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TOPICS IN L1 ACQUISITION, L2 AND L3 LEARNING. SELECTED PAPERS
FROM THE 7TH BUCHAREST COLLOQUIUM OF LANGUAGE ACQUISITION
Editor: Veronica Tomescu

CONTENTS

INTRODUCTION

The current issue includes a selection of papers on language acquisition, L2 and L3 learning, presented at various conferences held at the University of Bucharest in 2021-2022, and covering a wide range of topics: the acquisition of phonology in monolingual child Greek, the acceptability of extraction in L2 English by L1 Romanian speakers, the acquisition of subjects in L2 English by monolingual Romanians, the interpretation of anaphora in L2 Hungarian, in an L1 Romanian – L2 Hungarian context, and the source of linguistic transfer in the L3 Japanese of L1 Romanian speakers learning English as a second language.

In "Cluster repair strategies in child Greek: An Optimality Theoretic account", Eirini Ploumidi examines the simplification strategies attested in the longitudinal corpus of a monolingual Greek child. The analysis focuses on the strategies of reduction to the more sonorous member of the cluster and cluster deletion in [OBSTRUENT + LIQUID] clusters, strategies which appear in complementary distribution. Cluster deletion is claimed to be an epiphenomenon of the grammar's restrictions on onsets.

In "Extraction in L2 English: Are factive verbs all alike?", Irina Stoica investigates the acceptability of extraction out of the postverbal clause of factive verbs by intermediate and advanced learners of English, monolingual speakers of Romanian. Whereas the advanced learners no longer accept extraction irrespective of predicate type, the intermediate group allows long-distance movement in the case of cognitive factives, possibly under the influence of their L1, since Romanian is more permissive with respect to extraction. The study also brings further evidence that the distinction between cognitive and emotive factives is relevant with respect to the availability of extraction (Karttunen 1971, Hooper & Thompson 1973, Djarv 2019).

Anca Sevcenco, in "Diary null subjects in L2 English: A study on grammatical acceptability", tests whether intermediate and advanced Romanian learners of English have acquired, alongside the core non-pro-drop grammar, the peripheral grammar of pro-drop in restricted and exceptional contexts. The findings show that the majority of respondents exhibit the conservatism typical of language learners (Snyder 2007, Amaral & Roeper 2014) and reject the peripheral option. However, a few respondents appear to have acquired both the core non-pro-drop grammar of English and the non-core restricted grammar of omission.

Andreea Dogaru, in "Are postverbal subjects difficult to eliminate from the L2 English of L1 speakers of Romanian?", finds that advanced and proficient learners of English have fully acquired the cluster of properties associated with the pro-drop parameter for English and no longer accept postverbal subjects, while intermediate learners still do. Her results are in line with the Full Transfer/Full Access Model (Schwartz & Sprouse 1996).

In "Anaphora resolution in L2 Hungarian", Veronica Tomescu and Réka Pupp test the antecedent preferences for null and overt pronominal subjects in L2 Hungarian, on a group of Romanian learners, with a control group of Hungarian-Romanian bilinguals. In the personal pronoun condition, the authors identify possible transfer from Romanian, where the personal pronoun is dispreferred with topic continuity interpretation (Pagurschi

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2010, etc.). The L2 learners in the study give at chance responses in the case of the overt personal pronoun, while the group of bilingual Hungarian-Romanian have a strong preference to coindex it with the subject of the previous clause, as predicted in previous research (Tolcsvai 2000).

Finally, Sorana Iliescu, in "On the source of linguistic transfer in the learning of *-te i-* in L3 Japanese", investigates the source of linguistic transfer in L3 Japanese in the learning of the *-te i-* aspect marker, with learners whose L1 is Romanian and L2 English. It is concluded that the source of transfer is L1 Romanian, rather than L2 English. The L3 learners favoured the habitual rather than the progressive interpretation of the aspectual marker, even though Romanian, unlike English, does not have an overt aspectual marker. The study shows that transfer can occur from L1 instead of L2 even when the existence of certain similarities between L3 and L2 might be expected to favour transfer from the latter.

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CLUSTER REPAIR STRATEGIES IN CHILD GREEK: AN OPTIMALITY THEORETIC ACCOUNT

Eirini Ploumidi[*1]

Abstract: This case study investigates the simplification strategies of reduction to the more sonorous cluster member and cluster deletion in [OBSTRUENT + LIQUID] clusters. These strategies are in complementary distribution: the former applies in [OBSTRUENT + LATERAL] clusters and the latter in [OBSTRUENT + RHOTIC] ones. There is a CONTIGUITY effect in the child's system, i.e. the grammar requires that the adjacent segments in the input be adjacent in the output. The pattern of reduction to the more sonorous member of the cluster in [OBSTRUENT + LATERAL] clusters is CONTIGUITY-driven and satisfies the adjacency requirement. The adjacency requirement is not met in [OBSTRUENT + RHOTIC] clusters. The complementary distribution of these strategies emerges from the permission of LATERAL-initial onsets and the prohibition of RHOTIC-initial ones in the output. We claim that cluster deletion is an epiphenomenon of the grammar's restrictions on onsets, i.e. the CONTIGUITY effect and the prohibition of RHOTIC-initial onsets results in cluster deletion.

Keywords: clusters, cluster reduction, cluster deletion, contiguity, laterals, rhotics

1. Introduction

This case study focuses on the acquisition of rising sonority [OBSTRUENT + LIQUID] clusters. Consonant clusters are considered marked structures. Such evidence comes from fully developed phonological systems, i.e. adult languages, and from non-fully developed systems, i.e. child languages. For example, there are several adult languages which do not tolerate consonant clusters, for instance Hua (Blevins 1995) and Senoufo (Zec 2007). Also, the literature on phonological acquisition shows that, initially, children's grammars do not tolerate the emergence of clusters (e.g. English: Gnanadesikan 2004; Gerlach 2010, Dutch: van der Pas 2004; Levelt et al. 1999, Jongstra 2003, German: Lleó & Prinz 1996; Rauch 2003, French: Rose 2000, Italian: Cucinelli 2020, Spanish: Lleó & Prinz 1996, European Portuguese: Freitas 2003; Ramalho & Freitas 2018, Romanian: Buja 2015, Greek: Kappa 2002; Ploumidi 2020). Early-state phonological systems show preference for the CV syllabic structure (Jakobson 1941/68; Moskowitz 1970; Branigan 1976; Ingram 1978; Fikkert 1994), which is considered (universally) unmarked with respect to syllable structures, e.g. CCV syllables (e.g. Clements & Keyser 1983; Clements 1990; Blevins 1995).

Marked syllable structures, e.g. CCV forms, start being realized later in the course of phonological acquisition, namely during the intermediate phase (e.g. Dutch: Levelt et al. 1999, European Portuguese: Freitas 2003, French: Rose 2000, German: Schaefer & Fox-Boyer 2017, Greek: Kappa 2009; Kappa and Papoutsi 2019; Ploumidi in press; Tzakosta & Kappa 2008, Chilean Spanish: Vivar & Lleó 2020). In this phase of

[*] University of Crete, eirini.ploumidi94@gmail.com, philp0906@philology.uoc.gr.

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acquisition, faithful and unfaithful cluster realizations may occur in parallel. Final-state grammars are adult-like and, therefore, adult-like cluster realizations occur, if consonant clusters are permitted forms in the target system, i.e. the ambient language (e.g. Levelt & van de Vijver 1998).

Crosslinguistic studies on child phonology show that the application of several cluster simplification strategies results in cluster avoidance. Reduction to the least sonorous member of the cluster is the prevalent simplification strategy in child phonology. This strategy results in the realization of the least sonorous cluster member and the deletion of the most sonorous one ((1), e.g. English: Ingram 1974; Gnanadesikan 2004; Parsons 2006; Gerlach 2010; Day 2014, German: Grijzenhout & Joppen 1998; Schaefer & Fox-Boyer 2017, Greek: Kappa 2002; Tzakosta, 2007, Dutch: Fikkert 1994; Kulig 2009, Italian: Cucinelli 2020, Polish: Łukaszewicz 2007, Brazilian Portuguese: Soares et al. 2019; European Portuguese: Freitas 2003, Hebrew: Bloch 2011, Romanian: Buja 2015, Croatian: Mildner & Tomić 2010, 2011, Chilean Spanish: Vivar and Lleó 2020)).

(1)		Target	Output	Gloss	Child	Age
	a.	prɛzɛnt	pɛzɛnt	'gift'	Ola	4
						(Polish: Łukaszewicz 2007: 58)
	b.	flor	fol	'flower'	Fabiola	3;04
	c.	tren	tan	'train'	Joaquin	2
						(Spanish: Barlow 2006: 535-539)

For example, in (1a) the target cluster /pr/ is reduced to [p], i.e. the least sonorous cluster member, the STOP, survives and the more sonorous one, the LIQUID, is deleted. The realized consonant is preserved according to a sonority scale, e.g. that in (2)[2]. The reason why the pattern of reduction to the least sonorous segment of the cluster prevails is that it results in the realization of an onset of low sonority. Low sonority onsets are mainly preferred in the course of acquisition.

(2) Universal Sonority Scale (e.g. Selkirk 1984)

S	F	N	L	G	V
1	2	3	4	5	6
least sonorous					most sonorous

The less frequent cluster simplification strategies include reduction to the more sonorous member of the cluster ((3a), e.g. English: Smith 1973; Pater & Barlow 2002, Parsons 2006, Hebrew: Bloch 2011, European Portuguese: Freitas 2003, Dutch: van der Pas 2004, Greek: Ploumidi 2020), epenthesis ((3b), English: Gerlach 2010; Day 2014, Bulgarian: Ignatova et al. 2018, Brazilian Portuguese: Soares et al. 2019, European

[2] Malikouti-Drachman (1984) and Kappa (1995: 138) have proposed parametrized sonority scales for adult Greek.

Portuguese: Freitas 2003; Amorim 2014, Italian: Cucinelli 2020, Hebrew: Bloch 2011, Latvian: Rūķe-Draviņa 1990, Greek: Kappa 2002; Ploumidi 2020), coalescence ((3c), Dutch: Kulig 2009, European Portuguese: Ramalho & Freitas 2018, English: Gnanadesikan 2004, Greek: Kappa 2004; Coutsougera 2007; Tzakosta 2009; Ploumidi 2020, 2021; Latvian: Rūķe-Draviņa 1990, Polish: Łukaszewicz 2007) and deletion of the entire cluster ((1d), English: Ingram 1976; Chin & Dinnsen 1992; Smit 1993, European Portuguese: Freitas 2003, see also the crosslinguistic study of Greenlee 1974). All the other patterns are less frequent in the children's data. Representative examples are given in (3):

(3)		Target	Output	Gloss	Child	Age
	a.	trɛɪn	lɛɪn	'train'	Saar	1;11.08
						(Dutch: van der Pas 2004: 357)
	b.	kta'na	keta'na	'small'	RM	2;00.16
	c.	$k_1l_2$ips	$t_{1,2}$its	'clip'	RM	2;05.15
	d.	dʁaˈkon	a'kin	'like'	SR	2;02.06
						(Hebrew: Bloch 2011: 59-70)

In this case study, we focus on the acquisition of rising sonority [OBSTRUENT + LIQUID] clusters, while investigating the application of cluster reduction to the more sonorous cluster member and cluster deletion, in child Greek. Cluster reduction to the more sonorous segment is documented in several child languages (e.g. Dutch: van der Pas 2004, European Portuguese: Freitas 2003, German: Schaefer & Fox-Boyer 2017, Hebrew: Bloch 2011). This pattern results in the realization of the LIQUID consonant, which is the rightmost member of the cluster and the one which is adjacent to the vowel of the syllable. The realized consonant is more sonorous compared to the deleted one, i.e. the OBSTRUENT. As a result, the onset of the produced CV syllable is of high sonority. Representative datasets are provided in (4):

(4)		Target	Output	Gloss	Child	Age
	a.	klɔk	lɔk	'clock'	Len	
	b.	blɑt	lɑt	'sheet'	Len	
	c.	trɛɪn	lɛɪn	'train'	Saar	
						(Dutch: van der Pas 2004: 357)
	d.	bisiˈklɛtʁ	bsiˈletʁ	'bicycle'	Luis	
	e.	ˈfloriʃ	ˈloliʃ	'flowers'	Marta	
						(European Portuguese: Freitas 2003: 35)
	f.	kviʃ	viʃ	'road'	RM	
	g.	kmo	mo	'like'	RM	
	h.	tmuna	muna	'picture'	RM	
	i.	dli	li	'bucket'	RM	
						(Hebrew: Bloch 2011: 33-53)

In child Greek, it is reported that the pattern of reduction to the more sonorous cluster member is an infrequent emergent pattern. This realization pattern is attested in

Tzakosta (2003a, 2009) and Kappa (2002). Kappa (2002: 31-32), in her case study, presents a few instances of reduction to the more sonorous cluster member in [FRICATIVE + LIQUID] clusters (5d-f). In this study, Kappa argues that this simplification pattern is forced by the effects of the OBLIGATORY CONTOUR PRINCIPLE[3] (henceforth OCP, Goldsmith 1976; Itô & Mester 1986; McCarthy 1986; Yip 1988), i.e. this pattern occurs if the less sonorous member of the target cluster, i.e. the FRICATIVE, contains the same specified place feature with another onset consonant of the word. For example, in (5c) the deleted member of the complex onset, i.e. /ɣ/, and the simple onset /k/, are DORSALS. As a result, the input cluster /ɣl/ is reduced to the more sonorous cluster member and, therefore, the SONORANT /l/ is chosen rather than the FRICATIVE /ɣ/ to surface in the child's form. Also, in (5d) the deleted cluster member, i.e. /v/, and the simple onset of the initial syllable of the word, i.e. /v/, are LABIALS. Consequently, the input cluster /vl/ is reduced to the more sonorous cluster member and, therefore, the SONORANT /l/ surfaces rather than the FRICATIVE /v/ in the child's realization.

(5)		Target	Output	Gloss	Child	Age
	a.	ˈvle.pi	ˈle.pi	'see'	Bebis	1;11.29
						(Tzakosta 2003a: 2)
	b.	ˈvle.po	ˈle.po	'see'	B.M.	2;02.12
						(Tzakosta 2009: 368)
	c.	ɣli.ˈko	li.ˈko	'sweet'	Sofia	2;06.07
	d.	vi.ˈvli.o	bi.ˈli.o	'book'	Sofia	2;09.13
						(Kappa 2002: 31)

The pattern of cluster deletion results in the deletion of both cluster members. As a consequence, the realization of an onsetless syllable, which is considered marked in (non-)fully developed phonological systems, occurs (see Rice 2007). For example, this pattern is attested in child European Portuguese (6a-b) and Hebrew (6c-d). In child Greek, Ploumidi (2020) shows that the pattern of cluster deletion occurs sporadically (6e-g):

(6)		Target	Output	Gloss	Child	Age
	a.	ˈflor	ˈoli	'flower'	Ines	1;09.19
	b.	ˈbɾuʃɐ	ˈûgɐ	'witch'	JoãoII	2;02.28
						(European Portuguese: Freitas 2003: 34)
	c.	ˈtʁaktoʁ	ˈato	'tractor'	RM	1;06.05
	d.	dʁaˈkon	aˈkin	'like'	SR	2;02.06
						(Hebrew: Bloch 2011: 70)
	e.	kre.ˈva.ti	e.ˈja.ti	'bed'	SPI	2;02.13
	f.	tra.ˈkter	a.ˈtet	'tractor'	SPI	2;06.15
	g.	pli.ˈdi.ri.o	e.ˈdi.li.o	'washer'	SPI	2;08.23
						(Greek: Ploumidi 2020: 57)

[3] Kappa & Papoutsi (2019) provide supporting evidence for effects of the OCP in the acquisition of branching onsets in child Greek. Specifically, in the intermediate phase of phonological acquisition, heterorganic clusters are realized whereas homorganic ones are prohibited due to OCP effects.

In this case study, we show that reduction to the more sonorous member of the cluster and cluster deletion occur in rising sonority [OBSTRUENT + LIQUID] consonant clusters. These cluster simplification strategies are in complementary distribution, namely they are attested in specific cluster types. The former strategy applies in clusters in which a LATERAL consonant is the rightmost cluster member (e.g. /ˈble/ → [ˈle] '*blue-* NEU. NOM. SG.', age: 2;05.01) whereas the latter applies in clusters in which a RHOTIC consonant is the rightmost member of the cluster (e.g. /ˈxro.ma/ → [ˈo.ma] '*color-* NEU. NOM. SG.', age: 2;04.18).

We provide evidence for a CONTIGUITY effect in the child's typically developing phonological system, namely the child's grammar requires that the segments which are adjacent in the input form, i.e. the target form, be adjacent in the output one, i.e. the realized form. As a result, the realization of the leftmost cluster member does not occur. We show that the pattern of cluster reduction to the more sonorous segment, i.e. the CONTIGUITY-driven[4] pattern, is attested in [OBSTRUENT + LATERAL] clusters since LATERAL-initial syllables are permitted in the child's developing system. In contrast, the CONTIGUITY-driven pattern does not occur in [OBSTRUENT + RHOTIC] clusters since RHOTIC-initial onsets are not permitted in the child's realizations. Hence, we claim that cluster deletion ends up being an epiphenomenon of the child's grammar restrictions on syllable-initial consonants.

This paper is organized as follows. Section 2 provides information for the participant of this case study and describes the methodology used to elicit the data. Section 3 describes the attested emergent patterns. In section 4, the theoretical analysis in light of the OPTIMALITY THEORY (Prince and Smolensky 1993/2004) is provided. Section 5 provides the concluding remarks.

2. Methodology

The data are drawn from a longitudinal study of a monolingual typically developing Greek-acquiring child, #65B, (age range: 1;10.29 – 2;05.15, boy). The child was recorded once a week by a trained linguist, the author of this study, who visited the child in 20–30-minute-long sessions. The experimental stimuli were designed to elicit all segments, possible prosodic structures and stress patterns in Greek. The data were collected from spontaneous speech, a picture/object-naming task *('What is this?')* and a picture-based sentence completion task (e.g. '*this chair is red*' and '*this chair is ____?*' [blue]). A professional recorder, Marantz PMD661MKII, was used for the recordings. The recorded speech samples were transcribed into International Phonetic Alphabet

[4] CONTIGUITY-driven reductions are reported in atypical child Greek (Ploumidi 2022). Ploumidi focused on cross-sectional data of three atypically developing Greek-acquiring children and investigated the unfaithful realizations of sonority plateau clusters (e.g. /pt/, /fθ/, /kt/, /vɣ/, /ɣð/). She found that the reductions are CONTIGUITY-driven, namely the rightmost member of the consonant cluster is realized (e.g. /a.ˈvɣo/ → [a.ˈɣo] 'egg- N. NOM. SG.'). Taking the findings of this study together, the sonority plateau clusters are reduced irrespective of (i) the sonority since both cluster members are of equal sonority, (ii) the degree of markedness of place of articulation of the cluster members, (iii) their position within the input form, i.e. positional faithfulness is irrelevant.

(IPA). The participation of the child in this study took place upon the explicit informed and signed parental consent, according to the regulations of the Ethics Committee of the University of Crete.

3. Data

The child was recorded between the ages of 1;10 and 2;05 and seems to be a representative of the intermediate phase of phonological acquisition. This phase of the acquisition lies between the initial phase, in which the children's realizations are mainly unmarked, and the final phase, in which adult-like realizations occur since the child's and the adult's system are (almost) identical (e.g. Levelt & van de Vijver 1998). During the intermediate phase, the child's system gradually starts permitting the realization of marked forms, e.g. FRICATIVES consonants, coda segments and clusters start being realized. The intermediate phase of phonological acquisition lasts long and is characterized by intra- and inter-child variation.

According to Ingram (1989) and Macken (1992) this phase starts at the age of 18 and 24 months, respectively. In this study, we do not set strict temporal boundaries of the intermediate phase of acquisition in child Greek since we rely on the data of a single child and no conclusive claims can be made; rather, by focusing on the child's longitudinal data, we argue that the child passes through the intermediate phase of acquisition since his typically developing system gradually suppresses the unmarked forms and starts permitting the production of (some) marked structures and segments. Specifically, STOPS, FRICATIVES and NASALS are realized faithfully in onsets (7a-g). Furthermore, AFFRICATES are not faithfully realized, as the data show (7f). Moreover, in the child's system the emergence of word-medial codas is prohibited (7c, f) whereas the realization of word-final coda consonants is permitted (7a, g).

(7)

	Target	Output	Gloss	Age
a.	ba.ˈbas	ba.ˈbaç	'dad-M.NOM.SG'	1;10.29
b.	ka.ˈfe	ka.ˈfe	'coffee-M.ACC.SG'	1;10.29
c.	ˈçer.ja	ˈçe.ja	'hands-N.NOM.PL'	1;11.06
d.	ˈpa.me	ˈpa.me	'go-PRS.1PL'	2;00.26
e.	ˈka.ni	ˈka.ni	'do-PRS.3SG'	2;01.09
f.	ˈkal.tsa	ˈka.ta	'sock-F.NOM.SG'	1;11.28
g.	ˈpa.ɣos	ˈpa.ɣos	'ice cube-M.NOM.SG'	2;01.02

As far as LIQUIDS are concerned, the LATERAL /l/ is realized faithfully in simple onsets (8b, d-e) whereas the RHOTIC /r/ is not. Specifically, the deletion of the target RHOTIC onset consonant is a frequently attested emergent pattern, which results in an onsetless syllable (8a-c). Also, the avoidance of RHOTIC onsets is obtained by means of syllable deletion, namely the entire syllable in which the RHOTIC /r/ is in onset position, is deleted (8e). Later in the course of development, a pattern of neutralization emerges: Our data show that /r/ is neutralized and, thus, it is realized as [l] in simple onsets (8f). This realization pattern is theoretically explained as follows: according to Walsh (1997),

LIQUID constitutes a class, which is organized under the SV-node in which LIQUID dominates LATERAL (default) and VOCALIC sounds (r-sounds, the marked ones). In the child's grammar, it seems that the contrast between the LATERAL and the VOCALIC sounds has not been acquired and that is the reason why the LATERAL sound i.e. the default, surfaces in simple onsets. Overall, in our data three distinct patterns reflect means to prevent the realization of the RHOTIC consonant syllable-initially. We argue that these data provide evidence for a case of conspiracy (Kisseberth 1970) and of homogeneity of target and heterogeneity of process, since various means prevent the realization of a RHOTIC onset consonant. The emergence of the RHOTIC consonant happens relatively late, namely at the age of 2;05, and thereafter the frequency of its occurrence in the data is rather low. Representative examples are provided in (8):

(8)

	Target	Output	Gloss	Age
a.	a.e.ro.ˈpla.no	e.ˈta.no	'airplane-N.NOM.SG'	1;11.28
b.	ro.ˈlo.i	o.ˈlo.i	'watch-N.NOM.SG'	2;00.04
c.	a.e.ro.ˈpla.no	o.ˈpa.no	'airplane-N.NOM.SG'	2;00.26
d.	le.ˈfta	le.ˈta	'money-N.NOM.PL'	2;01.09
e.	ro.ˈlo.i	ˈlo.i	'watch-N.NOM.SG'	2;02.06
f.	ˈroz	ˈloj	'pink-N'	2;03.06
g.	fo.ˈra.o	fo.ˈra.o	'wear-PRS.1SG'	2;04.10

In (9) we summarize the order of emergence of LATERALS and RHOTICS in the child's system. The emergence of the LATERAL consonant precedes the emergence of the RHOTIC one in simple onsets[5].

(9) The order of emergence of LIQUIDS in the child's system

LATERAL >> RHOTIC

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earlier emergence later emergence

Rising sonority clusters, namely clusters with a rising sonority slope from the leftmost member of the cluster, i.e. the OBSTRUENT, to the rightmost one, i.e. the SONORANT, do not emerge in initial and non-initial onsets of stressed and unstressed syllables. Specifically, the child's intermediate-state grammar does not tolerate faithful realizations of [STOP + LIQUID] and [FRICATIVE + LIQUID] consonant clusters. The dominant simplification pattern is cluster reduction to the leftmost member of the cluster, namely the less sonorous cluster member is realized and the more sonorous one is deleted (see also the crosslinguistic studies presented in section 1 and the relevant data in (1)). For example, in (10a) the input form /ˈble/ is realized as [ˈbe]. The rising sonority cluster /bl/ is reduced to the less sonorous and, consequently, the leftmost member of the cluster is preserved whereas the rightmost one is deleted. The realized consonant preserves the LABIAL place of articulation, [−continuant] manner of articulation and the [+voiced] feature of the input leftmost cluster member. In other words, the realized consonant

[5] The same order of emergence of LIQUIDS is reported in Kappa's (2009) study on child Greek.

faithfully preserves the featural content of the input leftmost cluster member. Additional examples are given in (10):

(10)		Target	Output	Gloss	Age
	a.	ˈble	ˈbe	‘blue-N.NOM.SG’	1;11.06
	b.	ˈðe.dro	ˈðe.do	‘tree-N.NOM.SG’	1;11.28
	c.	ˈkle.i	ˈce	‘cry-PRS.3SG’	2;02.06

The patterns of cluster reduction to the more sonorous member of the cluster and cluster deletion constitute non-dominant patterns in the child’s longitudinal data. Both patterns are attested in rising sonority [OBSTRUENT + LIQUID] clusters, namely in [STOP + LIQUID] and [FRICATIVE + LIQUID] clusters, which occur in initial- and non-initial onsets of stressed and unstressed syllables. The former cluster simplification strategy results in the deletion of the leftmost cluster member, i.e. the less sonorous consonant, and the realization of the rightmost one, which is the most sonorous member of the target cluster and the adjacent to the nucleus of the syllable ($C_1C_2V \rightarrow [C_2V]$). Also, this strategy results in the realization of a CV syllable in which the onset consonant is of high sonority. The latter cluster repair strategy results in the deletion of the entire cluster, namely both cluster members are deleted ($C_1C_2V \rightarrow [V]$). Consequently, a syllable which consists only of a vowel is realized.

In our data, the patterns of cluster reduction to the more sonorous cluster member and cluster deletion exhibit striking differences in their application. We claim that these strategies of cluster avoidance are in complementary distribution since they are attested in specific cluster types. Specifically, cluster reduction to the more sonorous member of the cluster occurs in clusters in which the leftmost consonant is OBSTRUENT and the rightmost one is the LATERAL /l/. For example, in (11d) the target form /ˈble/ is realized as [ˈle]. The reduction of the target cluster results in a single consonant, i.e. the LATERAL [l], which is more sonorous compared to the voiced STOP /b/. Also, the LATERAL is adjacent to the vowel of the syllable. A CV syllable surfaces in the output. We argue that this cluster simplification strategy is CONTIGUITY-driven, namely it occurs since the grammar requires the adjacent segments in the target form be adjacent in the child’s form, too.

(11)		Target	Output	Gloss	Age
	a.	a.e.ro.ˈpla.no	to.ˈla.no	‘airplane-N.NOM.SG’	1;11.06
	b.	vi.ˈvli.o	le.ˈli.o	‘book-N.NOM.SG’	1;11.06
	c.	ˈblu.za	ˈlu.sa	‘blouse-F.NOM.SG’	2;03.19
	d.	ˈble	ˈle	‘blue-N.NOM.SG’	2;05.01

Cluster deletion occurs in clusters in which the leftmost cluster member is OBSTRUENT and the rightmost one is the RHOTIC /r/. For instance, in (12d) the target form /ˈxro.ma/ is realized as [ˈo.ma]. As can be seen, both cluster members are deleted and an onsetless syllable, which is considered to be more marked compared to a CV syllable (see e.g. Rice 2007), is realized. Interestingly, the rightmost member of the complex onset is never realized as [l], i.e. as a result of neutralization (e.g. /ˈxro.ma/ → *[ˈlo.ma], see also

the relevant discussion and the data of RHOTIC-neutralization in simple onsets in (8)). Rather, it seems that the child's grammar favors the pattern of RHOTIC onset deletion, which is also well-attested in target simple RHOTIC-initial onsets (see 8a-c). In other words, reduction to the more sonorous member of the cluster is never observed in clusters in which the rightmost member is a RHOTIC since RHOTIC onsets are not allowed to emerge in the child's forms. More data are given in (12):

(12)		Target	Output	Gloss	Age
	a.	tra.ˈpe.zi	a.ˈpe.zi	'table-N.NOM.SG'	2;01.02
	b.	tra.ˈpe.zja	a.ˈpe.ca	'tables-N.NOM.SG.'	2;02.06
	c.	zo.ɣra.ˈfi.zi	zo.a.ˈfi.zi	'paint-PRS.3SG'	2;03.13
	d.	ˈxro.ma	ˈo.ma	'color-N.NOM.SG'	2;04.18

In (13) and (14) we summarize the application of the patterns of faithful and unfaithful realization of LIQUIDS in simple onsets and the patterns of reduction to the more sonorous member of the cluster and cluster deletion. All these emergent patterns constitute clear cases of intra-child variation in the child's intermediate-state grammar. We argue that these realization patterns comprise a possible acquisition path in the process of acquisition of simple and complex onsets in child Greek and we show that a LATERAL consonant can be attested syllable-initially, i.e. in onsets, whereas a RHOTIC one cannot be realized at the left syllable margin.

(13)	Target simple onset	Pattern
	a. RHOTIC	RHOTIC-onset deletion Syllable deletion RHOTIC neutralization
	b. LATERAL:	Faithful realization
(14)	Target cluster	Pattern
	a. [OBSTRUENT + LATERAL]	Reduction to the more sonorous cluster member
	b. [OBSTRUENT + RHOTIC]	Cluster deletion

All in all, in the child's system LATERAL-initial onsets are permitted whereas RHOTIC-initial ones are forbidden. Taking the findings together, variable patterns of avoidance of RHOTIC-onsets (see 8) and of cluster simplification (see 10-12) are attested in our data. We argue that the patterns of RHOTIC-onset avoidance which are attested in simple onsets, the pattern of faithful realization of LATERAL-initial onsets (see 8), the CONTIGUITY-driven reductions in [OBSTRUENT + LATERAL] clusters and the divergence from the CONTIGUITY-based simplification pattern in [OBSTRUENT + RHOTIC] clusters are interrelated in the child's grammar, namely they constitute an acquisition path of simple and complex onsets in child Greek.

We claim that, in this acquisition path, clusters are not reduced to the less sonorous; rather, divergence from the sonority pattern is attested. We argue that the divergence from the sonority-based reduction pattern is conditioned by a CONTIGUITY effect, namely it seems that the child's grammar demands that the segments which are

adjacent in the input form be adjacent in the output one, as well. We show that the pattern of cluster reduction to the more sonorous element in the cluster, i.e. the CONTIGUITY-driven simplification pattern, occurs in [OBSTRUENT + LATERAL] clusters since LATERAL-initial syllables are permitted in the child's realizations. Nevertheless, this pattern does not occur in [OBSTRUENT + RHOTIC] clusters due to the child's grammar tendency to prohibit RHOTIC-initial onsets. Hence, we claim that cluster deletion ends up being an epiphenomenon of the child's developing system restrictions on syllable-initial consonants. Put differently, the CONTIGUITY effect and the prohibition of RHOTIC-initial onsets results in a pattern which resembles cluster deletion.

In the next section, we propose a theoretical analysis, while focusing on the application of the CONTIGUITY-driven reduction pattern in [OBSTRUENT + LATERAL] clusters and the divergence from this simplification strategy in [OBSTRUENT + RHOTIC] clusters. It will be argued that the divergence from this pattern implies the emergence of the pattern of cluster deletion.

4. Theoretical framework and analysis

The analysis is couched in the non-linear theoretical framework of OPTIMALITY THEORY (henceforth OT, Prince & Smolensky 1993/2004). In OT, a universal constraint set is used to theoretically analyze child and adult languages. There are two basic groups of constraints: MARKEDNESS constraints, which require the production of unmarked forms, and FAITHFULNESS constraints which require identity between the input, namely the target form, and the output, namely the produced form. The grammar is a system of constraints which are universal, (partially) ranked on a language-specific basis, violable and according to which the (possible) output forms for a given input form are evaluated. The candidate that best satisfies the hierarchy of constraints is selected as the optimal or harmonic output.

The phonological acquisition is theoretically expressed as follows: In the initial phase of phonological acquisition, there is a bias for the MARKEDNESS constraints to be ranked higher than the FAITHFULNESS constraints (Demuth 1995, Gnanadesikan 2004; Pater 1997, Levelt & Vijver 1998). Therefore, during this phase of acquisition, unmarked structures and segments are systematically produced, for instance universally unmarked CV syllables, STOPS and voiceless consonants are selected as the optimal outputs.

Gradually, in the course of the acquisition, marked structures/forms start being produced, for example CVC syllables, coda consonants, onset and coda clusters and FRICATIVES surface. Therefore, the gradual convergence to the target language is theoretically explained in terms of constraint reranking. In other words, the phonological acquisition consists of continuous constraint rerankings. In the intermediate phase of phonological acquisition some FAITHFULNESS constraints dominate some MARKEDNESS constraints. In the literature on phonological acquisition, it is reported that the reranking takes the shape of constraint demotion, i.e. the MARKEDNESS constraints are demoted (Tesar & Smolensky 2000, Adam 2002), constraint promotion, i.e. the FAITHFULNESS constraints are promoted (Gnanadesikan 2004, Levelt & Vijver 1998, Ben-David 2001), or both constraint demotion and promotion (e.g. Boersma 1997, Tzakosta 2003b, 2004).

In the final phase of phonological acquisition, the child's and the adult's phonological system are identical and, thus, the FAITHFULNESS constraints are ranked higher than the MARKEDNESS ones. As a result, the child's realizations are adult-like.

In this case study, we show that the child's data reflect an intermediate-state grammar in which some MARKEDNESS constraints have been demoted below some FAITHFULNESS constraints. Put differently, the constraint reranking has taken place since marked forms are attested in the child's longitudinal production data. We argue that constraint reranking(s) creates intermediate-state grammars in which variation is well-attested. In other words, the application of various emergent patterns within the intermediate phase of phonological acquisition is a consequence of constraint reranking.

As it was shown in section 3, the child's typically developing intermediate-state grammar does not tolerate the realization of rising sonority [OBSTRUENT + LIQUID] clusters. The [OBSTRUENT + LATERAL] clusters undergo CONTIGUITY-driven reduction whereas the [OBSTRUENT + RHOTIC] clusters seem to undergo cluster deletion. For the purposes of the theoretical analysis of our longitudinal data, we adopt syllable structure constraints in order to account for the (non-)realization of onsets. Also, in order to theoretically account for the fact that some segments are permitted or prohibited at the left syllable margin, we resort to the MARGIN HIERARCHY (Prince & Smolensky 1993/2004). This hierarchy consists of constraints which are strictly ranked and reflects the preference for low sonority consonants at the left edge of the syllable (15).

(15) The Margin Hierarchy
$*M_1/a$ >> $*M_1/i$ >> $*M_1/r$ >> $*M_1/l$ >> $*M_1/n$ >> $*M_1/t$

In this hierarchy, the high ranking of $*M_1/a$ and $*M_1/i$ show that vowel-initial syllables are the least preferred. $*M_1/r$ prohibits RHOTIC-initial syllables and $*M_1/l$ bans LATERAL-initial ones. The relative ranking of $*M_1/r$ and $*M_1/l$ show that RHOTIC-initial syllables are worse-formed compared to LATERAL-initial ones. NASAL-initial syllables are better-formed compared to RHOTIC- and LATERAL-initial ones, since $*M_1/n$ is dominated by $*M_1/r$ and $*M_1/l$. The fact that $*M_1/t$ is the lowest ranked constraint in the hierarchy implies that OBSTRUENT consonants, which are of low sonority, constitute the most preferred left-syllable margin.

The constraints in (16)-(17) are adopted to theoretically analyze the emergent patterns:

(16) Markedness constraints

*COMPLEX:	No consonant clusters
*M1/t:	OBSTRUENTS should not be parsed as a syllable margin
*M1/l:	LATERALS should not be parsed as a syllable margin
*M1/r:	RHOTICS should not be parsed as a syllable margin
ONSET:	Every syllable has an onset

(17) Faithfulness constraints

MAX:	Every segment in the input must have a correspondent in the output.
CONTIGUITY:	Segment adjacent in the input should be adjacent in the output.

Our theoretical analysis sheds light on an acquisition path in which LATERAL-initial onsets are allowed whereas RHOTIC-initial ones are prohibited. In (18) we demonstrate the constraint hierarchy.

(18) Constraint ranking

*COMPLEX >> CONTIGUITY >> *M_1/r >> ONSET >> *M_1/l, *M_1/t, MAX

We propose that cluster reduction to the more sonorous cluster member and cluster deletion are in complementary distribution and we show that a single constraint ranking regulates the attested patterns. We argue that *COMPLEX is the highest ranked constraint in order to ensure that tautosyllabic consonantal sequences do not occur in the output. Also, we show that the high ranked CONTIGUITY represents a key-constraint in the child's system, since it prohibits the emergence of the leftmost member of the cluster, i.e. the OBSTRUENT. It is as if the ranking of *COMPLEX and CONTIGUITY "conspires" in favor of the realization of the rightmost member of the cluster, i.e. the LIQUID consonant. Nevertheless, recall that LATERAL-initial onsets are permitted whereas RHOTIC-initial ones are prohibited. It seems that there is a constraint paradox in the child's system but it is not the case.

The crucial aspect of our analysis is the fact that the effects of CONTIGUITY and *M_1/r are combined and give rise to the compliance with the CONTIGUITY-driven pattern in [OBSTRUENT + LATERAL] clusters and the divergence from this pattern in [OBSTRUENT + RHOTIC] clusters. We claim that CONTIGUITY, which forces the adjacency of input segments in the output form, and *M_1/r, which prohibits the realization of RHOTIC-initial onsets, are both highly ranked in the hierarchy. Hence, the divergence of the sonority pattern is ensured and the prohibition of RHOTIC-initial onsets is observed.

The MARKEDNESS constraint ONSET, which requires that syllables have an onset, dominates the MARKEDNESS constraints *M_1/l and *M_1/t which prohibit the emergence of a LATERAL and an OBSTRUENT consonant, respectively, at the left syllable margin. *M_1/l, *M_1/t and MAX are lowly ranked and unranked with respect to each other since no evidence permits us to determine their relative ranking based on the available data.

In (19-20) we present the OT tableaux. In these tableaux, the pointing finger (☞) indicates the optimal output/candidate, an asterisk (*) marks an incurred violation and the exclamation mark (!) denotes a fatal violation which results in the elimination of a non-optimal output candidate. Also, solid lines divide crucially ranked constraints whereas vertical dotted lines will be used to indicate cases in which two or more constraints are unranked with respect to each other. Constraints remain unranked if no evidence permits us to determine their relative ranking based on the available data. Grayed-out cells represent areas of the tableau that are not relevant to the optimal output.

Tableau (19) demonstrates the pattern of cluster reduction to the more sonorous segment:

(19) Input form: [ˈble] - Output form: [ˈle] 'blue- N. NOM. SG.', age: 2;05.01

Input: ˈble	*COMPLEX	CONTIGUITY	*M_1/r	ONSET	*M_1/l	*M_1/t	MAX
a. ˈble	*!					*	
b. ˈbe		*!				*	*
c. ☞ ˈle					*		*
d. ˈe				*!			**

The tableau shows that in the child's intermediate-state grammar the constraint *COMPLEX, which prohibits the realization of clusters, is undominated, namely it is the highest ranked constraint in the hierarchy. The output candidate (19a) violates fatally *COMPLEX constraint since it contains a cluster. CONTIGUITY forces the adjacency of the input segments in the output. The high ranking of CONTIGUITY results in the preservation of the consonant which is adjacent to the vowel nucleus. Consequently, the output candidate (19b), which consists of the leftmost cluster member and the vowel, fatally violates CONTIGUITY. The output candidates (19c-d) satisfy CONTIGUITY. The MARKEDNESS constraint ONSET is fatally violated by (19d) and satisfied by (19c). As a result, the output candidate (19c) is selected as the harmonic output.

In OT, constraints are ranked in a hierarchy of (strict) domination. Consequently, once an output candidate does worse than another candidate on the highest-ranking constraint distinguishing them, it incurs a fatal violation. Once an output candidate fatally violates a constraint, it cannot be selected as the harmonic output form, even if it outperforms the other candidates on the rest of the hierarchy. Thus, despite the fact that the output candidate (19c) violates the constraints *M_1/l and MAX, these violations are not fatal and this candidate is still selected as the harmonic one. All in all, we claim that the ranking of *COMPLEX and CONTIGUITY 'conspires' resulting in cluster reduction and the preservation of the rightmost cluster member. Thus, divergence from the sonority pattern occurs and the CONTIGUITY-driven reduction is obtained in clusters in which the rightmost cluster member is a LATERAL segment.

Tableau (20) demonstrates the pattern of cluster deletion:

(20) Input form: [ˈxro.ma] - Output form: [ˈo.ma] 'color-N.NOM.SG', age: 2;04.18

Input: xro.ma	*COMPLEX	CONTIGUITY	*M_1/r	ONSET	*M_1/l	*M_1/t	MAX
a. ˈxro.ma	*!					*	
b. ˈxo.ma		*!				*	*
c. ˈro.ma			*!				*
d. ☞ ˈo.ma				*			**

The undominated *COMPLEX excludes (20a) and the highly ranked CONTIGUITY excludes (20b). The relative ranking of *M_1/r and ONSET determines the harmonic output. The

crucial constraint in the hierarchy is *M_l/r. This constraint is fatally violated by the output candidate (20c) which has a RHOTIC consonant at the left syllable margin and is satisfied by (20d) which does not have a RHOTIC as initial segment. The violation of *M_l/r by (20c) is fatal. As a result, (20d) is selected as the optimal output. Thus, cluster deletion occurs since the child's grammar does not permit a RHOTIC consonant in onsets. The violation of ONSET by (20d) does not count as a fatal violation since this candidate satisfies all the higher ranked constraints in the hierarchy.

In the next section, we turn to the final remarks of this case study.

5. Conclusions

This case study focused on the unfaithful realizations of rising sonority [OBSTRUENT + LIQUID] clusters in the speech of a monolingual typically developing Greek acquiring child. The focus was on the strategies of reduction to the more sonorous member of the cluster and cluster deletion in [OBSTRUENT + LIQUID] clusters. These strategies are in complementary distribution, i.e. they occur in specific cluster types. The former strategy applies in clusters in which the LATERAL /l/ is the rightmost cluster member whereas the latter strategy occurs in clusters in which the RHOTIC /r/ is the rightmost member of the cluster.

We documented multiple emergent patterns which simultaneously operate in the child's developing system during the intermediate phase of phonological development. We argue that the patterns of RHOTIC-onset avoidance which are attested in simple onsets, the pattern of faithful realization of LATERAL-initial onsets, the CONTIGUITY-driven reductions in [OBSTRUENT + LATERAL] clusters and the divergence from the CONTIGUITY-driven reduction pattern in [OBSTRUENT + RHOTIC] clusters are interrelated in the child's grammar, namely they constitute an acquisition path of simple and complex onsets during the intermediate phase of phonological acquisition in child Greek. All in all, in the child's system LATERAL-initial onsets are permitted whereas RHOTIC-initial ones are forbidden.

We provided evidence for a contiguity effect in the child's typically developing system, namely the child's intermediate-state grammar requires that the segments which are adjacent in the input form be adjacent in the realized one. As a result, in this acquisition path, the pattern of cluster reduction does not result in the realization of the leftmost cluster member. We show that the pattern of cluster reduction to the more sonorous member of the cluster, i.e. the CONTIGUITY-driven pattern, is attested in [OBSTRUENT + LATERAL] clusters since LATERAL-initial syllables are permitted by the child's system. In contrast, the CONTIGUITY-driven pattern is not obtained in [OBSTRUENT + RHOTIC] clusters due to the child's developing system tendency to avoid RHOTIC-initial onsets. In other words, it seems that the acquisition path that the child follows in the process of acquisition of simple and complex onsets is the same, namely the child's grammar tolerates LATERAL simple onsets but it does not tolerate RHOTIC ones. As a result, the emergence of LATERAL-initial syllables as a consequence of the CONTIGUITY-driven cluster reduction pattern is tolerated whereas a RHOTIC-initial one as a consequence of the same pattern is prohibited. Hence, we claim that cluster deletion ends up being an epiphenomenon of the child's grammar restrictions on syllable-initial consonants.

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EXTRACTION IN L2 ENGLISH: ARE FACTIVE VERBS ALL ALIKE?

Irina Stoica*

Abstract: Factive verbs are traditionally said to induce weak island effects, banning the extraction of adjuncts, but not that of arguments, out of their post-verbal clause. However, many studies in the literature (Karttunen 1971, Hooper & Thompson 1973, Djarv 2019) show that not all factive verbs are alike and distinguish between emotive factives (true factives) and cognitive factives (semi-factives). These two sub-classes evince different syntactic behaviour, cognitive factives being seen as more permissive. With such verbs, event adjunct extraction is reported to be allowed, in some cases (Djarv & Romero 2021). The aim of this paper is to test the availability of adjunct extraction in L2 English. Testing native speakers of Romanian, at an intermediate and advanced level of English, I show that the extraction of adjuncts out of the post-verbal clause of a factive verb is banned in L2, irrespective of predicate type or level of proficiency.

Keywords: island effects, factive verbs, adjunct extraction, islands in L2

1. Introduction

Movement has been a matter of debate in theoretical linguistics for decades, ever since Ross's (1967) seminal work. A wide range of structures are now seen as islands, restraining movement either completely (the so-called strong islands, e.g. subject islands, adjunct islands) or partially, banning adjunct movement (weak islands, e.g. *wh*-islands, factive islands, etc. (for an overview of islands, see Szabolcsi & den Dikken 2003).

While theoretical approaches to islands in general differ, ranging from the Subjacency Condition (Chomsky 1973) or the Barriers model (Chomsky 1986) to the Condition on Extractions Domain (Huang 1982), there is consensus in the literature with respect to these structures being a part of speakers' innate knowledge of language, of Universal Grammar. Against this background, islands have also quickly become the focus of a series of studies on L2 learning, as part of a strong debate in the literature, regarding L2 learners' access to Universal Grammar. According to Full Transfer/Full Access hypothesis (Schwartz & Sprouse 1996), adult learners have access to Universal Grammar in their L2 as well. Studies have shown, on the one hand, that L2 learners are sensitive to syntactic island constraints Schwartz & Sprouse 1996). On the other hand, there seems to be a difference between strong and weak islands, the former being more readily observed by L2 learners than the latter (Belikova & White 2009).

The aim of the present paper is three-fold: first of all, I investigate how speakers of L2 English with Romanian as their native language evaluate the extraction of adjuncts from the post-verbal clause of factive verbs, a category of verbs which give rise to weak islands. Secondly, in the light of some more recent studies on factive verbs, which argue that the behaviour of these verbs might be more nuanced, I investigate whether these speakers observe any difference between cognitive factive verbs (*know*, *find out*, *discover*) and emotive ones (*resent*, *regret*, *be sad*), with respect to island effects. Last, but not least, I will test whether there is any difference in judgements between advanced and intermediate learners of L2 English.

* University of Bucharest, Department of English, irina.stoica@lls.unibuc.ro.

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The rest of this paper is organized as follows. Section 2 offers a brief overview of factive verbs in English, with a focus on the difference between cognitive and emotive factive verbs. Section 3 presents an overview of factive verbs in Romanian. In section 4 I briefly turn away from factive verbs and I present a series of previous experimental studies on island effects in L2. Some of these argue that, at least at an advanced level of proficiency, the data coming from speakers of a second language should converge with those reported by native speakers. In section 5 I present a new experimental study which tests these findings with data from factive islands. While there are several studies which test weak islands in L2, to my knowledge, factive islands have not yet been tested from the perspective of second language learning. The test was conducted on 68 learners of L2 English with Romanian as their native language – there were two test groups, one of intermediate learners and one of advanced learners, to the aim of investigating whether level of proficiency in L2 plays any role with respect to the acceptability of adjunct extraction. A brief section 6 draws some tentative conclusions and outlines some questions for further research.

2. English factive verbs as island inducers

2.1 English factive verbs – a bird's eye view

Factive verbs (*know*, *regret*, *remember*) are verbs which presuppose the truth value of their complement, even under negation.

(1) John doesn't know that he needs to deliver a speech. → John needs to deliver a speech.
(2) John doesn't resent that he needs to deliver a speech. → He needs to deliver a speech.

For decades, especially ever since Kiparsky & Kiparsky's (1971) seminal work, factive verbs have been primarily discussed in contrast with non-factive verbs (*think, believe*, etc.), being different from the latter both semantically and from the point of view of their syntactic behaviour. For instance, unlike non-factive verbs, they do not allow the omission of the complementizer, as seen in (3), do not allow main clause phenomena, as illustrated in (4), and induce weak island effects, banning the extraction of adjuncts from their post-verbal clause, as seen in (5).

(3) I resent *(that) we have to move.
(4) *I regret that *this book* I have to read.
(5) a. What do you regret that you read ___?
    b. *Where do you regret that you lost your phone ___?

The behaviour of factive verbs in general has been accounted for in the literature, both from a syntactic perspective (Kiparsky & Kiparsky 1971, de Cuba 2007, de Cuba & Ürögdi 2010, Kastner 2015), but also semantically (Szabolcsi & Zwarts 1993, Abrusan

2011, Djarv 2019 and references therein) or pragmatically (Erteschik-Shir 1973, Oshima 2007, Ambridge & Goldberg 2008) and even with respect to other factors (i.e. frequency, Liu et al. 2022).

While some of these studies primarily focus on the differences between factive and non-factive verbs, others show that factive verbs evince variable behaviour with respect to the aforementioned phenomena, as can be seen in the examples below.

(6) I know (that) you are tired.
(7) The scout discovered that beyond the hill, stood a large fortress.
(Hooper & Thompson 1973: 480)
(8) Big news! Archaeologists reveal new facts about the life and death of Caesar. So tell me – where did they {discover, learn} that Caesar was killed?
(Djarv & Romero 2021: 189)

2.1. English factive verbs and the cognitive/emotive split

Such examples can be readily accounted for in the light of a two-way split proposed in the literature, between cognitive factive verbs (*know, remember, find out*) and emotive factive verbs (*resent, regret, be sad*). Ever since Karttunen (1971), several differences have been noticed between the two sub-classes. To list just a few, cognitive factives allow main clause phenomena more readily than emotive ones (as illustrated in (9)), they allow the omission of the complementizer (as seen in (10), are compatible with both referential and non-referential pro-forms (as seen in (11)), allow subordinate clauses introduced by *wh*-phrases (as seen in (12)) and even the extraction of adjuncts, as seen in (8) above and repeated for convenience in (13).

(9) a. The scout discovered that beyond the hill, stood a large fortress.
b. *The scout appreciated that beyond the hill, stood a large fortress.
(Hooper & Thompson 1973)
(10) a. Mary knows (that) she can do better.
b. Mary regrets *(that) she didn't try harder.
(11) a. Jane is an exceptional violinist, as/which we all know.
b. Danielle is a terrible manager, *as/which we all resent.
(12) a. I know where you hid the treasure ___.
b. *I resent where you hid the treasure ___.
(13) Big news! Archaeologists reveal new facts about the life and death of Caesar. So tell me – where did they {discover, learn} that Caesar was killed?
(Djarv & Romero 2021: 189)

In what follows I will briefly present two of the more recent syntactic analyses of factive verbs put forth in the literature, to the aim of evaluating their explanatory power with respect to island effects.

2.2. Some structural accounts of English factive verbs

For decades, the most influential analysis of factive verbs was the one put forth by Kiparsky & Kiparsky (1971), who argued that factive verbs, in contrast to non-factives, have a noun in their structure, as in (14) below.

(14) I regret that I upset you → I regret the fact that I upset you.

This view has been challenged and several researchers have argued that it might be non-factive verbs that are, in fact, structurally more complex.

One such analysis is the one put forth by de Cuba (2007, 2017), who argues that it is not factivity per se, but rather referentiality, which can distinguish between verbs such as *know* or *regret*, on the one hand, and *believe* and *think* on the other hand. These verbs take different type of clauses, referential or non-referential. As can be seen in (15) and (16), below, contrary to Kiparsky & Kiparsky (1971), he argues that a verb such as *believe* will take a more complex clause, with an additional cP.

(15) Referential clauses: V [CP]
(16) Non-referential clauses: V [cP [CP]]

(de Cuba & Ürögdi 2010: 42)

Moreover, de Cuba (2007) makes a distinction between argument extraction and adjunct extraction – while arguments move *through* Spec, CP (and can therefore be extracted, in the case of both referential and non-referential clauses), adjuncts are *adjoined* to the CP. Given Chomsky's Adjunct Prohibition, which states that adjuncts cannot adjoin to a position which is governed by a lexical head, it follows that referential clauses do not allow the adjuncts to adjoin - adjuncts can only move in the case of non-referential clauses.

Importantly however, de Cuba's analysis could also account for those cases where a verb such as *know* allows both argument and adjunct extraction. Briefly, he argues that there is no one-to-one correspondence between referentiality and factivity, so a factive verb could take either a referential or a non-referential clause as its complement. This choice depends on whether the verb is used assertively or not, an option which is more readily available in the case of cognitive factives, but rarely in that of emotive factives (de Cuba 2017) as can be seen in (17) below.

(17) Guess what? I discovered/noticed that there is a secret labyrinth under our building!

(de Cuba 2017: 27)

In such an analysis then, factive verbs, when they select a referential clause, give rise to a reduced left periphery.

A similar intuition is shared by Kastner (2015), who also argues that the property that dictates the behaviour of these verbs is presuppositionality, rather than factivity.

His analysis however builds upon Kiparsky & Kiparsky (1971), arguing that there is, indeed a nominal element in the structure of presuppositional verbs. For Kastner, this nominal element is not however a covert N, but rather the presuppositional determiner Δ, as can be seen in (18b).

(18) a. Selected embedded non-presuppositionals: [V CP] → believe that he is right
b. Selected embedded presuppositionals: [V [$_{DP}$ Δ CP]] → regret that he is right
c. Overt definite presuppositionals: [V [$_{DP}$ D [$_{NP}$ [$_{NP}$ N] CP]]] → regret the fact that he is right

(Kastner 2015:4)

According to Kastner, this determiner bans the projection of Topic and Force, giving rise, once more, to a reduced left periphery, which hinders the availability of extraction.

Taking such analyses into account and corroborating them with the differences noticed between emotive and cognitive factive verbs, it might be the case that, in some instances, a difference in structure might arise as well – when interpreted as being referential/presuppositional, these verbs will evince a truncated structure (or at least a truncated left periphery of the subordinate clause), while when used as non-referential/non-presuppositional, a full left periphery is projected.

Going back to extraction, if this reasoning is on the right track, examples such as the ones in (8), repeated for convenience in (20), could be acceptable as long as the verb is not interpreted as being referential or presuppositional respectively.

(19) ?Who did he discover stole the cookie?

(Djarv 2019: 38)

(20) Big news! Archaeologists reveal new facts about the life and death of Caesar. So tell me – where did they {discover, learn} that Caesar was killed?

(Djarv & Romero 2021: 189)

Djarv & Romero (2021) argue that cognitive factives are more readily associated with such an interpretation than emotive factive verbs, which ban adjunct extraction, as can be seen in in (21) below.

(21) Big news! Archaeologists reveal new facts about the life and death of Caesar. #So tell me – where do they {regret, appreciate} that Caesar was killed?

(Djarv & Romero 2021: 190)

Conversely, when the verb is interpreted as presuppositional, adjunct extraction will be banned, irrespective of verb type. This observation has been confirmed by an experimental study conducted on 60 native speakers of English, investigating adjunct extraction out of the complement of cognitive and emotive factive verbs (Stoica in press).

The experiment showed that, when the information is clearly part of the Common Ground, adjunct extraction is banned overall, irrespective of verb type – 9.8% of test items with cognitive factive verbs were considered grammatical, and 5.8% of test items with emotive factive verbs were accepted. A t-test showed that there is no significant effect of predicate type ($t(119) = 1.98$, $p = .3$).

3. Romanian factive verbs as island inducers

While in some respects Romanian factive verbs behave on a par with their English counterparts (presupposition cancellation, referentiality, etc), there are also ways in which these verbs differ in the two languages. At least at first sight, Romanian factive verbs seem to be more permissive, allowing structures that are banned in English, such as main clause phenomena (as seen in (22) or subordinates introduced by *wh*-phrases (as illustrated in (23) and (24), in the case of both emotive and cognitive factives. Recall that, in English, at least emotive factive verbs are incompatible with all of these constructions.

(22) a. Ion știe că **doar azi** trebuie să meargă la doctor (nu și mâine).
Ion knows that only today must SBJV go at doctor (not and tomorrow)
'Ion knows that **only today** he must go to the doctor (not tomorrow as well).'

b. Ion se bucură că **doar azi** trebuie să meargă la doctor (nu și mâine)
Ion REFL happy that only today must SBJV go at doctor (not and tomorrow)
'Ion is happy that only today he must go to the doctor (not tomorrow as well).'

(23) a. Andrei știe ce a mâncat Luca.
Andrei knows what has eaten Luca
'Andrei knows what Luca ate.'

b. Andrei știe unde a ascuns Luca jucăria.
Andrei knows where has hidden Luca toy-the
'Andrei knows where Luca hid the toy.'

(24) a. Maria regretă ce s- a întâmplat.
Maria regrets what REFL has happened
'Maria regrets what happened.'

b. Alinei îi displace cum au decorat străzile din București
Alina CL.DAT dislikes how have decoarated streets-the from Bucharest
'Alina dislikes how they decorated the streets of Bucharest.'

As far as extraction is concerned, Romanian factive verbs are traditionally said to induce weak island effects (Dobrovie-Sorin 1994), on a par with their English counterparts.

(25) a. Ce regreți că ai pierdut?
what regret that have lost
'What do you regret that you have lost?'
b. *Unde regreți că ți- ai pierdut portofelul?
where regret that CL.DAT have lost wallet-the
'Where do you regret that you have lost your wallet?'

However, a closer look at some experimental data shows that the picture might be more nuanced. On the one hand, Stoica (2019) reports experimental data which show that over 60% of the Romanian respondents accepted sentences such as the one in (26), i.e. it might be the case that, in Romanian, adjunct extraction out of the clausal complement of a cognitive factive verb is more readily available.

(26) ?În ce a uitat Vasile că împachetau părinții lui cadourile ___?
in what has forgotten Vasile that wrapped parents-the his gifts-the
'In what did Vasile forget that his parents used to wrap the presents?'

On the other hand, in an experimental study testing the availability of adjunct extraction out of the clausal complement of factive verbs in Romanian, Stoica (2021) shows that native speakers of Romanian reject adjunct extraction, irrespective of verb type (i.e. cognitive or emotive factives). More specifically, only 20% of test items including cognitive factive verbs were considered grammatical, while extraction out of the clausal complement of emotive factives was accepted in 17.9% of cases. A statistic analysis using a Welch t-test at the alpha = .05 showed that there is no statistically significant effect of predicate type ($t(223) = 1.97$, $p = .88$)[1].

The data presented in this section indicate that, while Romanian factive verbs are more permissive in general, allowing structures which are restricted in English (i.e. main clause phenomena, subordinates clauses introduced by *wh*-phrases, etc.), they behave similarly to their English counterparts with respect to adjunct extraction[2]. This observation gives rise to at least two important questions: (i) in the light of examples (22) through (26) above, do factive verbs differ structurally in the two languages? and, if so (ii) what are the factors that hinder adjunct extraction in each of the two languages? I leave these two questions for further research.

The focus of this paper lies, however, with the way in which factive islands are observed by L2 learners. In the following section, I will briefly present some studies in

[1] The contrast between these two sets of data might stem from the different designs of the experiments. In Stoica (2019), respondents judged these sentences in isolation, which might have led respondents to treat the sentence as containing new information. In Stoica (2021) larger contexts were built, which made the information clearly part of the Common Ground. If this should be the case, then adjunct extraction seems to indeed be influenced not just by syntactic factors, but also by the way in which the predicate is interpreted.

[2] The experiments investigating island effects induced by factive verbs in English (Stoica in press) and Romanian (Stoica 2021) used a mirroring design, which will be presented in Section 5. While adjunct extraction seems to be indeed banned in both languages, a paired t-test shows that there is a statistically significant difference between the two languages ($t(479) = 4.246$, $p < 0.001$) – more specifically, in Romanian extraction was more readily accepted than in English.

the literature, which argue that, at least at advanced levels of proficiency, L2 learners converge with the target grammar in the case of weak islands.

4. Island effects in L2 learning: Previous studies

The way in which learners fare with respect to island constructions in their L2 has been studied in the literature – as there is usually no formal instruction on island effects and no negative evidence, islands provide a solid background for testing access to Universal Grammar and whether learners at various levels of proficiency manage to successfully reset parameters. Several studies, some of which will be briefly presented below, show that L2 learners can reject ungrammatical structures, especially at more advanced levels of proficiency, a finding that supports the Full Transfer/Full Access Hypothesis (Schwartz & Sprouse 1996).

One such study was White (1998), which investigated the way in which native speakers of French with L2 English respond with respect to extraction out of both strong and weak islands. Strong islands are said to be universal, extraction out of complex NPs for instance being banned across languages. Weak islands, however, give rise to cross-linguistic variation – while extraction out of a *wh*-island is not possible in English, it is allowed in French. White tested the response to islands of two groups – one of advanced learners and one of intermediate learners, by means of a wide array of tests (from paced judgement tasks, to multiple choice tasks and cloze tests). The results revealed that both intermediate and advanced L2 learners of English observe the Complex NP Constraint, as predicted. In the case of *wh*-islands, however, there is a difference between intermediate and advanced respondents, the former accepting, and even producing *wh*-island violations in their L2. In their case, judgements were most likely influenced by the patterns in their L1. The advanced learners however observed extraction restrictions and converged with the target grammar. This indicated that, at advanced levels of proficiency, parameter resetting can occur.

Another study which investigated the response to *wh*-islands was put forth by Reglero (2003). The author tested native speakers of English with L2 Spanish and native speakers of Spanish with L2 English, at different levels of proficiency, more specifically intermediate and advanced. Spanish and English differ with respect to *wh*-islands, Spanish allowing extraction, as can be seen in (27) below:

(27) a. *Who don't you know how much weighs?
b. Quién no sabes cuánto pesa?
who no know how-much weighs
'Who don't you know how much weighs?'

Respondents were asked to judge whether sentences such as the ones above are grammatical or not, in their respective L2. The results, summarized in Table 1, show that native speakers of Spanish with L2 English are able to correctly identify both grammatical and ungrammatical structures – although acceptance rates are not very high, they still indicate that these respondents manage to successfully reset this parameter, in

spite of the differences from their L1. In the case of the ungrammatical sentences, a slight difference can be noted between intermediate and advanced learners, the latter rejecting ungrammatical sentences more readily, as expected.

Table 1. Acceptance (%) of extraction in L2 English (Reglero 2003)

Construction type	Overall results	Intermediate learners	Advanced learners
wh-islands grammatical	68.42	68.06	68.75
wh-islands ungrammatical	15.79	23.61	8.75

Native speakers of English with L2 Spanish seem to converge with the target grammar as well, accepting grammatical sentences and rejecting ungrammatical ones, as can be seen in Table 2 below. Here too we can see that there is a difference between lower and higher level learners, the advanced ones accepting ungrammatical structures less than pre-intermediate and intermediate learners.

Table 2. Acceptance (%) of extraction in L2 Spanish (Reglero 2003)

Construction type	Overall results	Pre-intermediate learners	Intermediate learners	Advanced learners
wh-islands grammatical	45.59	45.65	41.35	51.32
wh-islands ungrammatical	20.96	27.17	21.15	13.16

Given that these respondents had not received any formal instruction with respect to *wh*-islands, Reglero argued that learners are able to successfully reset the value of this parameter and have access to Universal Grammar in their L2 learning as well. What is also important to note is that level of proficiency seems to play a role as well, as advanced learners converged with the target grammar more readily than pre-intermediate and intermediate ones.

Both of these studies show that, at least at advanced levels of proficiency, L2 learners reject island violations, even in the case of weak islands. At lower levels, respondents might accept island violations, possibly influenced by their L1.

These studies offer valuable data with respect to *wh*-islands in particular and raise interesting issues with respect to the acquisition of weak islands in L2 in general, but to my knowledge, factive islands have not yet been tested in L2.

Recall that factive islands have been argued to be influenced not just by syntactic factors, but also verb frame frequency (Liu et al. 2022) or whether or not the information is interpreted as being part of the Common Ground (Djarv & Romero 2021). According to the Interface Hypothesis (Sorace 2011), those phenomena which are constrained not only by structural factors, but also by discourse ones, could be problematic even for advanced learners.

While the extraction of adjuncts out of the clausal complement of a factive verb is banned in both English and Romanian, there is a statistically significant difference between the two languages: in English, the rejection rate of extraction was higher than in Romanian.

In the light of such data, the aim of the next section is to investigate how vulnerable adjunct extraction is for L2 learners and whether language proficiency plays any role in the availability of extraction (or lack thereof).

5. Factive verbs and island effects in L2 – an experimental study

5.1 Aim

The aim of the current study is three-fold. I tested whether native speakers of Romanian with L2 English reject extraction of adjuncts out of the complement clause of factive verbs – as already seen, adjunct extraction is banned in both of these languages, but there is a statistically significant difference between the two, Romanian being more permissive than English in that respect. Also, I investigated whether there is any difference in acceptability of extraction in the case of cognitive and emotive factives respectively. Last, but not least, I verified whether advanced learners of L2 English converge with the target language more than intermediate ones, even when neither of the two groups received formal instruction with respect to island effects.

4.2 Materials

The test, designed as a truth value judgement task, included 8 test items: 4 of these targeted adjunct extraction out of the clausal complement of a cognitive factive verb, as illustrated in (28) and 4 adjunct extraction out of the clausal complement of emotive factive verbs, as illustrated in (29). Briefly, respondents were reading a story and they were told that Paddington the bear was reading the same story. At the end of each story, Paddington was asked a question, which he also answered.

(28) Emma was watching Tom and Jerry in the living room. After a couple of scenes, she said: "I've already seen this episode at the kindergarten!", so she told her Mom: "Mommy, can I watch another one?"
Storyteller: Paddington, where did Emma remember that she had seen the episode? **Paddington**: At the kindergarten.

(29) Philip had a cat called Cookie. One day, Cookie ran in the garden, while Philip was not at home. His parents went to the kindergarten and told him: "Honey, we have some bad news: Cookie ran away…". Philip started crying and asked his parents: "Do you think we'll ever find him again?"
Storyteller: Paddington, where did Philip get sad that Cookie had run away?
Paddington: In the garden.

Respondents were asked to state whether Paddington's answer was true or false.

The four cognitive factive verbs used were *know*, *remember*, *find out*, *realize*, while the four emotive factive verbs were *regret*, *be annoyed*, *be excited*, *be happy*.

The experiment also included 8 control items, using the same verbs, but with short-distance movement and 4 distractors.

4.3 Participants

68 L2 learners of English with L1 Romanian (age ranging between 18 and 22 – mean age 20.8) took part in this experiment, all English language students at the University of Bucharest. None of them had received formal instruction with respect to island effects or factive verbs in general before testing time. Respondents were divided into two groups, based on their English proficiency – 34 of them were assessed as having an intermediate level of proficiency, while 34 were advanced speakers. Their language level was assessed by means of the Oxford Placement Test (Allan 1992).

The data collected in this experiment was compared to that coming from a control group of 64 native speakers of English.

4.4 Results

In total, 272 responses were obtained – 136 for the advanced group and 136 for the intermediate one. The overall results, which can be seen in Figures 1 and 2, show that, irrespective of their level of proficiency, the L2 learners of English rejected adjunct extraction out of the clausal complement of factive verbs.

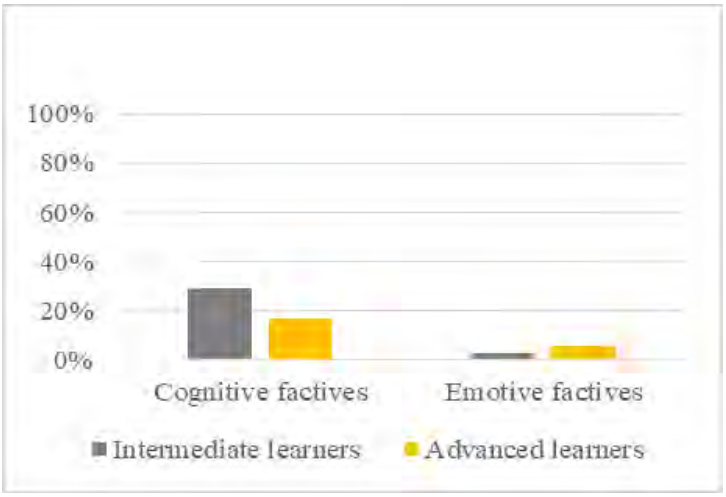

Figure 1. Acceptance (%) of adjunct extraction in L2 English

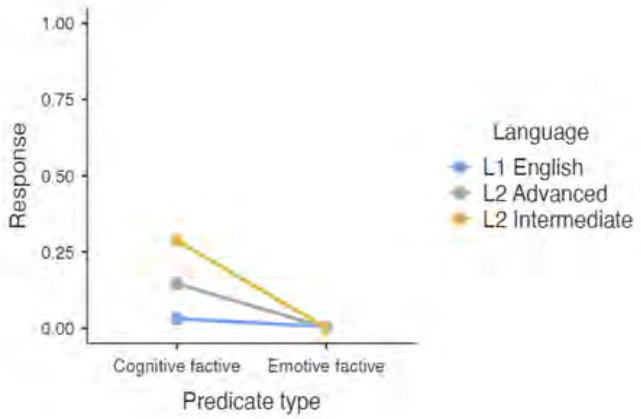

Figure 2. Acceptability of extraction across L1 English, L2 English and L1 Romanian

The overall percentages in the case of intermediate learners show a rate of acceptability of 16.7% to 29.4% of the test items with cognitive factive verbs were accepted, while test items using emotive factive verbs had an acceptability rate of 2.94%. A logic generalized mixed model analysis (conducted in Jamovi, using the gamlj module) showed a statistically significant effect of predicate type ($p < .001$, $\beta = 0.06$, SE = 0.815).

Comparing these results to the control group, a logic generalized mixed model analysis (conducted in Jamovi, using the gamlj module), showed that there is a statistically significant difference between intermediate learners of L2 English and native speakers of English with respect to adjunct extraction overall ($p = .001$, $\beta = 0.420$, SE = 0.338). There is also a statistically significant difference between these two groups with respect to adjunct extraction out of the clausal complement of a cognitive factive verb ($p = .003$, $\beta = 0.252$, SE = 0.46), but no statistically significant difference was found with respect to emotive factive verbs ($p = .506$, $\beta = 1.73$, SE = 0.831).

In the case of advanced learners of L2 English, 11.26% of test items were considered grammatical – long distance movement out of the complement clause of a cognitive factive verbs was accepted in 16.7% of cases, while long distance movement out of the complement clause of an emotive factive was allowed in 5.8% of test items. A logic generalized mixed model analysis (conducted in Jamovi, using the gamlj module) showed that there was no statistically significant effect of predicate type ($p = .065$, $\beta = 3.09$, SE = 1.89).

Another logic generalized mixed model analysis (conducted in Jamovi, using the gamlj module) also showed that there is no statistically significant difference between advanced learners of L2 English and the control group with respect to adjunct extraction overall ($p = .248$, $\beta = 1.52$, SE = 0.3) – similar results were found when analyzing adjunct extraction out of the complement clause of a cognitive factive verb ($p = .2563$, $\beta = 0.54$, SE = 0.53) or of an emotive factive verb ($p = .79$, $\beta = 0.84$, SE = 0.664).

Comparing the two test groups, a logic generalized mixed model analysis (conducted in Jamovi, using the gamlj module) showed that there is no statistically significant difference between the answers provided by intermediate and advanced learners of L2 English, either with respect to adjunct extraction overall (p = .940, β = 0.96, SE = 0.5), or regarding cognitive factive verbs (p = .485, β = 0.442, SE = 0.20) or emotive ones (p = 1, β = 2.09, SE = 1.89) analysed separately.

However, a series of t-tests, comparing the results of L2 learners to the results of both native speakers of English and to those of native speakers of Romanian[3], shows that, overall, responses were closer to the Romanian data (t(496) = 1.98l, p = .117), rather than the English one (t(511) = -2.26, p = 0.062). What's more, when analysing responses from the two test groups separately, it is seen that intermediate learners of L2 English converged with the Romanian data (t(359) = -1.095, p = 0.693), rather than with the English one (t(375) = 2.23, p = .001), and that advanced learners of L2 English converged with the target language (t(375) = -0.97, p = 0.248), rather than their L1 (t(359) = 4.246, p < .01).

4.5 Discussion

The results revealed, as predicted, that adjunct extraction out of the post-verbal clause of a factive verb is banned in L2 English, irrespective of predicate type (cognitive or emotive factive verb). Only in the case of intermediate learners was there a statistically significant effect of predicate type. Recall however that, while adjunct extraction is banned in both English and Romanian, Romanian is slightly more permissive with respect to this type of movement. In line with other studies conducted on island effects in L2, advanced learners converged with the target language, while intermediate ones showed a greater residual optionality, influenced probably by their L1.

These results are in line with both studies on factive verbs as island inducers in general, and with those that target island constructions in L2.

What was however interesting was that, for intermediate learners, adjunct extraction out of the clausal complement of cognitive factive verbs was accepted at a higher rate than extraction in both L1 English and L1 Romanian[4].

Another important aspect that needs to be taken into account is that such structures are difficult to process even in L1 (Liu et al. 2022), so an interaction between (un)grammaticality of structure and processing load cannot be discarded.

5. Conclusions

With respect to the research questions presented in the beginning of this paper, there are several conclusions which have been reached: (i) as predicted, given that factive

[3] The experimental study on adjunct extraction out of the clausal complement of factive verbs in Romanian (Stoica 2021) used the same design and methodology as the experiment presented in this paper.

[4] It is important to note that the respondents that took part in the tests on adjunct extraction in L1 Romanian and adjunct extraction in L2 English are different. It would be interesting to see if the results were confirmed if the same respondents judged these sentences in both of these languages.

verbs induce weak island effects in both English and Romanian, L2 learners of English with Romanian as their native language do not accept long distance movement of adjuncts out of the clausal complement of factive verbs; (iii) only for intermediate L2 learners is there a significant effect of predicate type, cognitive factives more readily allowing long distance movement than emotive ones. For advanced learners, on the other hand, there is no difference with respect to predicate type; and (iii) there is no difference between intermediate and advanced L2 learners with respect to judgements on the island effects imposed by factive verbs, although neither of the two groups had received formal instruction before testing time.

This study brings further evidence that learners can acquire constraints on extraction in L2, in accordance with the Full Transfer /Full Access Hypothesis (Schwartz & Sprouse 1996). In addition, it contributes to the literature on island effects in L2 by presenting data coming from factive islands, a type of construction which, to my knowledge, has not been tested in relation to second language learning.

There are, however, several questions that still need to be addressed. Firstly, while traditionally factive verbs are said to ban adjunct extraction, there are also studies which argue that at least cognitive factive verbs are more permissive. While the experiments presented in this paper are in line with the traditional view on factive verbs (i.e. they are weak island inducers), it would be interesting to see whether the results would differ if a non-referential/non-presuppositional reading of these factive verbs were favoured. In such cases, adjunct extraction, should, in principle, be possible.

Secondly, taking into account those studies which acknowledge the impact of other factors on island effects in general (i.e. frequency, processing load, etc.), it would be interesting to see in what way these factors are correlated to structural ones.

Last, but definitely not least, all of the experiments presented in this paper targeted the acceptability of extraction in comprehension – given that, in the case of some island constructions, different results have been reported with respect to comprehension and production tasks respectively, it would be interesting to see whether speakers can produce sentences in which factive verbs are not island effect inducers at all. I leave these questions for further research.

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DIARY NULL SUBJECTS IN L2 ENGLISH: A STUDY ON GRAMMATICAL ACCEPTABILITY

Anca Sevcenco*

Abstract: The current paper investigates the grammatical acceptability of null subjects in the diary register of L2 English by intermediate and advanced students, L1 speakers of Romanian. Overall results indicate performance that does not surpass chance level, and therefore, a strong conservative preference for overtly realized subjects in diary contexts. However, individual analysis has identified a small group of L2 learners who consistenly scored well above chance in the four experimental conditions (overt subject, null subject in root clause, null subject in embedded clause and null subject in *yes-no* questions). I discuss several factors that relate to the difficulty L2 learners have with accepting on-target null subjects in the diary register. Quite likely, they never had enough exposure to the relevant input. L2 acquisition slows down when multiple grammars (core and non-core) are identified. Also, subject omission is optional, so the study tested a preference, not a mandatory phenomenon.

Keywords: English diary-register, null subjects, multiple grammars

1. Introduction

Recent studies whose main goal is to provide a learnability theory for second language acquisition capitalize on the idea that multiple grammars (henceforth MG), understood as distinct parallel sets of grammatical rules, become available in the process of acquisition (Roeper 1999, Amaral & Roeper 2014, Roeper 2016). From this perspective, second language acquisition amounts to (i) transferring the properties of the L1 grammatical system and using them as a benchmark in L2 acquisition, (ii) positing new rules that capture the L2 data and lead to full-fledged grammar(s) and (iii) assessing L2 rule productivity or lack thereof in relation to the L2 input.

MGs pertain to the linguistic compentence of L1 learners too. When acquiring her mother tongue, the task of the L1 learner is to evaluate the MGs with which she can make sense of the input, select the most productive one and incorporate it into her linguistic knowledge but also identify the less productive ones. Interestingly, the MG approach argues that, when the most productive, the fittest grammar has been identified, child learners will not discard the less productive L1 rule sets they previously considered because it might turn out that these rules will end up accounting for peripheral, more marked data found in the input. This leaves room for the coexistence within L1 of seemingly contradictory grammatical rule sets: fully productive versus lexically restricted ones. The same happens in L2.

Amaral & Roeper (2014), Roeper (2016) identify various linguistic phenomena that provide sources for MGs. One of them has to do with the acquisition of subject use in L1 (and L2) English, i.e. the acquisition of the *pro*-drop parameter. Regarding L1, it is acknowledged that English features the relevant syntactic properties of a non-*pro*-drop language. Hence, the grammar that licenses phonologically overt subjects in affirmative

* University of Bucharest, Department of English, anca.sevcenco@lls.unibuc.ro.

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contexts counts as the most productive one (the relevant cue for it is the existence of expletive subjects, see also Yang 2002). At the same time, English exceptionally allows for null subjects under lexically restricted conditions, i.e with some verbs that select expletive subjects:

(1) a. Seems nice.
b. Looks good.

(Roeper 2016: 14)

All things considered, English subject-drop is marked for occurrence with a limited choice of verbs and the grammar that licenses this phenomenon is visibly less productive than its non-*pro*-drop counterpart. Nevertheless, despite their conflicting, contradictory nature, both grammars coexist in the English-speaking children's linguistic representation.

The present paper investigates an L2 learning topic that has bearing on the above concisely sketched MG approach – the grammatical acceptability of L2 English diary-register null subjects as evaluated by adult monolingual speakers of Romanian.

English has a couple of specific registers that license not only subject, but also direct object and functional category (determiners, auxiliary and copula verbs) omission: diaries (Haegeman 1990 a, b, 2019, Ihsane 1998, a.o.), the note-taking register (Janda 1985), telegrams (Barton 1998), colloquial language (Thrasher 1977), newspaper headlines/headlinese (Simon-Vandenbergen 1981) and the instructional register (Haegeman 1987, Massam & Roberge 1989). Numerous studies have claimed and argued that different grammars underlie subject omission in these registers (Haegeman 1990a, b, 2007, 2019, Nanyan 2013, Weir 2012) such that a unified account of the phenomenon is not tenable (but see Horsey 1998 for an attempt to unify the null diary subject syntax and subject omission in the instructional register). For now, it is enough to mention that subject omission in diary style has not been analyzed as a syntactic property of a *pro*-drop grammar (see section 2 for more details) and to note that register-restricted subject omission is also a source of MGs.

Romanian, on the other hand, belongs to the class of *pro*-drop languages; subject omission is grammatical and phonologically realized subjects occur in specific contexts such as those involving subject focalization or topic shift.

Amaral & Roeper (2014) and Roeper (2016) claim that L2 learners encounter additional difficulty in the process of grammar evaluation in comparison to L1 learners. In our particular case, keeping to the MG approach assumptions, at the onset of L2 English acquisition, the Romanian learner relies on her native language *pro*-drop grammar. Subsequently, she will become aware that English has overt expletive subjects. Yang (2002), Amaral & Roeper (2014) consider expletive subjects as the most relevant piece of evidence in favor of the non-*pro*-drop property of the language. Once the use of expletive subjects gets target-like, everything is in place for the L2 learner to posit that English grammar has a productive rule that generates phonologically realized subjects in declarative sentences, i.e. that English is non-*pro*-drop. Upon exposure to diary language, the L2 learner has to block the productive rule and to make room for the syntactically- and also discourse-constrained contexts in which subject omission becomes legitimate.

Framed in the theoretical backdrop provided by the MG theory, the present paper attempts to answer two research questions about the comprehension of L2 diary null subjects: (i) do the L2 English learners overgeneralize the English core non-*pro*-drop grammar to contexts (such as the diary-register) that warrant, in fact, null subjects? or (ii) are these L2 learners aware of the properties of the subject omission grammar in L2 English? At this point, one additional remark is in order. Amaral & Roeper (2014), commenting on work by Snyder (2007), mention that monolingual children show a certain conservatism in L1 language production because they have knowledge of specific lexical restrictions that govern broad areas of acquisition (like double object verb learning) and this specific knowledge prevents them from making across the board generalizations (*say* cannot be used as a double object verb, it is an exception; the fact that *tell* is a double object verb does not endorse that *say* is too). As Amaral & Roeper note, nothing prevents conservatism to extend to L2 comprehension too. In our case, this implies that L2 learners will prefer to stick to overt subjects across the board, both in standard language and in the register-restricted variety.

All things considered, I expect two predictions to hold regarding the present grammatical acceptability study. If the L2 learners choose the conservative option and thus overgeneralize the non-*pro*-drop grammar, they are expected to reject grammatical sentences with null subjects in the diary register. If, on the other hand, they have become aware of the diary-grammar and its restricted productivity, they will accept null subjects in the syntactic contexts that license them (see Section 2).

The remainder of the paper is organized as follows. Section 2 introduces the properties of the grammar of diary-style English, section 3 presents the methodology and the details about the participants in the present comprehension study, section 4 focuses on the results, section 5 discusses them and section 6 concludes.

2. The grammar of diary-style English

Extensive research on the topic reports that diary-register English relies on a particular grammar that is distinct from the grammar of *pro*-drop languages (Haegeman 2007, 2019, Weir 2012, a.o.). A couple of properties lie at the core of diary-style English. First, English verb morphology is mostly underspecified and, consequently, it cannot identify the agreement features on the null subject. This is why ambiguity between a first person and a third person reading sometimes arises as shown in (1) (*ec* abbreviates "empty category" and stands for the null subject):

(2) *ec* saw no one after we had left the party.

(Haegeman 1990a: 165)

Additionally, as seen in (2), no coreferentiality is required to hold between the null subject and embedded subjects.

Diary-null subjects are barred whenever there is fronted material preceeding them in configurations involving movement to Spec,C or in I-to-C movement structures. Examples (3) and (4) illustrate this point with *wh*-phrases and *yes-no* questions:

(3) *(When) will *ec* come back?
(4) *Are *ec* coming to dinner tonight?

(Haegeman 2007: 98)

The restriction on co-occurrence with fronted constituents also entails that null subjects are disallowed when arguments are topicalized. However, adjunct-fronting exceptionally does not affect the grammaticality of null subjects: see the contrasting pair in (5), with a topicalized direct object and manner adverbial, respectively:

(5) a. *This book, *ec* didn't like.

(Wilder 1994: 36)

b. With a sigh of relief, *ec* saw a heap of ruins.

(Woolf 1940: 330 in Ihsane 1998)

Last, it has been conjectured that null subjects represent a root phenomenon, they never occur in embedded sentences:

(6) a. *I think that *ec* will leave.
b. *John called me when *ec* returned.

(Haegeman 2007: 98)

This is a disputed claim, though. Weir (2012) notes that null subjects in embedded clauses, though marginal in acceptability, are not completely ruled out. He offers examples from *Bridget Jones's Diary* by H. Fielding such as:

(7) *ec* understand where *ec* have been going wrong.

Regarding this issue, Haegeman & Ihsane (2001) suggest that there is dialectal variation in the diary register between a "majority" dialect, featuring root null subjects and a "minority" one, which permits embedded null subjects. The latter is illustrated by "recent British fictional diaries" such as H. Fielding's book (Haegeman & Ihsane 2001: 330).

It has been suggested that a phase-based account captures the distribution and syntactic behavior of null subjects in the diary-register (Haegeman 2019). These subjects sit in the specifier position of Subject Phrase, the highest functional projection in root clauses. Upon phase transfer, null subjects never get spelled-out because only the head (Subject, in this case) and its complement get sent to PF. Put simply, the existence of null subjects follows from considerations related to the structure of the left periphery (which explain why Subject Phrase is the topmost projection) in conjunction with assumptions about the way in which phase spell-out proceeds. Arguably, the grammar that generates null subjects in the diary register can be viewed as an alternative grammar, fundamentally different from the *pro*-drop phenomenon, which revolves around checking agreement features (but see also Neeleman & Szendröi (2007) on agreement and subject drop), i.e. one of the MG set. This second grammar is also more restricted, since in *pro*-drop grammars the agreement features on the null subject are identified through verb morphology, phonologically empty subjects co-occur freely with both *wh*-phrases and

yes-no questions, null subjects are allowed in sentences in which the direct object has undergone topicalization and both root and subordinate clauses may have null subjects.

The phase-based account, however, applies to null subjects in spoken language, first and foremost. When it comes to the diary-register, Haegeman acknowledges that her proposal has problems explaining the distribution of embedded null subjects that pertain to the "minority" dialect. Still, there are alternative accounts for the diary register: Scott (2010) and Weir (2012).

Scott (2010) opts for an explanation rooted in pragmatics and discourse considerations. In her view, the writer who resorts to null subjects aims at creating a familiar, casual piece of discourse. In doing so, the writer is fully aware that null subjects represent the marked option in a non-null subject language like English and that the reader will put in additional cognitive effort so as she can process the sentences. Nevertheless, the writer assumes that the reader will be able to assign the intended meaning to the null subject because this null constituent links up to a highly accessible antecedent: the speaker/author of the piece of discourse. In her turn, the reader assumes that the writer aims at optimal relevance in the contexts created and hence makes the cognitive effort required to ultimately get to the intended meaning. Scott's theory places null subject comprehension at the interface between syntax and discourse/pragmatics. The Interface Hypothesis (Sorace & Filiaci 2006, Sorace 2011) predicts the existence of optionality and variability effects for near-native L2 speakers when it comes to dealing with linguistic phenomena pertaining to external interfaces. In our particular case, this entails that the processing cost incurred by assigning reference to null subjects in the diary-style register might result in non-target like performance in the interpretation of these subjects. Since the participants in the present study do not have the near-native proficiency level, I will not further pursue the implications of this research avenue for the current study.

Weir (2012), on the other hand, preserves Haegman's idea that null subjects occupy the topmost position in syntax (Subject Phrase), but he proposes that phonological considerations license their occurrence in both spoken and written English. Adopting an approach couched in the Optimality Theory framework, Weir conjectures that sentences should not have a weak start (Weir 2012: 123), i.e. they should not begin with a phonologically weak element because this violates the STRONGSTART constraint. Personal pronoun subjects get deleted so as the constraint is not violated. In his view, STRONGSTART also explains why null subject sentences begin sometimes with an adverbial modifier (*Tomorrow will go the gym*). The author himself acknowledges that his proposal fully accounts for the distribution of null subjects in spoken language, but that it needs more fine-graining before being extended to null subjects in the written register. For this particular reason, I will not further pursue the consequences of his theory for the topic at hand.

3. Methodology and participants

The participants in the study were 37 student volunteers from the University of Bucharest who qualify as intermediate and advanced L2 English learners. They did not

take an L2 proficiency test, but were placed in different levels of proficiency in accordance with the average number of years they spent on studying English. More precisely, the intermediate group (n = 28) studied English for 12.7 years on average, and the advanced group (n = 9) for 17.8 years. The mean ages were 21.3, and 28 respectively.

The participants were asked to assess the grammaticality of twenty-four sentences with null subjects using binary judgments, i.e. grammatical versus ungrammatical. They were also instructed to provide the correct version for the sentences that they marked as ungrammatical, but they were not asked to explain why they considered a sentence to be ungrammatical. Test sentences with null subjects were preceded by another sentence that was meant to set up a brief context and evoke the diary style manner of presentation[1]. The experiment had one independent variable with four levels (lexically realized subject, null subject in root clause, null subject in embedded clause and null subject in *yes-no* question) and one dependent variable, the score. Three out of the six items in the null subject condition featured expletive *there/it* subject drop (see 9b,c).The test items were presented in randomized order. I give below a sample of each of the four conditions:

Lexically overt subject

(8) The journey was exhausting. I stopped a couple of times.

Null subject in root clause

(9) a. February 26 was a lovely day. Took a walk in the park.
b. The task is tricky. Seems impossible to solve.
c. The traffic is crazy. Must be an accident up ahead.

Null subject in embedded clause

(10) Had coffee after got to the office.

Null subject in *yes-no* question

(11) Doubts surfaced. What can say?

The study included nine fillers whose purpose was to control if the L2 learners had already set the correct value for the *pro*-drop parameter in L2 English. The filler items were selected in terms of the cluster properties associated with the Null Subject Parameter, i.e. post-verbal subjects, *that*-trace contexts. More precisely, three fillers were

[1] One reviewer inquires whether the test items were clearly identifiable as diary-style entries rather than utterances pertaining to colloquial language. The sentences preceded by an opening (like those in 9) resemble the diary set-up. It is true, however, that the test items in the null embedded subject condition (like 10) are not necessarily easily recognizable as belonging to a diary context and could be attributed to informal, spoken language. As for expletive subjects (see 9c), they can be non-overt in diaries, not just in spoken English (Nanyan 2013).

sentences with post-verbal subjects (**Read the kid the whole Harry Potter series*), another three had *wh*-subject extraction over a null complementizer (*Who do you think sounded the alarm?*) and the last three included *wh*-subject extraction over an overt complementizer (**What do you suspect that destroyed the building?*).

At the beginning of the study, the participants were instructed on what to do. An example of an unacceptable sentence was presented to them that did not involve ungrammaticality caused by inappropriate null subject use, but stemming from a subject – verb agreement mismatch. Indications on how to correct it were provided. The test was administered as a Google Form and the data were provisionally stored on the author's Google Drive.

4. Results

A binary coding system was used with answer-rating, i.e. on-target responses were rated with 1 and 0 went to the off-target ones. The subordinate clause condition was assessed as follows: answers with a null or an overt DP subject in the main clause and an overt DP embedded subject received 1 (for instance *Guess that he/she got lost on the way* and *I guess that I got lost on the way* = 1); and answers with null subjects in main and embedded clause as well as those with an overt DP subject in the main clause and a null embedded subject got 0 (such as **Confessed that had met them before* and **I wrote a nice review after left* = 0).

Figure 1 displays the overall means of on-target responses (overt subject, $M = 6$ ($SD = 0$); null subject in root clause, $M = 2.54$ ($SD = 2.16$), null subject in embedded clause, $M = 4.76$ ($SD = 1.75$) and null subject in *yes-no* question, $M = 5.46$ ($SD = 1.12$)).

Figure 2 plots results for the intermediate students (overt subject, M = 6 (SD = 0); null subject in root clause, $M = 2.60$ ($SD = 1.96$), null subject in embedded clause, $M = 4.67$ ($SD = 1.88$) and null subject in *yes-no* question, $M = 5.35$ ($SD = 1.25$)).

Figure 3 illustrates the descriptive statistics for the advanced group (overt subject, $M = 6$ ($SD = 0$); null subject in root clause, $M = 2.33$ ($SD = 2.82$), null subject in embedded clause, $M = 5$ ($SD = 1.32$) and null subject in *yes-no* question, $M = 5.77$ ($SD = 0.44$)). The error bars in all the figures represent standard error.

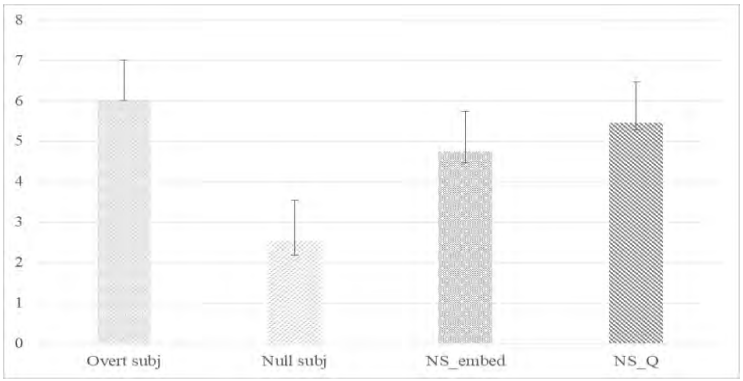

Figure 1. On-target response means: Group results

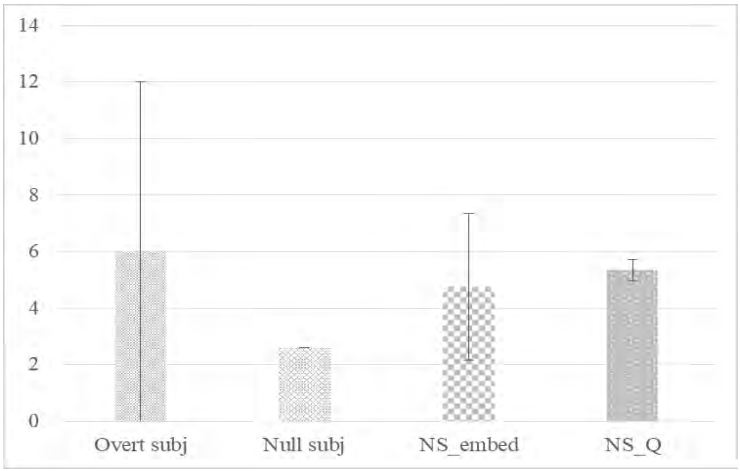

Figure 2. On-target response means. Intermediate L2

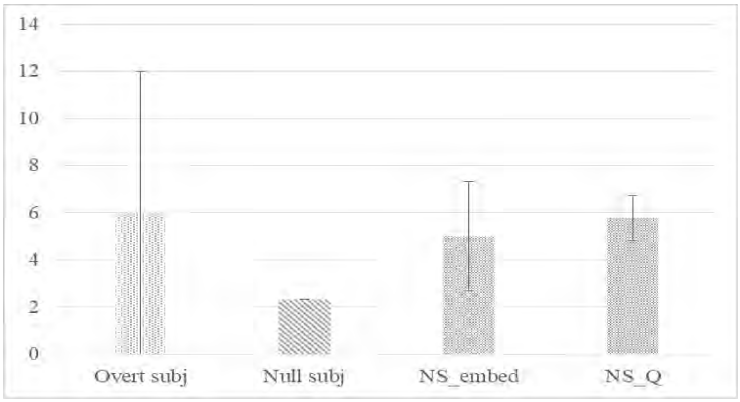

Figure 3. On-target response means. Advanced L2

A one-way repeated measures ANOVA was conducted in order to determine whether the four experimental conditions differed to a significant extent. The results confirm the presence of an overall significant difference among them: $F(1.60, 57.72) = 35.248$, $p < .001$. *Post hoc* Bonferroni tests point out to statistically significant differences between reponses to (i) the overt subject and the null subject in root clause conditions ($p < .01$), (ii) the null subject in root clause and the null subject in embedded clause conditions ($p = .01$) and (iii) the null subject in root clause and the null subject in *yes-no* questions conditions ($p < .01$).

A one-sample t-test indicated that the responses in the null subject in root clause condition did not get over the chance level, $t(36) = -1.289$, $p > .05$. One-sample t-tests performed for the null subjects in embedded clauses and in *yes-no* questions show that, in those cases, responses are situated above chance level: $t(36) = 6.091$, $p < .05$ and $t(3) = 13.353$, $p < .05$.

A paired-sample t-test compared the total number of responses for null DP ($M = .92$) and null expletive subjects ($M = 1.62$) and indicated a statistically significant

difference between them. There were more on-target answers in the null expletive subject condition, $t(36) = -4.175$, $p < .05$.

Individual analysis offers a slightly different picture from the overall results because there are seven participants from the intermediate group and another three from the advanced L2 learners who gave answers above chance in the null subject in root clause condition. More precisely, out of these ten participants, five provided 5 / 6 on-target responses (amounting to 83.3%) and the other five responded at ceiling, 6 / 6. On closer inspection, though, only two participants from the intermediate lot consistenly responded above chance in all four conditions. Regarding the advanced group, another four learners were consistent in this sense. One caveat applies here. As per our coding system, in the null embedded subject condition both answers with two overt DP subjects and those with a null subject in the main clause and an overt DP embedded subject were rated on-target. But L2 learners who are fully aware of null subject distribution would be expected to opt for the null subject in main clause and overt subject in the subordinate clause. Out of the six participants with above the chance responses, four had the expected pattern: null subject in the main clause – overt DP subject in the embedded clause. The other two (more conservatively) used overt DPs in both positions. All things considered, at the strictest assessment, I conclude those four L2 learners (two intermediate and four advanced) seem to command the use of null subjects in the diary-style register.

As for the control items, a one-way repeated measures ANOVA pointed out to a significant overall difference among the three clustering properties: $F(1.75, 63.25) = 11.319$, $p < .001$. *Post hoc* Bonferroni tests reveal a significant difference between (i) the extraction of *wh*-subject over overt C condition and extraction of *wh*-subject over null C ($p < .001$) and (ii) again, *wh*-subject extraction over overt C condition and the post-verbal subject condition ($p < .05$). No statistically significant difference holds between the overt post-verbal subject and *wh*-phrase extraction over a null C conditions ($p > .05$).

5. Discussion

Four main findings stand out from the present study. The analysis of group-performance indicates that the grammatical acceptability of null subjects in the L2 English diary register does not surpass chance level. However, a closer look at the performance of four participants (three intermediate and one advanced learner) reveals above chance performance conceptualized as 5 or 6 on-target responses out of a total of 6 in all four conditions. Overall, those L2 learners who allow for omission prefer to omit third person expletive subjects rather than first person ones. Last but not least, all the participants seem to have integrated in their linguistic system the knowledge that L2 English is not a *pro*-drop language (unlike Romanian, their maternal tongue).

Turning to the research questions formulated in the beginning, these findings support the view that the participants conservatively overgeneralize the core non-*pro*-drop grammar of English to diary language, a specific register that allows, in fact, subject omission (even if in syntactically restricted contexts). Only four L2 learners out of 37 have shown solid awareness of the availability of subject drop in diaries, as they performed above chance level in all experimental conditions.

These results find a comprehensive explanation only after careful consideration of a couple of factors. The most obvious issue that springs to mind relates to the input available to the L2 learners. It goes without saying that linguistic/grammar development relies on constant exposure to input and, quite importantly, it is both quantity and quality of input to an equal extent that matter in the process of L2 adult and child acquisition (for (bilingual) child acquisition, see Unsworth et al. 2019 and references therein, a.o.). When it comes to the diary register, input quantity could be measured in terms of (i) the actual hours per a certain unit of time that L2 learners spend on reading diaries or (ii) the number of tokens (first, third person null subjects, etc.) encountered while reading[2]. But input quality is also highly relevant because it has been noted that there is variation in terms of null subject distribution across diaries. Regarding this particular aspect, remember that Haegeman & Ihsane (2001) speak about a majority and a minority dialect with embedded null subjects (recent British work). Moreover, Haegeman (2007) acknowledges that no restriction on the occurrence of null subjects in embedded clauses holds either in recent or not so recent work like *Bridget Jones's Diary* (H. Fielding) and *The Diary of a Provincial Lady* (E.M. Delafield, 1930), respectively. I therefore take diary dialect type to provide a measure of input quality. No assessment of input quality or quantity was undertaken for the current study. Given these considerations, there is no guarantee that the participants in the current study were exposed to the relevant quantitative and qualitative input necessary to the successful acquisition of diary language. On the other hand, it is not far-fetched to suppose that they have had a certain amount of exposure to subject drop in the colloquial register through watching and listening to a variety of TV and radio programs or interacting with native speakers in informal set-ups, etc. I surmise that, for those participants who were aware of *pro*-drop in diary grammar, exposure to this undifferentiated input (i.e. not specific to the diary-register) might have been enough to guide their on-target performance in the comprehension of diary null subjects. It is generally acknowledged that the distribution of null subjects in spoken and in diary-register English overlap only to a certain extent. Indeed, there are fine points of variance coming into play in this respect (for instance, the diary register does not feature 2nd subject pronoun drop, but this is not necessarily true of spoken language – Haegeman 2007). But putting such details aside, it could be that, in the beginning, L2 learners get to a stage in their linguistic development when they have received enough input to infer that the non-*pro*-drop grammar is not pervasive, even if it is doubtlessly the most productive one. At that stage, they are prepared to allow for null subjects, for a restricted *pro*-drop alternative grammar, that is. Only later on will they settle the fine points of variance in the distribution of these empty categories across specific registers and differentiate between null subjects in the spoken and the written registers. An indication that this supposition might be on the right track comes from the comment made by one L2 learner, RP, who rated the test item *Guess that got lost on the way* as grammatical because spoken English allows it. She is also one of the participants who gave ceiling responses in the null subject in root clause condition and scored 5 out of 6 on-target answers for the null subject in embedded clause.

[2] Most null subjects in the diary-register are 1st person singular; 1st person plural and 3rd person null subjects occur much less frequently (Nanyan 2013).

I believe enough evidence has accrued to indicate that exposure to the specific L2 input cannot be the whole story accounting for the main result of the study. After all, individual result examination identified four participants with consistent performance on the task, understood as on-target responses within the 83.3% to 100% range in all experimental conditions. So what other factors could possibly relate the our findings?

One might consider the extra difficulty posed by handling MGs in the process of L2 acquisition. Framing L2 learning in the MG approach, one could claim that the L2 learners indeed had a difficult task ahead which required of them to focus on three main aspects. First, they had to discern the existence of a non-core grammar. Put differently, they had to figure out that, in some cases, overt/null subject realization does not depend on verb morphology (poorly specified morphology goes hand in hand with overt subject expression), but on facts related to subject position at the topmost layer in the root clause (see Haegeman's phase-based acocount). This means pitting the core (and productive) non-*pro*-drop grammar against another (non-core) grammar that is sensitive to root and left-periphery facts. Second, they had to establish that the productivity of the non-core grammar is restricted to a particular register variety of L2. Finally, in order to make room for null subjects in their linguistic representation, they had to block the core grammar from applying to the diary-style context.

Another factor that could tie in with chance level performance has to do with the optionality of subject drop in the diary register. There is always the possibility for the L2 learner to use a phonologically realized subject without going wrong. So, instead of accepting the grammaticality of a test item like *February 26 was a lovely day. Took a walk in the park* one could just as well fit in an overt subject for the verb *take*.This means that whenever a preference for a particular option is tested rather than a mandatory phenomenon, the door to chance performance might stay open.

One more lingering question is why the L2 learners showed a strong preference for expletive null subject omission over 1st/3rd person subjects. Two equally possible reasons emerge, but the available data does not help with decisively choosing one over the other. Even if expletive subjects occur at the beginning of a sentence, a position invested with salience, they are completely non-salient formal items and thus more easily dispensable. Alternatively, it could be that expletive subjects make good candidates for omission because they bring a meagre contribution to what Scott (2010: 220) calls 'the explicit content of the utterance'. Either way it is easier to leave phonologically empty an item with the lowest degree of informativeness. First person subjects, on the other hand, turn the speaker into an accessible referent in discourse. This in principle makes the pronominal subject amenable to omission (Scott 2010), but L2 learners who have not yet settled the productivity of the non-core omission grammar might still hesitate when it comes to turning the speaker into an omissible element.

Granted, the current study suffers from a couple of limitations. First, there is an unbalanced number of L2 learners in the two groups, the number of intermediate students exceeds by far that of their advanced peers. Quite importantly, no information on the exposure of the participants to diary language has been gathered (under the form of a questionnaire filled in by them, for instance). As such, no measure of input has been included in the study. Last but not least, one problem of task design presents itself. The issue regarding the unacceptability of null subjects in embedded clauses is not at all clear.

Many studies present it as a property of the non-core omission grammar but then the authors of the very same studies include a lenghty list of exceptions featuring what they deem as perfectly acceptable null subjects in subordinate clauses; moreover, there is also talk of dialectal variation in the diary register. Consequently, performance on this particular condition may not have been relevant; other properties of the diary register grammar should be considered. Future research should address these limitations and include other factors such as: acceptance of 3rd person versus 1st person omissions, how coreference or disjoint reference between null subject and and the main clause subject affects comprehension.

6. Conclusions

The present study has investigated the grammatical acceptability of diary-style null subjects in the L2 English of monolingual Romanian speakers. The main finding is that, overall, null subjects are (incorrectly) deemed grammatically unacceptable, the participants showing a quite strong preference for phonologically realized subjects, i.e. for the core non-*pro*-drop grammar of English. However, a small number of L2 learners behaved differently from the main group and consistenly allowed for null subjects. This result provides some support to the view that intermediate and advanced L2 learners have acquired both the core non-*pro*-drop grammar of English and the non-core restricted grammar of omission. Nevertheless, the study does not provide fine-grained evidence about the nature of the non-core grammar, i.e. whether it clearly pertains to the diary-style register or to colloquial speech. The poor performance of the majority was put down to a couple of factors: insufficient exposure to the relevant input, difficulty with handling multiple grammars in adult L2 acquisition and the optionality of the omission phenomenon itself.

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ARE POSTVERBAL SUBJECTS DIFFICULT TO ELIMINATE FROM THE L2 ENGLISH OF L1 SPEAKERS OF ROMANIAN?

Andreea Dogaru*

Abstract: The availability of post-verbal subjects in non-canonical sentences is one of the properties which distinguish between non null-subject languages, like English, and consistent null-subject languages, like Romanian. L2 learning studies provide conflicting results with respect to whether native speakers of a null-subject language can fully eliminate ungrammatical postverbal subjects from their L2 English. The aim of this paper is to investigate if postverbal subjects are difficult to eliminate from the L2 English of L1 speakers of Romanian. The main results show that postverbal subjects are no longer accepted by L1 Romanian advanced and proficient learners of L2 English. However, intermediate learners accept significantly more postverbal subjects with unaccusative verbs than the other two groups. These results are in line with the Interface Hypothesis and the Full Transfer/Full Access Model.

Keywords: postverbal subjects, Full Transfer/Full Access, The Interface Hypothesis, the null subject parameter, L2 English

1. Introduction

A central question in second language learning studies is whether the acquisition of a second language (L2) is similar to the acquisition of one's mother tongue (L1). The generally accepted belief is that these two processes are distinct. Firstly, because the initial states of the two processes are different, i.e. when one starts learning a second language, L1 parameters are already set. Secondly, the end-state of L2 grammar is not always the same as the end-state of L1. While in L1 acquisition, the end-state grammar is the same for all native speakers, in L2 learning it may vary from learner to learner (Tsimpli & Roussou 1991). However, the precise factors which determine the initial and the end-state of the two processes are still debated.

Regarding the initial state of L2 learning, the main approaches can be divided depending on whether learners are assumed to have access to Universal Grammar and on whether and to what extent L1 influences subsequent language acquisition. At one extreme, Clahsen & Muysken (1986), for example, consider that there is no access to Universal Grammar in second language learning. According to this hypothesis, the acquisition of the L1 and the learning of an L2 are distinct and should be analysed separately: the principles of Universal Grammar which constrain L1 acquisition do not guide L2 learning; hence, learners employ different learning strategies. The Full Transfer/Full Access Hypothesis (Schwartz & Sprouse 1996) posits that the end-state of the L1 grammar is the initial state of the L2 grammar (full transfer), which will have to change when the input of the target language cannot be generated by the grammar of L1. The learning process is constrained by Universal Grammar at all stages (full access). This hypothesis focuses on the early stages of L2 learning and makes no general claim about final attainment (Sprouse 2011).

* University of Bucharest, "Limbi şi Identități Culturale" Doctoral School, andreead97@yahoo.com.

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Regarding the end-state of the L2 grammar, a central question is whether learners can set the value of a parameter in L2 when its value differs from the one in their native language. Some linguists (Prentza & Roussou 1991, Prentza 2014) claim that a syntactic mismatch between L1 and L2 will result in prolonged problems which will never be overcome. Another account, known as the Interface Hypothesis, is that the properties pertaining to narrow syntax are fully acquirable, while those which involve an external interface are vulnerable (Sorace & Serratrice 2009, Sorace 2011, a.o.). This hypothesis predicts that L2 learners can reach ultimate attainment with respect to narrow syntax properties.

The aim of the present paper is to contribute to these debates by looking at how native speakers of Romanian who are L2 learners of English set the value of the null subject parameter. I focus on one of the properties traditionally associated with this parameter, i.e. the postverbal placement of the subject. Romanian, as a consistent null-subject language, allows subject-verb inversion, whereas English, a non-null subject language, does not.

Another key ingredient in the present study is verb type. Previous studies on postverbal subjects in L2 English have shown that postverbal placement of the subject is also sensitive to predicate type, i.e. L1 speakers of a null-subject language produce and accept more postverbal subjects in L2 English with unaccusatives than with unergatives. In light of this, I also investigate if there is any correlation between the L2 learners' evaluation of postverbal subjects and verb type, namely unaccusative, unergative and transitive.

The remainder of the paper is organized as follows. Section 2 briefly discusses the theoretical background on L2 learning. Section 3 highlights the distribution of subjects in English and Romanian. Section 4 provides a brief overview of several relevant studies that investigated the learning of subject placement in L2 English. In section 5 I present my own study. The main findings are summarized in section 6.

2. Theoretical background

The Full Transfer/Full Access Hypothesis (Schwartz & Sprouse 1996) assumes that second language learning is determined by the interaction of three factors, namely input, Universal Grammar, and learnability. The major claim is that at the early stages of development the L1 grammar is fully transferred to L2, while any subsequent change of the interlanguage is forced by the inability to grammatically license parses of input (Sprouse 2011). This restructuring is constrained by the principles of Universal Grammar at all stages. As for target-deviant structures, they are assumed to be caused by the transfer of L1 at the initial stage; however, the mechanisms allowing these structural problems to be overcome depend on "the logic of learnability of each successive grammatical state" (Sprouse 2011). Hence, this model makes no general claim about the end-state of L2 grammar, only that ultimate attainment similar to that of L1 acquisition is not guaranteed.

On the other hand, the Interface Hypothesis (Sorace & Filiaci 2006, Sorace 2011) aims to account for interlanguage grammar that demonstrates vulnerability/optionality at

advanced or near-native levels of proficiency. For example, it has been shown that while L1 English L2 learners of Italian (null-subject language) can successfully reset the null subject parameter and thus produce sentences with null and postverbal subjects, they still struggle with discourse-related conditions which govern the distribution of subjects in L2 Italian; such difficulties persist even at advanced levels of proficiency (Belleti & Leonini 2004, Belletti et al. 2006). Based on such findings, the main claim is that phenomena which involve external interfaces are vulnerable even in the case of the most proficient L2 learners, while those properties pertaining to narrow syntax alone are fully acquirable. An interesting question, starting from this approach, is whether an L1 interface property can be reflected in (selective) crosslinguistic interference effects in L2.

3. Postverbal subjects in Romanian and English

Traditionally, the availability of postverbal subjects has been correlated with rich agreement morphology (Barbosa 1995, 2009, Alexiadou & Anagnostopoulou 1998), i.e. rich agreement morphology has the status of a pronoun, which can satisfy the EPP only by verb-movement to the inflectional domain. As a result, the postverbal subject remains in its low position in the absence of an attracting feature (Sheehan 2009). Null-subject languages like Romanian have rich verbal agreement morphology, hence they allow postverbal placement of the subject, as can be seen in (1). English, on the other hand, is a non-pro-drop language, which has impoverished verb morphology, and disallows postverbal placement of the subject[1], as illustrated in (2). However, the notion of rich and poor morphology is too vague. An alternative account for the different behaviour displayed by English and Romanian is in terms of the different realization of the EPP feature, a selectional feature (Chomsky 1998), present in Inflection. Alboiu (2002) assumes a minimalist approach according to which this feature is subject to parametrization across languages, i.e. in some languages, it is realized as a [D], in others as a [T] or as a [V], which gives rise to three types of languages: [D]-type, [T]-type and [V]-type respectively. Based on this classification, Romanian is argued to be a V-type EPP language, which means that Inflection has a strong [+V] feature (the EPP feature) checked by the lexical verb, which always undergoes raising to I^0, i.e. it is checked via verb movement. On the other hand, English is a D-type EPP language; the EPP feature is checked by selecting an agreeing XP and merging it in Spec IP (Alboiu 2002: 74).

(1) A venit Ion.
has come Ion
'Ion came.'

(2) a. *Is a book on the table.
b. *Came Mary yesterday.

[1] There are certain contexts where (non-canonical) subjects can be placed in postverbal position in English such as:

(i) Locative inversion: In the corner lay a lamp.
(ii) *There*-sentences: There are many trees in the yard.
(iii) Quotative inversion: 'You should go home', said John. (from Prentza 2014)

Within this analysis, in Romanian Nominative case is checked via Agree with all predicate types, unaccusatives included; no remerge is required, structural case is assigned in first Merge position, irrespective of whether the subject is definite or not. The subject moves to the left periphery for non-Case related reasons, for example when it can be interpreted as specific.

4. Previous studies on postverbal subjects in L2 English

The acquisition of postverbal subjects has been a topic of much debate in the L2 learning literature. On the one hand, there are studies that claim that the syntactic divergence between L1 and L2 is a cause of insurmountable problems, therefore the elimination of ungrammatical postverbal subjects is prone to serious delays. Data supporting this claim come from different studies. For example, Lozano & Mendikoetxea (2010) analysed Verb-Subject order in two corpora of L1 Spanish upper-intermediate learners of L2 English and in a comparable native English corpus. Their results showed that Spanish upper-intermediate learners of L2 English produced significantly more ungrammatical postverbal structures than the control group who were accurate at all times. Prentza & Tsimpli (2013) and Prentza (2014) investigated the acquisition of some properties associated with the null subject parameter (null subjects and postverbal subjects) in an L1 Greek–L2 English setting. The results for the condition with postverbal subjects showed that L1 Greek learners of different proficiency levels accepted ungrammatical postverbal subjects up to an advanced level.

On the other hand, subject placement in L2 English is constrained by syntax; hence, following the Interface Hypothesis, postverbal placement of the subject should not constitute a vulnerable domain in L2 learning. This prediction is borne out by results reported in different studies. White (1986) showed that L1 upper-intermediate Spanish learners had a high rate of accuracy (91%) in rejecting ungrammatical postverbal subjects in L2 English. Similar behaviour was reported by Garcia Mayo (1998); L1 Spanish and L1 Basque upper-intermediate learners were successful in identifying ungrammatical VS structures in L2 English in 95% of the cases. Tsimpli & Roussou (1991) found that intermediate and post-intermediate Greek learners of English were accurate in rejecting postverbal subject structures in L2 English.

Previous studies on postverbal subjects in L2 English have shown that postverbal placement of the subject is also sensitive to predicate type, i.e. L2 learners of English treat unaccusatives and unergatives differently with respect to VS structures. More precisely, it was observed that speakers of null subject languages learning a non-null subject language, first produce more ungrammatical postverbal subjects with unaccusative than with unergative verbs. Lozano & Mendikoetxea (2010) observed that upper-intermediate Spanish learners produced postverbal subjects only with unaccusative verbs and two-thirds (65.5%) of the VS structures produced by their learners were ungrammatical, i.e. structurally impossible in native English. Agathopoulou (2014) showed that advanced L1 Greek learners produced VS structures only with unaccusative verbs. Similar results were reported in the case of L1 Arabic learners of L2 English of different proficiency levels (Rutherford 1989), while Zobl (1989) also showed that L1

Japanese (discourse a discourse subject-drop language) upper-intermediate and advanced L2 learners of English placed the subject in postverbal position only with unaccusative verbs.

5. Present study

5.1 Main questions and predictions

Due to the existing disagreement regarding the acquisition of subject placement and the end-state of L2 grammar, as well as the fact that very few studies analysed data coming from very proficient L2 learners, an experimental study was designed to investigate if ungrammatical post-verbal subjects can be eliminated from the grammar of L2 learners of English in an L1 Romanian setting.

The questions which I address in the present study are:

(i) Is postverbal placement of the subject a vulnerable domain in an L1 Romanian – L2 English setting at early stages? Is ultimate attainment possible?
(ii) Does verb type influence the evaluation of ungrammatical free inversion in English?

Given the fact that Romanian allows postverbal subjects, while English disallows them, following the Full Transfer/Full Access model, which claims that L1 grammar is the initial state of L2 grammar, we expect learners of lower proficiency levels to be less accurate in evaluating VS structures than the more proficient groups.

Based on the results reported in previous studies regarding verb type, namely that unergatives and unaccusatives are treated differently by L2 English learners in VS structures (the "psychological reality" of the Unaccusative Hypothesis, Lozano 2003, Lozano & Mendikoetxea 2010, Balcom 1997, a.o.), we expect L1 Romanian learners to be less accurate in evaluating ungrammatical free inversion with unaccusative verbs than with unergatives or transitives, at least at early stages of acquisition.

Finally, since the ungrammaticality of postverbal subjects in English is a purely syntactic phenomenon, pertaining to narrow syntax, following the Interface Hypothesis, we predict that L1 Romanians will have no problems in resetting the right value of the parameter in L2 English and that the end-state of L2 grammars will be native-like with respect to this property.

5.2 Participants

The participants were 49 native speakers of Romanian studying L2 English, coming from different environments: high school, Faculty of Medicine, Polytechnic University of Bucharest, Academy of Economic Studies. Their proficiency level was assessed through an Oxford Placement Test (2001) and they were divided into four proficiency levels depending on their scores: an intermediate group (INT) (n = 19), an advanced group (ADV) (n = 20), and a proficient group (PROF) (n = 10) All of them, except for 4 participants in the proficient group, were linguistically naïve, i.e. they were

exposed to English in a classroom setting during elementary, primary and high school, while 4 of them continued to study English at the Faculty of Foreign Languages, University of Bucharest.

Table 1. Participants' linguistic background

Group	Number	Mean age
INT	19	17.3
ADV	20	21.4
PROF	10	24.1

5.3 Method

The material used was a grammaticality judgment task. It included 18 test sentences and 18 distractors, balanced across three conditions depending on verb type: transitive, unergative, and unaccusative. The test sentences were balanced for grammaticality, as illustrated in the examples below:

(3) a. Yesterday morning, Mary brought me the best coffee. Condition I
b. *In the morning, reads my grandpa the newspaper.
(4) a. The bride danced with her father all night. Condition II
b. *Ran many students in the park last evening.
(5) a. Yesterday, Carry fell and broke her arm. Condition III
b. *Began my problems the night I met Roger.

All of the items were randomised, and each participant received an online questionnaire with the test sentences and the distractors. They were also instructed to evaluate each sentence by choosing one of the options: correct or incorrect and to provide the grammatical counterpart of the sentences evaluated as ungrammatical, in order to control if the ungrammaticality was related to postverbal subjects.

Regarding the coding method, I gave 1 point for each grammatical sentence correctly identified as grammatical and for all ungrammatical sentences correctly identified as ungrammatical. I also gave 1 point when a grammatical sentence was evaluated as ungrammatical if the alternative provided by the participants did not target subject placement. For example, the sentence in (6) is grammatical; however, some participants evaluated it as ungrammatical and gave (7) as the right alternative:

(6) In the evening, many people walk by the lake.
(7) *In evening, many people walk by the lake.

For the statistical analysis, since the data were not equally distributed, I used the non-parametric counterpart of the single factor analysis of variance, i.e. Kruskal-Wallis-Test to check whether there was a difference between our three independent groups. Because Kruskal-Wallis-Test cannot tell which specific groups of the independent variable are

statistically significantly different from each other, I also ran a post-hoc Dunn's test to find out which specific group(s) differed statistically from the other(s). For within-group comparisons, I used several ANOVAs for repeated measures.

5.4 Results

5.4.1 Condition I: Transitive verbs

The results for the first condition, with transitive verbs, show that the participants had a high rate of accuracy overall. The advanced and the proficient groups correctly identified both grammatical and ungrammatical sentences in 100% of the cases, followed by the intermediate with a 99% rate of accuracy.

The Kruskal-Wallis test indicated that there is a non-significant difference in the dependent variable between the different groups, $\chi^2(2) = 1.58$, $p = .45$, with a mean rank score of 24.21 for the intermediate learners (INT), 25.5 for the advanced group (ADV), 25.5 for the proficient group (PROF) (post-hoc Dunn's test: INT: ADV $p = .25$; INT: PROF $p = .34$, ADV: PROF $p = 1$).

The overall results are summarized in Figure 1.

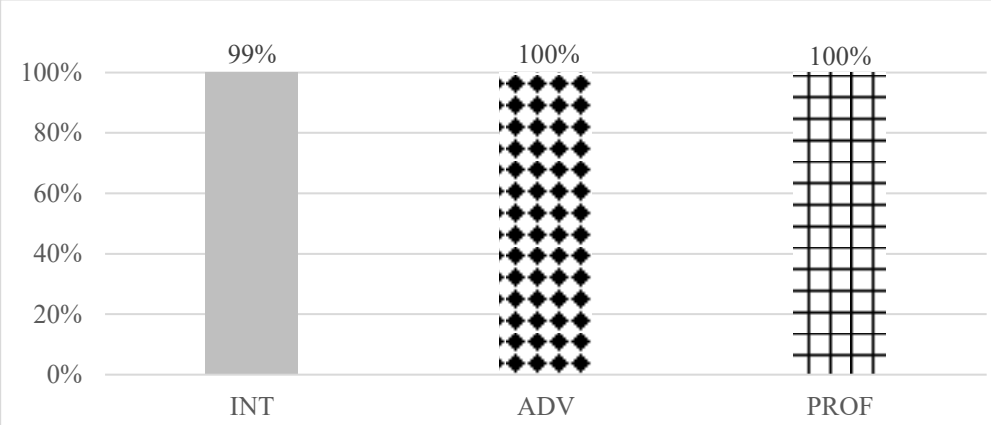
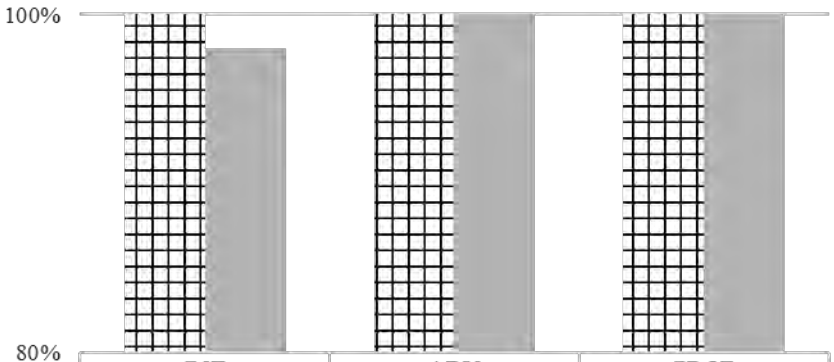


Figure 1. Condition I. Overall results

Another Kruskal-Wallis-Test was conducted, but this time only with the data coming from the ungrammatical sentences which were correctly evaluated. The results were the same, i.e. even if the intermediate group had a 99% rate of accuracy while the advanced and the proficient groups had a 100% rate of accuracy, this difference was not statistically significant (post-hoc Dunn's test: INT: ADV $p = .25$, INT: PROF $p = .3$, ADV: PROF $p = 1$).

Regarding the judgment of grammatical vs ungrammatical sentences, we used a one-way ANOVA test for repeated measures which showed that even though the intermediate learners were more accurate in evaluating grammatical sentences than ungrammatical ones, this difference was not statistically significant ($p = .33$).



	INT	ADV	PROF
successfully identified as grammatical	100%	100%	100%
successfully identified as ungrammatical	98%	100%	100%

Figure 2. Condition I. Successfully identified as grammatical and ungrammatical

5.4.2 Condition 2: Unergative verbs

The results for the second condition, with unergative verbs, are similar to the previous one. Both the advanced and the proficient groups had a 100% rate of accuracy, followed by the intermediate learners who were accurate in 99% of the cases. Like in the previous case, the Kruskal-Wallis H test indicates that there is a no significant difference in the dependent variable between the different groups, $\chi 2(2) = 1.58$, $p = .45$, with a mean rank score of 24.21 for INT, 25.5 for ADV, 25.5 for PROF (post-hoc Dunn's test: INT: ADV $p = .25$, INT: PROF $p = .34$, ADV: PROF $p = 1$). The overall results are summarized in Figure 3.

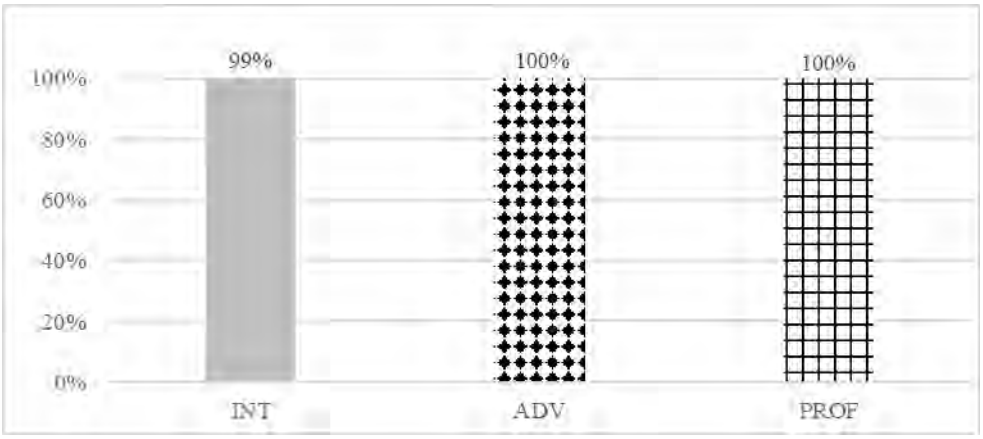
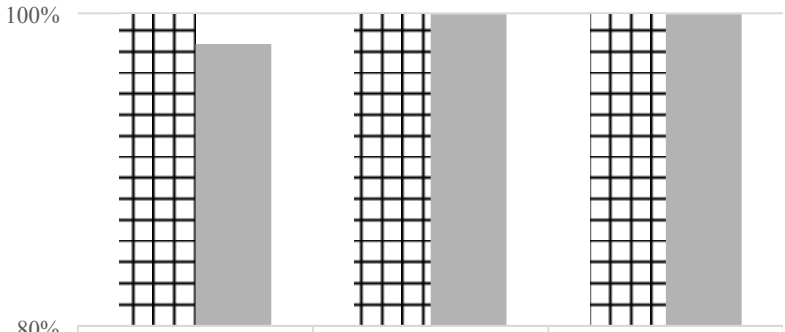


Figure 3. Condition II. Overall results

Regarding the evaluation of ungrammatical sentences, the intermediate group was again accurate in 98% of the cases, while the advanced and the proficient groups correctly evaluated ungrammatical sentences in 100% of the cases, while no significant difference was found between the three groups (post-hoc Dunn's test: INT: ADV p = .25, INT: PROF p = .34, ADV: PROF p = 1). As in the previous case, within-group comparisons showed that the intermediate group was more accurate in evaluating grammatical sentences than ungrammatical ones, but this difference did not reach significance (p = .33).



	INT	ADV	PROF
successfully identified as grammatical	100%	100%	100%
successfully identified as ungrammatical	98%	100%	100%

Figure 4. Condition II. Successfully identified grammatical vs. ungrammatical

5.4.3 Condition 3: Unaccusative verbs

The results for the third condition, with unaccusative verbs, show that overall the participants performed well. The advanced and the proficient groups had again a 100% rate of accuracy, while the intermediate group had a slightly lower accuracy rate, of 93%. However, in this case, the Kruskal-Wallis test indicates that there is a significant difference in the dependent variable between the different groups, $\chi 2(2) = 6.72$, p = .03, with a mean rank score of 21.84 for INT, 27 for ADV, 27 for PROF (p = .03). The post-hoc Dunn's test using an alpha of .05 indicated that the mean rank of the following pairs is significantly different: INT: ADV p = .01; INT: PROF p = .02. The overall results are summarized in Figure 5.

If we analyse the results obtained for the ungrammatical sentences correctly evaluated as ungrammatical, we see again that the percentage of the intermediate group changes. The intermediate group was accurate in 87% of the cases, while the advanced and the proficient groups had a 100% rate of accuracy. The Kruskal-Wallis test indicates that there is a significant difference in the dependent variable between the different groups, $\chi^2(2) = 6.72$, p = .035, with a mean rank score of 21.84 for INT, 27 for ADV, 27 for PROF (p = .03). The post-hoc Dunn's test shows that the mean rank of the following pairs is significantly different: INT: ADV p = .01; INT: PROF p = .02.

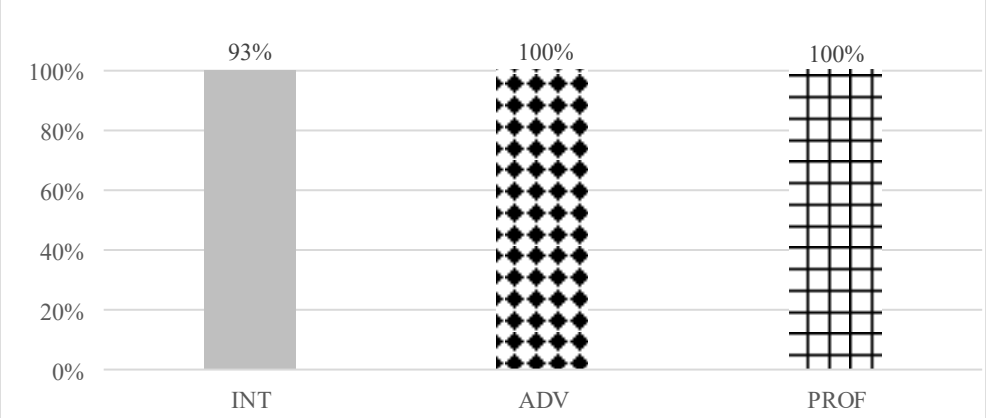


Figure 5. Condition III. Overall results

Within-group analysis showed that even though the intermediate group was more accurate in evaluating grammatical sentences than ungrammatical ones (100% vs 87%), this difference was not statistically significant (p = .06).

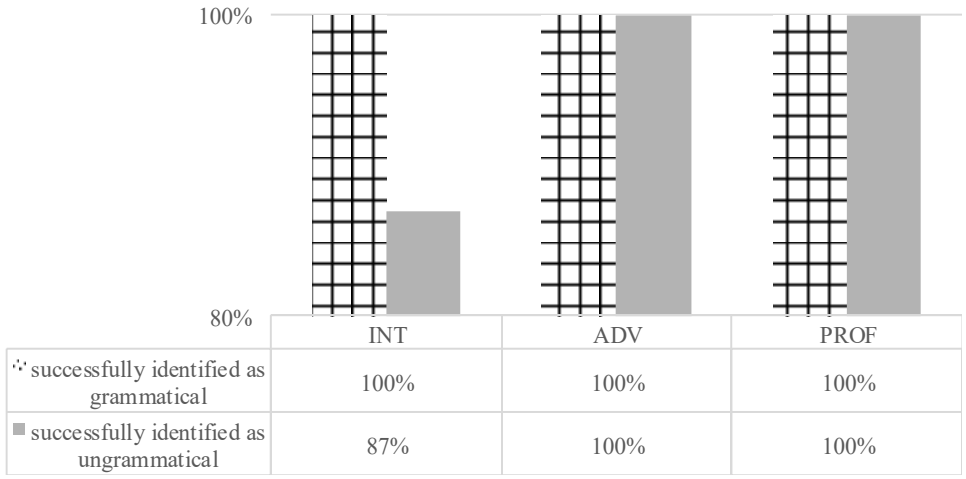


Figure 6. Condition III. Successfully identified as grammatical and ungrammatical

5.4.4 Comparing the results

Overall, the Romanian L2 learners of English performed well, especially the advanced and the proficient groups who had a 100% rate of accuracy across conditions. The intermediate group correctly evaluated both grammatical and ungrammatical sentences in 97% of the cases overall. The Kruskal-Wallis H test indicated that there is a significant difference in the dependent variable between the different groups, $\chi^2(2) = 9.81$, with a mean rank score of 69.26 for INT, 77 for ADV, 77 for PROF. The post-hoc Dunn's test using an alpha of .05 indicated that the mean ranks of the following pairs are significantly different: INT: ADV (p = .004); INT: PROF (p = .01).

Within-group comparisons indicate that the intermediate learners accepted significantly more postverbal subjects with unaccusative verbs (93%) than with transitives or unergatives (99%) (p = .04).

5.4.5 Discussion

The results of the present study indicate that L1 properties related to postverbal subjects are not active in the L2 grammar of L1 Romanian advanced and proficient learners of English, since they had a 100% rate of accuracy across all conditions. Postverbal subjects are successfully eliminated from the grammar of L2 English at an advanced proficiency level. These findings support the Interface Hypothesis which predicts that properties pertaining to narrow syntax are acquirable. Since the distribution of subjects in L2 English is regulated by narrow syntax properties, it follows that it does not constitute a vulnerable domain. Our results are different from the ones reported for L1 Greek-L2 English learners, who accepted ungrammatical postverbal subjects up to an advanced level (Prentza & Tsimpli 2013, Prentza 2014). But they are in line with White (1986) and Garcia Mayo (1998), who showed that postverbal subjects are eliminated from the grammar of L1 Spanish and Basque L2 learners of English even at an upper-intermediate proficiency level.

However, ungrammatical postverbal subjects continue to be accepted, at low rates, by the intermediate learners in the present study. They transfer their L1 preference for postverbal subjects to L2 English in the case of unaccusative verbs. This can be accounted for in terms of transfer from L1 Romanian following the Full Transfer/Full Access Model which claims that target-deviant structures are caused by L1 transfer. Given that L1 Romanian allows VS structures, it follows that this property is still active in the L2 grammar at an intermediate stage of development. The question that arises is why the intermediate L2 learners did not accept VS structures with unergatives and transitives, since subject-verb inversion is also found in Romanian with such verbs. One possible explanation is that "revision" (Sprouse 2011) took place at an earlier stage. English allows postverbal subjects in certain structures with a subclass of unaccusative verbs, but more rarely with unergatives or transitives; hence, based on the input received they were forced to get rid of the VS option (available in L1) with unergative and transitive verbs first. Another explanation could be that L2 learners in general are aware of the unergative/unaccusative distinction. Several previous studies (Lozano & Mendikoetxea 2010, Agathopoulou 2014, Zobl 1989, Rutherford 1989) showed that L2 learners accepted postverbal subjects in L2 English only with unaccusative verbs.

6. Conclusions

The results obtained in this study support all our predictions. Firstly, the intermediate group was less accurate in evaluating ungrammatical postverbal subjects than the more proficient groups, since at the early stages of development L1 grammar is transferred to L2. In the case of the advanced and the proficient groups, their L2

grammar has already undergone revision due to the fact that the input of the target language could not be generated by the grammar of L1 Romanian.

Secondly, L1 Romanian learners were expected, based on the results reported in other studies, to be less accurate in evaluating postverbal subjects with unaccusative verbs than with unergatives or transitives, which again was borne out by our data in the case of intermediate learners.

All in all, the present study showed that subject-verb inversion, which is part of the cluster of properties associated with the null subject parameter, can be fully acquired at an advanced and proficient level.

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ANAPHORA RESOLUTION IN L2 HUNGARIAN

Veronica Tomescu and Réka Pupp*

Abstract: The paper tests the antecedent preferences for the null pronoun, the personal pronoun and the demonstrative subject in L2 and 2L1 Hungarian (with Romanian as the other language), by means of an offline picture selection task. In the null subject condition, both groups show subject bias, confirming previous hypotheses and research. An evident object bias is observable with the demonstrative, again confirming the low accessibility status of demonstratives. The results differ in the case of the overt personal pronoun subject. While it can have both topic shift and topic continuity interpretation in both languages, previous research suggests that in Romanian the former is favoured over the latter, whereas the reverse is true for Hungarian. Whereas the L2 group shows no bias in the personal pronoun condition, thus possibly showing transfer from L1, the 2L1 group shows a strong subject bias, placing the personal pronoun on equal footing with the null pronoun.

Keywords: anaphora resolution, null pronominal subject, personal pronoun, demonstrative, L2 and 2L1 Hungarian

1. Introduction

The paper discusses antecedent preferences for null and overt pronominal subjects (personal pronouns and demonstratives) in L2 and 2L1 Hungarian (with L1 Romanian) on the basis of an offline picture selection task, in sentences of the type illustrated in (1), with a time clause following a main clause including a subject and a direct object of equal pragmatic plausibility as antecedents. It has been tested whether second language learners of Hungarian have antecedent preferences that match the expectations for Hungarian as described in previous studies (Pléh & Radics 1976, Pléh 1982, Kocsány 1995, 2016, Tolcsvai 2000, see Section 3).

(1) Anna látta Máriát mikor pro/ő/az iskolába ment.
Anna saw Maria-ACC when pro/PRON/DEM school-to went
'Anna saw Maria when she was going to school.'

In Hungarian, null subjects are preferentially interpreted as coindexed with the subject of the previous clause, as is the case in null subject languages in general. Less clear-cut is the case of the overt personal pronoun, which has been found to have variable behaviour. Thus, in the Hungarian example in (1), the null pronoun will usually be interpreted as referring back to the subject of the previous clause (*Anna*), unless other contextual clues contradict this, but the overt personal pronoun *ő* can refer to either the subject *Anna* or the direct object *Maria*. Furthermore, the interpretation of overt pronouns is subject to pragmatic rules and therefore might be vulnerable in L2 acquisition as a phenomenon at the syntax/discourse interface (Sorace & Filiaci 2006, Sorace 2011,

* University of Bucharest, veronica.tomescu@lls.unibuc.ro, reka.pupp@lls.unibuc.ro.

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White 2011). As for demonstratives, they are preferred as anaphors of the closest antecedent, in this case the direct object (*Maria*).

The paper is organized as follows. Section 2 presents some brief remarks on of antecedent preferences in null subject languages, section 3 gives an overview of antecedent preferences in Hungarian and Romanian for the three pronouns in question, section 4 contains the study proper, and the final section contains the conclusions of the study.

2. Antecedent preferences in null subject languages

Carminati's (2002) Position Antecedent Hypothesis posits that in the case of two potential antecedents, both of which are equally plausible pragmatically, it is the syntactically most prominent antecedent which will preferentially be associated with the null pronoun subject, whereas overt pronouns, which are more informative, are preferred as anaphora for the syntactically less prominent constituent. This is illustrated in the Italian example (2) below, from Carminati (2002: 196). The null pronoun in the temporal subordinate will most likely be interpreted as coindexed with the syntactic subject of the main clause (*Maria*), which occupies a higher position in the syntactic hierarchy of the sentence, whereas the personal pronoun subject (*lei*) will be associated with the direct object (*Piera*).

(2) Maria$_i$ scriveva spesso a Piera$_j$ quando pro$_i$/lei$_j$ era negli Stati Uniti.
'Maria often wrote to Piera when she was in the United States.'

This theory has been tested with varying results in other null subject languages. The behaviour of the null pronoun seems to be consistent cross-linguistically, but microvariations in the pro-drop parameter may lead to differences in the interpretation of the overt pronoun. For Italian, Carminati (2002) found an unmistakable object bias for the overt pronoun. But her hypothesis does not seem to hold for example for Spanish (Filiaci et al. 2014, Bruscato & Baptista 2021, Alonso-Ovalle et al. 2002).

As regards bilingual speakers, the use and interpretation of overt pronominal subjects has been found to be a vulnerable issue, since it is dependent on discourse rules and it is not a structure that results strictly from syntactic operations. Violations of the Position Antecedent Hypothesis do not lead to ungrammaticality, merely to infelicitousness or misunderstanding (Sorace & Filiaci 2002). According to the Interface Hypothesis, structures at the interface between syntax and other cognitive domains present protracted indeterminacy in bilingual and L2 acquisition, especially elements at the syntax/pragmatics interface (Sorace & Filiaci 2006, Sorace 2011, White 2011). Thus, bilinguals or L2 speakers seem to not always conform to the same antecedent preferences as monolinguals or L1 speakers.

The influence of L1 has been found to carry some weight, whether it is a non-null subject language like English and German (Sorace & Filiaci 2006, Lobo et al. 2017) or a null subject language like Chinese (Zheng et al. 2018).

Native speakers of non-null subject languages often struggle with learning the discourse rules governing the use of overt pronominal subjects in null subject languages.

Sorace & Filiaci (2006) found that near-native L2 Italian speakers with L1 English were more likely to choose the subject in the previous clause as antecedent for the overt pronoun subject. Lobo et al. (2017) also argued that L1 might also be an important factor, based on the results of a study of Italian and German learners of European Portuguese. The bias for preferring the subject as antecedent for overt pronouns was more pronounced for native speakers of German, a non-null subject language.

Zheng et al. (2018) found the influence of L1 Chinese to be visible in a study on L2 European Portuguese. Both Chinese and European Portuguese are null subject languages but they differ in certain respects. Unlike Portuguese, in Chinese overt pronominal subjects are actually preferred as anaphors for the subject rather than the object of the previous clause. The authors found that Chinese learners of European Portuguese extended this preference to their target language as well.

Even when both languages are null subject languages with similar anaphora resolution preferences, L2 learners may still struggle with the interpretation of overt pronouns in their target language. Margaza & Bel (2006) found that Greek learners of Spanish had problems interpreting the overt pronoun subject. Similar results have been reported in Lozano (2018) for the same pair of languages. In fact, L2 learners generally tend to interpret the overt pronoun as referring to the subject rather than the object of the matrix (Belletti et al. 2007, Sorace & Filiaci, 2006, Cunnings et al. 2017, Margaza & Bel 2006, Lozano 2018). Both bilinguals and second language learners have also been reported to overuse overt pronominal subjects (Margaza & Bel 2006, Rodríguez-Ordóñez & Sainzmaza-Lecanda 2017, etc.). There is a noticeable preference to avoid ambiguity and assign default subject interpretation to any anaphor, whether overt or null. Redundancy seems to be preferred over ambiguity (Sorace & Filiaci 2006, Keating et al. 2011).

Vulnerability in second language learning is also linked to processing costs. Judy (2015, in Lozano 2018), in a study with L1 Farsi – L2 Spanish, reports that respondents performed better in an offline than in an online task, because the latter being executed in real time necessitated a higher processing effort. Kras (2008 in Lozano 2018) also found that Croatian learners of Italian had native-like performance in an offline task.

But other task effects have also been observed. Chamorro (2018) found object bias with overt pronoun subjects in Spanish in an offline reading task and no bias with null pronouns. The explanation proposed was that respondents simply settled on the closest antecedent irrespective of the nature of the anaphor.

3. Hungarian and Romanian antecedent preferences

3.1 Hungarian

Hungarian is a null subject language which allows the subject to occur either pre- or post-verbally (3 a, b) (É. Kiss 2004). The subject can be distinguished from the direct object in (3) by the presence of the accusative suffix *-t* on the latter. The leftmost and structurally highest position in the sentence is occupied by the topic, which – if present – may be any constituent including the syntactic subject: in (3a) and (c) the topic is *a lány*

'the girl', whereas in (b) it is the direct object *a fiút* 'the boy'. Focused constituents must necessarily move to the Specifier position of the Focus Phrase whose head hosts the verb, therefore c-commanding every other constituent except for the topic (c). In a SVO sentence the subject is structurally more prominent than the object, which remains in situ in the VP.

(3) a. A lány meglátta a fiút.
the girl saw the boy-ACC
'The girl saw the boy.'
b. A fiút meglátta a lány.
the boy-ACC saw the girl
'The girl saw the boy'.
c. A lány A FIÚT látta meg
the girl the boy-ACC saw
'It was the boy that the girl saw.'

As regards antecedent preferences, the null subject will preferentially be coindexed with the syntactically most prominent antecedent, unless contextual factors point to another referent (Pléh & Radics 1976, Tolcsvai 2000, Pléh 1982, Kocsány 2016).

The demonstrative seems to be the preferred choice to indicate topic shift in Hungarian (Tolcsvai 2000, Kocsány 2016). Demonstratives have a preference for the closest antecedent, which becomes evident by a reversal in word order, as shown below (Pléh 1982, Tolcsvai 2000). In (4a) the preferred antecedent is the object. If the first clause exhibits OVS order (4b), the antecedent of the demonstrative can be either of the two nouns (note that the object is overtly marked for the accusative). But word order changes seem to have little effect on the interpretation of the null pronoun, which consistently prefers the syntactic subject as antecedent (4c, d).

(4) a. A lány meglátta a fiút. Az odament hozzá.
the girl saw the boy-ACC DEM went to her/him
'The girl saw the boy. He went to her.'
b. A fiút meglátta a lány. Az odament hozzá.
the boy-ACC saw the girl DEM went to her/him
'The girl saw the boy. He/She went to him.'
c. A lány meglátta a fiút. Odament hozzá.
the girl saw the boy-ACC went to her/him
'The girl saw the boy. She went to him.'
d. A fiút meglátta a lány. Odament hozzá.
the boy-ACC saw the girl went to her/him
'The girl saw the boy. She went to him.'

The case of the personal pronoun is rather more complicated. It is usually +animate and its presence in non-animate contexts is rare, although not non-existent, see for example (5):

(5) A névmás az ige előtti pozíciót foglalja el, de **nem ő** hordozza az új információt.
'The pronoun occupies the preverbal position, but it is **not it** that carries the new information.'
(Kocsány 2016: 139)

Hungarian as a pro-drop language forbids the use of overt personal pronouns unless their presence is expressly required in the discourse in order to contrast two or more individuals or uniquely identify an individual, such as when it is contrastive topic (7) or focus (6) (Kocsány 2016). In (7) there is an opposition implied between Márton and another person who it is surmised could not have crossed the street. Sentences such as (8) represent a subcase of information focus – or "hocus", as dubbed by Kálmán (2001 in Kocsány 2016); the overt personal pronoun is required to avoid infelicitousness, since in Hungarian the present tense third person copula is null.

(6) Kiderült, hogy a pisztolyt ***ő*** vásárolta a feketepiacon.
'It turned out that **it was he** who bought the gun on the black market'
(Kocsány 2016: 135)

(7) Márton ott ácsorgott a bódé mellett. ***Ő*** átmehetett az úton, és odaadhatta neki a pisztolyt.
'Márton lounged near the booth. He could have crossed the street and handed him the gun.'
(Kocsány 2016: 135)

(8) Egy férfi fehér pólóban vizes palackokat oszt szét. **Ő** a segélyszervezet vezetője.
'A man in a white shirt is handing out bottled water. **He** is the head of the aid organization.'

Additionally, the personal pronoun may have topic continuity interpretation (exclusively with +animate value). In (9), where there is no other intervening +human antecedent, the personal pronoun is optional.

(9) Karácsony előtt rendbe tette szépen a házat, befűtött, ágyneműt cserélt, majd amikor elmúlt az ünnep, és **ő** hiába nézelődött fel és alá …
'Before Christmas he tidied his house, made the fire, changed the sheets, and when the holiday was over and he had watched in vain…'
(Kocsány 2016: 141)

But in (10) the pronoun has topic shift value: its presence is necessary to signal that it is not Ákos who left for Budapest. Note that Hungarian has no grammatical gender, therefore this information is not available to help disambiguate.

(10) Vilma$_i$ a karácsonyt szerette a nővérénél tölteni. Az ünnep előtt egy nappal megjött Ákos a gyerekekkel, és **ő$_i$** felutazott Pestre.
'Vilma$_i$ liked to spend Christmas with her sister. One day before the holiday Ákos came with the children and she$_i$ left for Budapest.'
(Kocsány 2016: 141)

Importantly, Kocsány (1995, 2016) notices that the stress of the anaphor might contribute to bias: the overt personal pronoun will signal topic shift if unstressed and topic continuity if stressed. In (11) the personal pronoun *ő* will refer to the subject (the girl) if stressed, with contrastive topic value, or to the object (the boy) if unstressed. Crucially, the two potential antecedents are pragmatically equally plausible, and Hungarian has no grammatical gender, therefore the pronominal subject may freely be interpreted as coindexed with either noun in the previous clause.

(11) A lány meglátta a fiút. Ő odament hozzá.
'The girl saw the boy. He/She went to her/him.'

Tolcsvai (2000) on the other hand, following a semantic analysis based on the thematic roles of the potential antecedents (Pléh & Radics 1976, Pléh 1982), also concludes that the opposition topic continuity – topic shift is realized by means of null subject vs. demonstrative. However, Tolcsvai (2000) concludes that the topic continuity interpretation of the personal pronoun is somewhat more frequent than its topic shift value, although this preference is much less marked than in the case of the null pronoun.

3.2 Romanian

Romanian is a null subject language in which the verb moves to Inflection (Dobrovie-Sorin 1994, Alboiu 2002). The preverbal subject moves to Spec IP (Alboiu 2002, Dobrovie-Sorin 1994) and is thus structurally more prominent than the object.

Null subjects will prototypically be coindexed with the subject of the preceding clause (Zafiu 2005). Previous experimental studies have confirmed Carminati's (2002) hypothesis in the case of the null pronoun (Pagurschi 2010, Teodorescu 2017), but mixed results have been reported in the case of the overt personal pronoun. While Pagurschi (2010) found a preference for the object antecedent in a replica of Carminati's (2002) study, in Teodorescu's (2017) study the respondents did not show any bias in the case of the overt pronoun: it was found to be equally acceptable with topic shift or topic continuity value. Zafiu (2005) suggests that the likelihood of coindexing the personal pronoun with the subject of the preceding clause, while not ruled out, is diminished in comparison with the null subject. In (12) the personal pronoun *el* can refer indeed to Dan, but also, equally plausibly, to someone else.

(12) Dan_i a plecat. $\text{El}_{i/j}$ avea dreptate.
'Dan_i left. $\text{He}_{i/j}$ was right.'

(Zafiu 2005: 667)

Romanian being a pro-drop language, the use of the overt pronoun is greatly dependent on discourse factors (Zafiu 2005). The personal pronoun can used to emphasise a referent or contrast it with another, see for example the focused pronoun in (13a). Further, since Romanian has grammatical gender, it can be used to disambiguate between two potential antecedents (13b).

(13) a. Numai el a venit.
only he has come
'He is the only one who came.'
b. Fata l- a văzut pe băiat. El a izbucnit în râs.
girl-the him has seen PE boy he has burst in laugh
'The girl saw the boy. He laughed.'

The personal pronoun can also be used disambiguate between a human and a non-human antecedent: (14a), with a personal pronoun subject (*el*) indicates a +human referent (the writer) whose identity is relevant in the context; in (b) the identity of the writer is backgrounded – the absence of a pronominal subject yields an impersonal reading, best translated in English with the passive.

(14) a. Probabil că trebuia să relatez cât mai exact ce scria **el** acolo.
'I probably had to report what **he** had written as closely as possible.'
(Zafiu 2005: 667)
b. Probabil că trebuia să relatez cât mai exact ce scria acolo.
'I probably had to report what was written there as closely as possible.'

But the Romanian personal pronoun is also permitted in optional contexts with topic continuity value, with both animate and non-animate referents (Zafiu 2005).

(15) Călătoria$_i$ în spațiu nu e o simplă translație, **ea$_i$** forțează în om schimbări.
'The journey$_i$ in space is not a simple change of place, **it$_i$** forces changes in a person.'
(Zafiu 2005: 667)

As for the demonstrative, it appears to have very low accessibility in Romanian and is necessarily coindexed with the closest antecedent (Zafiu 2005), as has been confirmed by experimental studies (Teodorescu 2017).

(16) Mama a văzut-o pe fetiță. Aceasta a izbucnit în râs.
mother has seen her PE girl DEM has burst in laugh
'The mother saw the girl. She (the girl) laughed.'

Note however that unlike in Hungarian the demonstrative is not the default anaphor for topic shift, it is in competition with the personal pronoun.

4. The study

4.1 Aim and predictions

The aim of our study is to test antecedent preferences with L2 speakers of Hungarian, in the case of null pronouns, overt personal pronouns and demonstratives with the syntactic function of subject.

As shown in section 3, both Hungarian and Romanian are null subject languages. In both languages, the null pronoun will have a marked subject bias, in contexts where it is not pragmatically ruled out. No vulnerabilities regarding the interpretation of the null pronoun have been found with bilingual speakers and previous studies on null subject languages have consistently found a subject bias for the null pronoun.

Demonstratives have an evident bias for the closest antecedent, which in the case of an SVO matrix is the object. This is the reason why our experiment only contains SVO matrix clauses – to avoid interference in the case of word order change with demonstratives, and also for reasons of uniformity in the case of the other two conditions.

Therefore we expect the respondents in our study to show subject bias in case of the null pronoun and object bias in the case of the demonstrative subject.

The case of the overt personal pronoun is more problematic. In Hungarian it can indeed have either topic shift or topic continuity value, although phonological stress may be a factor (Kocsány 2016), and for example Tolcsvai (2000) argues that it is more likely to have topic continuity value. Hence we may expect at least the 2L1 group to show subject bias.

In Romanian the results regarding the interpretation of the overt personal pronoun are inconclusive: while Pagurschi (2010) has found that it principally has topic shift value, in line with Carminati's (2002) results for Italian, Teodorescu (2017) has found no bias. In Zafiu (2005) it is described as having both topic shift and topic continuity value, although the latter occurs less frequently than the former. If cross-linguistic influence occurs, the L2 respondents may therefore be disinclined to interpret the personal pronoun with topic continuity value.

Additionally, the interpretation of overt pronouns, as an interface phenomenon, has been found to be a vulnerable issue with L2 learners. For example, L2 learners, irrespective of the properties of their native language, may tend to prefer to assign a default topic continuity interpretation to the overt pronominal subject to avoid ambiguity.

4.2 Method and participants

Our study consists in an offline binary picture selection task (Tomescu 2019) with 12 test sentences and 3 control sentences, with 3 conditions: (i) null subject; (ii) overt personal pronoun subject; (iii) demonstrative subject. One example is given below in (6): an SVO matrix followed by a time clause with null or overt subject. The test was administered as a google form. The participants were simultaneously presented with a sentence and two pictures (such as the pair in Fig. 1) and were asked to choose the picture which best fit the sentence.

(17) A maci nézi a zsiráfot miközben pro/ő/ez hintázik.
the teddy-bear watches the giraffe-ACC while pro/PRON/DEM swings
'The teddy-bear watches the giraffe while pro/PRON/DEM swings.'

The participants were students of Hungarian at the University of Bucharest, intermediate proficiency level, native speakers of Romanian. The control group included native speakers of Hungarian from Brașov, who have been living in a Hungarian community, received education in Hungarian, with Hungarian spoken in the family; they are Hungarian-Romanian bilinguals, but learned Romanian as a second language in early childhood. Each group included 13 participants.

Figure 1. Sample picture.

4.3 Results

With the L2 group, in the null subject condition, a standard two-sample t-test at the alpha 0.05 level showed a subject bias (subject M = 3, SD = 0.95, object M = 1.77, SD = 1.09: $t(12) = 3.17$, p = .00, two-tailed), in the personal pronoun condition no bias was found (subject M = 2.18, SD = 0.98, object M = 2.54, SD = 0.82: $t(12) = 0.64$, p = .52, two-tailed), whereas in the demonstrative condition a marked bias in favour of the object antecedent was observable (subject M = 1.85, SD = 0.89, object M = 3, SD = 1.15: $t(12) = 4.41$, p = .00, two-tailed). The results can be observed in Figure 2.

In the case of the 2L1 control group, a subject bias was observable in the null subject condition (subject M = 2.53, SD = 1.19, object M = 2.11, SD = 0.78: $t(12) = 2.29$, p = .03, two-tailed) and in the personal pronoun condition (subject M = 2.83, SD = 1.19, object M = 2.12, SD = 1.12: $t(12) = 2.41$, p = .02, two-tailed), and a strong object bias in the demonstrative condition (subject M = 1.83, SD = 1.16, object M = 3.41, SD = 0.79: $t(12) = 4.84$, p = .00, two-tailed). The results are shown in Figure 3.

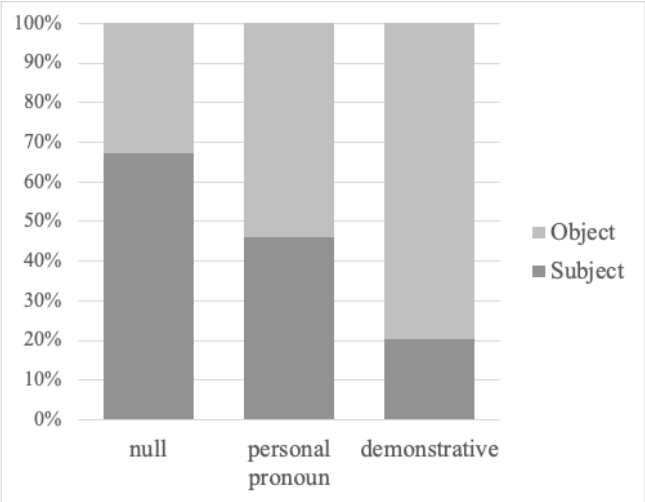

Figure 2. The L2 group. Results.

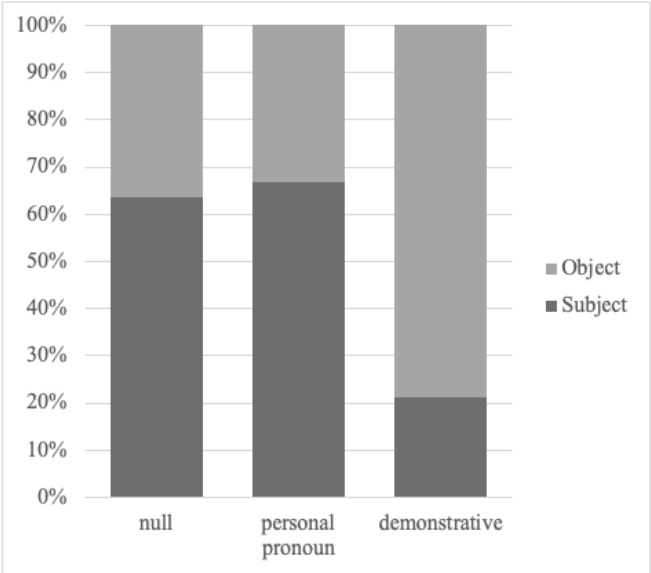

Figure 3. The 2L1 group. Results.

4.4 Discussion

The results in the null pronoun and demonstrative conditions confirmed our expectations. The second language learners exhibited an evident subject bias in the null subject condition (69%) and a marked object bias (75%) in the demonstrative condition, as is target-like for Hungarian (and Romanian). As for the control group of 2L1 Hungarian speakers, they matched the results of the L2 group in the null and demonstrative subject condition: subject bias with the former (63%) and object bias with

the latter (79%). In fact, both groups had quite similar percentages, as can be observed from the charts.

Regarding the personal pronoun condition, the L2 group showed no bias and the 2L1 group showed subject bias (67%). The bilinguals appeared to interpret the personal pronoun as similar in value to the null pronoun and in opposition to the demonstrative, rather than the null subject alternative, making the demonstrative the preferred option to refer back to the object of the previous clause. The subject bias for the overt pronoun is in line with Tolcsvai's (2000) argument.

That the L2 speakers showed no bias with the personal pronoun might therefore show that they were influenced by Romanian in this respect, where the personal pronoun is *not* the preferred anaphor for the subject of the preceding clause.

The same task was administered in Tomescu (2019) to a group of 8-9 year-old Hungarian-Romanian children. They too had the same subject bias with both null and personal pronoun anaphora: 67% and 71% respectively, compared to 63% and 67% in our study.

As already discussed in section 3, according to Kocsány (1995, 2016), the personal pronoun is preferred with a topic continuity interpretation if stressed. The subject bias in the case of the 2019 study might conceivably have been a task effect: the sentences were read aloud to the participants at the same time as they were shown the two pictures. While pains were taken not to place special phonological stress on the personal pronoun, this may not have been entirely successful and the respondents' attention could have been especially drawn to the personal pronoun. An experiment contrasting the stressed and unstressed personal pronoun subject might be of interest both to put Kocsány's (1995, 2016) theory to the test and to account for this variable in the results of the 2019 study. The experiment which is the subject of our present paper was however offline. The respondents were required to read the sentence on a screen so the possible influence of phonological stress was circumvented.

Indeed, the respondents were bilingual and not monolingual speakers of Hungarian, although both the adults in this study and the children in the 2019 study speak Hungarian from birth, (have) received education exclusively in Hungarian, and are from Hungarian-speaking families. It might be of interest to administer the task to a group of monolingual Hungarian speakers for purposes of comparison.

5. Conclusions

Our study confirmed that null subject anaphora are preferentially coindexed with the subject of the previous clause with both bilingual and second language learners of Hungarian, with Romanian as the other/the first language respectively, in contexts with SVO order in the previous clause and equal pragmatic plausibility of the two potential antecedents. Also in line with our expectations, a clear object bias was found for demonstrative pronouns.

However, with respect to personal pronoun subjects, their behaviour was not identical in the two groups. Whereas the L2 group showed no bias for the personal pronoun, the 2L1 group had a marked subject bias. In this respect, the present study

confirms previous findings with 8-9-year old 2L1 Hungarian speakers (Tomescu 2019) and also proposals in the literature regarding the default topic continuity reading of the Hungarian overt personal pronoun (Tolcsvai 2000). As for the L2 group, the results would appear to show transfer from L1.

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ON THE SOURCE OF LINGUISTIC TRANSFER IN THE LEARNING OF *-TE I-* IN L3 JAPANESE

Sorana Iliescu*

Abstract: This paper examines the source of linguistic transfer in L3 Japanese in the learning of the *-te i-* aspect marker, in a context where L1 is Romanian and L2 is English. The analysis of data from two groups of learners (25 beginners and 14 intermediate L3 learners) show that the source of transfer is L1 Romanian, in spite of the fact that some similarities between the properties of L3 and L2 could have favored transfer from L2 English. This conclusion is supported by the fact that, in a comprehension task, both proficiency groups of L3 learners interpreted *-te i-* predicates as having a habitual value more often than the native speakers who took part in this study. This non-facilitative transfer effect is still found with the intermediate group, mainly with activities, where no clear distinction is attested between the progressive and the habitual values of the *-te i-* predicates. Overall, L3 learners did not interpret *-te i-* predicates as progressive more often than the native speakers, which suggests that L2 cannot be the source of transfer.

Keywords: *-te i-*, aspect, L3 Japanese, L1 Romanian, L2 English, linguistic transfer

1. Introduction

Previous research on the acquisition of the aspect marker *-te i-* in L2 Japanese focused on settings in which the native language of the learners was English, Spanish, Korean, or Chinese (see Gabriele & Hughes 2015 for an overview). More recent studies added German, Russian, Bulgarian, and Ukrainian to the list of native languages (Sugaya & Shirai 2007). Several of these studies revealed the role of language transfer during the early stages in the L2 learning of aspect (Gabriele 2009, Sugaya & Shirai 2007) but, to the best of my knowledge, no studies looked into the source and nature of transfer in L3 Japanese in spite of the fact that an increasing number of recent studies have been probing into linguistic transfer in L3 (Flynn et al. 2004, Bardel & Falk 2007, Rothman & Amaro 2010, Rothman 2010, Westergaard et al. 2017, Westergaard 2021).

The learning of the *-te i-* marker has not been investigated in a setting with Romanian as L1 nor has it been discussed in relation to Japanese as L3. The present study aims to fill in these gaps. Extending the investigation to L3 Japanese, in a context where L1 is Romanian and L2 is English, allows the analysis of a new learning context where L1 does not have an overt progressive marker while L2 has one, but with different values than the similar Japanese marker.

The main goal of the present paper is to investigate the learning of the aspect marker *-te i-* in L3 Japanese by native speakers of Romanian who are (intermediate/ advanced) L2 speakers of English. The focus is on the identification of the source and the (facilitative or non-facilitative) effects of linguistic transfer in the learning of this aspectual marker in L3 Japanese in a formal context. The following research questions are addressed:

* University of Bucharest, "Languages and Cultural Identities" Doctoral School; b25yfr@yahoo.it.

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(i) Do both L1 Romanian and L2 English serve as the source of linguistic transfer?
(ii) Does proficiency level interact with crosslinguistic interference effects?

The paper is organized as follows: in Section 2 I present the main semantic properties of the aspect marker *-te i-* and the way in which it interacts with the aspectual value of the predicate with which it co-occurs. Section 3 summarizes the main findings reported in previous studies on the learning of *-te i-* in L2 Japanese. The main hypotheses with respect to linguistic transfer in L3 are presented in Section 4. Section 5 includes my own study on the source of transfer in L3 Japanese in a learning setting in which the L1 of the learners is Romanian and their L2 is English. Section 6 concludes.

2. The *-te i-* marker in a nutshell

-te i- is standardly analyzed as a marker of the progressive aspect in Japanese. According to Shirai (2000), it signals "focus on the durative phase of a state", as in the example below:

(1) Ken ga utatte iru.
Ken NOM sing-te be-PRS
'Ken is singing.'

Besides the progressive value illustrated in (1), *-te i-* can also have a resultative/experiential value (illustrated in 2 and 3) and a habitual one, as in (4) (Shirai 2000).

(2) Mado ga aite iru.
window NOM open-te be-PRS
'The window is open.'
(3) Ken wa hon o san-satsu kaite iru.
Ken TOP book ACC three-CLF write-te be-PRS
'Ken wrote three books.'
(4) Ken wa saikin kuruma de gakkoo e itte iru
Ken TOP these days car INSTR school to go-te be-PRS
'Ken goes to school by car these days.'

These contextual values vary with the aspectual properties of the predicate. When associated with activities, the progressive interpretation prevails; in (5) the sentence is preferentially interpreted as denoting a situation which is ongoing at speech time (i). Activities with *-te i-* can also have a habitual value (ii).

(5) Taroo wa umibe o hashitte iru.
Taro TOP beach LOC run-te be-PRS
(i) 'Taro is running on the beach.' (progressive)
(ii) 'Taro runs on the beach.' (habitual)

More marginally, an activity predicate with *-te i-* can also have a resultative/ experiential value (Fujii 1966 in Ogihara 1998, Ohigara 1999, Shirai 2000, Sugita 2008). For example, the sentence in (6) can be interpreted as either progressive or resultative.

(6) Ken ga ofuro de nete iru.
Ken TOP bathroom LOC sleep-te be-PRS
(i) 'He is sleeping in the bathroom.' (progressive)
(ii) 'He is asleep in the bathroom.' (resultative)

With accomplishments, too, the preferred interpretation is the progressive one. But accomplishments with *-te i-* as well can have a habitual and a resultative value, as in (7):

(7) Kare wa hon o kaite iru.
he TOP book ACC write-te be-PRES
(i) 'He is writing a book.' (progressive)
(ii) 'He writes a book.' (habitual)
(iii) 'He has written a book.' (resultative)

With achievements, however, the resultative interpretation is the preferred one (Shirai 2000, Sugita 2008). The sentence in (8) can have three interpretations: the resultative is the preferred one, but it can also have a habitual and a progressive interpretation.

(8) Steve wa kyoukai de kekkon shite iru.
Steve TOP church LOC wedding do-te be-PRS
(i) 'Steve is married in church.' (resultative)
(ii) 'Steve is getting married in church' (progressive)
(iii) 'Steve marries in church.' (habitual)

With the resultative value, the predicate with *-te i-* denotes a situation that is the result of a previous event. Several studies consider this the perfective aspectual value of *-te i-* (Tsujimura 1996), illustrated in (9):

(9) Kaeru ga shinde iru.
frog NOM die-te be-PRS
'The frog is dead.'

There is a special aspectual class of predicates, whose meaning is related to putting on/taking off clothes, such as *haku* 'wear' in *kutsushita-wo haku* 'put on socks'. Some linguists consider them accomplishments (Hara 2016), others argue that they have a double interpretation: they behave like achievements or like accomplishments (Shirai 2000). When the focus is on the action of putting on clothes, the clothing verb behaves like an accomplishment and in combination with *-te i-* it has a progressive reading. When the focus is on the punctual change of state, the predicate behaves like an achievement

and when marked with *-te i-* the interpretation is resultative. These predicates, in combination with *-te i-*, can have a progressive, a habitual and a resultative value.

(10) Kare wa kyōshitsu de jīnzu o haite iru.
he TOP classroom LOC jeans ACC dress-te be-PRS
(i) 'He is putting on the jeans in the classroom.' (progressive)
(ii) 'He wears jeans in classroom.' (habitual)
(iii) 'He is dressed in jeans in classroom.' (resultative)

State predicates are generally incompatible with *-te i-*. Kindaichi (in Fujii, 1966) put forth a classification of Japanese verbs according to their compatibility with this aspect marker. According to this classification, verbs expressing existence (such as *iru* 'to be' [+animate] and *aru* 'to be' [−animate]) cannot occur with *-te i-*. Other state predicates, however, are preferentially used with this aspectual marker (e.g. *love*, *hate*, *know*).

(11) Watashi wa Nancy o hidoku kiratte iru.
I TOP Nancy ACC strongly hate-te be-PRS
'I hate Nancy.'

Generally, the presence of certain adverbs such as *ima* 'now' or *mada* 'yet' (Ogihara 1998) favors the resultative interpretation. Fujii (1966, in Ogihara 1998), for example, notices that the resultative value of *-te i-* is possible in the presence of adverbs of the type *ima* 'now', while the experiential value is obtained with adverbs that locate the situation in the past, such as *kyonen* 'last year'. The habitual interpretation is triggered by adverbs such as *yoku* 'often' or *saikin* 'lately'.

The interpretation of *-te i-* with various aspectual classes is summarized in Table 1:

Table 1. The interaction of *–te i-* with aspectual classes of predicates. Preferred readings[1]

	Activities	Accomplishments	Achievements	Clothing verbs
Progressive	+	+		+
Habitual				
Resultative			+	+

3. Aspect in L2 Japanese and linguistic transfer

The vast majority of studies on the L2 learning of *-te i-* focused on L1 English settings and, more specifically, on the resultative and the progressive interpretations of this aspectual marker. The Aspect Hypothesis (Andersen & Shirai 1994) predicts that *-te i-*, as a progressive marker, will be preferentially used with activities during the

[1] The table does not include state predicates because the comprehension task used in the present study did not include sentences with state predicates.

early stages of acquisition. The learner will extend it to accomplishments and achievements, i.e. to telic predicates, later. This prediction, however, is challenged by the fact that the Japanese *-te i-* can be used with achievements, in which case the marked predicate has a perfective (resultative) value; according to the Aspect Hypothesis, perfective marking should apply to telic predicates first, i.e. we would expect *-te i-* to be used with achievements during the early stages.

The influence of L1 is discussed in several studies, among which Sheu (1997), Shibata (1999), Sugaya (2001), usually in relation to the predictions of the Aspect Hypothesis. Facilitative transfer from L1 in the L2 learning of the Japanese *-te i-* marker is reported in Shirai & Kurono (1998). Their investigation included two studies. One of them relied on conversational data (60 minutes/participant) and it involved three Chinese learners of Japanese as L2. Mandarin Chinese has a progressive marker, *zai*, which differs, however, from the Japanese *-te i-*: when occurring with achievements it does not yield a resultative reading[2]. The results showed that the Chinese learners of L2 Japanese strongly associated the past tense marker *-ta* with achievements and the imperfective marker *-te i-* with activities, in accordance with the Aspect Hypothesis (Shirai & Kurono 1998). However, the association was stronger than the one attested with native speakers of Japanese. The L2 learners used *-ta* with achievements at an average rate of 78%, whereas the native speaker (the experimenter who conducted the interview) did so in only 54% of the cases. The tendency to use the imperfective marker with activities was also stronger with the L2 learners, who used *-te i-* with activities 55% (vs. 37% for the native speaker of Japanese). The authors tentatively suggest that the Chinese learners in the first study may have been influenced by the aspect marker *-zai* in the native language, which has a progressive value. The similarity between the L2 and the native language may have boosted the learning of the progressive value of *-te i-*.

Sugaya & Shirai (2007) also questioned whether the predicted association between the imperfective marker *–te i-* and the progressive interpretation would emerge in the case of L2 learners whose L1 lacks overt progressive marking. The two groups of L2 Japanese learners that took part in the study had English, German or a Slavic language as L1. The results confirmed, for the learners of lower proficiency, the prediction of the Aspect Hypothesis: *-te i-* was preferentially used with activity predicates to mark the progressive interpretation. But the prediction was not confirmed for the learners whose L1 lacks a morphological progressive marker. These results show, once again, the role of L1. The presence of a similar progressive marker may boost the acquisition of *-te i-* whereas its absence may have a non-facilitative effect.

One issue often discussed in the literature is the order of acquisition of the progressive and the resultative readings of *-te i-*. The main conclusion was that the resultative value is more difficult to acquire than the progressive one when it is not available in the L1 of the learners. L2 learners of Japanese with L1 English find it more difficult to identify the resultative than the progressive value of *-te i-* (Shirai & Kurono 1998).

[2] The authors also mention another durative imperfective marker, *-zhe*, but they do not say anything about its effect on various classes of predicates.

One important question in relation to L1 influence which was addressed in more recent studies is to what extent the L2 learner is able to successfully acquire L2 properties that are not found in L1 (Gabriele & McClure 2011) and whether this is more difficult than unlearning certain aspects of their L1 (Gabriele 2009) "in the absence of explicit input that indicates which properties of the first language (L1) are ruled out by the L2 grammar" (Gabriele 2009). Some authors consider that the acquisition of a new semantic representation is easier than the preemption of the existing L1 representation (Gabriele 2009).

4. Transfer in L3: Main hypotheses

The studies which investigate the source of transfer in L3 rely on the Full Transfer/Full Access Hypothesis (Schwartz & Sprouse 1996), i.e. they all assume that there is linguistic transfer. According to this hypothesis, during the early stages of L2 learning, properties of L1 are transferred to L2. But Universal Grammar constrains the interlanguage at all stages.

L3 learning involves two potential transfer sources: the native language and the L2. One core question addressed in L3 studies is whether both L1 and L2 affect the learning process. One further question is whether linguistic transfer proceeds on a property-by-property basis or as a whole. And finally, one further question targets the factor(s) which determine(s) the source of transfer.

In L3 learning the source of transfer, facilitative and non-facilitative, can be the native language, as in L2 learning (Hermas 2014), even when the L3 learners are advanced speakers of the L2 involved. But it can also be the second language, as assumed by The L2 Status Factor model (Bardel & Falk 2007). This model builds on an important difference between L1 and L2 acquisition. The former is acquired implicitly and involves procedural memory, whereas the latter involves declarative memory (Ullman 2001) and explicit knowledge. L3 learning is similar to L2 learning. This predicts that the source of linguistic transfer will be the language that has the same status as L3, one that is stored in declarative memory, i.e. L2.

According to the Cumulative Enhancement Model (Flynn et al. 2004) any previously acquired language can be the source of transfer. Knowing languages L1 and L2 will contribute, cumulatively, to L3 learning. Transfer (positive or neutral) may be the cumulative positive effect of both languages. This approach denies the existence of negative transfer.

Other approaches adopt a selective transfer view and do not exclude non-facilitative transfer. An important ingredient of these approaches is "typological proximity" which is generally understood as psychotypology. Transfer is determined by the learner's perception of the similarity/difference between the previously acquired languages and L3. The properties can be perceived as close or distant and as core and non-core (Kellerman 1979, 1983 in Westergaard et al. 2017). Linguistic transfer, during the early stages, will involve those properties which the learner perceives as close to L3.

Along the same line, Rothman (2011) puts forth the Typological Primacy Model, according to which choice of transfer source is determined by which of the two

previously known languages is perceived as typologically closer (overall) to L3. According to this view, proximity in "actual or perceived linguistic typology between the target L3/Ln measured against the grammars of the L1 and L2" (Rothman 2010: 26) is the most important variable.

Transfer is assumed to be complete and to take place in one step, it is wholesale transfer (Rothman 2015). Rothman & Cabrelli Amaro (2010) investigated the source of transfer in learning settings involving previous knowledge of English and of a Romance language, and another Romance language as L3. Their results show that transfer was from the other Romance language (irrespective of whether it was the L1 or the L2) even when this resulted in an erroneous structure and in spite of the fact that transfer from English would have been of the positive type. The Typological Primacy Model, however, has nothing to say about transfer in case typological proximity is irrelevant to certain language combinations.

More recently, the Linguistic Proximity Model (Westergaard et al. 2017, Westergaard 2021) has offered a more fine-grained view along the same line: transfer is selective and determined by language similarity. But according to this model it is not overall similarity which drives transfer. Cross-linguistic interference effects will be determined by the similarity (not necessarily identity) of some abstract properties of any of the prior languages and L3. Micro-variation is important. Both previously known languages remain available at all stages of L3 learning and they may interact with one another. Westergaard et al. 2017: 14) state that "crosslinguistic influence occurs when a particular linguistic property in the L*n* input reveals abstract structural similarity with linguistic properties of the previously learned languages". According to this view, structural similarity will be reflected in positive transfer. The L3 learner is assumed to use previously known grammars when parsing L3 input. Misanalysis of a property in this input as similar to L1 or L2 will be reflected in negative transfer.

Against this background, the present paper investigates the learning of grammatical aspect in L3 Japanese in an L1 Romanian L2 English setting.

5. The Study

5.1 Aim and predictions

The aim of this study is to identify the source of transfer in the learning of the *-te i-* aspect marker by L3 Japanese students whose native language is Romanian and who had knowledge of L2 English (at least at an intermediate level) at the time when they began the study of Japanese.

Romanian is standardly assumed to lack a morphological marker for the progressive aspect[3], using the simple present or the imperfective past in contexts where Japanese uses *–te i-* with a progressive or a habitual value. The semantic representations of the Romanian sentence in (12) below correspond to the progressive and the habitual values of its *-te i-* counterpart.

[3] This is the standardly assumed view. But see Avram (2003) and Stoica (2015) for a different point of view.

(12) Copilul aleargă în parc.
child-the run-PRS.3SG in park
(i) 'The child is running in the park.'
(ii) 'The child runs in the park.'

But a present tense sentence lacks a perfective value (be it resultative or experiential), even with achievements.

If we compare the Japanese *-te i-* to the English marker of the progressive, we notice that the latter has only the "progressive interpretation" (it locates the time of the event at/around the time of reference, Kearns 1991). The situation denoted by the predicate is interpreted as on-going at the time of reference and as having limited duration, i.e. as dynamic and temporary. It does not have the perfective value of *-te i-*, not even with achievements. When the progressive is found in habitual sentences, the habitual reading is conveyed by a temporal adverb (e.g. *always*) whereas the progressive marker indicates limited duration or emotional involvement on the part of the speaker. Shirai (2000) remarks that even when used with a habitual interpretation, the "imperfective *-te i-* denotes dynamicity and/or temporariness". The similarity, however, does not include the use of the progressive with all achievements. In English, degree achievements in combination with *be -ing* may refer to on-going situations, changes of state, i.e. the sentence has a progressive interpretation, but the use of the progressive with purely lucky achievements is limited. The sentence must allow an iterative interpretation for the use of the progressive to be felicitous (as in 14b) or it should allow the slow-motion reading, e.g. in film commentaries (as in 14c):

(13) The weather is cooling.
(14) a. *She is spotting a friend in the middle of the crowd.
b. Bill is constantly discovering web pages for lunatics.
c. Mary is spotting her ex at the party at the moment.

(Avram 2020)

Importantly, in English, achievements with the progressive do not have a resultative reading. The sentences in (15) below refer to an approach to the change of state denoted by the predicate, not to the change of state:

(15) a. The plane is landing.
b. The man is recovering slowly.

In this study, I focus on the interpretation of *-te i-* in present tense sentences.

If the source of transfer in L3 learning is L1 Romanian, we predict learners to use the present tense simple instead of the *-te i-* form, i.e. to make errors of the type illustrated in (16), irrespective of the aspectual features of the predicate, when the progressive value is actually the intended one:

(16) *Ken wa ima sushi o taberu.
Ken TOP now sushi ACC eat-PRS
Intended: 'Ken is eating sushi now.'

The learners are expected to interpret the *-te i-* predicates as habitual and progressive. A sentence like (17), for example, will be associated with the semantic representations of the Romanian sentence in (18):

(17) Kare wa heya de yonde imasu.
he TOP room LOC read-te be-PRS.POL
'He is reading in the room.'

(18) El citește în cameră.
he read-PRS.3SG in room
(i) 'He is reading in his room.'
(ii) 'He reads in his room.'

One further prediction is that if transfer is from L1, the Romanian L3 Japanese learners will not associate *-te i-* sentences with the resultative or the experiential interpretations. A sentence like (19), for example, will be interpreted as progressive, as in (i), not as resultative, as in (ii):

(19) Sensei ga seitotachi no aida ni suwatte iru.
teacher NOM students among LOC take.seat-te be-PRS
(i) 'The teacher is taking a seat among the students.'
(ii) 'The teacher has taken a seat among the students.'

For English native speakers, previous studies identified positive transfer from L1 when *-te i-* indicates a specific situation ongoing at reference time, but also a potentially negative transfer when the interpretation is resultative (Rohde 1996, Rocca 2002, Collins 2002, Sugaya & Shirai 2007). The resultative progressive is marginal in English and it is obtained only with state predicates of the type *sit*, *stand*, *lie*, *hang*, etc. (Kearns 1991).

(20) A book is lying on the table.

If the source of transfer in L3 Japanese is English, as predicted by the L2 Status Factor hypothesis (Bardel & Falk 2007), we expect the progressive interpretation to be preferred, even with achievements, and at higher rates than with native speakers. For (21) below, L3 learners will choose the progressive interpretation in (i), not the resultative interpretation in (ii):

(21) Kodomo wa haha no oyamari ni kitsuite iru.
child TOP mother of mistake LOC realize-te be-PRS
(i) 'The child is getting aware of his/her mother's mistake.'
(ii) 'The child got aware of his/her mother's mistake.'

Summing up so far, if the source of linguistic transfer is L1 Romanian, we predict that the L3 learners of Japanese will treat *-te i-* sentences as present tense sentences with a habitual and a progressive interpretation, but not with a resultative one. The resultative

value will be learned at a later stage. If transfer is from L2 English, one expects only the progressive interpretation to be assigned to *-te i-*, even with achievements. For the habitual value, the predictions differ for L1 and for L2 transfer. Transfer from L1 Romanian should be reflected in the habitual interpretation of *-te i-* sentences, the latter possibly at rates higher than those attested with native speakers. Transfer from L2 English should be reflected in a weaker association with the habitual value. In both cases, the resultative value will be problematic.

The Linguistic Proximity Model (Westergaard et al. 2017) predicts transfer from English for the progressive value of *-te i-*. The preferred interpretation will be the progressive one, to the detriment of the resultative and the habitual values; the interpretation will be (initially) restricted to the semantic representation available in L2. The L3 learner is also predicted to misanalyse achievements with *-te i-* as similar to achievements with *be -ing*. This will result in non-facilitative transfer reflected in a delay in the learning of the resultative value of *-te i-*.

5.2 Task

In order to test the predictions in section 5.1 I designed a comprehension task which included 24 test sentences balanced across four conditions, illustrated below. As can be seen, in all the sentences the predicate was a present tense one.

(i) *-te i-* with activities:

(22) Ken ga ofuro de nete imasu.
Ken NOM bathroom LOC sleep-te be-PRS.POL
(i) 'Ken is sleeping in the bathroom.' (progressive)
(ii) 'Ken sleeps in the bathroom. (habitual)
(iii) 'Ken is asleep in the bathroom.' (resultative)

(ii) *-te i-* with achievements:

(23) Steve wa kyoukai de kekkon shite imasu.
Steve TOP church LOC marry do-te be-PRS.POL
(i) 'Steve is getting married in the church.' (progressive)
(ii) 'Steve has got married in the church.' (resultative)
(iii) 'Steve gets married in the church.' (habitual)

(iii) *-te i-* with accomplishments:

(24) Kare wa niwa de sakana no e o kaite imasu.
he TOP garden LOC fish of picture ACC paint-te be-PRS.POL
(i) 'He is painting a picture of a fish in the garden.' (progressive)
(ii) 'He paints a picture of a fish in the garden.' (habitual)
(iii) 'He has painted a picture of a fish in the garden.' (resultative)

(iv) *-te i-* with predicates which refer to putting on/taking off clothes:

(25) Watashi wa kyōshitsu de jīnzu o haite imasu.
I TOP room LOC jeans ACC wear-te be-PRS.POL
(i) 'I am wearing jeans in the classroom.' (progressive)
(ii) 'I wear jeans in the classroom.' (habitual)
(iii) 'I am dressed with jeans in the classroom.' (resultative)

The participants received a Google form questionnaire, without a specific time limit. They had to choose one of three comprehension variants, as in (26), i.e. they were required to choose the answer which correctly explained the meaning of the sentence, in accordance with the aspectual properties of the predicate and the contribution of *-te i-*.

(26) Kare wa kawa de oyoide imasu.
he TOP river LOC swim-te be-PRS.POL
(i) the sentence refers to a temporary action, ongoing at speech time
(ii) the sentence refers to a general/habitual situation
(iii) the sentence refers to a completed situation, with a result in the present.

5.3 Participants

39 L3 learners of Japanese took part in the study. They were all native speakers of Romanian and (intermediate and advanced) L2 speakers of English, foreign language students at the University of Bucharest.

25 students, age range 19-20, had been studying Japanese for 1 year at testing time. They were beginners; their proficiency level was N5[4]. The other 14 participants had been studying Japanese for 3 years at testing time. They were intermediate learners (B1/B2 or N4/N3). The participants had all been formally taught the values of *-te i-* prior to testing.

A control group of 39 native speakers of Japanese also took part in the study.

The details of the groups of participants are summarized in Table 2.

Table 2. Comprehension task. Participants

Group	Age range	Nr.	Proficiency level
L3 learners – beginners	19-20	25	N5 or A2
L3 learners – intermediate	23-26	14	N3 or B1/B2
L1 Japanese	17-55	39	Native language

[4] The Japanese Language Proficiency Test has five levels: N1, N2, N3, N4 and N5. The lowest level is N5 and the most advanced level is N1. N3 is an intermediate level. Compared to the Common European Framework of Reference for Languages, N5 and N4 corresponds to A1 and A2 (beginners). The B level corresponds to N3, while N2 and N1 correspond to the C level.

5.4 Results

5.4.1 The group of beginners

Overall, the L3 learners gave more "progressive" responses (M = 13.8, SD = 3.40) than "habitual" (M = 5.72, SD = 2.56) or "resultative" (M = 4.4.8, SD = 2.43) ones. A one-way ANOVA (repeated-measures) at the $\alpha = .05$ level showed that the overall responses given by the beginners differed significantly across the progressive, habitual and resultative values: $F(2,48) = 53.2$, $p < .001$. Multiple post hoc t-tests with Bonferroni correction revealed that the group of beginners got significantly more "progressive" responses than both "resultative" ($t(24) = 8.73$, $p < .001$ (two-tailed)) and "habitual" ones ($t(24) = 7.34$, $p < .001$ (two-tailed)). The difference between "resultative" and "habitual" responses did not reach significance ($t(24) = -1.69$, $p > .05$ (two-tailed)).

Because the preferred value of *-te i-* sentences depends on the aspectual features of the predicate, I next analyzed the results by aspectual class in order to see to what extent L3 learners are sensitive to the interaction between situation-type aspect and viewpoint aspect. The raw data are given in Table 3. They indicate that activities and accomplishments with *-te i-* were preferentially interpreted as progressive. Achievements with *-te i-* triggered a relatively high number of "resultative" responses, but not significantly higher than "progressive" ones ($t(24) = -1.22$, $p = .23$ (two-tailed)).

The hybrid class of predicates which refer to putting on/taking off clothes triggered responses which indicate that the L3 learners treated this class as different from both accomplishments and achievements. This class triggered the highest number of "habitual" responses, but the difference between "habitual" and "progressive" responses does not reach significance ($t(24) = 0.98$, $p = .33$ (two-tailed)), i.e. the learners interpreted *-te i-* with this class as progressive and habitual, with no significant preference.

Table 3. L3 learners (N5). Responses (number[5]) per aspectual class

	Activities	Accomplishments	Achievements	'Put on clothes'
Progressive	108	105	60	72
Resultative	5	14	77	17
Habitual	37	31	13	61

Summing up so far, overall the L3 learners (N5) associated *-te i-* with activities and accomplishments preferentially with the progressive value; they interpreted these sentences as locating an ongoing temporary situation at speech time. With achievements, however, they interpreted *-te i-* sentences as progressive and resultative at equal rates. With "put on/take off clothes" predicates, they did not show any preference for the progressive or the habitual value.

The comparison of the overall results of the group of L3 learners (N5) and native speakers is summarized in Figure 1.

[5] The total number of responses per condition was 150.

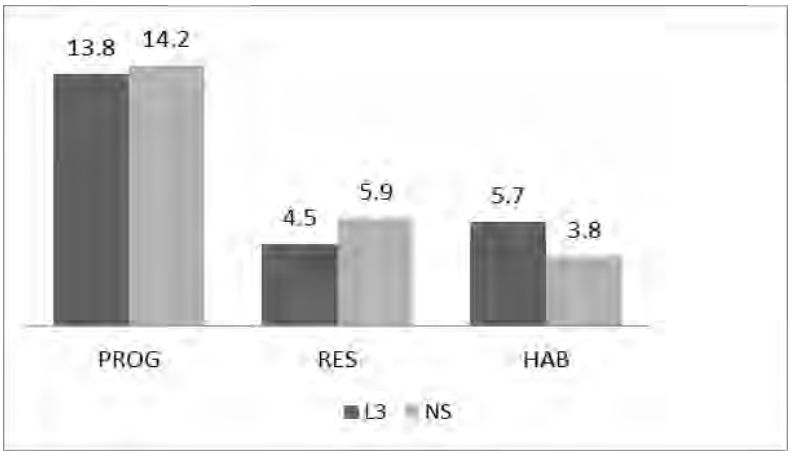

Figure 1. Overall results (mean). L3 learners and native speakers (NS)

Multiple t-tests revealed that the only difference which reaches significance is in relation to the "habitual" responses of the two groups: $t(48) = 2.67$, $p = .01$ (two-tailed), i.e. the L3 learners chose a "habitual" response more frequently than native speakers. The difference between "resultative" and "progressive" responses did not reach significance.

The comparison of the responses of the two groups by aspectual class reveals that both L3 learners and native speakers preferentially assign a progressive value to activities with *-te i-* but the L3 learners gave a significantly higher rate of "habitual" responses in this condition (see Table 4): $t(48) = 3.18$, $p = .002$ (two-tailed).

Table 4. Activities and *-te i-*. L3 learners vs. native speakers

	Progressive	Resultative	Habitual
L3 learners	72%	4%	25%
Control group	79%	11%	10%

With accomplishments (the data are summarized in Table 5), both groups preferentially assign a progressive interpretation to the *-te i-* predicates, but the rate is significantly higher with the group of native speakers: $t(48) = -3.26$, $p = .002$ (two-tailed). With accomplishments, just like in the activities condition, the L3 learners gave a significantly higher number of "habitual" responses than the native speakers: $t(48) = 2.99$, $p = .004$ (two-tailed).

Table 5. Accomplishments and *-te i-*. L3 learners vs. native speakers

	Progressive	Resultative	Habitual
L3 learners	70%	9%	21%
Control group	89%	3%	8%

With achievements, the L3 learners chose a progressive or a resultative interpretation, to the detriment of the habitual interpretation (see Table 6 below). But they did not show a clear preference for the progressive or the resultative value. In this respect, they differed from the native speakers, who showed a significant preference for the resultative value compared to the progressive: $t(24) = -2.63$, $p = .01$ (two-tailed). Otherwise, the comparison between the two groups shows that the rate of the various response types is relatively similar in this condition.

Table 6. Achievements and *-te i-*. L3 learners vs. native speakers

	Progressive	Resultative	Habitual
L3 learners	40%	50.7%	9.3%
Control group	33%	59%	8%

In the "putting on/taking off clothes" predicates condition the raw data (Table 7 below) suggest that the L3 learners gave more "progressive" answers than the native speakers of Japanese, but the difference does not reach significance. They gave significantly fewer "resultative" responses than the native speakers: $t(48) = -2.04$, $p = .04$ (two-tailed).

Table 7. Put on/take off clothes predicates and *-te i-*. L3 learners vs. native speakers

	Progressive	Resultative	Habitual
L3 learners	48%	12%	40%
Control group	36%	26%	38%

5.4.2 Interim conclusions

The results show that the progressive interpretation prevailed for the L3 learners, which indicates that they treat *-te i-* as a marker of the progressive viewpoint. Their overall rate of "progressive" responses is similar to the one attested with native speakers. This indicates that, at this learning stage, they know that *-te i-* can have a progressive value. It also suggests that the Romanian L3 learners of Japanese do not transfer the value of the progressive marker from their L2 English. They did not give a significantly higher number of "progressive" responses overall than the group of native speakers. This second conclusion is reinforced by the fact that the major difference between the L3 learners in this proficiency group and native speakers is found with the "habitual" responses. The L3 learners showed, overall, a higher preference for "habitual" responses than the group of native speakers.

The analysis of responses by aspectual class reveals a similar picture. With accomplishments, the L3 learners gave a lower number of "progressive" responses. With activities and accomplishments, the predictions of the Aspect Hypothesis are borne out by the data; the L3 learners of Japanese preferentially chose the "progressive" interpretation

of *-te i-*. But their responses differed from the ones of native speakers in two respects: (i) the L3 learners gave fewer "progressive" responses in the accomplishment condition than the native speakers; (ii) the L3 learners interpreted these aspectual predicates with *-te i-* as "habitual" at a significantly higher rate than the group of control.

The L3 learners did not preferentially interpret achievements with *-te i-* as resultative, while the native speakers showed a preference for the resultative reading of these predicates. At this stage, the L3 learners have not learnt *-te i-* with achievements yet, in line with what was reported in several previous studies (e.g. Shirai & Kurono 1998, Sugaya & Shirai 2007).

The L3 learners also differed from the native speakers with respect to the put on/take off clothes predicates; they chose the resultative value at a significantly lower rate than the native speakers (12% vs. 26% for the natives). The Romanian students interpreted this aspectual class with *-te i-* mainly as progressive, while the native speakers interpreted it both as progressive and resultative. These findings confirm, once again, that, at this stage, the resultative value of *-te i-* is the vulnerable one.

The fact that the L3 learners did not give a higher number of "progressive" responses than the group of native speakers, in conjunction with the fact that they gave a higher number of "habitual" responses than the native speakers, indicates that the source of transfer may have been L1, Romanian. The resultative value is problematic at this proficiency level. This may be interpreted as non-facilitative transfer from L1 or /and L2.

5.4.3 The group of intermediate learners

Overall the 14 intermediate learners chose the progressive interpretation more often than the habitual and the resultative ones. The results are summarized in Table 8.

Table 8. Overall results. Intermediate learners of L3 Japanese

Group	Progressive	Resultative	Habitual
L3 Japanese students	48.8% (n = 164)	25.9% (n = 87)	25.3% (n = 85)
Control group	58.3% (n = 196)	27.7% (n = 93)	13.9% (n = 47)

The results of an ANOVA test showed that, overall, the number of progressive, habitual and resultative interpretations given by the intermediate students who learn Japanese as L3 differ significantly ($F(2,26) = 11.2$, $p < .001$). A series of post-hoc tests revealed that, overall, the L3 Japanese students chose the progressive interpretation ($M = 11.7$, $SD = 3.62$) more often than the habitual one ($M = 6.07$, $SD = 2.84$) ($t(13) = 3.43$, $p = .004$ (two-tailed)) and more often than the resultative one ($M = 6.21$, $SD = 2.15$) ($t(13) = 3.93$, $p =. 001$ (two-tailed)). The difference between the "habitual" and the "resultative" responses is not significant ($t(13) = -0.15$, $p = .88$ (two-tailed)).

The comparison of the overall results of the L3 learners with those of native speakers of Japanese revealed a significant difference only with respect to the "habitual" responses; the number of "habitual" responses given by the L3 students ($M = 6.07$;

SD = 2.84) is significantly higher than the natives' (*M* = 3.36; *SD* = 0.57): $t(14) = 26$, $p = .008$ (two-tailed).

The analysis of the results by predicate class showed that with activities, the L3 learners gave practically only "progressive" and "habitual" responses. The difference between these response types is not significant, i.e. they did not show a clear preference for either value (progressive or habitual): $t(13) = 1.69$, $p > .05$ (two-tailed). The native speakers, on the other hand, gave a significantly higher number of "progressive" than of "habitual" responses: $t(13) = 5.21$, $p < .001$ (two-tailed). The comparison of the two groups further revealed that the L3 learners gave significantly more "habitual" responses in the activities condition than the native speakers (37% compared to 12%): $t(26) – 2.71$, $p = .01$ (two-tailed). The data are summarized in Table 9.

Table 9. Results. The interpretation of *-te i-* with activity predicates

	Progressive	Resultative	Habitual
L3 Japanese	62%	1%	37%
Control group	71%	17%	12%

Another difference between the two groups of participants is related to the resultative value. This value represents 17% for the natives, while the L3 Japanese students gave only 1% "resultative" responses for the activity predicates associated with *-te i-*. We can conclude that these participants practically do not assign a resultative interpretation to activities with *-te i-*. The only answer of this type was found with the verb *neru* 'to sleep' which, in Japanese, is ambiguous between an activity and an achievement.

No significant difference was found with accomplishments, achievements or with put on/take off clothes predicates; the results of the two groups are similar. The intermediate L3 learners and the native speakers assign a similar interpretation to *-te i-* with these classes of predicates, as can be seen in Tables 10, 11 and 12 below.

Table 10. Results. The interpretation of *-te i-* with accomplishments

	Progressive	Resultative	Habitual
L3 Japanese	82%	0%	18%
Control group	90%	4%	6%

Table 11. Results. The interpretation of *-te i-* with achievements

	Progressive	Resultative	Habitual
L3 Japanese	14%	80%	6%
Control group	28%	64%	8%

Table 12. Results. The interpretation of *-te i-* with put on/take off clothes verbs

	Progressive	Resultative	Habitual
L3 Japanese	36%	22%	42%
Control group	44%	26%	30%

Since *-te i-* is standardly compared with the *–ing* progressive marker in English, Table 13 shows the progressive interpretation given by the two groups to each aspectual class included in the task.

Table 13. The progressive interpretation of *-te i-* by aspectual class

	Activities	Accomplishments	Achievements	Clothing verbs
L3 Japanese	62%	82%	14%	36%
Control group	71%	90%	28%	44%

As Table 13 shows, both the Romanian learners of Japanese and the Japanese native speakers gave the highest number of progressive responses in the accomplishment and in the activity conditions. The intermediate L3 learners did not assign *-te i-* a progressive interpretation more often than the native speakers with any aspectual class.

5.4.4 Interim conclusions

The results show that the intermediate group associated *-te i-* primarily with the progressive value; they treat *-te i-* as a marker of the progressive viewpoint. Their overall rate of "progressive" responses is not higher than the one attested with native speakers. This suggests that they do not transfer the value of the progressive marker from their L2 English.

Overall, the intermediate L3 learners gave more "habitual" responses than the native speakers, which indicates that the source of transfer is most probably their L1. This conclusion is supported by one more difference between the L3 learners in this group and native speakers. In the activities condition, the intermediate L3 learners did not show a clear preference for the habitual or the progressive interpretation of these predicates with *-te i-*, whereas the native speakers clearly preferred the progressive value. Unlike the group of beginners, the intermediate learners no longer gave a significantly higher number of "habitual" responses with activities; they interpreted activities with *-te i-* as either progressive or habitual, with no significant preference. The effects of L1 transfer begin to weaken at this stage.

The resultative value of *-te i-* is no longer problematic at this proficiency level.

6. Discussion and conclusions

The main question that I addressed in this study was whether the learning process of *-te i-* in L3 Japanese in an L1 Romanian L2 English context is affected by transfer and,

if it is, whether the source of transfer is L1 or L2. The results showed that the two groups of L3 learners differed from native speakers with respect to the habitual value; overall, both the beginners and the group of intermediate L3 learners gave more "habitual" responses than the native speakers who took part in this study. The significantly higher percentage of "habitual" responses suggests that the source of transfer may be L1. This non-facilitative transfer effect is still found with the intermediate group, mainly in the activities condition, where no clear distinction is made between the progressive and the habitual values of the *-te i-* predicates. The difference between the group of beginners and the group of intermediate learners with respect to the habitual value shows that L1 transfer effects are weakening as language proficiency is improving.

That the source of transfer cannot be L2 English is supported by the fact that the L3 learners did not give a significantly higher percentage of responses for the progressive interpretation, in any proficiency group. One cannot fully reject the effect of transfer from L2 at the very early stages. But the fact that with accomplishments the beginners gave significantly fewer "progressive" responses than the native speakers and significantly more "habitual" responses indicates that most probably L1, not L2 is the source of transfer.

The resultative value of *-te i-* with achievements was problematic only with the group of beginners. The intermediate learners did not differ from the control group of native speakers with respect to this value. The fact that the beginners assigned either a progressive or a resultative interpretation to these predicates, with no significant preference, indicates that as early as this proficiency level they had some knowledge of the resultative interpretation of achievements with *-te i-*. They gave a relatively high number of "resultative" responses only in this condition, whereas in all the other conditions the competition was between "progressive" and "habitual" responses.

More generally, the results of the present study show that transfer in L3 can be from L1 even when the targeted property is "closer" to a property of L2. In spite of the fact that in the learning setting which I investigated L1 Romanian lacks an overt marker of the progressive in finite clauses whereas L2 English has one, the data showed that most probably L1 Romanian is the source of early linguistic transfer in the acquisition of the *-te i-* marker in L3 Japanese.

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Caroline Roset. 2018. *A Grammar of Darfur Arabic*. Utrecht: LOT. xiii + 335 pp.

Reviewed by Andrei A. Avram*

The book under review, Caroline Roset's PhD dissertation, defended in 2018, at the University of Amsterdam, is the first descriptive grammar of Darfur Arabic. The book consists of "Acknowledgements" (pp. xi-xii), an "Introduction", six chapters, "References" (pp. 303-314), two Darfur Arabic texts (pp. 329-330), a "Summary in English" (pp. 329-330), and a "Samenvatting in het Nederlands" (pp. 331-333).

In "Introduction" (pp. 1-16) the author first provides some background information about Darfur and the Darfurians, their numbers, lifestyle and the main ethnic groups in addition to Arabs, such as the Fur, Masalit, Zaghawa, and also the smaller ones, such as the Daju and the so-called "Fallata", i.e. West Africans mostly of Hausa and Fulbe origin. Next, the complex sociolinguistic situation in Darfur is presented. The languages spoken in Darfur include Fur, Masalit, Zaghawa, Daju, Meidob, Tama, Kanuri, Yulu, Bagyo, Gbaya, Gulu, which belong to the Nilo-Saharan phylum, Hausa and Fulfulde, which belong to the Niger-Congo family, and varieties of West Sudanic Arabic, one of which is Darfur Arabic. The following section is a brief overview of the literature on Sudanic Arabic, Sudanic Arabic-lexifier pidgins and creoles, and on the relevant Nilo-Saharan languages. The aims and organization of the study are outlined in the next section. The last section presents the methodology, with information (ethnicity, place of origin, sex and languages spoken) about the Darfurian informants and key informants, the transcription, spelling and glosses, which ends with the list of abbreviations and symbols used.

Chapter 2, "Phonology"[1] (pp. 17-42), starts with a section on the consonant phonemes of Darfur Arabic. Particular attention is paid to the phonemes /ʧ/, /ɲ/ and /ŋ/, which have a limited distribution, and to the phonetic realizations of the phonemes /ʤ/, /f/, /b/, and /ʃ/. In the sub-section (p. 19) on the phonemes *p* and *b* the author writes that "Darfurians from the Fur tribe sometimes use *p*, *b* and *f* as allophones, just as they are in the Fur language". This is illustrated with the following examples[2]: *japturu* ~ *jafturu* 'they have breakfast', *arpa* ~ *arba* 'four', *fi* [ɸi] ~ *fi* [fi] 'in', and *nadi:p* ~ *nadi:f* 'clean'. Several remarks are in order here. First, /f/ does not figure among the consonant phonemes of Darfur Arabic (p. 17). Second, the phoneme whose allophones are [p], [b] and [f] is not specified. According to Jakobi (1990: 31), Fur has the phoneme /f/, which "is most frequently realized by the fricative [f] and rarely by the optional variants [ɸ] and [p]. Third, Jakobi (1990: 31) further writes that "there are some cases of /f/ ~ /b/ […] variation" in word-initial position, e.g. [fis] ~ [bis] 'enough, full' < Ar. [bas(s)]. The variation [f] ~ [b] also occurs in intervocalic position, e.g. [lufo] ~ [lubo] 'unfold.3SG.PERF', including in Arabic-derived loanwords, e.g. [sàfàr] ~ [sàbàr] 'travel' (Jakobi 1990: 33). On the basis of Jakobi's (1990) description of Fur phonology and of the Darfur Arabic data, the formulation doing justice to the latter appears to be the following one. With Fur users of Darfur Arabic, the phoneme /f/ may be realized as [f], [ɸ] and [p]. This would account for e.g. *japturu* ~ *jafturu* 'they have breakfast' and *fi* [ɸi] ~ *fi* [fi] 'in'. Forms such as *arpa* ~ *arba* 'four' are manifestations of /f/ ~ /b/ variation, where [p] is one of the possible phonetic realizations of /f/. Next, the vowels and their allophonic realizations are discussed as well as the diphthongs found in Darfur Arabic. The third section illustrates a number of phonological processes occurring in Darfur Arabic: assimilation with the

* University of Bucharest, Department of English, andrei.avram@lls.unibuc.ro.

[1] A previous version appeared as Roset (2015).

[2] All the examples are reproduced in the transcription system used in the sources mentioned.

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definite article *al* (p. 25); place of articulation assimilation of /n/ before /g, k and b/ (pp. 25-26); voicing assimilation (p. 27); deletion of unstressed /i/ and /u/ (p. 28); epenthesis (pp. 28-30); metathesis (p. 30). In what follows I would like to comment on the author's analysis of voicing assimilation and vowel harmony, respectively. The author notes (p. 27) that "voiceless consonants tend to become voiced before another voiced consonant". One of the examples given, however, is *wagt* > *wakt* ~ *wakit* **wqt* 'when', in which, in fact, a voiced consonant becomes voiceless before another voiceless consonant. This devoicing is also mentioned by the author (p. 27): "Darfurians tend to devoice consonants […] when succeeded by another voiceless consonant" and illustrated with the following examples: *takta* **qṭʕ* 'you cut', *makfu:l* **qfl* 'closed'. While this is certainly correct, a reader not familiar with the Sudanic varieties of Arabic would not know that the reflex of the Arabic voiceless uvular **q* is the voiced velar *g*. It is only later that the author refers to this phonetic realization, when writing first rather indirectly (p. 34) that "in other Sudanic varieties of Arabic, *q* is generally realised as velar voiced *g*" and explicitly only in the last chapter (p. 292) that "Darfur Arabic […] has *g* as the reflex of Old Arabic *q*". Vowel harmony in Darfur Arabic is described as follows (p. 28): "low vowels like *o* or *u* occur in a word with other low vowels" while "high vowels like *i* or *e* […] go along with other high vowels", and "phoneme *a* plays a neutral role in this process and can be combined with both low and high vowels". First, /u/ and /o/ are not low vowels, but high and respectively mid. Second, /e/ is not a high vowel, but a mid one. Third, as shown by the examples provided, *tirak:**i**'b-i* 'you put it on fire' vs. *birak:**u**'b-u* 'they put it on fire', it is not vowel height, but frontness and backness that determine the quality of the vowel. Therefore, the correct formulation of vowel harmony in Darfur Arabic would be front vowels occur with front vowels, back vowels occur with back vowels, and /a/ occurs with both. The author rightly states (p. 28) that "vowel harmony is a typical feature of the area" and refers the reader to, among others, Jullien de Pommerol (1999: 30 and 130), for Chad Arabic, and Owens (1993: 38-41), for Nigerian Arabic. It is worth noting, however, that vowel harmony in Chad Arabic, as described by Jullien de Pommerol (1999: 30 and 130), appears to differ significantly. First, it seems to be only "une tendance à l'uniformisation des voyelles à l'intérieur d'un mot" (Jullien de Pommerol 1999: 30). Second, there are multiple triggers: "c'est la voyelle postérieure ou finale, la voyelle longue ou répétée qui, le plus souvent, donnent le ton" (Jullien de Pommerol 1999: 30). If *yaxdumu* 'they work' (instead of *yaxdimu*) parallels the case of Darfur Arabic, forms such as *ma'arras* 'pimp' (instead of *mu'arras*) or *magâbil* 'in front of' (instead of *mugâbil*) do not. It is Nigerian Arabic vowel harmony that is almost identical to that occurring in Darfur Arabic. According to Owens (1993: 38), "within a stem, front vowels, *i*, *e*, *ii*, *ee* form one co-occurrence set, back vowels, *u*, *o*, *uu*, *oo* another" and "low vowels *a*, *aa* occur with both and can be designated the neutral set". In Owens's (1993: 38) formulation of Nigerian Arabic vowel harmony, "a stem has either vowels of the front set or back set, the neutral set occurring with either". The next two sections (pp. 30-33) are concerned with syllable structure and word stress, respectively. This is followed by a section entitled "Historical considerations" (pp. 33-41), which illustrates the various Darfur Arabic reflexes of the Old Arabic phonemes /ʤ, q, x, ɣ, ħ, ʕ, h/, and the velarized/pharyngealized consonants (pp. 33-41). The chapter ends with a brief discussion of the homonyms obtaining from the absence or confusion of gutturals as well as a consequence of the phonological processes operative in Darfur Arabic.

In spite of its title, chapter 3, "Morphology: pronouns and particles" (pp. 43-124), is also concerned with adverbs. The chapter is divided into three sections, on pronouns, adverbs, and particles, respectively. The issues covered in the first section are: independent personal pronouns, which contain remains of gender distinction; pronominal suffixes; the proximal and distal demonstratives *da* ~ *di* ~ *de*.SG, *de:l*.PL and respectively *da:k*.SG and *de:lak*.PL; the presentatives *da:ku* and *da:hu* and *ja:hu*; the invariant relative pronoun *al*; the interrogative pronouns *ja:tu*

'who; which' and *ʃənu* 'what'. The second section focuses on adverbs: adverbs of time, including the names of the days of the week, seasons, and months; adverbs of manner; adverbs of place (; the intensifiers *ʃadi:d*, *sa:kit*, *bile:n*, *xala:s* and *ɟinis* – all 'early' – and *kullu* 'not at all'; the interrogatives *ka:m* 'how many', *gadur ʃənu ~ gidre:ʃ* 'how much', *wen* 'where', *ʃige:ʃ* 'to where', *ke:ʃ* 'how', and *ma:lu ~ (a)ʃa:n ʃənu ~ le ʃ(ə)nu* 'why'. Let me note in passing that rather than Chadian *ma:la* as parallel with Darfur Arabic *malu* 'why' (p. 79), a better parallel would have been Juba Arabic *malú* 'why', (see Manfredi 2017: 185). The third section covers the following: the article; the object-introducing *le*; the genitive particles *bita:*, *hag: ~ he:l* and *hana*; the negation particles *la* 'no', *ma ~ wala* 'not', *bas: ~ il:a* 'only; except'; the question and answer particles *wal:a* and *miʃ ~ muʃ*; existential *fi:* and *ma fi:*; prepositions; quantifiers; conjunctions; the focus and topic particles *za:t* and *ma*.

In chapter 4, "Morphology: the noun and the noun phrase" (pp. 125-173), the author describes the following: the patterns of singular and plural nouns; suppletive plurals, e.g. *walad* 'child.SG' – *ija:l* 'child.PL', *ija*[3] 'mother.SG' – *uma:t* 'mother.PL'; the collectives and singulatives; the diminutives; the suffix *-a:j*; dual nouns and the suffix *-e:n*; the patterns of adjectives : *Caci:C*, *Ca:ciC*, *maCCu:C*, adjectives starting with *mu- ~ mi-*, *CaCCa:n*, other patterns; relation, origin and the suffix *-i*; proper names; colours and deficiencies; the degrees of comparison; the genitive construction and the compound nouns with *abu* and *am*; the cardinal numerals, the multiple meanings of *wa:.id* 'one', and the ordinal numerals.

Chapter 5, "Morphology: the verb and the verb phrase" (pp. 175-271), is a detailed description of verbs and verb phrases in Darfur Arabic. The issues covered are: the perfect and respectively imperfect conjugation of basic regular verbs; the morphophonological features of verbs and covers: vowels and transitivity; the perfect SG verbs ending in *-a*; the imperfect SG verbs ending in *-i*; syllable reshuffling; roots with historical pharyngeals; tense, mood and aspect of the perfect and respectively imperfect conjugation; number, gender and type of verbal paradigm; irregular roots: *wvCVC*, *yvCVC*, *aCaC*, *CV:c* – including notes on *ʃa:ʃ*, *baʃu:ʃ ~ baʃi:ʃ* 'to see' and *ga:l*, *bagu:l* 'to say', *CVCV* – with notes on *biga*, *babga* 'to become', *CVCCa*, other irregular verbs; derived patterns: *CaCa:c* as well as primae *wa:w* and mediae infirmae roots, tertiae infirmae roots, *Ca:CaC* as well as primae *wa:w* and mediae infirmae roots, tertiae infirmae roots, *Co:CaC*, *biCo:CiC* and *Ce:CaC*, *biCe:Cic*, *aCCaC*, other patterns; four-consonant roots; the passive voice, reflexivity, detransitivization, reciprocity and the prefixes *it-* and *in-*; the imperative; the participle; serial verb constructions: consecutive action, with a semi-auxiliary, with a participle, with an auxiliary; verbal nouns.

Chapter 6, "Selected topics in syntax" (pp. 273-290), first looks at word order in nominal, verbal, prepositional and existential sentences. In her discussion of word order in verbal sentences, the author writes (p. 274) that "the verbal predicate is often found at the end of the sentence with an object preceding that predicate, i.e. with SOV word order". Consider, however, two of her examples. In *fasa:d ma fi ka:n. mamnu: fi balad* depravation NEG EXS PFV.be.3SG PASS.PTCP.forbid.SG in country 'There was no depravation. It was forbidden in Darfur' there is no object, while in *jal:a dinja darat big-it* then world rainy season PFV.become-3SG 'Then it had become the rainy season', the noun *darat* 'rainy season' is a predicative, not an object. The next section focuses on agreement, which, as put by the author (p. 279), "is inconsistent to a degree that it is hard to establish rules". The issues covered are: definiteness, gender, and number agreement. The last two sections discuss possession and the expression of the passive.

Chapter 7, "Linguistic status of Darfur Arabic" (pp. 291-301), is an excellent summary of the findings and of their implications. It is first demonstrated (pp. 292-295) that Darfur Arabic

[3] A Fur loanword.

exhibits a number of features typical of West Sudanic Arabic, such as: the absence of the pharyngeals (with the exception of Kordofan Baggara Arabic): the occurrence of the adverbs and particles *ke* 'like that', *ʃiu ~ ʃia* 'a little', *ɣat:* 'all', *ha:j* 'hey', and *tara* 'that is, you see'; the names of the Islamic months of the year; the many compound nouns with *ab(u)* or *am*. In this context, the author discusses the similarities and differences between Darfur Arabic, on the one hand, and Nigerian Arabic, Kordofan Baggara Arabic and Chad Arabic, on the other hand. A number of features identified by the author (pp. 295-297) suggest that, in spite of the commonalities, Darfur Arabic is a variety in its own right, which can be set apart from Wadai or Abéché Arabic on the basis of several features. These include: the more variable realizations and, hence, the instability of the Arabic gutturals; the occurrence of the 1SG pronoun form *ani* as a synonym of *ana*; the occurrence of three genitive particles; the fact that *and ~ ind* is restricted to expressing possession; a more pronounced tendency towards the absence of the definite article and neutralization within the pronominal system; the absence of the *al-* prefix to express reflexivity and reciprocity; the virtual absence of the prefix *t-* as a marker of the historical 3SG.F imperfect verbs; the occurrence of the suffix *-i* in all persons of transitive SG imperfect verbs; the absence of verbal nouns ending in *-i:n*; the absence of gender distinctions; the preference for *ad:a*, *bad:i* instead of *anta*, *banti* 'to give'. In the next section the author convincingly argues that Darfur Arabic cannot be considered an Arabic-lexifier pidgin or creole. Darfur Arabic does exhibit a number of features which are, as put by the author, "reminiscent of creoles": the loss of the pharyngeals and pharyngealized consonants; weak lengthening of vowels and consonants; some degree of distinctive stress; the realization of Arabic /ʃ/ as [s]; the frequent absence of the definite article *al*; neutralization in the pronominal system; the absence of gender distinctions; irregular number agreement. However, unlike Arabic-lexifier pidgins and creoles, Darfur Arabic does not display reduced morphology: nouns and adjectives have singular and plural forms: it has dual forms of nouns and pronominal suffixes; it does have distinct imperfect and perfect conjugations and personal endings; it does not have pre-verbal tense, aspect and modality markers. I definitely concur with the author's conclusion (p. 299) that Darfur Arabic "takes a middle position between an Arabic-based pidgin or creole […] and a full-fledged Arabic dialect on the other" and that "it would be appropriate to label [it] a contact language".

In conclusion, *A Grammar of Darfur Arabic* is a noteworthy and very welcome contribution to the study of a hitherto under researched variety of Arabic for which the author is to be commended.

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Tyler Kendall & Valerie Fridland. 2021. *Sociophonetics*. Cambridge: Cambridge University Press. 257 pp. + xix.

Reviewed by Costin-Valentin Oancea*

The book at issue is included in the collection "Key Topics in Sociolinguistics" by Cambridge University Press and is structured into nine chapters, a List of Figures, References and an Index.

Chapter 1, "Sociophonetics = Sociolinguistics + Phonetics" (pp. 1-11), discusses the intricate connection between sociolinguistics and phonetics. It lays the ground for the subsequent topics under scrutiny and presents in a very comprehensive way the domain and scope of sociolinguistics and what sociophonetics studies. The authors provide a brief history of the IPA (International Phonetic Alphabet) and successfully answer the question "What is sociophonetics?" At the end of the chapter, several titles are provided, under the heading "further reading."

The second chapter, "Sociophonetics and its methods: Foundations" (pp. 12-39), focuses on typical sociophonetic methods for data collection and analysis. The authors mention the three divisions of phonetics: articulatory phonetics, acoustic phonetics and auditory phonetics, and acknowledge that the area of acoustic phonetics is the one where the interface with sociophonetic pursuits has had a major influence on the development of methods and approaches. Two segmental speech features (vowels and sibilant consonants) are discussed at length. Also included here are examples of spectrograms to illustrate different sound characteristics (e.g. word final /z/ and word initial /s/ display notable characteristics). All in all, this chapter provided an overview of some key concepts and approaches from both phonetics and sociolinguistics that undergird modern sociophonetic research and its methods.

Chapter 3, "Sociophonetics and its methods: Vowels and sibilants" (pp. 40-72), explores analytic methods used in sociophonetic investigation. The chapter opens with a discussion of ways of analyzing vowels (i.e. token selection, formant extraction and taking measurements, the number of vowel measurements that is required, visualization and plotting, normalization and other data processing). The chapter continues with a presentation on analyzing sibilants (i.e. token selection and delimitation, taking measurements, visualizing sibilant data, normalization). In this chapter the authors provide a reliable guide with the purpose of training researchers on how to perform basic analyses of vowel and sibilant sounds. As the authors themselves acknowledge "this chapter walks through the nuts and bolts of doing sociophonetics quite this closely" (p. 71).

Chapter 4, "Sociophonetics and regional variation: A new dialectology?" (pp. 73-95), considers accent as a regional marker and provides an in-depth analysis of regional differences in language use, as well as the factors that contribute to these differences. The authors briefly highlight the difference between *dialect*, *accent* and *variety* and great emphasis is laid upon the domain of dialectology, as it concerns itself with the study of regional language variation. The contribution of scholars like Hans Kurath (coordinator for the *Linguistic Atlas of the United States and Canada*), Harold Orton (in charge of the *Survey of English Dialects* in the United Kingdom), among others, is acknowledged. The second part of the chapter provides useful insight into sociolinguistic research on regional variation, mentioning the important contribution of William Labov (1963, 1966, 1972) and Peter Trudgill (1974) to the field of urban dialectology (Chambers

* Ovidius University Press, Department of Modern Languages and Literatures and Communication Sciences, oancea_costin@yahoo.com.

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& Trudgill 1998). The last part of the chapter is devoted to sociophonetic research on regional variation, as well as perception and regional variation.

Chapter 5, "Sociophonetics and social factors" (pp. 96-125), revolves around the idea that speech sounds are crucially intertwined with the full spectrum of our social identities, not just our regional identities. The chapter tackles the contribution of sociophonetics to the understanding of language and the social world. It discusses of wide range of topics that take into consideration social variables such as: region, social class, gender, age and ethnicity and their impact on phonetic variation and change. Several epoch-making studies from a wide range of communities are clearly presented.

Chapter 6, "Sociophonetics, style and identity" (pp. 126-155), builds on the ideas presented in chapters 4 and 5 and examines approaches to the study of "within-individual variation and the construction of linguistic style" (p. 126) as well as the contribution of sociophonetic research to this line of inquiry. The contribution of Penelope Eckert (2017), who has influenced approaches to the construction of social meaning and linguistic performance, is acknowledged in the first pages on the chapter. The discussion swiftly moves to language and individual variation with a focus on style. Included here is also a brief analysis of the three waves of studies concerning language variation and change. The last part of the chapter puts under scrutiny language and social identity (Eckert 2000), as well as perception and social identity (Munson & Babel 2007).

In Chapter 7, "Sociophonetics and sound change", pp. 156-177, reviews some of the most significant proposals advanced regarding sound change. The authors discuss the Actuation Problem (Weinreich et al. 1968) in detail, as well as the Hyper- and Hypo-Speech Theory (Lindblom 1990). Labov's immense contribution to the area of language variation and change is presented at length, with a focus on his stratification studies carried out in the sixties, as well as his more recent work on "the principles of linguistic change" (Labov 1994, 2010). The chapter ends with a succinct discussion regarding the contribution of sociophonetics to sound change and future theories of sound change, i.e. the ability that sociophonetics has of looking empirically at socially-patterned intra-speaker variation, research which has been previously discarded or neglected.

Chapter 8, "Sociophonetics and its methodological future" (pp. 178-207), surveys some of most recent methods for extracting and coding data. These methods allow researchers to analyse larger amounts of data which result in more reliable findings and explanations. The chapter opens with a brief presentation of computational linguistics and reviews the traditional and modern approaches used in sociophonetics. The well-known software PRAAT is clearly presented and exemplified through the use of spectrograms. The authors then proceed to a discussion of automatic acoustic analysis and mention common tools used in this type of analysis (e.g. software programs like P2FA, FAVE, MFA, WebMAUS, ISCAN). The last part of the chapter tackles the domain of speech recognition and the tools that can be used to apply speech recognition to automate sociophonetic analysis (e.g. DARLA), as well as artificial intelligence and machine learning.

The last chapter, "In closing" (pp. 208-212), considers the main benefits that sociophonetics offers to the study of language. Sociophonetics inherited, in a way, the emphasis on data and methods from the vast field of sociolinguistics. However, it has advanced immensely from the first acoustic studies of variation in speech. This domain, the authors believe, will greatly benefit from the advances in computer processing of speech and software development.

Sociophonetics is a very exciting area of research and by understanding speech as a cognitively, physically and socially governed phenomenon we can contribute to developing a cogent theory of language in society. The topics tackled in the book are very well-chosen, the discussion is refined, yet accessible even to neophytes. Tyler Kendall & Valerie Fridland's *Sociophonetics* intertwines phonetic and phonological form with the social and regional factors that influence speech. The book covers theoretical, methodological and computational approaches

and provides a fresh perspective to old questions about language variation and change. It is also worth mentioning that the book has an accompanying website containing online resources (e.g. audio files, data processing scripts and useful links) to make the journey even more pleasant and at the same time aid students and scholars with their own work. The fact that each chapter contains a "further reading" section is a big plus.

All in all, the book *Sociophonetics* represents a very useful and much-needed contribution to the ever-growing field of sociolinguistics. For achieving all of these things the authors deserve ample credit and congratulations.

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B-dul Mihail Kogălniceanu 36-46, Cămin A, Corp A, Intrarea A, etaj 2, Sector 5,
București, România (curtea Facultății de Drept)
e-mail, tel.: editura.unibuc@g.unibuc.ro; + (4) 0726 390 815
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tel: 0799 210 566

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