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Leitmotif: Evidence in multilingual research

BOOK OF ABSTRACTS

Faculty of English
Adam Mickiewicz University in Poznań

Contents

PLENARY SPEAKERS

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Third language acquisition in bilingual learners: The importance of linguistic proximity

I will discuss third language acquisition (L3A) within a formal approach to language, arguing that that it can inform linguistic theory. I will also argue that it is time for this field to shift the focus from the order of acquisition (L1 vs. L2) to more abstract linguistic structures of the three languages involved. Thus, L3A can be extended to the study of bilingual populations learning a third language, which is an increasingly common situation. I also discuss a new model (the Linguistic Proximity Model, LPM), which argues that all languages of a trilingual remain active at all times and that cross-linguistic influence in L3A could be from either or both of the previously learned languages, provided there is some abstract structural similarity between them. Furthermore, the model argues for incremental step-by-step learning and no special status of the initial stage(s).

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Assessing cross-linguistic influence in L3 phonology through language switching tasks: the role of L1 dominance and individual differences in attention and inhibitory control

The overall aim of this talk is to bridge the gap between research on the mechanisms of language control in language switching in bilingualism and multilingualism and research on cross-linguistic influence (CLI) in L3 phonological acquisition. Based on previous methods and findings from language switching research (Antoniou et al., 2011; Fillipi et al., 2012, 2014; Goldrick et al., 2014; Olson, 2013) we propose the use of language switching tasks as a useful testing ground for predictions about L1 and L2 CLI in L3 phonological acquisition. We will explore this approach through language switching data from bilingual Spanish-Catalan bilingual learners of L3-English differing in degree of L1 dominance. In addition we will assess L1 dominance effects on phonological CLI (VOT) at switching between languages as a function of individual differences in cognitive control. Finally, we will discuss the role of attention and inhibitory control (Darcy et al. 2016; Linck et al., 2012; Strange, 2011) in modulating phonological CLI and processing in language switching tasks and L3 phonological acquisition from an individual differences perspective (Festman et al., 2010).

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Cross-language influences in trilingual word processing

One of the main questions in my research is in how far the languages of a bi- or multilingual interact during language processing. This can be studied on many different levels of processing (phonetic / orthographic, lexical, syntactic, semantic etc.). In this talk, I will focus on the word level and review the evidence on the extent to which the three languages known to a trilingual influence each other during lexical access, both in word comprehension and in word production. In particular, I will report on a) the role of cognates in trilingual word recognition, and b) a series of experiments in which we investigated whether it is the native language (L1) or a (fairly strong) foreign language (L2) that interferes most with word production in the weakest language of a trilingual (L3). While many trilinguals report the L2 to be the stronger source of interference, experimental evidence on this phenomenon had so far been missing. The obtained results help us to understand more about the structure of the trilingual lexicon, as, for instance, formalized in models of multilingual lexical access (de Bot, 2004).

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Now you see it, now you don't? Factors in benefitting from cognate vocabulary

Cognates are words that are formally and semantically very similar, or even identical across different languages. We tend to spot them mostly in languages which are typologically similar, and it is traditionally assumed that cognate words had a common ancestor word that they originated from (Lat. cognatus = blood relative). However, cognates can also exist in typologically unrelated languages, such as Polish and English. This is due to the historical processes of language contact and borrowing which affected languages over the centuries.

Because of their somewhat 'special' formal and semantic similarity across languages, cognates become a common object of study for psycholinguists and applied linguists. Psycholinguistic experiments demonstrate the subconscious cognate facilitation effect: cognates are processed faster than other words. On the other hand, language acquisition studies underlie the importance of consciously noticing the correspondence of the cognate in the foreign language and other languages known to the learner: Cognates are supposed to help in language acquisition, if learners can notice them and strategically use them to their benefit. Strangely enough, teaching about cognates is largely missing from foreign language syllabuses, and not all learners seem to acknowledge the fact that cognateness may help in learning. What is more, it is not always clear why some learners do not seem to notice cognates, while others use them as a language learning strategy.

Thus, in my research I investigate which factors, both word-related and learner-related, have an impact on benefitting from cognateness in language acquisition, and how they influence noticing and using cognates. The word-related factors include word category (e.g. noun, adjective), orthographic similarity of the cognate to its first language equivalent, and whether the word is presented in isolation or in context. The learner-related factors include proficiency in the target language and other languages known, learner's age, and their metalinguistic knowledge and awareness. Evidence shows that benefitting from cognateness increases with proficiency in the target language, and that higher proficiency in more than one language (multilingualism) affects learners' awareness of cross-linguistic similarity. So, my next question is whether this sensitivity to cross-linguistic similarity, present in multilinguals, can be trained in the case of language learners of varied age and varied target language proficiency. Classroom research, including case studies and large-scale experiments on adults and teenagers alike, shows that the cognate strategy training works even in beginners, and that training increases learners' ability to notice such words in texts and use them as a communication strategy.

The talk will predominantly deal with Polish-English cognates and their use by bilingual and multilingual Polish learners/users of English. However, since it discusses the universal processes of cross-linguistic influences in the mind of an individual, the evidence presented should be generalizable to other languages. Hopefully, it can also serve as an example for other language pairs and groups.

Jorge González Alonso
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Into the wild: A look at L3 acquisition from the onset and across development

This talk will discuss the design and preliminary results of a research project that seeks to advance our understanding of third or further (L3/Ln) language acquisition, focusing on the transition from early exposure into more advanced stages of interlanguage development. It has often been highlighted that L3 acquisition is constrained by a very large number of variables, including some that are unique to the L3 setting—i.e., they do not apply to first or second language acquisition—and some that are well-known in other instances of language acquisition but become particularly challenging in multilingualism. The project I will present in this talk aims to factor that complexity into its methodological approach, which combines behavioural and eye-tracking data, offline and online tasks, cross-sectional and longitudinal studies, implicit and explicit instruction. The progress of a group of L3 learners of Spanish is being charted from the onset and for three years, while laboratory based experiments examine the acquisition of artificial grammars implicitly taught as L3s to different groups of bilinguals. These experiments provide total control over the nature and amount of input that learners receive, and allow us to control for and understand key variables that apply to the more ecologically comparable group of L3 Spanish learners. This research will provide invaluable data to assess the relative contribution of different variables to the L3 acquisition process, and in particular to determine if and how linguistic transfer from previously acquired languages impacts the architecture of the initial L3 interlanguage, and how this may affect the course of development in the shape of constraints on L3 specific learnability.

PRESENTATIONS

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Experience with second language vowels determines foreign language vowel perception

This paper shows that experience with second language vowels determines the initial state in third language vowel perception. In the light of selective attention to features in second language speech perception postulated by Pajak and Levy (2014), the limits of feature abstraction and the influence of second language vowels on foreign vowel perception are examined. Does familiarity with back rounded vowels allow for perception of front rounded vowels of various heights?

The paper focuses on perception of Dutch vowels by Polish students of English and French in comparison with a control group of Polish students of Dutch. The purpose is to examine how the feature +rounded interacts with other features such as height and backness. The subjects were three groups of Polish students of: English, French and Dutch. They were all second language learners, instead of L1 speakers of respective languages, so that a common L1 with no rounded vowels could serve as tertium comparationis. The second languages were chosen to have larger vowel inventories than Polish with (French) and without (English) front rounded vowels.

The perception of Dutch vowels by the three groups of learners was assessed using an AXB categorical discrimination task (six contrasts were examined: /y-ɪ, y-u, ʏ-ɪ, ʏ-u, ø-ɪ, ø-u/) and Dutch vowel categorization in terms of Polish vowels with goodness ratings.

Identification patterns consistently varied between language groups. Experience with L2 front rounded vowels exerted influence on Dutch as a foreign language vowel perception. Dutch /y ʏ/ and /ø / were identified predominantly as front vowels by learners of L2 with front rounded vowels (for example, Dutch /y/ was categorized as Polish /ɨ/ by 77% of Dutch learners, 69% of French learners and only by 43% of English learners) and as back vowels by learners lacking experience with the feature + rounded used with front vowels.

Familiarity with the feature +rounded from L1 (Polish uses rounding for its back vowels and /w/) did not mean it could be easily abstracted and used in a completely different context (front vowels) (cf. Bohn and Best 2012). The two features +rounded and +back seem to be linked in Polish in an implicational hierarchy where +rounded implies +back. The results show that listeners need experience at least with second language front rounded vowels to trigger disentangling rounding from backness.

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Toward a Thematic Analysis of the Multilingual Family Portrayal in Personal Blogs

Multilingual upbringing is a complex and demanding process that requires persistence and dedication from the parents in order to be successful (Paradowski & Bator, 2016). It is also a conscious and dynamic endeavor, for parental decisions regarding their family's multilingual communication practices depend on their particular linguistic situation and needs at a given moment. Despite the challenges it poses, multilingual child-rearing is not the exception to the so-called norm. On a global scale, individuals and families who are exposed to and/or who use several languages to communicate on a daily basis outnumber those who are purely monolingual (Cruz-Ferreira, 2010). In today's society, such families represent the epitome of intercultural understanding, social cohesion, and mutual respect.

Regardless of the ubiquity and the benefits of this phenomenon, parents' decision to raise their children in three or more languages is prone to criticism because of the misconceptions surrounding this practice. Much is yet to be learned about how multilinguals are brought up in order to both debunk existing myths and strive for a supportive social environment. As an attempt to bridge that gap, a study on the experience of various international families who have undertaken the challenge of multilingual early language transmission in mainstream, monolingual communities is being conducted. The main goal is to shed light on salient issues, recurring challenges, as well as successful strategies that influence parenting styles in multilingual households. The data come from the insights available in online, public journals written by parents in fifteen families with different demographic backgrounds.

Viewed as records of personal experiences deliberately open to the public (Walker Rettberg, 2008), parents' weblogs may offer an emic, non-intrusive perspective for the study of multilingualism in the family context. This presentation will thus use parents' e-journals as evidence of their efforts to endorse multilingualism in their home settings and within a broader online community. Drawing on text-mining and thematic analysis methods, samples of the data will be used to illustrate individual cases from a digital ethnographic, non-participant perspective. Specifically, the discussion will focus on how multilingual families are depicted in the blogosphere and how parent-bloggers (i.e. parents who run personal blogs) enhance a community of practice in which multilingual upbringing is a common goal/need to all its members.

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Effects of initial non-facilitative transfer from the L1 versus L2 in L3 development

L3 initial stages research suggests transfer may be determined by structural similarity of the L1 vs. L2 to the L3 (see Rothman, 2015 for review). In this case, transfer may come from either existing system, and may be facilitative or non-facilitative. In development, learners must overcome non-facilitative transfer, and this task may be qualitatively different for learners that transfer their L1 vs. L2. The aim of this study is to identify potential developmental differences conditioned by L1 vs. L2 transfer.

We examine acceptability of differential object marking (DOM) by English/Spanish bilingual learners of L3 Brazilian Portuguese (BP). In Spanish, accusative objects that are [+specific] and [+animate] are marked with 'a', while other accusative objects are unmarked (Examples 1-4). Neither English nor BP exhibits this contrast. English/Spanish bilinguals learning L3 BP have two grammars available for transfer, which for DOM could be facilitative (English) or non-facilitative (Spanish). Giancaspro, Halloran, & Iverson (2015) show that L3 learners initially transfer the incorrect option from (structurally more similar) Spanish.

To examine L3 BP development after non-facilitative Spanish transfer, we tested BP controls (n=22) and six groups of Spanish/English bilinguals at two levels of BP proficiency. Four groups acquired the L2 sequentially: L1 Spanish/Advanced L3 BP (n=17), L1 Spanish/Low L3 BP (n=13), L1 English/Advanced L3 BP (n=19), L1 English/Low L3 BP (n=16). The remaining groups were heritage speakers of Spanish: HS/Advanced L3 BP (n=9), HS/Low L3 BP (n=27). Participants completed an acceptability judgment task with eight target conditions: the four possible combinations of [±animate, ±specific], with and without the marker 'a'. Influence from Spanish is expected at the initial stages. Beyond this, if L1/L2 status matters, we expect divergence in these groups, particularly in conditions with a [+animate, +specific] object (where DOM is obligatory in Spanish).

All L3 initial stages groups fail to significantly distinguish between [+animate, +specific] items with DOM (ungrammatical in BP) and without DOM (Figure 1). The L1 Spanish/Advanced L3 BP group and the HS/Advanced L3 group pattern with the low-proficiency groups, showing no signs of development. The L1 English/Advanced L3 BP group, however, significantly distinguishes between items with and without DOM, similar to the control. This suggests the L1 English/Advanced L3 BP group has retreated from initial non-facilitative transfer, while the L1 Spanish and HS Advanced L3 BP groups have not. We discuss results in light of possible sources of non-convergence, including L1 inhibition and relative Spanish and English exposure.

Examples

(1)   *Busco (a) una secretaria*   [+animate, +specific]
      I am looking for DOM a secretary
      'I am looking for a (specific) secretary.'

(2)   *Busco (*a) una secretaria*   [+animate, -specific]
      I am looking for *DOM a secretary
      'I am looking for a (non-specific) secretary.'

                                                     (Zagona, 2002, p. 13)

(3)   *Juan destruyó (*a) la ciudad*   [-animate, +specific]
      John destroyed *DOM the city
      'John destroyed the city'

(4)   *Juan destruyó (*a) una ciudad*   [-animate, -specific]
      John destroyed *DOM a city
      'John destroyed a city'

                                        (Rodríguez-Mondoñedo, 2007, p. 92)
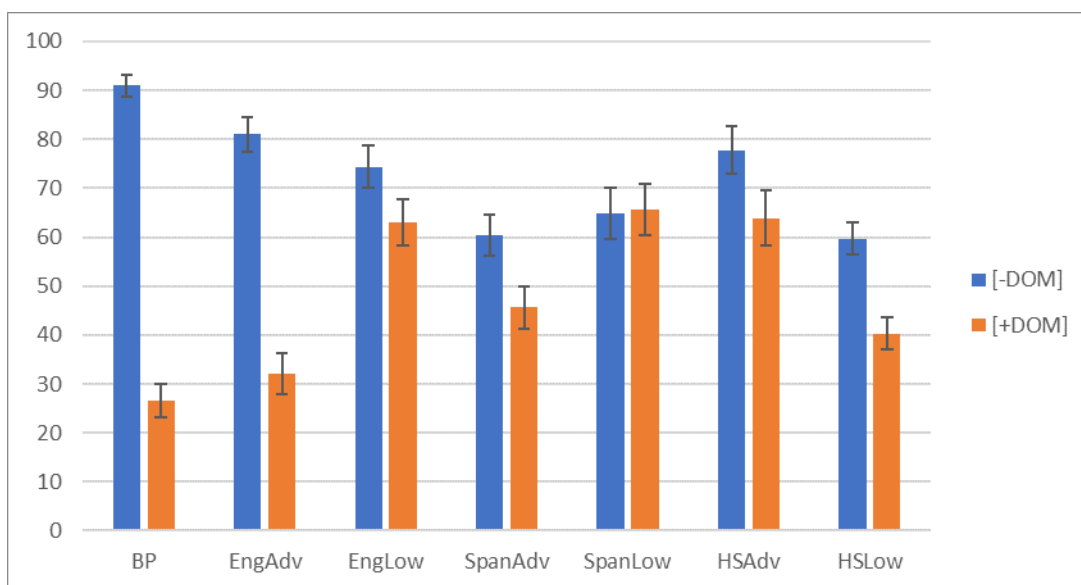
Figure 1. Percent acceptability results for the critical condition, [+animate, +specific] objects with or without DOM; Error bars indicate standard deviation

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The power of a dominant language in Taiwan

Taiwan is known as a diglossia society, where Taiwan Southern Min (TSM) and Taiwan Mandarin (TM) are spoken in different settings, and English has been learnt by all elementary students since1993. Thus, the young generation could speak at least three languages, where TM is the dominant language. The goal of the study was to investigate how the young trilinguals produce TSM, a subdominant language, and how its sounds influenced by TM and English.

12/20 trilinguals (age 23.5, 8F, 4M) were recruited to participate in a TSM reading task because others did not pass a perceptual test. Their language proficiency in a 5-point self-reporting is TM (5) > TSM (3.08) > English (2.42). They were asked to pronounce 45 TSM words with CaC[1] structure, where coda varies from [p], [t], to [k] and their VC's F2 trajectories were drawn in Figure 1[2]. The wordlist was represented by Chinese characters, which are usually to represent TM, because TSM does not have its own well-known writing system. The results indicated that participants produced [at] with an increasing second formant (F2) from 1500Hz-1600Hz. [ap] was produced with a steep slope, while [ak] gently slopes toward the end.

To conclude, TM allowing no final stops might be the reason why 8/20 participants failed in the pretest. The same reason might also explain why about 20% legitimate data were discarded because of misreading or incapability of reading. In addition, the lack of the characteristic of 'velar pinch' suggests a low locus of velar stop in TSM. This is in agreement with one of the possible loci of [k] of 1300Hz in English (Kent & Read, 2002). It was not clear how English affects the production of TSM, but the more dominant language could play a significant role in the production of unreleased terminal stops.

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Figure 1: the F2s of 12 trilinguals' [ap], [at], and [ak]

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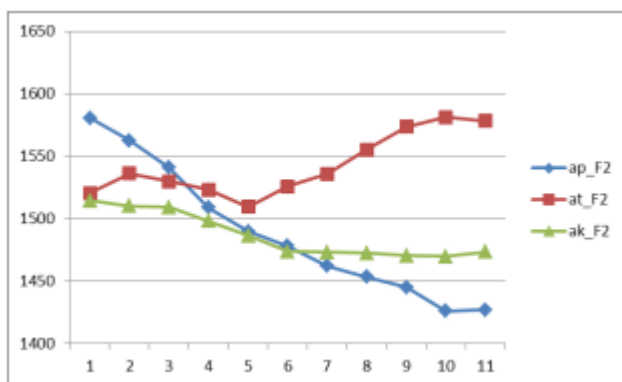
[1] Because [ik], [up] and [uk] were accidental gaps, only the words with the vowel [a] was chosen.

[2] Overall, 78.49% of those 45 words were correctly read out loud by our participants. The error rate (mis-produced or unread) is reported as follows. [ap] (18/96)18.75%; [at] (51/180)28.33%; [ak] (46/264) 17.42%.

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Teaching L3 through (the unrelated) L1 and (the related) L2 – the role of Contrastive Analysis and Language Awareness

Contrastive Analysis (CA) is defined as the "systematic comparison of two or more languages, with the aim of describing their similarities and differences" (Johansson 2008: 9). The assumption being that it would allow for a better understanding and description of a language, comparing across languages was initially meant to serve both a linguistic and a pedagogical purpose as it was supposed to allow for the creation of more effective teaching materials and to contribute to the discovery of language universals. Today CA seems to be used mainly on a more conceptual level.

Language Awareness (LA) was first defined as "a person's sensitivity to and conscious awareness of the nature of language and its role in human life" (Donmal 1985: 7). Various attempts have been made to narrow down the scope of LA. Andrews, for instance, introduced a Language Exploration and Awareness approach to language teaching and learning, encouraging, among others, development of reflective or metalinguistic awareness among learners (Andrews 1998).

This paper aims at bringing these two notions together to see how they can influence and complement each other in a context where:

- (university) students are taught a language (Dutch – L3) which belongs to a different family than their native tongue (Polish – L1) but to the same family as a language they are (fairly) fluent at (English L2),

- use is made of the learners' (related) L2 as well as their (unrelated) L1 for the purpose of teaching L3 (as outlined in the previous point).

It also looks at how Contrastive Analysis, or Contrastive Grammar, can be taught at university level in Poland with a so-called small language. Students of English, for instance, often follow such a course as a continuation of one in Descriptive Grammar (Chrzanowska-Kluczewska and Mańczak-Wohlfeld 2008), with all the appropriate linguistic terminology and analysis. Such an approach, however, is impossible when doing a CA-based course with students of Dutch, whose knowledge of the language is at level A1 in their first year. During the talk I will present teaching materials which meet these students' needs, are adapted to their level, and attest the view that there is still a place for Contrastive Analysis in the classroom, not only on a conceptual level. I will also show how and argue that the learners' L1 and L2 can or perhaps even should both be resorted to when teaching an L3, regardless of the level.

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Positive transfer from the heritage language? The case of VOT in German/Turkish and German/Russian learners of L3 French and Russian

Although L3 phonology has become a well-established field of research during the past decades, little is known about the learning of foreign languages (FL) in learners who speak a heritage language (HL) in addition to their dominant language, which is also the language of environment and scholar instruction. Our study addresses the production of the voiceless stops /p t k/ in adolescent learners (aged 14-16) who speak Turkish or Russian as HL along with German and learn French or Russian as a second FL (after English) in German senior high schools. We will present first results of measurements of Voice Onset Time (VOT; time that elapses between the release burst and the vowel onset). Regarding VOT, French and Russian contrast with both German and English in that the fortis-lenis contrast is phonetically realized by means of a long vs short lag distinction in the latter, whereas the former exhibit a voicing lead for the voiced stops and a short lag for their voiceless counterparts.

Our data were collected in different schools with a high proportion of migrant children in Germany (June-November 2016), using a picture naming task. The leaners (10 per group) were recorded in all of their languages. Note that for Russian the situation is more complex than for French insofar as it is a FL for the German monolinguals and both the HL and the school FL for the bilinguals. We recorded items with /p t k/ in the onset of the stressed initial syllable, followed by /a i u/ (9 items per language; for Russian only 6, /pi/, /ti/, /ki/ being excluded due to palatalization). In addition we conducted semi-focused interviews aiming at the learners' phonological awareness and their attitudes towards their languages.

Based on the insights from recent studies on VOT in L3 acquisition (Llama et al. 2010, Wrembel 2014, Gabriel et al. 2016, Lein et al. 2016) and in situations of multilingual communication/code-switching (Antoniou et al. 2011, Olsen 2013, Piccinini/Arvaniti 2015), we hypothesized that bilinguals have partly developed intermediate VOT values for German and their HL. However, some of them seem to maintain two separate systems, which enables them to positively transfer the adequate feature to the adequate FL (e.g. "German" VOTs to English, "Turkish" or "Russian" VOTs to French etc.). First analyses performed on the data confirm this expectation. Furthermore, the interviews reveal that extra-linguistic factors (phonological awareness; attitudes) seem to favor positive transfer.

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What modulates the L3 perception and production of English phonological contrasts? The case of Turkish-German bilinguals

Studies on crosslinguistic influence (CLI) in Third Language Acquisition (L3A) have largely focused on three models developed in the context of morphosyntax: the L2 Status Factor Model (Bardel & Falk 2012), predicting transfer of the L2, the Typological Primacy Model (Rothman 2011), suggesting transfer of the system that is typologically closer, and the Cumulative Enhancement Model (Berkes & Flynn 2012), predicting combined transfer (if facilitative) from all background languages. Various studies have shown, however, that neither of these models is sufficient to explain the outcome of phonological L3A (Wrembel & Cabrelli Amaro 2016), necessitating a more holistic and aggregate approach to L3A. Furthermore, the way extralinguistic variables stemming from the cognitive/affective concomitants of multilingualism interact with CLI remains understudied in L3A.

Our study investigates nature and extent of positive CLI in perception and production of L3 phonological features. We test young bilingual (Turkish-German) learners of English on their acquisition of segmental (e.g., interdental fricatives) and suprasegmental (e.g., word initial consonant clusters) features in the target language. These are grouped into three sets based on predicted CLI: those promoting positive transfer from (A) Turkish, (B) German, and (C) those not expected to promote transfer from either background language.

In our experiment, we tested perception and production of (A), (B), and (C) by Turkish-German learners of English (n=12, mean age=11.5, grade 5/6) via (i) an AX discrimination task, and (ii) a delayed repetition task, using nonce words and novel compounds containing the target features. We further investigated whether results are modulated by cognitive and sociolinguistic (attitudinal/motivational) variables through a phonological working memory (PWM) test and questionnaires.

Based on a cumulative, property-driven approach to phonological L3A (Berkes & Flynn 2012, Hymann 2009), we predicted the bilinguals to perform equally well in (A) and (B). We further hypothesized that if the bilinguals enjoy the cognitive and linguistic benefits of bilingualism, PWM should predict performance in all contrasts.

Our results so far indicate phonological transfer to be cumulative in our bilinguals (no distinct ease with either (A) or (B)). Furthermore, perception and production of the features is non-isomorphic. Finally, neither PWM nor motivation predict success in either perception or production. While we argue that the bilingual population should be studied in its own right, we will present results from a study (currently underway) testing age-/SES-matched monolingual German learners of English on the same contrasts in order to establish and compare L2 and L3 acquisition hierarchies.

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Perception and production of geminates by L1-German and L1-Swedish speakers with Italian as L3

We investigate whether L1-Swedish speakers have an advantage over L1-German speakers when acquiring consonantal quantity distinctions in L3-Italian due to positive transfer from Swedish.

German, Italian and Swedish all have quantity distinctions in stressed syllables, but they play out differently. Italian distinguishes short consonants ("singletons") from long ones ("geminates") in both spelling and speech production, e.g., pala [pala] vs. palla [palːa] (Schmid 1999). A secondary cue to gemination is the preceding vowel. A vowel followed by a geminate is shorter than a vowel followed by a singleton (Rochet & Rochet 1995). In German, gemination does not exist but vowel duration is distinctive. Vowels preceding a single written consonant are longer than those preceding a double written consonant, e.g., rote [roːtə] vs. Rotte [rɔtə] (Truckenbrodt 2014). Swedish shows complementary length, i.e., double written consonants are associated with long consonants preceded by relatively short vowels, while single written consonants are associated with short consonants preceded by long vowels, e.g., rally [ralːi] vs. alibi [ɑːlɪbɪ] (Bruce 2012, Elert 1997). In contrast to Italian, Swedish speakers are more inclined to reply on vowel length than on the length of the following consonant in the same (stressed) syllable when identifying words.

Thus, all languages show similarities in spelling but differences in pronunciation, which may be particularly challenging for foreign language learners with formal instruction and exposure to written texts. However, the L1-Swedish speakers might have an advantage over the L1-German speakers in perceiving and producing geminates in L3 Italian because long consonants exist in their L1.

We compare the production and perception of the geminate-singleton contrast in 20 intermediate-level L3-Italian speakers (10 L1-Swedish, 10 L1-German) as well as L1-Italian controls. All have acquired English as their L2. The production task elicits words with similar VCV-patterns and spelling in the learners' L1s and L3s. Consonant length and vowel length are measured. In order to test perception, a picture-based minimal-pair-decision task was carried out. The test items were five versions of words with intervocalic consonants, whose length was varied stepwise from a singleton to a geminate.

Preliminary results show that compared to L1-Germans, L1-Swedish learners produce and perceive singleton-geminate contrasts in a more target-like way, supporting positive L1-transfer. Our findings lend support to the Linguistic Proximity Model (Westergaard et al. 2016), according to which the transfer source in L3 acquisition is primarily dependent on structural similarities between the target language and previously acquired languages.

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Cross Linguistic Influence at the level of word order in L3 English by monolingual L1 Georgian and bilingual L1 Georgian/L2 Russian speakers

Studies on Cross Linguistics Influence (CLI) have focused on whether and how previously acquired languages affect the acquisition of subsequent languages at different linguistic levels such as vocabulary, grammar, phonetics and syntax (Ringbom, 1987; Dewaele, 1998; Williams & Hammarberg, 1998; Cenoz, 2001; Flynn, Foley, & Vinnitskaya, 2004).

In this study we investigate the acquisition of word order, more specifically the OV/VO parameter (Neelemann & Weerman 1999), in main and embedded clauses in three typologically unrelated languages: Georgian (OV), Russian (VO) and English (VO). Although English and Russian share the VO word order, Russian allows alternative word orders more freely than English, which shows a rigid VO word order. Data were collected from two groups of L1 Georgian (adolescents and adults) and one L1/L2 Georgian/Russian adolescent learners of L3 English (n = 53) with a proficiency level of A2, as established by a language level placement test. The instruments used involved a grammaticality judgment task (GJT) and a translation task (TT) with matrix and embedded affirmative and negative stimuli.

The between group results showed no statistically significant differences on either task between the L1 Georgian and L1 Russian/Georgian groups of adolescents and adults. More specifically, the results for the GJT task revealed that all three groups performed with an accuracy of over 81% in English word order in affirmative matrix and embedded questions.

Nevertheless, the results of within group comparison revealed that the L1 Georgian adults and adolescents were better at accepting SVO matrix and embedded clauses than rejecting SOVPP and SOPPV matrix and embedded questions, which they did with the same frequency. On the other hand, the L1 Georgian/L2 Russian adolescents did not show any differences between the three types of structures in matrix and embedded contexts, accepting the correct SVO word order with the same frequency as they rejected the incorrect word orders.

Based on these results, we can conclude that in the case of the L1 Georgian learners of L2 English there might be some traces of word order transfer in that they hesitated more when it came to rejecting the incorrect OV word order than accepting the VO word order. The L1 Georgian/L2 Russian learners on the other hand did not show any differences when accepting the VO and rejecting the incorrect word order alternatives.

These results are discussed in the light of the so-called bi/multilingual (dis)advantage (Bialystok, Craik, Green & Gollan 2009; Cenoz 2001, 2003, 2013; Kroll & Bialystok 2013; Lasagabaster 2000; among others) where we suggest that the effects of CLI as reflected in acceptance/rejection of word order can be minimized in bilinguals.

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Bilingualism effects on L3 processing: a comparative research of bilingual and monolingual foreign language learners

The question of bilingual effects on various aspects of language acquisition and processing is a widely discussed one. According to the theory of bilingual costs and advantages, early bilinguals (people who acquire 2 languages from early childhood) demonstrate certain retard in linguistic development if compared to their monolingual peers. This retard is manifested in a smaller size of their two native languages' (NL) active vocabularies, slower speed of oral and written speech processing, lower rates of speech fluency etc. At the same time, bilingual advantage is revealed on the deeper level of cognitive processing and seems to consist in better developed cognitive control mechanisms. From this standpoint it is logical to suppose that bilingual effects are also consistent for the process of foreign language (FL) acquisition, wherein the linguistic level costs are likely to retard its efficiency. However, this assumption contradicts a well-known empirical fact that bilingual learners are generally more successful in FL (their L3) acquisition (quicker attain higher proficiency levels) as compared to monolingual learners.

The present paper describes a study aimed at revealing what particular aspects of L3 acquisition bear evidence of bilingual costs and advantages effects. We carried out an experimental research with 2 groups of university students: 1) bilingual native speakers of the Komi-Permyak and Russian languages studying English (their L3) in classroom settings and 2) monolingual native Russian speakers studying English (their L2) in classroom settings. The participants took part in a set of experimental tasks: a free association task with English stimuli, a chained association task with English stimuli, English active lexicon production task, English text production task.

The results demonstrated the presence of bilingual effects in all the experimental tasks under consideration. Bilingual costs were manifested in lower speed of active vocabulary retrieval and its smaller size, as well as in lower speed of texts production and a larger number of various mistakes. Bilingual advantage consisted in higher speed of associating isolated English words (both in free and chained associative experiments), and in faster and more extensive switches between the languages. Alongside with the results that are in line with bilingual costs and advantages in processing the two NLs, our research revealed that, though lagging behind in certain aspects of FL acquisition, bilingual learners seem to compensate that by adhering to some specific strategies of FL processing which concern a peculiar focus on FL system characteristic linguistic properties. We assume that this particular focus can be one of the major factors that underlie better progress of bilingual learners in FL acquisition.

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The role of language exposure during L1, L2, and L3 reading: Eye movement evidence from the moving window paradigm

Previous work using gaze-contingent methods (McConkie & Rayner, 1975) has revealed eye movement measures differences in first-language (L1) and second-language (L2) sentence reading as a function of individual differences in current L2 exposure among bilinguals (Whitford & Titone, 2015). Specifically, the findings suggest that increased L2 exposure increases reading fluency in L2, and decreases reading fluency and in L1. Of relevance here, a recent reanalysis of these data suggests that bilingual reading performance is also affected by the number of languages known to an individual (Titone at al. 2016). Specifically, young adults who know more than 2 languages tend to exhibit stronger reading performance than those who know only 2 languages. The present study directly investigates the processes involved in trilingual reading by using gaze-contingent paradigm to investigate L1, L2, and L3 reading patterns in a trilingual sample. Polish students of English and French read sentences in their L1, L2 and L3 while we monitored their eye movements. Sentences were displayed either in their full form full or across 4 window-conditions wherein a predefined window of text was presented normally during fixation whereas the rest of the text was masked by dashes. The windows extended 4 characters to the left and either 2, 6, 10 or 14 characters to the right of fixation. Preliminary analyses showed that our participants exhibited stronger reading performance in L2, weaker in L1 and weakest in L3. Since our participants were Polish native speakers living in Poland but studying almost exclusively in English with only limited exposure to French, these results suggest that global reading patterns (as indicated by reading rate) were more affected by the current levels of exposure to a given language than by the level of proficiency in that language.

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Investigating regressive transfer of L3 on L1/L2: Production and perception of bilabial stops by Mandarin learners of English and Spanish

Languages differ in the way they implement voicing contrasts in stops. For instance, while in Spanish the contrast involves voice-lead vs. short-lag voice onset time (VOT), in English it involves voice-lead or short-lag vs. long-lag VOT and in Mandarin the contrast is between short-lag and long-lag VOT (Abramson and Lisker, 1964; Cho and Ladefoged, 1999). These cross-linguistic differences are likely to affect the acquisition of L2 stops, and, in a multilingual context, L3 stops. For instance, in a study on stop production, Wrembel (2011) found an influence of L2 English on L3 French, but also on L1 Polish. The present study examined cross-linguistic influence in L3 acquisition by exploring the possible effect of learning an L3 on the production and perception of previously learned languages. Ten L1 Mandarin, L2 English speakers (Group A) and ten L1 Mandarin, L2 English and L3 Spanish speakers (Group B) produced word-initial labial stops in the three languages involved and took part in a series of forced-choice identification tests involving a /p/-/b/ VOT continuum.

The results showed that Group B produced English fortis and lenis stops with significantly longer VOT values than Group A, who in turn produced significantly longer VOT values in Mandarin than in English. Group B showed a significant difference among English, Mandarin and Spanish fortis stops, but no difference in English and Mandarin lenis stops. Regarding perception, both groups displayed an earlier phoneme boundary than monolingual listeners when identifying Mandarin stops, but neither group differed from the English monolinguals in their perception of English stops. Further, Group B also patterned differently from the Spanish monolinguals. Finally, Group A perceived English and Mandarin stops the same way, while Group B displayed an earlier phoneme boundary for English (and Spanish) than for Mandarin. These findings provide some support for a regressive transfer of L3 on L1/L2. In production, Group B tended to produce longer VOT values in both English and Mandarin than Group A, perhaps in order to produce a greater contrast between the L3 and the existing languages. Also, both groups differed from the Mandarin monolinguals in their L1 perception but only Group B perceived English and Mandarin differently, suggesting another possible effect of learning L3 Spanish on perception in L2. Finally, perception and production did not appear to be related in this study as no correlations were found.

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(Non-)Native influence in the acquisition of VOT patterns: The case of advanced L3 Spanish

Much of the current debate regarding the acquisition of a third phonological system revolves around which of the previously-acquired languages prevails as a source of influence during production in a third language (L3). Previous studies on this topic can be divided into three main groups: i) those in which findings show a more marked effect of the second language (L2; Llama, Cardoso & Collins, 2010), ii) those that point to a predominant influence from the first language (L1; Llisterri & Poch, 1987), and iii) those that suggest the L1 and the L2 concur in influencing the L3 (Wrembel, 2014). There is also the possibility of a switch in main source of influence taking place as proficiency increases, where an initial L2 effect would fade in favour of the L1 (Williams & Hammarberg, 1998), or of the L3 itself.

This paper adds to that debate by exploring the complex interplay of two groups of trilinguals' phonological systems. To determine whether it is the L1 or the L2 that exerts the strongest influence on L3 pronunciation at a high level of proficiency, we examined the production of voice onset time (VOT) for /p t k/, a feature investigated in several L3 studies. In fact, our experiment builds on one of them, Llama et al. (2010) but, instead, we focused on advanced L3 learners. In addition, we address one limitation of their study: the lack of data to compare individual's performances with respect to VOT in their L1s.

Two groups of adult learners of L3 Spanish participated in this study: 15 speakers of L1 English-L2 French and 15 speakers of L1 French-L2 English. They were recorded reading word lists that contained 18 voiceless stop + low/mid vowel sequences in stressed onset positions in each of the relevant languages. In order to better understand the interaction between the three systems, our results are reported both in VOT means, as is standard in the literature, and in degrees of aspiration (aspirated, semi-aspirated, unaspirated). The results uncovered that, contrary to Llama et al.'s findings, French L1 speakers have an advantage over English L1 speakers, since they were most successful at approximating native-like Spanish VOT values. This seems to corroborate claims of a more decisive role for the L1 in L3 pronunciation. In the discussion of our findings, we compare our results to Llama et al.'s and resort to L3 proficiency to explain the observed differences.

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The role of language dominance for syntactic and phonological transfer into L3 English

Most L3 research to date deals with monolingual speakers who learned their L2 and L3 in a controlled context. The cognitive similarity between L2 and L3 provides one rationalization for the L2 Status Factor Model (e.g. Bardel & Falk 2007), while other models predict morpho-syntactic transfer based on typological primacy (e.g. Rothman 2009, Westergaard et al. 2016). Less is known about transfer patterns in early bilinguals with two first languages (2L1s) or an early second language (eL2) for whom the L3 is the first foreign language. For this population, previous research in L3 phonology suggests that some speakers transfer features from both languages, and that relative proficiency in L1 and L2 (henceforth "language dominance") may constitute the driving force for transfer into the L3 (Lloyd-Smith, Gyllstad & Kupisch 2016).

The current study assesses whether transfer into L3 English can be explained by lan-guage dominance in German (the majority language) or Italian (the heritage language), comparing syntax and phonology. To this end, 20 Italian-German early bilinguals were classed as either "German dominant" (n=12) or "balanced" (n=8) based on a combined measure including performance on a vocabulary size proficiency task, perceived accent strength, and self-reported proficiency and use of Italian and German. Syntactic transfer into L3 English was assessed by means of a bimodal grammaticality judgement task with main and embedded wh-questions reflecting Italian and/or German syntax. Phonological transfer is operationalized as the perceived source of foreign accent as rated by English native speakers.

Our expectation is that German-dominant speakers will transfer predominantly from German, while balanced bilinguals will transfer from German and Italian. Preliminary results suggest that, on a group level, syntactic transfer occurs in equal measure from German and Italian, and that the occurrence of target-deviant structures is determined in some cases by syntactic complexity (i.e., the type and number of syntactic operations required). On an individual level, balanced bilinguals (those with a higher proficiency in Italian) were indeed more likely to transfer from Italian than German dominant bilinguals, which indicates language dominance does play a role. For phonology, transfer from both languages was perceived, but the source of accent appears unrelated to language dominance. This seems to suggest that while language dominance may provide clues into the preferred source of transfer for syntax, other factors might be at play for phonology for this particular population.

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Speech perception in young multilinguals

The model of Perceptual Speech Assimilation (PAM; Best 1995, Best and Tyler 2008) developed for L2 learners states that the perception of L2 phonological categories depends on their perceptual similarity to L1 categories. Specifically, an L2 sound that is similar to an L1 category will be assimilated to this category and if there are two L2 sounds that are prototypical for one L1 category, both will be (initially) assimilated to the single category and not distinguished by the learner. While the model makes clear predictions for L2 learners/bilinguals, it is not clear how multilinguals assimilate new phonological categories in their L3/Ln. Are L3/Ln categories assimilated to L1 or L2 categories in multilinguals? Does having phonological categories from multiple languages facilitate distinguishing between two L3/Ln categories that are perceptually very similar?

To address these questions, the present pilot study examined the perception of Polish vowels and sibilant sounds by 10 young L3/Ln learners (aged 14), whose L1 was German and L2 English. Additionally all the participants learned either French or Latin after English at school, and seven of them were Polish heritage speakers. To test if L3/Ln learners are capable of distinguishing perceptually similar L3/Ln phonological categories that are not present in their other languages, we used an AX categorization task, in which the learners assessed pairs of Polish sibilants as the same or different. Each sibilant was presented auditorily in a monosyllabic non-word /*an/. To test how the multilinguals assimilated the new L3/Ln category, we used a cross-linguistic similarity task (Fox, Flege and Munro 1995, Cebrian 2015), in which the participants heard pairs of vowels and judged how similar or dissimilar the vowels were from each other on a 7-point Likert scale. The vowels involved minimal pairs within the same language (L3) and across the other languages of the learners. The results of the AX task showed that the perception of different types of sibilants was highly accurate in this group of multilinguals (in the range of 80%), which is against the PAM's prediction that two similar sounds in the target language and non-existent in the L1 should be assimilated to this L1 category. The cross-linguistic similarity task further showed that perceptual assimilation in multilinguals is complex and dependant on multiple factors, such as the type and extent of prior learning experience and the degree of similarity between the phonologies existent in the multilingual's repertoire.

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Processing negative quantifiers at the initial stages of L3 English: Considering new variables when determining transfer

This paper examines Language Dominance (LD) as a variable that may explain potential differences in linguistic transfer patterns across distinct types of bilinguals at the initial stages of L3/Ln acquisition. We examined LD in two types of Catalan/Spanish bilinguals acquiring English as an L3: those who are Catalan dominant and those who are Spanish dominant. Specifically, we investigated the processing of Negative Quantifiers (NQ) in the very early initial stages of L3 English to determine whether LD trumps other potential factors in transfer selection, such as perceived typological proximity, order of acquisition, and holistic structural similarity.

Catalan and Spanish show micro-variation in the co-occurrence of the Sentential Negative Marker (SNM) (e.g., no) and Negative Concord Items (NCI) (e.g., nobody) in pre-verbal position, being disallowed in Spanish (1) and optional in Catalan (2) (Déprez, et al., 2015), while English NQs pattern after Spanish NCIs in pre-verbal position as shown in (3) (see examples overleaf).

Though all participants are highly proficient in both languages, they were divided according to their dominant language as assessed on a language background questionnaire: Catalan dominant (n= 13) and Spanish dominant (n= 9). Data from native English speakers (n= 22) were also collected to establish baselines of processing. Participants completed a Self-Paced Reading Task (SPR) from which the Differential Reaction Times (DRT) of the Critical Region (CR) and the two subsequent regions were calculated. Table 1 and Figure 1 show the results for the three groups in the target condition (NQ + SNM[3]). A repeated measures ANOVA with a between-subjects factor "Group" (Cat-Dom*Sp-Dom) and within-subjects factor "Region" (CR*R1*R2) revealed no statistically significant slow-down effect when comparing the DRT for both groups of learners ($F(1.46,29.37) = .27$, $p = .696$), suggesting that Catalan is transferred for both groups, irrespective of dominance.

Given our data, LD did not play a deterministic role in transfer selection at the initial stage of L3 acquisition and we discuss the present results in relation to the current models of L3/Ln acquisition. The data cannot be accounted for under the Cumulative Enhancement Model (Flynn, et al. 2005) due to evidence of negative transfer (see footnote). The Typological Primacy Model (Rothman, 2011) can account for the data as its implicational hierarchy of cues that determine transfer selection (see Rothman, 2015) would predict that Catalan, despite being non-facilitative, would be selected by both groups.

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[3] Baselines for transfer were established by testing three other conditions where Spanish and Catalan differ only from English: 1) NQ+V; 2) SNM+NQ; 3) V+NQ. Condition 1 showed facilitative transfer. Conditions 2 and 3 showed non-facilitative transfer.

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Examples:

(1) a. *Nadie no compró manzanas   Spanish
    b. Nadie compró manzanas
(2) a. Ningú no va comprar pomes   Catalan
    b. Ningú va comprar pomes
(3) a. *Nobody didn't buy apples   English
    b. Nobody bought apples

Data:

Table 1. Meant DRTs (ms) in each region of interest of the NQ+SN condition for the control and the two groups of L3ers

	Control	Cat-Dom	Spanish Dom
CR	-78.48 (103)	13.54 (97)	1.67 (108)
R1	-152.71 (94)	48.92 (114)	-4.78 (48)
R2	-80.62 (93)	31.85 (146)	-5.56 (79)

Figure 1. Bar graphs of the mean DRTs (ms) for the regions of interest in each condition for groups of L3ers and the control group.
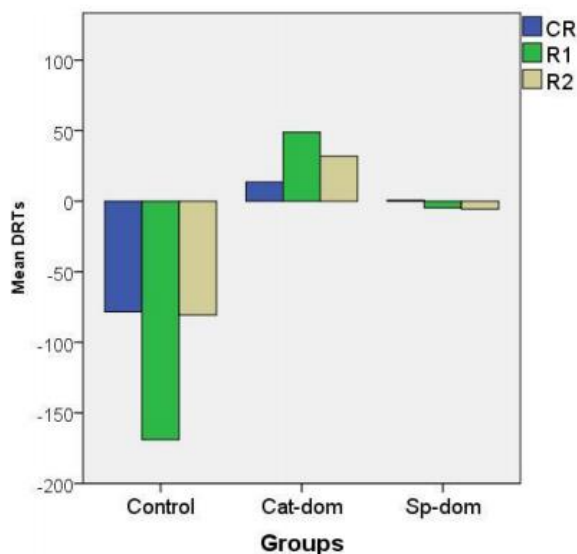
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Verb Placement in the Initial Stages of L3 Swedish

Through an investigation of verb placement in the initial stages of L3 Swedish by participants with L1 English and L2 German, we may be able to clarify which previous language affects the L3 most, especially when both languages are equally related to the L3 and the lexicon is manipulated to increase similarity to English or German. Various models of L3 attempt to explain which previous language becomes the initial state of the new language. The Cumulative Enhancement Model (Flynn, Foley, & Vinnitskaya, 2004) suggests that every language learned enhances the next, and that all are available for transfer, while the L2 Status Factor model (Bardel & Falk, 2007) maintains nearly the opposite view, that the L2 has primary status and can block even facilitative transfer from the L1 to the L3. The Typological Primacy Model, or TPM, (Rothman, 2015) "predicts that the...system with the most detectable/usable structural crossover, at the highest levels of the cue hierarchy, at the earliest of timing at the very initial stages will be selected for complete transfer" (p. 186). Previous evidence for the models involve languages in which typological closeness is rather obvious (for example, Rothman & Cabrelli Amaro, 2010; Leung, 2005; Bardel & Falk, 2007). However, both languages in this study are West Germanic and equally close to North Germanic Swedish.

This study examines the constellation of L1 English/L2 German/L3 Swedish through two syntactic properties of verbs: the placement of the inflected verb and the following infinitive. Swedish patterns like German for inflected verb placement (V2), but essentially like English for the infinitive. Additionally, the lexicon has been manipulated to make it more "German-like" or more "English-like." For example, the Swedish word for knife is kniv, but the German word is Messer. The Swedish word for window is fönster, while the German word is Fenster. The participants are taught either German- or English-like Swedish words via PowerPoint in one session, with syntax consistent with all three languages, and then are required to put words in order to create Swedish sentences. Given input more like German or English, where do participants place the inflected and uninflected verbs, following the German order, the English one, or neither? Data collection is scheduled for February 2017. The results should offer evidence both for or against the L2 Status Factor and the TPM, and should help establish more clearly the TPM's hierarchical cues.

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TLA in a Study Abroad setting: insights from student interaction networks

Social networks have been found to play an important role in the behaviour and attainment of individuals. In the field of foreign language studies, the past couple of decades have witnessed a significant increase in theories and research focused on the role of social interaction, conceiving of linguistic development as a process anchored in and configured through the activities in which the language user engages as a social agent. Yet, to date little rigorous data-driven research has been carried out to investigate the impact of social network structure and peer interaction dynamics on L3 learning outcomes in the setting of naturally occurring face-to-face interaction.

This study makes a case for the strong influence of social variables on L3 learning outcomes, and constitutes the first application of the innovative computational methodology of social network analysis (SNA) to investigating the phenomenon vis-à-vis unregulated conversational interaction. Using a computational multi-layered network perspective to study socially distributed learning among foreign exchange students in Germany over a 5-month period, we investigate the peer interaction dynamics and social graph topology with respect to measurable TLA outcomes. We find among others i) that the best predictor of TL performance among the students is reciprocal interactions between individuals in the language being acquired, ii) that outgoing interactions in the TL are a stronger predictor than incoming interactions, iii) a clear negative relationship between performance and interactions with same-L1 speakers, iv) a significantly underperforming English native-speaker dominated cluster, and v) that more intense interactions take place between students of different levels of proficiency, as well as several other significant findings.

The study provides new insight into the link between social relations and language acquisition, showing how social network configuration and peer interaction dynamics are stronger predictors of L3 performance than individual factors such as attitude or motivation, and offers a novel methodology for investigating the phenomenon. The presentation will conclude with pedagogical implications and recommendations for language learners and instructors.

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Phonological Transfer in L3 Initial Stages Italian and Portuguese

The present study examines the variables that drive phonological transfer at the L3 initial stages, when learners have multiple sources available (i.e., L1/L2/Ln). While there is a substantial body of L3 morphosyntactic transfer research (see e.g., García-Mayo & Rothman, 2012, for review), studies in phonological transfer are less abundant (see e.g., Cabrelli Amaro & Wrembel, 2016). Moreover, to our knowledge, none capture L3 production during true initial stages, inhibiting a reliable distinction between L1/L2 transfer and L3 acquisition. We address this gap via investigation of the production of voiced stops /b d g/ by early English/Spanish bilinguals at the initial stages of L3 Italian or Brazilian Portuguese (BP).

Postvocalic /b d g/ surface faithfully as [b d g] in English, Italian, and BP, but crucially surface as continuants [β ð ɣ] in Spanish. Therefore, if learners transfer English to L3 Italian/BP, voiced stops should surface as stops (i.e., facilitative transfer). If learners transfer Spanish, however, they are predicted to produce continuants in L3 BP/Italian (i.e., non-facilitative transfer). Several variables have been proposed to determine transfer at the L3 initial stages, including structural similarity (Typological Primacy Model, e.g., Rothman, 2015) and facilitation (Cumulative Enhancement Model, Flynn, Foley, & Vinnitskaya, 2004). While a privileged status for either the L1 (e.g., Hermas, 2014) or L2 (L2 Status Factor, e.g., Bardel & Falk, 2007) has been proposed, these variables are not relevant for the early bilingual population under investigation.

Twenty English-dominant (per the Basic Language Profile, Birdsong, Gertken, & Amengual, 2012) English/Spanish early bilinguals enrolled in first semester BP or Italian completed a delayed repetition task in all three languages on separate days during weeks 5-7 of the semester. BP and Italian sessions were administered first, followed by counterbalanced English/Spanish sessions. Stimuli were disyllabic, CV.CV nonce words presented within a carrier phrase (e.g., Dico faba per te / 'I say faba for you'). Each task consisted of 45 items (two repetitions of 15 critical items containing intervocalic /b d g/, 15 distractors). Productions were categorized as stops in the presence of a release burst and continuants otherwise. Data were submitted to a binary logistic regression.

Preliminary results indicate these early bilinguals are more likely to produce a Spanish-like continuant than an English-like stop in L3 BP or Italian, despite English dominance and English's facilitative status. We take this as evidence of the deterministic role of structural similarity (over facilitation and dominance) in initial transfer.

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L2 learners vs. L3 learners of English: Controlling multiple languages and its effect on executive function

The recent literature on the effects of bilingualism on executive function (EF) has seen an upsurge in null-result findings. Previous studies had reported converging evidence for enhanced EF in conflict resolution tasks such as the Flanker task particularly for bilingual children and older adults compared to age-matched monolinguals (Kroll & Bialystok, 2013). It was assumed that bilinguals' enhanced EF stemmed from their permanent need to monitor, control, and shift between two languages. Hence, the training accrued through sustained language control was thought to affect EF, also supported by neurophysiological findings indicating that bilinguals engage domain-general EF networks during language switching (e.g., Abutalebi, 2013). However, given recent null-result findings (e.g., Antón et al., 2014), replicating previous findings of differences between monlinguals and bilinguals while controlling for relevant factors such as the socio-economic backgrounds of the individuals tested (Hilchey & Klein, 2011) could strengthen the argument in favor of significant EF differences between groups. In the present study, 70 monolingual L2 and bilingual L3 learners of English (mean age = 11.3) attending dual immersion German-English secondary school were tested using the Simon and the Flanker task. The groups were matched on SES, length of immersion, and German and English proficiency. The results indicate an inhibitory control advantage as indexed by a smaller Flanker effect magnitude for the bilingual L3 learners over the monolingual L2 learners, while performances on the Simon task did not differ. These results are in line with and largely replicate previous studies (e.g., Poarch & van Hell, 2012) and will be discussed against the backdrop of task demands and corresponding cognitive loads as well as how much dual immersion suffices to significantly affect EF.

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Working memory and attention effects on L2 activation and transfer in L3 learning: The case of lexical inventions

A repeated finding in research on third language learning is that a higher level of L2 activation over the L1 may account for the occurrence of CLI from this language, especially that involving lexical inventions where linguistic material from an L2 and an L3 are combined in different ways at the intra-word level (for a review see Sánchez, 2015). Such kind of CLI, it might be argued, may stem from an insufficient suppression of activation of lexical items from a language other than the TL (Costa & Santesteban, 2004; Dewaele, 2001; Green, 1998; Kroll et al., 2006; Kroll, Boo, Misra and Guo, 2008; Shanon, 1991; Summer & Samuel, 2007). Less investigated, however, is the possibility that learners' failure to avoid proactive negative influence of a language upon another one (Dewaele, 2001; Paradis, 2009) might be related to shortages in working memory (WM) capacity (Sánchez and Bardel, 2016). In the assumption that WM is responsible for attentional inhibition (Conway, Tuholski, Shisler & Engle, 1999; Engle, 2002; Kane & Engle, 2003; Miyake et al., 2002; Robertson et al., 1994), it is reasonable to presume that "speakers with poorer working memory resources will find it more difficult to "control" their languages, and the language that is suppressed might interfere with the selected language in use" (Fehringer & Fry, 2007: 62). This hypothesis is also consistent with Trude & Tokowicz's (2011: 265) proposal that learners with a lower WM "may not be as successful at inhibiting output from their previously learned languages, resulting in more competition".

The study presented here aims to shed some light on this yet uninvestigated issue, and extends the scope of previous studies to the effects of WM on L3 learners' ability to avoid activation of an L2 (German) during L3 (English) production. To this aim, the L2/L3 lexical inventions produced in the narratives of 64 intermediate learners (age range: 10.9-15.9) were analyzed, all of which had an intermediate proficiency level in the TL as determined by the Oxford Placement Test. Their storage and attentional capacities were measured using a letter span task and the trail making test, respectively. An ANCOVA was run with age as the covariate, and the scores from the cognitive tests as fixed factors. The results suggest that after controlling for age and proficiency, low- and high-span learners significantly differed from each other (p= .040), with learners who had lower attentional (but not storage) abilities producing more lexical inventions.

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The integration of phonetic categories in multilinguals: the case of the Hungarian front rounded vowels.

In the phonetic system of bilinguals, a merger of L1 and L2 categories is frequently documented (e.g. Flege 1987, 1995). A similar tendency has been observed in multilinguals whose vocalic categories from L1, L2 and L3 approximate one another on the vowel space (Sypiańska 2016, Sypiańska in press).

The integration of phonetic categories may also proceed in an asymmetric manner as the phonetic category in one language may attract a similar category in the other language(s) of the multilingual. This scenario was observed for the voice onset time (VOT) of L1 Polish, L2 Danish and L3 English speakers whose VOT value tended to be closer to the Danish value for /t/ in all languages though it merged for /p,k/. This was explained by the unusually long thus perceptually more salient VOT of Danish /t/ which may have constituted a powerful source of influence on similar sounds in the other languages (Sypiańska in press).

The aim of the present study is to analyse further instances of the integration of phonetic categories in multilinguals. The particular goal is to verify whether perceptually salient phonetic categories undergo merger or asymmetric integration with similar sounds or whether there are other factors at play, particularly, the ordering of languages. For this purpose, the Hungarian front rounded vowels /y, yː, ø, øː/ of two groups of multilinguals were examined (Group 1: L1 Hungarian, L2 Polish, L3 English, n=4; Group 2: L1 Polish, L2 Hungarian, L3 English, n=4) together with similar sounds from the three languages: Polish /u/, English /ʊ, uː/ and Hungarian /u, uː/. F1 and F2 measurements of each vowel were taken from the stressed syllable of two syllable words with a preceding bilabial stop and a following voiceless fricative in all three languages and normalized using the Lobanov transform (Lobanov 1971). A one-way ANOVA was run to determine the significance of the group effect with a control group comprised of non-prototypical native speakers of Polish, English and Hungarian respectively. The results showed that Group 1 manifested asymmetric integration with the F2 of the front rounded vowels approximating the back rounded vowels from all three languages. Group 2 manifested a merger of front and back rounded categories in all three languages in F1 and F2. This result allows to claim that it is not the phonetic characteristic itself but other factors, including the ordering of languages, which trigger the type of integration of phonetic categories in multilinguals.

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Language dominance and inhibitory control in L3 speech production: language switching effects on cross-language phonetic interference

Previous research examining the impact of language dominance on cross-language phonetic interference (CLI) in bilingual speakers through language-switching tasks has evidenced significant interactions between bilinguals' phonetic systems leading to either unidirectional or bidirectional L1-to-L2 and L2-to-L1 CLI [1, 3, 4, 7, 12]. The asymmetric patterns of phonetic CLI observed may be attributed to language dominance and amount of language use [13] and the role of inhibition in language selection [8]. In addition, inhibitory control appears to be related to speakers' ability to keep their phonetic systems apart in L2 immersion [9, 10] and FL learning contexts [6]. In the current study we explore the potential of language switching tasks to investigate the effect of language dominance and individual differences in inhibitory control on phonetic interference during L3 speech production.

Participants were 31 L1-dominant Spanish-Catalan bilingual advanced learners of English. Degree of phonetic CLI was assessed by measuring VOT durations on voiceless stops (/p, t, k/: 0-30msec in Spanish/Catalan, 40-80msec in English). Stop-initial English words were embedded in sentences that either required participants to switch between languages while reading (switch trials) or not (non-switch trials). Switch trials included Spanish- and Catalan-into-English switches, whereas non-switch trials were sentences in Catalan, Spanish and English.

Participants' were assigned to either Spanish- (n=12) or Catalan-dominant (n=19) groups based on their score in the Bilingual Language Profile questionnaire (Birdsong et al., 2012). We operationalized inhibitory control through a reaction time (RT) measure of response inhibition in a stop-signal task [14]. We also obtained a RT measure of language switching efficiency in a bilingual picture naming task [5] that was deemed to be related to IDs in language dominance and inhibitory control. The X/Y_Lex [11] English vocabulary size test provided a proxy measure for L3 proficiency.

As expected, stops presented significantly longer VOT in English than in Spanish and Catalan in non-switch sentences. In switch sentences Spanish and Catalan VOT was significantly longer (more L3-like) than in non-switch sentences, but VOT in L3-English did not show any shortening resulting from L1 or L2 interference. Neither language dominance nor inhibitory control could fully account for the patterns of CLI observed, but larger RT switching costs in bilingual picture naming (indexing stronger inhibitory control) were significantly related (r=-.047, p=.007) to smaller cross-language VOT interference in Catalan-to-English switch trials. These findings contribute to a better understanding of the contribution of language dominance and inhibition to L3 phonological processing.

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