Bilectal Investigations of Grammar
A View from Cyprus

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Abstract   Research on variation and concomitant bilingualism arising from local languages has gained a lot of traction recently – and rightly so, since it can inform on so many levels. In this respect, Cyprus is in a special position when it comes to the study of language. This paper reports on one aspect of our lab's research agenda: the relevance of the difference in object clitic placement between the official languages (Standard Modern Greek) and the local vernacular (Cypriot Greek) for linguistic theorising, but also for language practices. This paper also engages with accounts capturing variation in language and among speakers, framing the different lects of local language speakers in terms of a 'UG from below' rather than strictly parametric approach, as merged into a single, mixed grammar.

Keywords   Adults. Bilectalism. Children. Clitic placement. Cypriot Greek. Mixed grammar. UG from below.

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1   Introduction and Overview

Cyprus is in a special position when it comes to the study of language for many reasons. This paper reports on one aspect of the CAT Lab's research agenda, the Cyprus Acquisition Team that was initiated some 15 years ago: the relevance of the difference in object clitic placement between Cypriot Greek and Standard Modern Greek for linguistic theorising, but also for language practices. By so doing, it aims to bring closer the potential impact that the confined geographical space of this small island may have on issues pertaining to language acquisition and subsequent development from different perspectives, of imminent relevance for any study of multilingualism, that is, also beyond Cyprus.

Two concepts form the backbone of the discussion, which space does not permit to be presented in more detail: the 'Socio-Syntax of Development Hypothesis' (Grohmann 2011; see also Leivada, Grohmann 2017) and the notion of a gradient scale of multilingualism, dubbed 'Comparative Multilingualism' (Grohmann 2014b; see also Grohmann, Kambanaros 2016). In brief, the former assumes that the local variety, Cypriot Greek, is indeed the native language which Greek Cypriot children acquire. Due to the prevailing diglossia, children not only grow up with this unofficial, non-codified L(ow) variety but also with the H(igh) variety: Standard Modern Greek, one of the two official languages in the Republic of Cyprus (and that of the Hellenic Republic of Greece).

At the CAT Lab – to continue the keyword presentation of the background with the key references – we developed the notion of '(discrete) bilectalism' to characterise speakers in diglossic environments (Rowe, Grohmann 2013), namely, in the context of Cyprus, as bilectal languages users of Cypriot Greek and Standard Modern Greek. Our research further suggests that bilectal children undergo refinements in their grammatical system after the critical period for native first language acquisition, certainly after 3, 4, and even 5 years of age (summarised in Grohmann 2014a). One prominent factor is schooling, which falls within 'socio-syntactic' aspects of language development (Grohmann, Papadopoulou, Themistocleous 2017). The larger picture places bilectalism on a gradient scale, which ranges in its extremes from monolectal monolingual speakers to multilectal multilingual speakers across further differentiations which may possibly be finer characterised as bidialectalism, bivarietalism, bilectalism, and additional different degrees of bilingualism. This scale can arguably be compared to performance in receptive and expressive language assessment tasks (Theodorou, Grohmann 2015; Theodorou, Kambanaros, Grohmann 2016) as well as cognitive tasks tapping into executive control (Antoniou et al. 2016).

The main contribution of this paper is to synthesise and discuss our previous research, as a follow-up to Grohmann et al. (2020), integrating diverse methodologies and examining the topic from various

angles. Specifically, illustrating with patterns of clitic placement, we aim here (i) to show that bilectal children acquire distinct grammars of their linguistic varieties which may result in mixing in development and its final outcome; (ii) to demonstrate the importance of working from corpora of spontaneous speech in the field of experimental linguistics with child, adolescent, and adult speakers; and (iii) to suggest that the existence of closely related varieties in the course of child language development will give rise to a variety that involves so-called 'functionally equivalent variants' in the adult speaker.

This term was originally introduced by Kroch (1994). We therefore build on Leivada, Papadopoulou, Pavlou's (2017) novel study in our contribution to the theme of variation and bilingualism with local languages, which situates the relevance of language research on non-codified varieties. The remainder of section 2 provides further background. Section 3 surveys our research on object clitic placement in bilectal children, while section 4 focuses on adults, including as of yet unpublished data from a recent research project (Fotiou 2019-22). Section 5 puts the two study complexes, child and adult data, in perspective and briefly concludes.

2   Some Relevant Background

Research on variation and concomitant bilingualism arising from local languages has gained a lot of traction in recent years – and rightly so, since it can inform on so many levels, as the other contributions to this volume aptly demonstrate. This section introduces aspects of the relevance of non-standard varieties for language acquisition and, ultimately, for the faculty of language. It also provides some background on the country where the local language explored here, Cypriot Greek, is spoken as well as the grammatical phenomenon highlighted, namely object clitics and their placement in the local language.

2.1   Non-Standard Varieties, Language Acquisition, and Universal Grammar

The relevance of investigating local languages/varieties is self-evident, especially in today's pervasively multicultural, and thereby often multilingual, societies (e.g., Grosjean 2010). In contrast to a heritage language – a bilingual speaker's first language acquired in the home generally weaker than the dominant or majority language of their society (cf. Polinsky 2018) – a local language can often even be the relevant dominant or majority language itself, "the language spoken in the homes and marketplaces of a community, as distinguished from a regional, national or international language" (Bühmann, Trudell 2007, 6).

A local language is still a minority language in many respects, though, primarily because it is typically understudied and lacks codification or standardisation. But when used by a large part of a population, it bears direct relevance for language education in the school system, for measures of language assessment, and, in the context of atypical or impaired language, for the diagnosis of language difficulties, for speech-language therapy, and (later in life) language breakdown.

One complex issue regarding local languages concerns data collection, since these languages do not have official status, are not codified, and are mostly oral varieties. Leivada, Papadopoulou, Pavlou (2017) list a range of difficulties (see also Leivada, D'Alessandro, Grohmann 2019 in a broader context), which start with eliciting acceptability judgments of non-standard varieties from native speakers as well as a high degree of inter- and intraspeaker variation. The difficulties may stem from prescriptive notions of correctness, less clear-cut judgments due to non-standardisation, and unclear dividing lines among the various 'lects' that exist on the standard-dialect continuum. As Leivada, Papadopoulou, Pavlou (2017, 2) put it: "Such features may blur the boundaries of grammatical variants resulting in a high degree of grammatical hybridity, which is attested in the form of utterances that may incorporate elements from different lects without code-switching in place". Interestingly, they continue, existing experimental research provides well-founded evidence "that native speakers may judge a grammatical variant as 'bad' or unacceptable – yet be recorded producing it spontaneously in their own speech".

They further observe that this not only holds for monolingual speakers, but that "a greater degree of discrepancy is expected between speakers' introspective judgments about their linguistic repertoire and the actual repertoire itself" for bi-/multilingual speakers as well as, most relevantly, for cases of bi(dia)lectal speakers which involves non-standard varieties or local languages (see Leivada, Papadopoulou, Pavlou 2017 and references therein). With this hypothesis in mind, we examine the grammar of bilectal speakers of Cypriot Greek and Standard Modern Greek through experimental data gathering in children (summarised as 'study complex I' in section 3) and spontaneous speech in adults (summarised as 'study complex II' section 4).

Now, whether 'local', 'non-standard', or 'minority', epistemologically any language is a grammar minimally defined as the set of abstract rules that generate all the grammatical structures (and rule out all ungrammatical ones) in this grammar – or language, or dialect (e.g., Kayne 2000, 7). In this sense, Cypriot Greek is a bona fide grammatical system, whether called 'language', 'dialect', or 'variety'. Moreover, its historically related linguistic proximity to Standard Modern Greek allows for novel, perhaps even 'micro-parametric', comparisons. Further investigations of child language development, looking at parametric or otherwise derived differences in the adult

grammars of both language varieties, might reveal purported or suspected properties of Cypriot Greek that develop early on and thereby constitute actual core properties of the language (such as clitic placement, as we suggest); likewise, such research could reach additional evidence for treating Cypriot Greek first language acquisition and development differently from Standard Modern Greek.

The Principles and Parameters Theory (Chomsky 1981; Chomsky, Lasnik 1993) is one of the most successful generative approaches to language variation. Its coverage is marked by three cornerstones: diachronic change, synchronic variation, and language acquisition. Since its inception in the 1980s and minimalist developments in the 1990s, much research has gone into more recent treatments, ranging from issues such as how to capture parameters to big questions regarding the nature of the principles (e.g., Roberts 2017; 2019). The Principles and Parameters Theory is thus not only concerned with parameters underlying, for example, language variation, but also with the principles making up Universal Grammar (UG), "the general theory of I-languages, taken to be constituted by a subset of the set of possible generative grammars, and as such characterises the genetically determined aspect of the human capacity for grammatical knowledge" (Roberts 2017, 9).

Yet, there seems to be some confusion that surrounds the notion of 'UG', as recently remarked by Tsimpli, Kambanaros, Grohmann (2017). On the one hand, this concerns the question of whether the language faculty should be considered in the broad sense or in the narrow sense (FLB/FLN; Hauser, Chomsky, Fitch 2002) – and on the other, intimately related, whether we assume a 'big UG' or a 'small UG', to use the coinage Clark (2012) introduced (but see Fitch 2009 for clarifications on both). Clark suggests that

> there is a spectrum of proposals for UG from ones that just propose a small amount of presumably domain general principles [...] towards those that posit a very rich and structured set of principles [...] which will presumably inevitably be domain specific.[1]

Roberts (2017, 15) characterises small UG as 'first-factor-only UG', in contrast to big UG as 'first-plus-third-factor UG' (see Chomsky 2005 on the three factors of language design). This conception allows approaching UG 'from below' (Chomsky 2007) and even a subsequent move towards 'operations' over 'parameters' (Hornstein 2009).

We will return to this issue in section 5 where we also situate our proposal with respect to child language acquisition. There are a

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[1] Clark, A. (2012), commenting on 'Poverty of Stimulus Redux'. http://faculty-oflanguage.blogspot.com/2012/11/poverty-of-stimulus-redux.html.

large range of parameter-compatible approaches. To simplify the lay of the land dramatically, the Continuity Hypothesis, for example, assumes (strong/weak) continuity with respect to operable grammatical or even parametric settings in child and adult grammars (e.g., Crain 1991; Crain, Thornton 1998; Crain, Koring, Thornton 2017). In contrast, the Maturation Hypothesis incorporates insights from biological timing, according to which some parameters are operative later than others (e.g., Borer, Wexler 1987; Wexler 1998). More recently, Variational Learning (Yang 2002) explicitly pleads for the interaction of UG and general learning mechanisms (also Yang 2016; Legate, Yang 2007; Yang et al. 2017).

2.2   Cyprus, the Island and Its Language(s)

As a quick background on Cyprus itself, the Republic of Cyprus has been a divided island since the invasion by Turkey in 1974. The southern part represents the government-controlled area, with the occupied 'Turkish Republic of North Cyprus', that is, the Turkish-controlled part internationally recognised only by Turkey, making up about 36% of the island. The Republic of Cyprus has been a member state of the European Union since May 2004. Focusing, as this paper and much of our research do, on the southern part of Cyprus, there are around 920,000 inhabitants, about 21% of whom foreign nationals according to the preliminary results of the 2021 census (PIO 2022).

What makes language research in Cyprus so interesting is the plethora of languages spoken (and signed), heard, taught, and learned. The official languages are *de jure* Greek and Turkish, though *de facto* it is Greek only. Apart from these mainstream languages, there are also heritage languages, including several minority languages, many immigrant languages, and the omnipresent English spoken in Cyprus (for recent discussions, see Grohmann, Pavlou 2021 and Fotiou 2022). For a current overview of the linguistic ecologies of Cyprus, north and south, and a host of references to the relevant literature, see Buschfeld, Grohmann, Vida-Mannl (forthcoming).

The speaker community of Cyprus is typically described as diglossia, with the official language, 'Demotic' or Standard Modern Greek (SMG), as the H and the 'vernacular/dialect' Cypriot Greek (CG) as the sociolinguistic L variety. CG is a Greek 'dialect' which is natively acquired and used for everyday communication. It is a non-standardised language with no official orthography. SMG is learned mainly through formal education, and it is the language used in all forms of official writing. It is also the language of the media, though in the past 20 years or so, the use of CG (and of more standard-like lects that incorporate elements from both varieties) in this domain has been continuously increasing (see Fotiou, Ayiomamitou 2021).

Although the official language in education and other formal settings is SMG, research has shown that the boundaries between the two and their distribution across different registers is not straightforward (Grohmann, Leivada 2012; Tsiplakou, Armostis, Evripidou 2016). There are various intermediate lects between the two. For example, the term 'Cypriot Standard Greek' has been proposed to refer to an emerging variety that may count as the standard in the context of Cyprus (Arvaniti 2010). Our own characterisation of speakers' linguality in diglossia is one of '(discrete) bilectalism' (Rowe, Grohmann 2013 and subsequent work). In this view, Greek Cypriots are bilectal speakers of their native CG and the mainstream variety SMG (possibly with other lectal refinements that may include Cypriot Standard Greek, for example).

Naturally, CG is linguistically very proximal to SMG, so there is, of course, substantial overlap in grammar and lexicon. Yet the two are best described as being asymmetrically mutually intelligible: While SMG is intelligible to Greek Cypriots, without any extensive prior exposure to it, CG is generally unintelligible to Greeks (i.e. from Greece). Among the better understood differences are for lexical, phonetic, and (morpho-)phonological properties of CG and SMG. Unlike SMG, CG possesses palato-alveolar consonants, and CG replaces the palatal glide [j] with the vowel [i], for example. However, there is a growing body of work on morpho-syntactic description and analysis. For example, CG has a different 3rd person plural morpheme from SMG in present and past tense. Indeed, there exists a wide range of differences on every level of linguistic description (e.g., Arvaniti 2010). Research on the differences is progressing, many more examples can be cited, and much of our own work revolves around them as well – including the empirical aspect of this paper: clitic placement.

2.3   Object Clitics and Their Placement in Cypriot Greek

Since Cypriot Greek historically developed from Byzantine Medieval Greek and as such is part of the South-Eastern dialect group of Modern Greek (e.g., Horrocks 2010), it is not surprising that it retained some grammatical features from (Late) Medieval Greek. One prominent such feature concerns pronominal object clitic placement. While SMG is a proclitic language, CG displays mixed clitic placement. The syntactic environments are similar to differences in clitic placement observed for European Portuguese vs. Iberian Spanish, for example. Among many others, see Agouraki (1997; 2001), Terzi (1999a; 1999b), Revithiadou (2006), Revithiadou, Spyropoulos (2008), Chatzikyriakidis (2010), and Mavrogiorgos (2013) for core treatments of placement options, licensing conditions, and historical perspectives for Greek clitics.

Object clitics in CG are marked for case and phi-features (person, number, gender), just as in SMG; in this respect, there is in fact very little variation in form between the two varieties. The mixed clitic placement of CG boils down to the default post-verbal occurrence of the object clitic in indicative declarative clauses (enclisis) and pre-verbal occurrence in special conditions (proclisis). In contrast, object clitics in SMG appear pre-verbally in canonical environments (e.g., indicative declaratives); there are special licensing conditions for post-verbal placement.

This can be illustrated with a simple paradigm, which we use because the indicative declarative clause is the environment we focus on in our data collection for both children (section 3) and adults (section 4). (1) represents a simple matrix declarative with a transitive verb. Greek being a head-initial VO language, the nominal object appears post-verbally in both varieties. (We use IPA-notation to represent significant differences between CG and SMG).

(1) (o ʝan:is/ʝanis)   θcavazi/ðʝavazi   to vivlio.   [CG/SMG]
      the John   read.3SG   the book
      'John is reading the book.'

The difference between the two varieties becomes apparent when the direct object is pronominalised. Applying this to the sentence (1), (2) then demonstrates enclisis in CG, while proclisis in (3) is the only option available in SMG, with the object clitic in boldface:

(2) (o ʝan:is)   θcavazi   **to**.   [CG]
      the John   read.3SG   it
      'John is reading it.'

(3) (o ʝanis)   **to**   ðʝavazi.   [SMG]
      the John   it   read.3SG
      'John is reading it.'

The special conditions for other syntactic contexts do not play a role in this paper, but (4) provides some of these. In imperatives (4a), enclisis is obligatory in both CG and SMG; in negative contexts (4b), Wh-questions (4c), and subjunctives (4d), both require proclisis.

(4) a.   θcavase/ðʝavase **to** tora!   [CG/SMG]
            'Read it now!'
      b.   en/ðen **to** θcavazi/ðʝavazi (i maria).   [CG/SMG]
            'Maria doesn't read it.'

    c.   pu **to** θcavazi/ðɟavazi (i maria)?   [CG/SMG]
          'Where does Maria read it?'

    d.   perimeno na **to** θcavasi/ðɟavasi (i maria).   [CG/SMG]
          'I expect [Maria to read it].'

As a brief note on the syntax of direct object clitics, the (morpho)syntax of cliticisation is admittedly complex. Even leaving aside (morpho) phonological complexities, there are still many contentious issues (for a classic reference, see Cardinaletti, Starke 1999): the internal structure of pronominal clitics (e.g., head vs. phrasal), their phrase-structural status (e.g., adjunction vs. incorporation), their derivational history in the clause (e.g., base-generation vs. movement), and the relation to their host (e.g., a separate clitic projection vs. some functional head), among others. Our database does not allow a deeper engagement in these issues, nor is it our goal at this point. But we would like to raise more general considerations.

    For clarification purposes, let us just sketch a line of analysis based on an early proposal for clitic positioning in CG by Terzi (1999a). She captures the difference between proclisis and enclisis through verb movement, that is, in both configurations (and in both languages, CG and SMG), the clitic occupies the same position; it is adjoined to a functional head F above TP. To derive proclisis, F with the clitic sits above the raised verb in T; to yield enclisis, the verb moves to a higher position. This can be a M(ood) head, a Neg(ation) head, or the C(omplementiser) position for illocutionary force or focus, for example. The structure in (5), adapted from Terzi (1999a) and based on Rivero (1994), illustrates:

(5) $[_{CP}$ Spec C^0 $[_{NegP}$ Spec Neg^0 $[_{MP}$ Spec M^0 $[_{FP}$ Spec **CL-F^0** $[_{TP}$ Spec V-T^0 [… (V) …]]]]]]

Terzi (1999a, 110, also fnn. 24-5) further argues that verb movement is related to the properties of the CG tense/inflection domain, "in particular, to the feature composition of M^0". Due to these differences, the verb raises beyond T^0 to M^0 with the result of enclisis in CG (as in (2)), where the clitic stays in F^0 and is "not preceded by a functional head with operator-like properties" (as in (4)). However, when the verb stays in T^0, the result is proclisis, which is also the case in SMG declarative clauses. Details aside, what matters here is that there an analysis according to which (i) there is one common clitic position in SMG and CG and (ii) CG enclisis in indicative declarative clauses is brought about by an additional verb movement step. If the difference lies in verb movement, a possible parametric approach might capitalise on the Verb Movement Parameter or some version thereof. Arguably, such a parameter would have to be formulated in terms of the properties of the tense/inflection domain in CG, which could possibly be done through a parameter hierarchies approach (e.g., Baker 2001; Roberts 2019).

Admittedly, this is a very broad oversimplification, but it does not affect the general point raised here and in section 5 below. One could also imagine a difference in Tense and the CP-layer, as Shlonsky (2004) outlines. While focusing on the Iberian differences mentioned above (European Portuguese and Galician vs. Catalan, Spanish, and Italian) rather than Greek (CG vs. SMG), he proposes "a general theory of clitic placement which takes enclisis [...] to apply whenever possible and proclisis only as a last resort" (345). He continues: "This theory is combined with a hypothesis concerning cross-linguistic differences in the position of the cliticisation site relative to finite inflection, negation, and feature-attracting morphemes in the Comp domain". Shlonsky (2004, 337) suggests that "the 'parametric' difference between these two sets of languages does not govern cliticisation directly; rather, it concerns the position of the active finite Infl" (which, despite different argumentation, ultimately underlies the analysis in Terzi 1999a as well).

We will return to general 'parametric' concerns in section 5. First, we will briefly lay out the results from experimental data collection from different child and adult populations carried out in Cyprus. The upshot will be that speakers use a fair amount of SMG-like proclisis even in cases where CG grammar would require enclisis, and this needs to be captured.

3 Study Complex I: Clitic Placement in Development

Regarding first language acquisition, we know that clitic pronouns appear at around 2 years of age (Marinis 2000) and are used frequently at age 3 in SMG (Tsakali, Wexler 2004) – in monolingual children. There is no evidence that CG would differ in any major ways. As early research on this topic by Petinou, Terzi (2002) suggests, correct clitic placement is surely achieved at age 3 by CG-speaking children. The authors also notice 'misplacement', which appears around 2;6, around the time when children start using multi-word utterances. In SMG, however, children do not misplace clitics; there is simultaneous use of pre-verbal clitics in indicative and subjunctive environments and post-verbal clitics with verbs in imperatives (Stephany 1997; Marinis 2000). There is thus probably something else going on in CG child productions.

The first study complex we summarise is a series of data collections with young bilectal children that started with Grohmann (2011). For a detailed report of the results, see Grohmann 2014a and the follow-up analysis of Grohmann, Papadopoulou, Themistocleous 2017. The methodology stayed the same. It is a production task that aimed at eliciting 3rd person accusative direct object clitics within syntactic islands (see Varlokosta et al. 2016 for full description and justification). After two warm-up sentences, 12 target structures and 4

fillers were randomised. Participants were shown a drawn coloured picture depicting a scene involving an agent performing an action on a patient. An example of the 12 target structures is provided here, where the participant was asked to complete the sentence by producing the bracketed sequences with verb and object clitic:

(6) i mama xtenizi ti korua tʃe i korua en omorfi. ̪ati i korua en omorfi? i korua en omorfi ̪ati i mam:a tis… [xtenizi *tin-CL*]$_{post-V}$ / [**tin-CL** xtenizi]$_{pre-V}$
'Mommy is combing the girl and the girl is beautiful. Why is the girl beautiful? The girl is beautiful because her mommy… [combs her-CL]'

In the first study, we set out to test 24 Greek Cypriot children with typical language development ranging in age from 5;0 to 6;0 years (TD5, M = 5;7, 11 girls). The original control group consisted of 8 adults between 27 and 56 years of age (M ~ 37, 4 females) and, for reasons that become apparent presently, we also tested a group of younger children aged between 3;2 and 4;11 years (TD3-4, M = 3;11, 5 girls). The results are summarised in Chart 1.
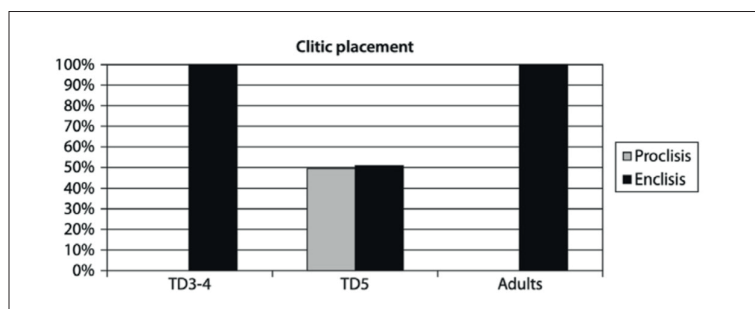

Chart 1 Clitic placement in children and adults (Grohmann 2011, 196)

First off, it should be mentioned that clitic production in the experimental setting was very high: 95.8% for the original target group of TD5 and 91.7% for TD4-4 out of the 12 target structures (Adults: 100%). But in terms of placement, there were surprising results. While it looks like a halfway split between post-verbal (50.3% enclisis) and pre-verbal clitic placement (49.6% proclisis), matters are more complex. Of the 24 TD5 children, 10 mainly used enclisis (10 out of 12 or more), 10 mainly used proclisis (10 out of 12 or more), and 4 children mixed the two (everything in between). Given these numbers, one could ask what the target language is that the children are actually acquiring. A clue comes from the younger TD3-4 group, who performed 100% post-verbal enclisis – like the adult controls.

In subsequent research, additional data were collected with much higher participant numbers and more age groups. On the basis of 431 typically developing bilectal children aged 2 to 9 years, Grohmann, Papadopoulou, Themistocleous (2017) substantiated the original hypothesis based on the results from Graph 1: Children start acquiring enclisis from the beginning. However, at around the age of 5, children go through a stage for approximately two years in which they produce a lot of proclisis instead – in the same context. This age coincides with the onset of schooling, where the language of instruction is the official language, SMG, ultimately giving rise to the Socio-Syntax of Development Hypothesis: Older bilectal children employ variants from both their acquired grammars, that is, their grammatical repertoire develops beyond the critical period.

Looking at the Greek-speaking child population in Cyprus, even more is at stake. Without going into too much detail (e.g., widespread private nursery or even primary school education, often even in English), the conglomerate of constellations leads to a possibly large range of Greek-speaking child populations, most prominently, bilectal Greek Cypriot children, of course (i.e. children of two Greek Cypriot parents, born and raised in Cyprus). But due to intermarriage and other forms of migration, there are sizeable numbers of Hellenic Greek children (with both parents hailing from Greece, who have done at least some schooling in Cyprus), Hellenic Cypriots (one Hellenic Greek parent and one Greek Cypriot, resident and growing up in Cyprus), and all kinds of '*bona fide*' bi- and multilingual children (hailing from all kinds of cultural and linguistic backgrounds, but residing in Cyprus). This led our team to several follow-up clitic placement studies. The first, inspired by an undergraduate research project resulting in Leivada, Mavroudi, Epistithiou 2010, employed the same tool but used both the above CG and an SMG version with Greek Cypriot, Hellenic Greek, and Hellenic Cypriot children (with each version administered by respective native speakers). And we extended data collection to include teenagers and additional groups of adult participants as well.

While the details lead us too far astray for the purposes of this contribution, these follow-up studies relate to the aforementioned relevance of investigating clitic placement to language practices. For example, we carried out a study with 18 Russian-(Cypriot) Greek bilingual children between 4 and 8 years of age who were born, raised, and schooled in Cyprus. Russian is not a clitic language, but also has verb-object order, so the only relevant interference with respect to object clitic placement would come from the father's and society's vernacular language (CG) and the official language (SMG). All children's language abilities were assessed with the Greek DVIQ (Stavrakaki, Tsimpli 2000) and the Russian multilingual proficiency test (Gagarina et al. 2010). While both clisis productions were

found, their distribution differed in interesting ways; for details, see the original study (Karpava, Grohmann 2014). Likewise, we used the clitic elicitation task as one measure of assessing children's language abilities for a potential diagnosis of a developmental language impairment. Theodorou (2013) developed a full battery for the context of Cyprus, the first of its kind, and clitic placement played a crucial role in identifying typical from atypical or even impaired language impairment, and possibly the role of intervention as well (Theodorou, Grohmann 2015; Theodorou, Kambanaros, Grohmann 2016).

These studies showed that the above-discussed TD5 group's acquisition of grammar is affected by other factors that contribute to the results observed. Now, it is possible that children growing up bilectally would be subject to competing factors and even competing motivations (Leivada, Grohmann 2017) as has been argued for bilingualism in general (e.g., MacWhinney 1987). We can thus easily imagine that verbal working memory, attention, and encyclopedic knowledge, to name just a few, also play a role in their linguistic behaviour – in the case at hand, placing a direct object clitic pre- or post-verbally in the same syntactic environment. However, if this is a linguistic behaviour that adults display as well, other explanations should also be taken into consideration. We will closer examine this next.

4 Study Complex II: Clitic Placement in Bilectal Adult Speakers

As described above, there are various intermediate lects in the dialect-standard continuum of CG (e.g., Arvaniti 2010 but also much empirical research since). One could thus expect the presence of what Kroch (1994) called 'functionally equivalent variants' (FEVs) in the linguistic behaviour of neurotypical adults as well. FEVs are doublets that encompass two equivalent forms or constructions that have the exact same function, but are grammatically incompatible. For example, a clitic can be realised either pre- or post-verbally but not both in a given syntactic environment (cases where a complementiser can be found with either pre- or post-verbal clitics have a different underlying structure; cf. Pavlou 2018). That is, no speaker would produce the form CL-V-CL for a single direct object, such as *to θcavazi to* for '(he/she) is reading it' – at least, we are not aware of any such systematic productions from either children or adults.

For example, mixing has been observed between CG enclisis and SMG proclisis in the same utterance – even in the presence of the CG phonological marker [ʃ], so it cannot be argued that there would be a clear (morpho)phonological trigger for a certain configuration:

(7) ksero   **to**   tuto   ksero   **to**
     know.1SG   it.NEUT.ACC   this.ACC   know.1SG   CL.NEUT.ACC

     to   eʃi   maθitis   mu
     CL.NEUT.ACC   have.PRES.3SG   student.NOM.SG my.GEN.SG

     'I know it, this one, I know it! A student of mine has it.'
     (Tsiplakou, Armostis, Evripidou 2016, 11)

Data such as (7) gave rise to an interesting research question (Tsiplakou 2007, 25): "Is it at all possible to have continuum-external code-switching, if part of Standard Greek is taken to belong to the Cypriot continuum, or if we are dealing with a 'fused lect'? […] And, finally, do such data allow us to make a case for competing grammars, and, if so, what is the precise nature of the competition?". We addressed some additional points of 'competition' in Leivada, Grohmann (2017) and Grohmann et al. (2020), but for present purposes we would like to rephrase this research question in line with Leivada, Papadopoulou, Pavlou (2017): "When observing hybridity in the case of speakers of CG and SMG, are we dealing with mixed grammars or fused grammars?".

To answer this question, we report on two studies conducted as part of the CAT Lab research activities. To start with, in Leivada, Papadopoulou, Pavlou (2017) five participants and two researchers (21-57 years, *M* = 34.5, 7 females), all Greek Cypriots (i.e. bilectal in CG and SMG), engaged in conversations at the participants' homes (or places familiar to them). The participants were familiar with the researchers to ensure effortlessly flowing conversation. They lacked training in linguistics and were not provided with information as to what the researchers were interested in. This allowed participants to freely talk about any topic they liked.

In total, 4,818 utterances were produced and analysed in terms of three variables that pertain to different levels of linguistic analysis: Morphology was examined through the use of the CG diminutive affix *-u*, as opposed to *-ak* in SMG, one of many possible diminutive affixes in SMG (but not *-u*), and phonology through the use of the CG-specific post-alveolar affricate [tʃ], which corresponds to the SMG palatal [c]. And syntax, finally, was assessed through the empirical lens of the present contribution: clitic placement in declarative clauses pre- (SMG) or post-verbally (CG).

It turned out that not all participants used diminutives in their spontaneous productions. When they were used, there was a clear preference for the CG variant *-u* across all participants (except one of the researchers). Regarding phonology, this corpus analysis shows that almost all participants incorporate both variants to some degree, but generally also prefer CG [tʃ].

Syntax is particularly revealing because all participants incorporated 'conflicting' values (i.e. different values of the same variant)

of the structures in question in their production. Crucially, participants used different values (i.e. FEVs) 'without' any code-switching in place. We can call this 'within-speaker variation', referring to the observation that a (Greek Cypriot) speaker may use both proclisis and enclisis in the same utterance, like (7) above, or even in two sentences uttered in succession, such as (8) immediately followed by (9):

(8) apla   **ta**   ðiakosmisan
     simply   CL.NEUT.ACC.PL   decorate.PAST.3PL
     'They simply decorated them.'

(9) **ta**   valan   tʃame, ekaman   **ta**   ʝal:i
     CL.NEUT.ACC.PL   put.PAST.3PL   there   do.PAST.3PL   CL.NEUT.ACC.PL   glass
     'They put them there, they cleaned them.'
     (Leivada, Papadopoulou, Pavlou 2017, 7)

Overall, the findings obtained from the corpus reveal both 'inter-speaker' and 'intraspeaker' variation with respect to the patterns of clitic placement that are featured in the grammar under investigation, but with preference for the CG placement pattern.

The second study we report on in this section is a recently completed CAT Lab research project (Fotiou 2019-22). The innovative aspect of this project with relevance to the present paper was that speakers' clitic placements were coded in two different conditions: during the 'casual speech' part of a sociolinguistic interview (henceforth referred to as 'the interview'), which was conducted in CG, and a language task (henceforth, 'the task'), which was part of the interview where participants were explicitly asked to use SMG. In total, 30 participants were interviewed aged 20-73 years (M = 41.7, SD = 17.32, 15 females). All participants were Greek Cypriots, with both parents being Greek Cypriots; CG is their native language and they learned SMG through formal education. Since Tsiplakou, Armostis, Evripidou (2016) showed that familiarity with the interviewer plays a pivotal role in generating the use of CG in the context of a sociolinguistic interview, all participants were familiar with the interviewer to ensure that they would not opt for a more formal register during the interview.

The interview was based on the original sociolinguistic interview tool, as continually developed since Labov (1966), and adapted for the Greek Cypriot community. For the task, participants were asked to watch a short video – part of the excerpt "Alone and hungry" from Charlie Chaplin's *Modern Times*, which lasted 3 minutes and 47 seconds – and narrate the story depicted in the video in the H variety of Cyprus (SMG). Prior to watching the video, they were told that they should imagine they are part of a group of people who want to teach

primary school children about the silent film industry. In their effort to get the children interested, they have chosen to show them an excerpt from a silent film. Before showing them the film, they should narrate the story depicted in the film to the children and ask them to act it out silently. This was done so the children would then watch the film with great interest to see how similar their acting was to what is shown in the film. The participants were explicitly told that, since this activity will take place on the school premises, they should use the standard Greek language when narrating the story to the children.

All data were transcribed and coded in ELAN. During the coding procedure, all instances of matrix declarative clauses were coded as either exhibiting enclisis or proclisis. Recall from above that this is a syntactic environment in which one would expect the use of enclisis in CG and the use of proclisis in SMG. For the statistical analysis in R (R Core Team 2012), the *lme4* package (Bates et al. 2015) was employed to perform logistic mixed effect regression. The production of enclisis was the dependent variable. Gender (male, female) and age were included as predictors. (Note that in separate models, age was used as a continuous variable (M = 41.7, SD = 17.32) and as a categorical variable (groups of: 20-29 years old, 30-49 years old, and 50-73 years old); since the two variables, age and age group, led to the same results, only the results of age as a continuous variable are mentioned here.)

Participants were included as random effect in all models. A 'step-up' analysis approach was followed, in which predictors were added one by one to the null model (i.e. a model which included only the intercept) so as to compare the model fit and identify whether the predictive power of the new model is significantly better. The group of models was examined in two conditions: the interview and the task. The best predictive model of each condition is briefly summarised below.

To start with, the analysis of the interview data showed that the production of enclisis (n = 1,989, 96.98%) was 'by far more frequent' than the production of proclisis (n = 62, 3.02%). Results from logistic mixed effects regression showed that age was a significant predictor of the production of enclisis vs. proclisis. Perhaps surprisingly (though the overall numbers are very small in our sample), the probability of enclisis production decreases with an increase in age (OR =.90, z = -2.44, *p* <.05); gender had no significant effect on the production of enclisis, though, and neither did the interaction of gender and age.

In contrast, the analysis of the task data showed that the production of proclisis (n = 209, 90.87%) was much more frequent than the production of enclisis (n = 21, 9.13%). In this model, gender was not used as a predictor variable, since men did not use enclisis at all during the task. Results from logistic mixed effects regression showed that age had no significant effect on the production of enclisis vs. proclisis (OR = 1, z = -.06, *p* =.95).

5   Discussion and Outlook

So, what does this all mean for local languages? The extremely brief overview towards the end of section 2.1 above served as the background to our focus on the discussion of parameter-setting for each grammar as opposed to, what we suggest, operation-driven mixed grammars in bilectal speakers. Recall that one plausible analysis of clitic placement for Greek, from (7) above, holds that SMG proclisis has V in T, but that CG enclisis raises V further to M qua parameterised verb raising beyond the clitic in F. At this point, we are not so much concerned with the question of whether the parameterisation lies in the Verb Movement Parameter or in the feature make-up of the heads involved (such as M or, more generally, the tense/inflection domain and/or the CP-layer as offered by Terzi 1999a or Shlonsky 2004, for example).

We simply assume that this may be one possible analysis to give us a handle on SMG vs. CG clitic placement. Rather, we would like to ask: What does this mean for the grammar of bilectal speakers? We summarised in the previous two sections our wide-ranging research agenda on the narrow topic of clitic placement by bilectal CG speakers whose findings point to three main conclusions. First, in the relevant syntactic domain of indicative declarative main clauses, children acquiring CG as their native grammar start out with the expected enclisis right from the start. Second, possibly due to the influence of SMG-medium schooling, but also other factors (e.g., languages and Greek varieties spoken at home), proclisis becomes an option, with children going one way ('CG enclisis') or the other ('SMG proclisis') – or even either ('bilectal mixing'). Third, adults are aware of the different placement options, thus do have the two patterns in their grammatical repertoire, though they may use the 'other' option in conversation and frequently do so without any obvious triggers (cf. (7)-(9) above, among others). This led us to characterise the clitic production patterns as available variants in speakers ('FEVs').

Bilingual speakers arguably have distinct grammars of their two (or more) languages, each following the language-specific parameter-setting acquired. So-called 'code-switching' or 'code-mixing' exists, of course, but it is distinct from FEVs. A German-English bilingual adult will not, for example, produce verb second when speaking English or violate it in German. But in our data, FEVs are found across speakers as well as across levels of analysis. If not strictly following from different settings of a parameter, we can then ask whether this incorporation of elements from different lects would make a case for mixed or for fused grammars. Auer (1999) suggests that, in fused grammars, the use of one variety or the other for certain variants and constituents is obligatory. Our findings do not show this

obligatoriness: The same variant might be realised with two different values in the spontaneous production of our participants.

We thus interpret the variation exhibited in bilectal CG as 'language mixing' and not as language fusing, since the observed patterns are not stabilised. Perhaps we observe a passage from once competing grammars (i.e. competing during the process of language acquisition) to a mixed grammar in the production of neurotypical adult speakers. Showing that a syntactic or a morphological pattern can receive two different realisations under the exact same conditions within the production of a speaker is at conflict with the mainstream conception of our initial state of the faculty of language (Leivada, Kambanaros, Grohmann 2017). If so, a strict binary parametric view may not be the most attractive perspective. A (micro-)parametric approach, sensitive to different lexical items instead of different syntactic environments, would arguably not solve the problem at hand either, as speakers may alternate across values for the exact same lexical item when this is realised multiple times in their production.

Criticism of the classic parameter-setting model is not new, nor of its extensions in the form of micro-parameters (Kayne 2000) or hierarchies (Baker 2001). For example, Newmeyer (2005, 79) points out that "'parameter' has simply become a synonym for 'rule'" (referencing Safir 1987 already), something picked up more recently by Hornstein (2009). An alternative, parameter-less theory of UG would, in turn, be compatible with the 'conflicting' values of FEVs, essentially taking a step toward removing parameters from the UG inventory, perhaps by involving operations rather than parameter-setting (Hornstein 2009).

Furthermore, returning to the above-mentioned distinction of 'big UG' (viz. first plus third factor) vs. 'small UG' (viz. first factor only), a parameter-less approach could put rules or operations at the center of variation which would be compatible with the 'conflicting' values of the FEVs that constitute the grammar under investigation. While details remain to be filled in, this move heads in the direction of approaching UG 'from below' (Chomsky 2007) through relegating parametric variation from UG – for example, to the externalisation component of language. This idea is increasingly explored in current work.[2] To mention just one of these, Leivada, Kambanaros, Grohmann's (2017) Locus Preservation Hypothesis holds that syntactic operations are preserved and impenetrable to variation, so the variation observed here must result from different externalisation options. We will return to the necessary details in future work.

In essence, our research substantiates the existence of FEVs within a single repertoire. Variation is manifested across speakers and

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2 E.g., Berwick, Chomsky 2011; Boeckx 2011; Leivada 2015; Leivada, Kambanaros, Grohmann 2017; Chomsky et al. 2019.

across experimental methodologies, as evidenced by the fact that different participants may align more with the standard variety than others. Moreover, this variation amounts to a case of language mixing – rather than language fusing – for two reasons: (i) the observed patterns are not stabilised and (ii) intraspeaker variation suggests that speakers do have a choice as to which variant they use. Hence, the presence of FEVs is not a matter of a differential position of participants on the dialectal continuum; inter- and intra-speaker variation exists, even if a preference can be discerned for CG enclisis.

One goal of this work is to illustrate that grammatical hybridity results in the existence of FEVs across speakers and across levels of linguistic analysis. We observe a mixed, hybrid system in the adult performance, in which elements from different 'lects' are merged into a single grammar. In view of the findings reported here, we conclude, with Leivada, Papadopoulou, Pavlou (2017), that a 'UG from below'-approach is compatible with the 'conflicting' values of the FEVs that create the bilectal grammar under investigation – the collection or combination of Greek lects spoken by Cypriots which we collectively call 'CG'.

Acknowledgements

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