applied Linguistics, School of English, Faculty of Philosophy, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece; mkaltsa@enl.auth.gr

* Correspondence: aprencia@uoi.gr

Abstract: We investigate the effects of the historical language contact of Modern Greek (MG) with Vlach Aromanian (VA) in bilingual speakers of three generations living in Epirus, Greece. We focus on a VA variety spoken in a specific language community, with our study constituting one of the early attempts in this field of research. (1) Background: Given that bilingualism is a dynamic process in which language domains are not uniformly affected by external (i.e., sociolinguistic) factors, the investigation of bidirectional crosslinguistic influence can shed light on the resilience of morphosyntactic and semantic feature changes. MG differs from VA in a number of morphosyntactic properties at the DP domain, namely definiteness marking, positioning the adjective and gender marking. (2) Methods: To examine the language contact effects in VA–MG bilinguals, we elicited spontaneous language production in VA and MG from speakers across three generations with different levels of proficiency in each language. (3) Results: The data analysis showed evidence of bidirectional crosslinguistic influence since (a) MG seems to affect VA in definiteness marking and adjective positioning in younger bilingual groups and (b) VA influences MG in gender marking in older bilinguals. (4) Conclusions: The present study presents original language data from VA–MG bilinguals and provides evidence of bidirectional language contact effects.

Keywords: Modern Greek; Vlach Aromanian; bilingualism; bidirectionality; language contact; determiner phrase



Citation: Tsimpli, Ianthi Maria, Alexandra Prentza, and Maria Kaltsa. 2022. Bidirectional Language Contact Effects at the DP Domain: The Case of Greek and Vlach Aromanian Speakers. *Languages* 7: 150.

<https://doi.org/10.3390/languages7020150>

Academic Editors: Melita Stavrou, Athina Sioupi, Juana M. Licerias and Raquel Fernández Fuertes

Received: 8 February 2022

Accepted: 3 June 2022

Published: 15 June 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

1.1. Bilingualism and Language Contact

Historical and sociocultural reasons in contexts of language contact can lead to language change, attrition and death (Janse 2002; Matras and Sakel 2007). In cases of persistent and long-term language contact, these processes are driven by bilingualism, with one language being dominant because of its status as a majority language and the heritage/home language being the endangered one (Adamou 2016). However, bilingualism is a dynamic process in which language domains are not uniformly affected by external (i.e., sociolinguistic) factors (Tsimpli 2014). Linguistic properties, such as the complexity or markedness of the dominant or the endangered language, can be the ‘internal’ trigger of crosslinguistic influence and change. Although effects of the dominant language to the endangered one are well-documented in bilingualism and language contact literature (e.g., Gathercole and Thomas 2009; Janse 2002; Matras and Sakel 2007), there is also evidence that the endangered language can impact the dominant one, which shows that language contact effects can be bidirectional (Davidson 2020; Helms 2021; López Otero 2020, 2022; Pavlenko and Jarvis 2002). In a recent study, Helms (2021) found bidirectional language contact effects in the use of Spanish and Catalan vowels, with Catalan also affecting Spanish in the use of

mid front vowel production manifested as dissimilation. Additionally, Davidson (2020), focusing on the social underpinnings of directionality in language contact settings, found that Catalan affected the majority language, Spanish, as regards the voicing and devoicing of intervocalic alveolar fricatives in Spanish.

To assess the role of language internal triggers for language change, one needs to identify the linguistic areas of features that could allow this change. The Interpretability Hypothesis (Tsimpli 2003a, 2003b; Tsimpli and Dimitrakopoulou 2007; Tsimpli and Mastropavlou 2008) could be a potential framework to explain what suffices as a possible language internal trigger. This theory capitalizes on the distinction between interpretable and uninterpretable lexical features and discusses their accessibility in various contexts, with second language (L2) acquisition being one of them. The standard distinction between L(ogical) F(orm) interpretable and uninterpretable features considers [Case] on nouns and *phi*-features on verbs since those features are devoid of semantic import, not legible at LF (Chomsky 1995, 2001). LF-interpretable features, on the other hand, include, for example, *phi*-features on nouns and [Definiteness] and [Referentiality] on nouns and pronouns. *Phi*-features on adjectives are considered LF-uninterpretable since they are the result of the agreement of the adjective with the noun, which bears interpretable *phi*-features. Besides the categorization of features according to interpretability at LF, a further distinction for interpretability at the level of P(honetic) F(orm) has also been proposed (see Tsimpli 2003a; Tsimpli and Dimitrakopoulou 2007). PF-interpretable refers, among other things, to whether certain features are realized in a particular language or not, and, as such, it is related to a high degree of cross-linguistic variation (Chomsky 1995, 2001). PF-interpretable cuts across LF interpretable and uninterpretable features, the result being that four distinct categories of features seem to exist: features that are interpretable at both PF and LF (e.g., [Focus] in Greek, [Definiteness] and [Referentiality] in both Greek and English); features that are LF-interpretable but PF-uninterpretable (e.g., [Focus] in English, [Animacy] in Greek); features that are LF-uninterpretable but PF-interpretable (e.g., *phi*-features on verbs and [Case] on nouns in Greek) and, finally, LF/PF-uninterpretable features (e.g., [Case] and *phi*-features on V and N in English).

In light of this framework, the semantic import of lexical features impacts their accessibility and (compensatory) use in L2 acquisition; specifically, semantically interpretable lexical features escape language maturation constraints due to their double status in language and in cognition. Therefore, they are more resilient in language contact situations as in L2 acquisition. Meanwhile, semantically uninterpretable lexical features (i.e., formal, syntactic) are vulnerable in L2 acquisition. It is claimed that, if uninterpretable features are not selected from the UG inventory of features within the critical period, these features become inaccessible to L2 learners in the sense that they cannot be used in the analysis of the L2 input (Tsimpli and Mastropavlou 2008). What is crucial is that interpretable features can also be used as innovations in the (re-)analysis of new language input in cases of L1–L2 feature mismatch and, thus, can be used to eradicate real optionality from the L2 grammatical system (Tsimpli and Dimitrakopoulou 2007; Tsimpli and Mastropavlou 2008; Prentza and Tsimpli 2013). Thus, LF-uninterpretable features are affected by language contact, and they show variability, although not random variation, in their use given the compensatory role of the semantically interpretable features in L2 grammar. To provide some examples, in the study of Tsimpli and Dimitrakopoulou (2007), which examined the L2 acquisition of English *wh*-questions by Greek natives, the L1 uninterpretable features of subject–verb agreement that are related to the fending off of *that-t* effects and the use of resumptive pronouns in the extraction site of the *wh*-phrase in Greek (third person object clitics spell-out *phi* and case features on light *v*) were transferred in the L2 grammar given the syntactic feature mismatch between L1 and L2 in the relevant properties. However, the study also showed the compensatory use of the LF-interpretable [Animacy] feature since L2ers were more accurate in rejecting ungrammatical resumptive pronouns when the moved *wh*-phrase was animate (1b) than when it was not (1a), even though animacy in L1 Greek does not generally regulate resumption.

as well as to examine whether the framework of the Interpretability Hypothesis can explain the attested effects.

1.2. Morphosyntactic Properties of VA and MG

Written evidence of the existence of Vlach-speaking populations in Greece dates to the 10th century AD (Sonti 2017). VA is a Romance spoken-only language (see, for example, Joseph 2017, 2020; Schulte 2021; Sorescu-Marinković et al. 2021) with native communities in various areas of Greece, i.e., Epirus, Thessaly, Macedonia (Weigand 2001; Vasileiou 2014). Microparametric variation has been reported among the varieties of VA in Greece (see Mavrogiorgos 2017) due to their spoken-only status and the lack of a written form of the language that could standardize it, as well as due to the contact that they may have had with other MG varieties across Greece (Katsanis and Dinas 1990). Our study focuses on the variety of VA spoken in the village of Sirrako in Epirus, Greece, where a VA-speaking community has been situated since 1200 AD (Dalaoutis 2005) (see the map below). VA has been used exclusively within the community for all daily activities. The nomadic life of the population resulted in the population coming into contact with Greek. Nowadays, the village is only seasonally inhabited; therefore, the exclusive use of VA has significantly decreased, especially by younger speakers (Prentza and Kaltsa 2020). Our study constitutes one of the early attempts in this field of research since it looks beyond the lexical level (see, for example, Dalaoutis 2005), analyzing connected speech and focusing on several morphosyntactic properties and changes in the variety that are attributed to language contact and have not been documented before (for other varieties of VA, see Bakalis et al. 2011; Beis 2000; Campos 2005; Katsanis and Dinas 1990; Koufogiorgou 2005, 2008; Mavrogiorgos 2017; Mavrogiorgos and Ledgeway 2016, 2019). Recent work by Prentza and Kaltsa (2020), however, provides the first attempt to analyze the bilingual practices of VA speakers and, in particular, language informants in the community of Sirrako (Figure 1), which is the focus of the present study.



Figure 1. Location of Sirrako village, Epirus, Greece. Source: Google Maps (accessed on 5 January 2022).

VA, like MG, is morphologically rich, marking a number of morphosyntactic features in verbal and nominal forms (Campos 2005; Joseph 2020; Katsanis and Dinas 1990; Manzini and Savoia 2011, 2018). In the DP domain, the definite article is enclitic on the noun, while case distinctions are also marked on the noun (Campos 2005; Giusti 2002). The indefinite article is free and prenominal, with its form being the same as the form of the absolute numeral “one”. In such cases, the indefinite article is marked for case, while the noun appears in a default form (Katsanis and Dinas 1990). In MG, on the other hand, both the

definite and the indefinite article are free and prenominal, with case distinctions marked both on the noun and the article. Table 1 shows the relevant differences between VA and MG (see also Katsanis and Dinas 1990, pp. 46–50):

Table 1. Definiteness marking in MG and VA.

Definiteness/Example	VA	MG
Definite (the wolf)	lup <u>lu</u> (lupu + lu) (NOM) a lup <u>lui</u> (GEN/DAT) lup <u>lu</u> (ACC) lupe (VOC)	o likos (NOM) tu liku (GEN) ton liko (ACC) like (VOC)
Indefinite (a wolf)	unu lupu (NOM) a unlui lupu (GEN/DAT) unu lupu (ACC)	enas likos (NOM) enos liku (GEN) enan liko (ACC)

Additionally, while the use of definite articles with proper nouns is obligatory in MG, in VA, it is optional (see example (5)):

- (5) a. Stefu & Steflu (VA)
Stefan & the Stefan
b. (*O) Stefanos (MG)
(*The) Stefanos

Regarding the unmarked position of the adjective in both languages, VA adjectives appear postnominally as in other Romance languages, while prenominal adjectives are used for emphasis (Campos 2005; Katsanis and Dinas 1990; Papazizi-Papatheodorou 1996; Sechidou 2005). In MG, the opposite holds: the unmarked position of the adjective is the prenominal one, while the postnominal is used for emphasis (Guardiano and Stavrou 2019; Stavrou 1996, 2012). Moreover, while, in MG, case is marked on both the adjective and the noun, regardless of the order in which they appear, in VA, only the first element is fully inflected (Katsanis and Dinas 1990). The VA variety we examine is characterized by these properties with respect to the position of the adjective in the DP. Table 2 presents the differences between MG and VA in this respect:

Table 2. Adjective position in VA and MG.

Case	VA	MG
NOM	Fiatile musate girl ^{FEM.PL.NOM.DEF} beautiful ^{FEM.PL} ‘the beautiful girls’	Ta omorfa koritsia The the ^{FEM.PL.NOM.DEF} beautiful ^{FEM.PL.NOM} girls ^{FEM.PL.NOM} “the beautiful girls”
GEN	a fiatiloru musate girl ^{FEM.PL.GEN.DEF} beautiful ^{FEM.PL} “of the beautiful girls”	Ton omorfon koritsion the ^{FEM.PL.GEN.DEF} beautiful ^{FEM.PL.GEN} girls ^{FEM.PL.GEN} “of the beautiful girls”

Concerning gender, although both MG and VA are grammatical gender languages, there are some differences with respect to the role of animacy in gender markings and the status of the neuter in the languages. In MG, there is a tripartite gender distinction, with nouns being morphologically marked as either masculine, feminine or neuter (e.g., o maθitis = the student – MASC, i parelasi = “the parade” – FEM, to puli – “the bird” – NEUT). Each value is associated with distinct suffixes on noun endings, which reflect the gender value on the noun stem (Ralli 2002). The attribution of gender is not based on animacy since the neuter value can be associated both with animate (to ayori—“the boy”) and inanimate nouns (to trapezi—“the table”). Additionally, it has been shown that neuter is the linguistic and learner default in MG (Tsimpli and Hulk 2013). On the other hand, in

VA, there is a masculine and feminine gender value, with distinct morphological markings on the relevant nouns, as well as a third value, which is not associated with discrete suffixes but uses the endings of the masculine in the singular and of the feminine in the plural. The nouns that follow this declension are considered as belonging to the neuter type (Katsanis and Dinas 1990) or to the ambiguous type (Capidan 1932; Posner 1996) depending on the analysis. In VA, the semantically interpretable feature of Animacy seems to regulate the attribution of the neuter value since inanimate, concrete nouns tend to be assigned a neuter value¹ (Katsanis and Dinas 1990; Koltsidas 1993; Vasileiou 2014). The morphological marking of gender in VA is presented in Table 3, while, in MG, it is presented in Table 4 (see also Katsanis and Dinas 1990):

Table 3. Morphological marking of gender in VA.

NUMBER		MASC	NEUT	FEM
SING	NOM	lup <u>lu</u> (the wolf)	dzenuk <u>lu</u> (the knee)	fiata (the girl)
	GEN	a lup <u>lui</u>	a dzenuk <u>lui</u>	a fiatili
	DAT	a lup <u>lui</u>	a dzenuk <u>lui</u>	a fiatili
	ACC	lup <u>lu</u>	dzenuk <u>lu</u>	Fiata
	VOC	lupe	dzenuku	Fiata
PLURAL	NOM	Lukli	dzenukle	Fiatile
	GEN	a luk <u>loru</u>	a dzenuk <u>loru</u>	a fiatil <u>oru</u>
	DAT	a luk <u>loru</u>	a dzenuk <u>loru</u>	a fiatil <u>oru</u>
	ACC	lukli	dzenukle	Fiatile
	VOC	Luki	dzenuke	Fiate

Table 4. Morphological marking of gender in MG.

NUMBER		MASC	NEUT	FEM
SING	NOM	o likos (the wolf)	To yonato (the knee)	i θiyatera (the daughter)
	GEN	tu liku	tu yonatu	tis θiyateras
	ACC	ton liko	to yonato	tin θiyatera
	VOC	-like	-yonato	-θiyatera
PLURAL	NOM	i liki	ta yonata	i θiyateres
	GEN	ton likon	ton yonaton	ton θiyateron
	ACC	tus likus	ta yonata	tis θiyateres
	VOC	-liki	-yonata	-θiyateres

1.3. Research Hypotheses

The research question that triggered the present study is whether the effects of the historical language contact of two languages can be bidirectional and whether the bilingual experience of speakers can further contribute to explain bidirectionality. Considering the dynamic role of bilingualism in different linguistic levels of analysis, we are narrowing down our research focus on crosslinguistic effects relating to morphosyntactic and semantic features. Specifically, in view of the morphosyntactic properties of VA and MG, as described in Section 1.2, and in light of the assumptions of the Interpretability Hypothesis presented in Section 1.1, we explore the following features for possible language change effects due to language contact: [Definiteness], [Gender], [Animacy] and the (un)marked adjectival position in VA and MG.

Specifically, [Definiteness] as a grammaticalized feature on nouns in VA is interpretable at the PF interface. Although definiteness is a semantically interpretable feature on nouns (Chomsky 1995), it has been argued that the definite article encodes only uninterpretable features (see, for example, Tsimpli and Stavrakaki 1999). The MG definite article is analyzed as such, as encoding only features with no semantic import, unlike the indefinite article, which carries the interpretable feature of [Definiteness]. The definite article in VA appears as a suffix on the noun (see Table 3); therefore, following also the analysis of Cornilescu (2016),

which builds on the analyses of [Roehrs \(2006, 2012\)](#), we could adopt for the VA definite article the same analysis as the MG definite article in terms of semantic interpretability, i.e., that it encodes only formal features and is thus uninterpretable at LF. [Gender] is a grammaticalized feature in VA and MG, which is an intrinsic feature of nouns, interpretable at PF, while [Animacy], as an LF-interpretable feature in VA, modulates gender assignment on VA nouns to some degree.

Considering the above, we hypothesize that, depending on the degree of resilience of the morphosyntactic and semantic features and the type of bilingualism that the VA–MG speakers belong to, the data will reveal bidirectional effects that will be more or less prominent depending on the bilingual type. Specifically, with respect to [Definiteness], we predict that, since the definite article in both MG and VA is a cluster of uninterpretable features, this will lead to transfer effects in terms of definiteness marking, which will be modulated by the type of bilingualism. In relation to [Gender], given that it is grammaticalized in both VA and MG and is particularly vulnerable in L2 acquisition (see, for example, [Kaltsa et al. 2019](#)), we predict that [Animacy], a semantically interpretable feature that is used in VA to attribute gender values to a certain extent, will be used in a compensatory way for the attribution of gender in MG.

2. Materials and Methods

2.1. Participants

As noted earlier, [Prentza and Kaltsa \(2020\)](#) provide the first analysis of bilingual practices of VA speakers in the community of Sirrako. Specifically, [Prentza and Kaltsa \(2020\)](#) developed a linguistic profiling questionnaire, which we also employ in the present study to select our informants; this questionnaire targets language input and output measures in both languages, VA and MG, to identify the type of bilingualism considering information on: (a) general ethnographic and educational background, such as place of birth, area of residence and years of education; (b) home language practices, such as home language strategies in childhood and adulthood, AoO of exposure to VA and MG and means of exposure to each language; (c) current language practices, such as input and expression in each language, literacy and current self-assessment of competence in both languages; along with (d) attitudes towards VA and MG. The following three types of speakers have been identified in the community:

- (a) sequential bilinguals who were exposed first to VA as an L1 and then to MG as an L2 with AoO to MG either at school age or in late childhood (around 10 years old) due to the nomadic lifestyle of the population (L1VA–L2MG hereafter);
- (b) simultaneous bilinguals who were exposed to both languages from birth up to the age of 3 (2L1s hereafter) and
- (c) sequential bilinguals who were exposed first to MG as an L1 and then to VA as an L2 with an AoO to the L2 at the (pre)school age (L1MG–L2VA hereafter).

Twelve informants (F = 8, M = 4) were selected to participate in the study: four L1VA–L2MG bilinguals (age M = 83.6, SD = 2.5); four 2L1s bilinguals (age M = 57.2, SD = 3.1) and four L1MG–L2VA bilinguals (age M = 34.5, SD = 1.8). The L1VA–L2MG bilinguals used only VA as their home language and had limited education (M = 1.3 years). The 2L1s bilinguals used primarily VA as their home language (95%) and had an average of 10.7 years of education, with half of them also having attended tertiary education. The L1MG–L2VA bilinguals used VA as their home language significantly less often (33%) and had attended primary and secondary education, with half of them also having attended tertiary education. The data collection took place at the village during the summer period when informants relocate for their summer vacation. A private quiet area in the informants' home was used to carry out the sessions.

2.2. Spontaneous Language Production in MG & VA

Spontaneous language production data were obtained both in VA and in MG. The VA corpus consisted of conversations between VA speakers of the same bilingual background.

Each recording had a duration of 30 min, and we recorded six pair conversations that added up to approximately 180 min of dialogue data. A topic, namely ‘life in the village’, was provided by the investigator, who is part of the VA community and heritage speaker herself. The speakers were told that they could interact freely using mainly VA but that they could also switch in MG if necessary. The dialogue data obtained by the L1VA–L2MG bilingual speakers were 1.194 clauses, from the 2L1s bilinguals 1.100 clauses and from the L1MG–L2VA speakers 930 clauses. This dataset was subsequently analyzed with the aim to provide: (a) a description of the morphosyntactic microvariation of the VA variety spoken in the area of Sirrako (as exemplified in Section 1) and (b) an analysis per bilingual type of the use of the definite article, adjective positions in DPs and morphosyntactic integration on nouns (gender, case, number) due to language contact effects.

With regard to the MG spontaneous language production data, we recorded the conversations between L1VA–L2MG bilinguals and L1MG–L2VA bilinguals in pairs. Elicitation was similar to the VA spontaneous production data, with each of the four recordings lasting almost 30 min, which added up to approximately 120 min of dialogue data and a total of 2996 clauses for analysis. The MG dataset was subsequently analyzed with the aim to examine gender marking in MG in L1VA–L2Gr sequential bilingual speakers in particular. Table 5 provides more information on recordings, which comprise the oral corpus of the study.

Table 5. The oral corpus.

VA Corpus	Participants	Duration of Recording
L1VA–L2MG	2	00:32:24
	2	00:29:07
2L1s	2	00:27:23
	2	00:30:10
L1MG–L2VA	2	00:28:02
	2	00:34:29
MG Corpus		
L1VA–L2MG & L1MG–L2VA	2	00:29:11
	2	00:26:00
	2	00:22:08
	2	00:31:43

3. Results

3.1. Spontaneous Production Data in VA

The data analysis of the spontaneous language production data in VA focuses on three parameters: (a) the use of definite articles, (b) the adjective position in DPs and (c) the morphosyntactic integration of VA features on MG nouns per bilingual type.

Prior to the analysis of the VA data, it must be noted that, at the level of morphosyntactic variation among VA dialects, the analysis of our corpus data revealed that the variety of VA that we examine belongs, according to the typology presented in [Katsanis and Dinas \(1990\)](#), to the northern and older varieties type and exhibits the aforementioned characteristics with respect to the use of definite and indefinite articles. Therefore, it contrasts with other varieties that belong to the southern type, where: (a) the definite article is a free morpheme preceding the noun with case distinctions marked on the article only and (b) indefiniteness is marked with the use of a default form of the numeral “one” and prepositions in the genitive and dative case. Examples of this contrast are presented in Table 6 (see also [Katsanis and Dinas 1990](#), pp. 46–50).

Table 6. Variation in definiteness marking in VA.

Definiteness	VA of Sirrako	Other VA Varieties
Definite	a omloi	al omu
	the ^{MASC.SG.GEN.DEF}	the ^{MASC.SG.GEN.DEF}
	man ^{MASC.SG.GEN.DEF}	man ^{MASC.SG.}
	“The man’s”	“The man’s”
	a mumili	al muma
	the ^{FEM.SG.GEN.DEF}	the ^{FEM.SG.GEN.DEF}
	mother ^{MASC.SG.GEN.DEF}	mother ^{FEM.SG.}
	“The mother’s”	“The mother’s”
	a dzenuklui	al ² dzenuku
	the ^{NEUT.SG.GEN.DEF}	the ^{NEUT.SG.GEN.DEF}
Indefinite	knee ^{NEUT.SG.GEN.DEF}	knee ^{NEUT.SG.}
	“Of the knee”	“Of the knee”
	<i>enclitic marking of definiteness</i>	<i>definite article only precedes the noun</i>
	a unlui fistoru	di unu fistoru
	one ^{MASC.SG.GEN.INDEF}	Of one ^{MASC.SG.INDEF}
	boy ^{MASC.SG.}	boy ^{MASC.SG.}
	“a boy’s”	“a boy’s”
	a unli muma	di una muma
	one ^{FEM.SG.GEN.INDEF}	Of one ^{FEM.SG.INDEF}
	mother ^{MASC.SG.}	mother ^{FEM.SG.}
	“a mother’s”	unu dzenuku
	a unlui dzenuku di	one ^{NEUT.SG.INDEF}
	one ^{NEUT.SG.GEN.INDEF}	knee ^{NEUT.SG.}
	knee ^{NEUT.SG.} of	“of one knee”
	“of one knee”	<i>Preposition + default form of the indefinite</i>
	<i>a + marked indefinite article</i>	

With regard to the marking of definiteness, the analysis of the spontaneous data in the L1VA–L2MG bilingual group revealed no influence from MG; bilinguals produced DPs where the definite article appears as a suffix on the noun, with the case distinction also marked on the nominal form. The analysis of the 2L1s dataset, however, shows that DPs are doubly marked for definiteness, specifically via a VA suffix on the noun and as a free morpheme with the form of the MG definite article, as exemplified in (6) and (7). This double marking of definiteness occurs in 7% of the DPs produced by 2L1s bilinguals (20/286 DPs), and it appears primarily with proper names (proper names: 65%, 13/20 DPs and common names 35%, 7/20 DPs). Considering that the use of the definite article with proper names is obligatory in MG but only optional in VA, this double marking of definiteness found in the 2L1s dataset suggests an effect from MG to VA.

- (6) Proper name—example from 2L1s dataset

ton Kota fratilui
the^{MASC.SG.GEN.DEF} Kostas father^{MASC.SG.GEN.DEF}
“the brother Kostas” (i.e. “The brother whose name is Kostas”)

This pattern of the double marking of definiteness is also found in the L1MG–L2VA dataset, with 13.3% of the DPs produced bearing the double marking (24/180 DPs). Additionally, it appears that the frequency of the double marking is enhanced among L1MG–L2VA bilinguals compared to 2L1s bilinguals, suggesting strong contact effects for bilinguals dominant in MG; ($\chi^2(1, N = 466) = 5.194, p = 0.023, \eta^2 = 0.106$). In the younger bilingual group, the double marking of definiteness is attested both with proper and common nouns, which is also a difference compared to the 2L1 group (proper nouns: 54.1%, 13/24 DPs and common nouns 45.9%, 11/24 DPs). This finding shows both the effect of

MG on VA and also the more limited language skills that the younger bilingual group has in VA.

- (7) Common name—example from L1MG–L2VA dataset
 $\text{to}^{\text{MASC.SG.ACC.DEF}}$ $\text{fistorlu}^{\text{MASC.SG.ACC.DEF}}$
 The boy-the
 “the boy”

Additionally, the error analysis of the L1MG–L2VA dataset reveals case marking errors for DPs that bear the double marking of definiteness, as exemplified in (8), where there is a mismatch between case in the MG definite article (genitive) and the VA definiteness suffix (nominative) on the proper noun. In the L1MG–L2VA dataset, we detected case mismatches in five out of the twenty-four instances of double marking of definiteness, which corresponds to a percentage of 20.8%.

- (8) Case mismatching in double marking of definiteness—example from L1MG–L2VA dataset
 $\text{tu}^{\text{MASC.SG.GEN.DEF}}$ $\text{Steflu}^{\text{MASC.SG.NOM.DEF}}$
 The Steven’s
 “Steven’s”

Such instances are not attested by the language production data of either the L1VA–L2MG or the 2L1s bilinguals.

Turning to the adjective position in VA, the analysis of the sequential L1VA–L2MG bilingual data shows that the adjective position is exclusively postnominal, the unmarked position of the adjective for VA, which suggests no influence from MG (see example (9)).

- (9) Postnominal adjective—example from L1VA–L2MG dataset
 $\text{Unu}^{\text{MASC.NOM.SG.INDEF}}$ $\text{fistoru}^{\text{MASC.SG}}$ $\text{rosu}^{\text{MASC.SG}}$
 A boy ginger
 “a ginger boy”

The data analysis, however, of the other two bilingual datasets reveals varied contact effects from MG depending on bilingual type. Specifically, 2L1s bilinguals would select significantly more often the postnominal position for 79% of DPs with adjectives (60/79; $\chi^2(1, N = 79) = 21.278, p < 0.001$), while this choice represents only 27% for the L1MG–L2VA bilinguals (11/41 DPs with adjectives); $\chi^2(1, N = 122) = 26.956, p < 0.001, \eta^2 = 0.474$. Note that the prenominal position of the adjective for 2L1s bilinguals is mainly attested in formulaic MG expressions or in DPs, including an integrated adjective or a loan word (adjective or noun) from MG, as shown in (10).

- (10) Prenominal adjective—example from 2L1s dataset
 $\text{Mare}^{\text{FEM.SG.NOM}}$ $\text{Viniri}^{\text{FEM.SG}}$
 Holy Friday
 “Hoy Friday”

Unlike L1VA–L2MG and 2L1s bilinguals, L1MG–L2VA bilinguals show a strong preference for prenominal adjectives at 73% (30/41 DPs with adjectives; $\chi^2(1, N = 43) = 8.805, p = 0.003$), a marked choice for VA, which suggests an effect from MG, where the default position of the adjective is prenominal. Meanwhile, the postnominal adjectival position for L1MG–L2VA bilinguals is reserved for VA formulaic expressions or names of places, which are related to the Vlach-speaking community, as is shown in example (11).

- (11) Postnominal adjective—example from L1MG–L2VA dataset
 Porta nica (a particular place in the village)
 Door-the small-the
 “the small door”

Next, we turn to the examination of the morphosyntactic integration of VA features on MG lexical items in the DP that appear in the spontaneous production data of VA–MG bilinguals. The instances that appear in the dataset are motivated either by the lack of appropriate lexical item in VA given its use in the native community for daily activities or by bilinguals’ limitations in VA lexical skills; (12) exemplifies the former since the word is

related to a medical term and (13) the latter since, according to the only register of lexical items of this variety and to older speakers, the word “ksoani” is the Vlach word for the noun “statue” (Dalaoutis 2005).

- (12) Noun—example from 2L1s dataset
Iperihlu
Ultrasound-the^{MASC.NOM}
“the ultrasound”
- (13) Noun—example from 2L1s dataset
ayalmat-I
statue-the^{F.PL.ACC}
“the statue”

The frequency patterns of morphosyntactic integration of VA features on MG nouns and adjectives differ significantly depending on the bilingual type. Table 7 provides the distribution data per bilingual type:

Table 7. Frequency of morphosyntactic integration of VA features on MG lexical items.

	L1VA–L2MG	2L1s	L1MG–L2VA
Nouns	74.2%	75.7%	90.3%
	135/182	234/309	186/206
Adjectives	25.8%	24.7%	9.7%
	47/182	75/309	20/206
N of clauses per dataset	1.194	1100	930
Total Frequency [%] per dataset	15.2%	28.1%	22.1%

The analysis shows that all three datasets differ significantly with regard to the overall frequency of morphosyntactic integration of lexical bases in the DP ($\chi^2(2, N = 3224) = 55.991, p < 0.001, \eta^2 = 0.076$) and the distribution between nouns and adjectives ($\chi^2(2, N = 697) = 20.671, p < 0.001, \eta^2 = 0.152$). This evidence suggests lexical transfer from MG to VA that is particularly evident for 2L1s and L1MG–L2VA bilinguals. It is also noteworthy that the L1MG–L2VA group produced fewer clauses than the two older groups, which shows that they are less competent in the endangered language and not as fluent as the older bilinguals. When the L1MG–L2VA group did not resort to this strategy of integration and resorted to MG words, they used the MG morphosyntactic and phonological features.

3.2. Spontaneous Language Production in MG

In reference to the spontaneous language production in MG, we examine gender marking by L1VA–L2MG sequential bilingual speakers. The analysis shows four types of gender marking errors within the DP: mismatches between determiners and nouns, specifically inanimate concrete nouns, animate nouns and proper names, and gender agreement errors in complex DPs (for examples and frequencies, see Table 8).

Table 8. Frequency of gender marking errors in MG DPs by L1VA–L2MG bilinguals.

Type	Example	Distribution of Errors
inanimate, concrete nouns	sto ^{NEUT} dulapa ^{FEM} (‘closet’)	44% [11/25]
animate nouns	to pedhi ^{NEUT} m pire vlaho ^{MASC} (my child married a vlach woman—context required Fem)	8% [2/25]
proper names	to ^{NEUT} Pavlo ^{NEUT} (‘Paul’)	20% [5/25]
agreement in complex DPs	to ^{NEUT} alo ^{NEUT} iulio ^{MASC} (‘the following July’)	28% [7/25]

Across gender marking errors, neuter appears to be the most frequently selected gender since 77.3% of the DPs that required masculine or feminine gender marking appeared

with neuter gender marking ([17/22]; $\chi^2(1, N = 22) = 6.54, p = 0.011$). When looking at the use of neuter in inanimate concrete nouns, in particular, the frequency of the use of neuter increases substantially, with 90.9% of the nouns appearing with neuter determiners [10/11]. Meanwhile, the frequency of the use of neuter in the case of proper names and complex DPs is lower, 60% [3/5] and 57.1% [4/7], respectively. Thus, inanimacy and concreteness appear to be enhancing the use of neuter gender marking in the MG production data of L1VA–L2MG bilinguals, indicating an effect from VA to MG.

4. Discussion

We set out to investigate the effects of historical language contact of MG with VA in bilingual speakers across three generations of speakers living in the area of Sirrako, Epirus, Greece. We focused on the VA variety spoken in this specific language community, which has never been investigated before from a (psycho)linguistic perspective, and we examined the role of bilingualism as a dynamic process in which a morphosyntactic domain may be affected. Specifically, we investigated the bidirectional crosslinguistic influence in relation to feature resilience and vulnerability within DPs. MG, as presented in Section 1.2, differs from VA in a number of DP properties, namely marking definiteness, adjectival position and gender marking; due to those differences, it provided fruitful ground for the exploration of bidirectionality. Earlier research has shown that language contact effects are evident not only from the dominant language to the endangered one (Gathercole and Thomas 2009; Janse 2002; Matras and Sakel 2007) but also from the endangered language to the dominant one (Davidson 2020; Helms 2021; López Otero 2020, 2022; Pavlenko and Jarvis 2002), suggesting bidirectionality in language contact.

Not all language areas, though, are sensitive to language change under language contact. In light of the Interpretability Hypothesis (Tsimplici 2003a, 2003b; Tsimplici and Dimitrakopoulou 2007; Tsimplici and Mastropavlou 2008), the L2 data suggest that semantically interpretable lexical features escape language maturation constraints and, hence, are more resilient in language contact, while semantically uninterpretable lexical features are vulnerable and are consequently affected by language contact, showing variability in their use. The feature resilience and variability in Greek dialectal data were further supported by Lavidas and Tsimplici (2019), where it was shown that, in the DP domain, the definite article of MG, a cluster of semantically uninterpretable features, was ungrammatically omitted by speakers of West Thracian Greek Dialect, while the use of the indefinite article, which is inherently marked as [-definite], remained unaffected. In the present study, we found differences in the DP-related features that we examined as regards resilience and vulnerability under language contact. Additionally, we found that language contact effects are bidirectional, not only from the dominant language, MG, to the minority one, VA, but also from VA to MG in specific bilingual types. Table 9 summarizes the basic findings of the present study.

Table 9. Language contact effects in the DP.

	L1VA–L2MG Bilinguals	2L1s Bilinguals	L1MG–L2VA Bilinguals
Definiteness in VA	no MG influence	limited MG influence	moderate MG influence
Adjectival Position in VA	no MG influence	moderate MG influence	strong MG influence
Gender Marking in MG	VA influence	n/a	n/a

Starting with definiteness, L1VA–L2MG bilingual data showed that the marking of definiteness and the structure of the DP are unaffected in VA, while gender marking in MG is affected by properties of the endangered language, VA. This resilience of the interpretable features of animacy and concreteness in the gender data verifies the predictions made

and suggests that the minority language may lead to changes in the dominant language and that bidirectionality is indeed possible. Notice that, while neuter is a learner default for L2 Greek speakers, our dataset analysis suggests that animacy in VA is the factor driving the bilinguals' performance in relation to the attribution of the neuter value in MG production. The most frequent inaccurate uses of the neuter value in MG are found in the dataset with inanimate concrete nouns and not in other cases (see Table 8). Since animacy does not modulate gender attribution in MG either for masculine and feminine nouns or for neuter nouns (neuter nouns in MG can be both animate and inanimate), we cannot claim that the use of animacy in L1VA–L2MG bilinguals in MG production is merely a reflex or a consequence of the learner default strategy of neuter gender overuse, which is adopted by L2 speakers of Greek. We claim that the exploitation of animacy in such a way is made possible through the availability of this semantically interpretable feature to nonnative speakers of MG who were exposed to the language at a later age, belong to a specific bilingualism type and use animacy in a compensatory way, as the Interpretability Hypothesis would predict. The resilience of the feature of animacy in language contact situations has also been reported in the studies of [López Otero \(2020, 2022\)](#), where the DOM in L1 Romanian was found to be modulated by animacy in the bilingual Spanish–Romanian data but not in the monolingual data, which further supports our claim. The lack of inaccurate productions with respect to definiteness in VA by this specific group is expected if we consider their bilingualism type.

The 2L1s and the L1MG–L2VA data show more vividly the dynamic impact of bilingualism in language contact changes since we have documented a gradual increase in the double marking of definiteness in VA DPs, along with a significant number of case agreement errors, especially by L1MG–L2VA bilinguals. Given that Case is the prototypical semantically uninterpretable feature, such results are predicted by the Interpretability Hypothesis, which considers uninterpretable features vulnerable in cases of language contact. The double marking of definiteness in VA by the 2L1 and the L1MG–L2VA, which is manifested as the addition of the MG definite article along with the VA definiteness bearing suffix, shows that the uninterpretable features related to the MG definite article may transfer in the VA grammar, causing language change under language contact (see also [Lavidas and Tsimpli 2019](#)) given the bilingualism type that these speakers fall into.

Additionally, the data show a systematic increase in the use of preverbal adjectives, which is reserved for MG formulaic expressions in the case of the 2L1s bilinguals but is the default for the L1MG–L2VA bilinguals. Note also that postnominal adjectives not only are not identified as the default option for L1MG–L2VA bilinguals but, when used, they bear a marked interpretation in information structure terms. Conversely, the L1VA–L2MG bilinguals show a stable preference of placing the adjective postnominally. Irrespective of whether word order is to be viewed as a syntax or post-syntax related phenomenon, these different preferences of adjective placement among bilingual groups show the effect of MG on the endangered language and how this interacts with bilingualism type.

Moreover, even though our data reveal that crosslinguistic influence appears to be bidirectional, we need to note that the dominance of MG has led to changes in VA that are also linked to lexical access difficulties, with the overall fluency skills of the speakers being affected as well. Notice that the strategy of morphosyntactic integration that is adopted in the production of VA when lexical access is problematic, albeit to a different degree by the bilingual groups, shows that, despite the threshold of grammatical knowledge required for speakers to adopt this strategy the 2L1 group resorts more to it than the L1MG–L2VA group, lexical competence has shifted significantly, especially in L1MG–L2VA bilinguals (see also [Prentza and Kaltsa 2020](#)). A decline in VA fluency is also manifested by the number of utterances produced in VA by each group. As a follow up to this study, we built an oral corpus from spontaneous speech data, which allowed us to examine the dynamic interplay of bilingualism and language contact effects from the dominant language to the endangered one and vice versa.

Overall, we claim that the findings on gender marking in MG, adjectival position in VA DPs along with the use of the definite article in VA (summarized in Table 9) can be accounted for by reference to the competition between features and interpretability (Lavidas and Tsimpli 2019; Tsimpli and Mastropavlou 2008), while the general performance of bilinguals in the spontaneous production tasks (VA and MG) needs also to be explained with reference to the different bilingualism types to which speakers belong.

In line with earlier findings on the role of historical and sociocultural reasons in language change and attrition (Adamou 2016; Janse 2002; Matras and Sakel 2007), the present study's data highlight that persistent and long-term language contact can lead to morphosyntactic effects from (a) the sociolinguistically dominant to the endangered language, that is, sociolinguistic effects, and (b) the dominant language of the individual bilingual speaker to the non-dominant language, that is, bilingualism effects. Specifically, formal features, such as gender, show bidirectional effects since VA affects the choice of gender on common nouns while MG affects the choice of gender agreement; meanwhile, a change in the endangered language shows up as 'transfer' effects from Greek (adjective placement, determiner use), extending the VA grammatical choice (double definiteness). Consequently, sociolinguistic variables, namely societal dominance, can account for part of the language contact effects, but the dynamic profile of bilingualism and linguistic complexity are two factors that need to be taken into account when considering language contact changes.

Note, however, that the explanatory value of the current dataset may be limited by the size of the corpus. Further collection of production language data of VA–MG bilinguals, along with language elicitation tasks that target specific morphosyntactic features, can add to our current outcomes. Specifically, given that the VA–MG population is largely understudied, future research may focus on other domains apart from the nominal domain. Moreover, the exploration of long-distance agreement (e.g., clitics, adjectival predicates) or morphosyntactic properties of the verb can provide valuable information on language contact effects for a currently endangered language.

5. Conclusions

The present study presented original language data from VA–MG bilinguals and aimed to investigate the effects of historical language contact of MG with VA. Earlier research on VA (Bakalis et al. 2011; Campos 2005; Katsanis and Dinas 1990; Joseph 2020; Koufogiorgou 2005, 2008; Manzini and Savoia 2011, 2018; Mavrogiorgos 2017; Mavrogiorgos and Ledgeway 2016, 2019) provides linguistic documentation of other varieties of VA, but there is no documentation of the VA variety spoken in the area of Sirrako apart from the study of Prentza and Kaltsa (2020), which focuses on the bilingual practices of VA speakers in Sirrako. Considering this gap in research, we built an oral corpus from spontaneous speech data, which allowed us to examine the role of the type of bilingualism in language contact effects. The data analysis revealed bidirectional crosslinguistic influence since (a) MG was shown to affect VA in definiteness marking and adjective positioning, with the evidence being more pronounced in L1MG–L2VA bilinguals, and (b) VA appeared to influence MG in gender marking in L1VA–L2MG bilinguals. Future research is required to work on the expansion of VA–MG bilingual corpora and re-examine morphosyntactic features in the nominal and verbal domain with more targeted language elicitation tasks to further explore historical language contact effects in the continuously shrinking population of VA–MG bilinguals.

Author Contributions: Conceptualization, A.P., M.K. and I.M.T.; methodology, A.P., M.K. and I.M.T.; validation, A.P. and M.K.; formal analysis, A.P., M.K. and I.M.T.; investigation, A.P. and M.K.; resources, A.P. and M.K.; data curation, A.P. and M.K.; writing—original draft preparation, A.P. and M.K.; writing—review and editing, A.P., M.K. and I.M.T.; visualization, A.P. and M.K.; supervision, I.M.T.; project administration, A.P.; funding acquisition, N/A. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki and approved by Ethics Committee of University of Ioannina.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: We would like to acknowledge the support provided to this study by the members of the local community of Sirrako village, Epirus, Greece.

Conflicts of Interest: The authors declare no conflict of interest.

Notes

- ¹ However, some researchers note that there is a shift from the neuter to the masculine noun due to language change and variability within VA varieties (Katsanis and Dinas 1990).
- ² In some varieties, also “dila dzenuku” (see Katsanis and Dinas 1990).

References

- Adamou, Evangelia. 2016. *A Corpus-Driven Approach to Language Contact: Endangered Languages in a Comparative Perspective*. Berlin: Walter de Gruyter GmbH & Co KG, vol. 12.
- Bakalis, Evangelos, Konstantinos Dinas, Alexandra Galani, Loukas Georgiadis, and Vassileios Tatsis. 2011. *Documentation and Analysis of Endangered Languages: A 2011 Study of Vlachika in Metsovo*. Athens: John Latsis Public Benefit Foundation.
- Beis, Stamatis. 2000. *Le parler Aroumain de Metsovo: Description d’une langue en voie de disparition*. Ph.D. dissertation, Université Paris V, Paris, France.
- Campos, Hector. 2005. Noun modification, pseudo-articles, and last resort operations in Arvantovlachika and in Romanian. *Lingua* 115: 311–47. [\[CrossRef\]](#)
- Capidan, Theodor. 1932. *Aromânii. Dialectul aromân. Studiu lingvistic*. București: Monitorul Oficial și Imprimeriile Statului, Imprimeria Națională.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge: MIT Press.
- Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A Life in Language*. Edited by Michael Kenstowicz. Cambridge: MIT.
- Cornilescu, Alexandra. 2016. The low definite article and the evolution of the Romanian DP. *Generative Grammar in Geneva* 9: 3–26.
- Dalaoutis, Spiros. 2005. *Sirrako—toponimia [Sirrako—Placenemes]*. Preveza.
- Davidson, Justin. 2020. Asymmetry and Directionality in Catalan–Spanish Contact: Intervocalic Fricatives in Barcelona and Valencia. *Languages* 5: 60. [\[CrossRef\]](#)
- Gathercole, Virginia C. Mueller, and Enlli Môn Thomas. 2009. Bilingual first-language development: Dominant language takeover, threatened minority language take-up. *Bilingualism: Language and Cognition* 12: 213–37. [\[CrossRef\]](#)
- Giusti, Giuliana. 2002. The functional structure of noun phrases: A bare phrase structure approach. In *Functional Structure in DP and IP*. Edited by Guglielmo Cinque. New York: Oxford University Press, pp. 54–90.
- Guardiano, Cristina, and Melita Stavrou. 2019. Comparing patterns of adjectival modification in Greek: A diachronic approach. *Quaderni di Linguistica e Studi Orientali* 5: 135–73.
- Helms, Annie. 2021. Bidirectionality of language contact: Spanish and Catalan vowels. *Proceedings of the Linguistic Society of America* 6: 159–72. [\[CrossRef\]](#)
- Janse, Mark. 2002. Aspects of bilingualism in the history of the greek language. In *Bilingualism in Ancient Society: Language Contact and the Written Text*. New York: Oxford University Press, pp. 332–90.
- Joseph, Beain D. 2017. *The Role of Greek and Greece Linguistically in the Balkans*. London: Routledge, pp. 223–33.
- Joseph, Brain D. 2020. Language contact in the Balkans. In *The Handbook of Language Contact*. Edited by Raymond Hickey. Hoboken: John Wiley & Sons Ltd., pp. 537–49.
- Kaltsa, Maria, Ianthi Maria Tsimpli, and Froso Argyri. 2019. The development of gender assignment and agreement in English-Greek and German-Greek bilingual children. *Linguistic Approaches to Bilingualism* 9: 253–88. [\[CrossRef\]](#)
- Katsanis, Nikolaos, and Kosta Dinas. 1990. Γραμματική της Κοινής Κουτσοβλαχικής [*Grammar of the Common Kutsovlach*]. Thessaloniki: Archive of Macedonian Studies.
- Koltsidas, Antonios. 1993. *Koutsovlachs, Vlach Speaking Greeks*. Thessaloniki: Ethnological, Folklore and Linguistic Studies.
- Koufogiorgou, Andromachi. 2005. Ethnicity, identity and language: The case of the Vlachs/Aromanians of Metsovo. *Selected Papers on Theoretical and Applied Linguistics* 16: 238–54.
- Koufogiorgou, Andromachi. 2008. *Vlach-Aromanian in Metsovo: A sociolinguistic investigation of a case of language shift in Greece*. Ph.D. dissertation, University of Essex, Colchester, UK.
- Lavidas, Nikolaos, and Ianthi Maria Tsimpli. 2019. Object omission in contact: Object clitics and definite articles in the West Thracian Greek (Evros) dialect. *Journal of Language Contact* 12: 141–90. [\[CrossRef\]](#)

- López Otero, Julio César. 2020. On the acceptability of the Spanish DOM among Romanian-Spanish bilinguals. In *The Acquisition of Differential Object Marking*. Edited by Alexandru Mardale and Silvina Montrul. Amsterdam: John Benjamins, pp. 161–81.
- López Otero, Julio César. 2022. Bidirectional cross-linguistic influence on DOM in Romanian-Spanish bilinguals. *International Journal of Bilingualism* 13670069211063606. [\[CrossRef\]](#)
- Manzini, Rita, and Leonardo M. Savoia. 2011. Reducing ‘case’ to denotational primitives: Nominal inflections in Albanian. *Linguistic Variation* 11: 76–120. [\[CrossRef\]](#)
- Manzini, M. Rita, and Leonardo Savoia. 2018. *The Morphosyntax of Albanian and Aromanian Varieties*. Berlin: De Gruyter Mouton.
- Matras, Yaron, and Jeanette Sakel, eds. 2007. *Grammatical Borrowing in Cross-Linguistic Perspective*. Berlin: Mouton de Gruyter, vol. 38.
- Mavrogiorgos, Marios. 2017. *SE-Passives and Implicit Arguments: The Case of Aromanian*. LAGB 2017. Kent: University of Kent.
- Mavrogiorgos, Marios, and Adam Ledgeway. 2016. *Subject Clitics in Aromanian*. Cambridge-Oxford Workshop on Daco-Romance Linguistics. Cambridge: University of Cambridge.
- Mavrogiorgos, Marios, and Adam Ledgeway. 2019. Non-verbal predication and clitics in Aromanian. In *Romance Languages and Linguistic Theory 15*. Selected Papers from ‘Going Romance’30, Frankfurt. Amsterdam: John Benjamins, vol. 15, p. 333.
- Papazizi-Papatheodorou, Zoi. 1996. *Paramythia Ton Vloxon*. Gutenberg: Vlach Folktales.
- Pavlenko, Aneta, and Scott Jarvis. 2002. Bidirectional transfer. *Applied Linguistics* 23: 190–214. [\[CrossRef\]](#)
- Posner, Rebecca. 1996. *The Romance Language*. Cambridge: Cambridge University Press.
- Prentza, Alexandra, and Maria Kaltsa. 2020. Linguistic Profiling of Heritage Speakers of an Endangered Language: The Case of Vlach Aromanian–Greek Bilinguals. *Open Linguistics* 6: 626–41. [\[CrossRef\]](#)
- Prentza, Alexandra, and Ianthi-Maria Tsimpli. 2013. The interpretability of features in second language acquisition: Evidence from null and postverbal subjects in L2 English. *Journal of Greek Linguistics* 13: 323–65. [\[CrossRef\]](#)
- Ralli, Angella. 2002. The role of morphology in gender determination: Evidence from Modern Greek. *Linguistics* 40: 519–51. [\[CrossRef\]](#)
- Roehrs, Dorian. 2006. *The Morpho-Syntax of The Germanic Noun Phrase: Determiners Move into the Determiner Phrase*. Ph.D. dissertation, Indiana University, Indiana, IN, USA.
- Roehrs, Dorian. 2012. Demonstrative-reinforcers constructions. *Journal of Comparative Germanic Linguistics* 13: 225–68. [\[CrossRef\]](#)
- Schulte, Kim. 2021. Romanian Studies: Language and Linguistics. *The Year’s Work in Modern Language Studies* 81: 483–502. [\[CrossRef\]](#)
- Sechidou, Irene. 2005. Finikas Romika: A Greek Para-Romani variety. *Romani Studies* 15: 51. [\[CrossRef\]](#)
- Sonti, Ourania. 2017. *The use of Vlach Aromanian by Greek-Speaking Students with Vlach-Speaking Parents*. Master’s dissertation, University of Ioannina, Ioannina, Greece.
- Sorescu-Marinković, Annemarie, Mihai Dragnea, Thede Kahl, Blagovest Njagulov, Donald L. Dyer, and Angelo Costanzo. 2021. *The Romance-Speaking Balkans: Language and the Politics of Identity*. Boston: Brill.
- Stavrou, Melita. 1996. Adjectives in Modern Greek: An instance of predication, or an old issue revisited1. *Journal of Linguistics* 32: 79–112. [\[CrossRef\]](#)
- Stavrou, Melita. 2012. Postnominal adjectives in Greek indefinite noun phrases. In *Functional Heads: The Cartography of Syntactic Structures* 7. Oxford: Oxford University Press.
- Tsimpli, Ianthi Maria. 2003a. Interrogatives in the Greek/English interlanguage: A minimalist account. In *Selected Papers on Theoretical and Applied Linguistics*. Edited by Elsa Mela-Athanasopoulou. Thessaloniki: Aristotle University of Thessaloniki, pp. 214–25.
- Tsimpli, Ianthi Maria. 2003b. Clitics and determiners in L2 Greek. In *Proceedings of the 6th Generative Approaches to Second Language Acquisition Conference (gasla 2002)*. Edited by Juana M. Liceras, Helmut Zobl and Helen Goodluck. Somerville: Cascadilla Press, pp. 331–39.
- Tsimpli, Ianthi Maria. 2014. Early, late or very late? Timing acquisition and bilingualism. *Linguistic Approaches to Bilingualism* 4: 283–313. [\[CrossRef\]](#)
- Tsimpli, Ianthi Maria, and Maria Dimitrakopoulou. 2007. The interpretability hypothesis: Evidence from wh-interrogatives in second language acquisition. *Second Language Research* 23: 215–42. [\[CrossRef\]](#)
- Tsimpli, Ianthi Maria, and Aafke Hulk. 2013. Grammatical gender and the notion of default: Insights from language acquisition. *Lingua* 137: 128–44. [\[CrossRef\]](#)
- Tsimpli, Ianthi Maria, and Maria Mastropavlou. 2008. Feature interpretability in L2 acquisition and SLI: Greek clitics and determiners. In *The Role of Formal Features in Second Language Acquisition*. Edited by Juana Liceras, Helmut Zobl and Helen Goodluck. New York: Routledge, pp. 143–83.
- Tsimpli, Ianthi Maria, and Stavroula Stavrakaki. 1999. The effects of a morphosyntactic deficit in the determiner system: The case of a Greek SLI child. *Lingua* 108: 31–85. [\[CrossRef\]](#)
- Vasileiou, Antonios. 2014. *The Language of Vlachs in Akarnania. The Documentation of an Endangered Language*. Ph.D. dissertation, University of Western Macedonia, Florina, Greece.
- Weigand, Gustav. 2001. *Aromanians*. Translated by Thede Kahl. Thessaloniki: Kyriakidis.