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Speaker Abstracts

The sound pattern of initial learner varieties

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This contribution aims at investigating the sound pattern of initial learner varieties in second language acquisition following the "Basic Variety" approach (Klein & Perdue 1997). After the first contact with the target language, learners are able to organize the linguistic means available to them according to pragmatic ("Focus last") and semantic principles ("Controller first") independent of the specific principles of both first and second language. In an analogous approach, the sounds available to initial learners can be investigated by observing syllable and word patterns in the learners' output, whose sound inventory is expected to differ from the sound inventory of the target language as a result of interference processes.

The empirical basis of the investigation is the corpus of retellings of an animated video ("Finite Story", Dimroth 2012) in Polish L2 by young learners with different first languages (Dutch, German, English, French, Italian), produced after 14 hours of Polish taught in communicative courses by the same native teacher. The courses, held in the learners' countries according to the same design elaborated in the VILLA project (Dimroth *et aliae* 2013), represent the controlled input allowing the investigation of the learners' reproduction of the teacher's pronunciation.

A first recognition of the retellings of the Italian VILLA learners (Bernini, 2016) has shown a certain degree of autonomous organization of the phonetic component of the initial L2 Polish, which is independent of both first and second language and characterized by a certain amount of instability. This instability resorts to a range of dispersion of different forms on the lexical level (e.g. ['skrɛ̃ntʃiʧ], ['skakaʤ], ['skatse] 'he is jumping') and, within the word, on the segmental and the syllabic level (['skakaʤ] and ['skaʃaʃ] vs target /'skakatɕ/; [skɻʧ], ['skaʧke] vs target /'skaʈʂe/ 'he is jumping').

The range of lexical and segmental dispersion appears to correlate with frequency of words in the input and to point to a pre-phonological stage with relative tolerance for a certain degree of allophonic variation. The range of syllabic dispersion points to a pre-morphological stage with constant word forms as in the Basic Variety.

The comparative investigation of the pronunciation of 16 learners, 8 with L1 French and 8 with L1 Italian, allows the identification of regularities of organization of the phonetic component of the initial L2 Polish varieties. This information will help define the type of learner variety of the VILLA project with respect to the Basic Variety, matching the observation of the phonetic component to the syntactic and morphological levels of analysis (Dimroth, in preparation).

Usage-based SLA

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Usage-based approaches to language learning hold that we learn constructions (form-function mappings, conventionalized in a speech community) from language usage by means of general cognitive mechanisms (exemplar-based, rational, associative learning). The language system emerges from the conspiracy of these associations. Although frequency of usage drives learning, not all constructions are equally learnable by all learners. Even after years of exposure, adult second language learners focus more in their language processing upon open-class words than on grammatical cues. I present a usage-based analysis of this phenomenon in terms of fundamental principles of associative learning: Low salience, low contingency, and redundancy all lead to form-function mappings being less well learned. Compounding this, adult acquirers show effects of learned attention and blocking as a result of L1-tuned automatized processing of language. I review a series of experimental studies of learned attention and blocking in second language acquisition (L2A). I describe educational interventions targeted upon these phenomena. Form-focused instruction recruits learners' explicit, conscious processing capacities and allows them to notice novel L2 constructions. Once a construction has been represented as a form-function mapping, its use in subsequent implicit processing can update the statistical tallying of its frequency of usage and probabilities of form-function mapping, consolidating it into the system.

Eye-movement research on initial input processing: We know what is processed, but do we also know what is acquired?

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Questions about second language (L2) processing derive from SLA theories and methodological and empirical innovations alike. In this talk I review a growing body of research that deals with questions of L2 processing very much in an empirical, bottom-up fashion, using eye-movement recordings. Because eye-movement researchers track what their participants look at, the methodology lends itself to studying concrete (visible), surface-level phenomena in the input, including different types of vocabulary (Choi, 2016; Elgort, Brysbaert, Stevens, & Van Assche, 2017; Godfroid, Boers, & Housen, 2013; Godfroid et al., in press; Péllicer-Sanchez, 2015), overt morphology (Cintrón-Valentín & Ellis, 2016; Godfroid & Uggen, 2013; Issa, Morgan-Short, Villegas, & Raney, 2015), and concrete syntactic constructions (Indrarathne & Kormos, 2016; Winke, 2013). Eye-movement data are commonly interpreted in terms of attentional processing and are compatible with a range of theoretical frameworks, such as noticing, learned attention, implicit and explicit learning, and input processing. Thus, researchers

who adopt an eye-tracking methodology understand 'processing the input' in terms of participants' eye-movement behavior. They often focus on longer reading times and regressions in their analyses to study whether a 'special' type of processing took place. Additionally, some eye-tracking researchers have attempted to link eye-movement data during reading to gains in linguistic knowledge. In so doing, they attempt to create links between language processing and the early stages of acquisition, or 'intake'. Beliefs about what is acquired—the constructs tested in the knowledge post-tests—stem from the researcher's theoretical orientation and not from the eye-movement data; that is, eye-movement data are theoretically neutral. Therefore, one of the big questions—for eye-tracking researchers and other SLA researchers alike—is what is acquired during input processing. I illustrate my case with data from an ongoing project on the acquisition of German syntax (Godfroid, Ahn, Rebuschat, & Dienes, in preparation). Although processing data (eye-movement patterns) and test data (grammaticality judgments) both suggest participants in the study learned, the best evidence of what they learned (i.e., fragments) came from the participants' verbal reports. Their knowledge differed from the descriptive rules the researchers had identified as the targets for learning in the study. In all, eye-movement recordings offer valuable empirical data that can inform a range of different paradigms but the data do not, by themselves, answer the question of what is acquired.

What the eyes don't see (or the ears don't hear), the mind won't learn: Investigating the role of salience in the initial processing of inflectional morphology in second language acquisition

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One of the factors impinging on the early stages of L2 processing and acquisition is the *salience* of the target feature. Salience has been shown to be a driving force in many learning processes, yet SLA research has only just begun to consider its influence (cf. DeKeyser, 2005; N. Ellis 2016; Sagarra & Ellis, 2013).

We present results from an experimental study that explores the difficulty that one type of salience, perceptual (or physical) salience (N. Ellis 2016), brings to the processing and learning of L2 inflectional morphology under implicit and explicit conditions. We also examine the interaction of perceptual salience with L2 learners' working memory capacity.

Participants are 60 adult L1 Dutch speakers whose eye movements were recorded in an eye-tracked reading task in *Englishti*, a semi-artificial language that combines English with two artificial target suffixes of varying salience (low salience *-u* vs. high salience *–olp*), which agree in biological gender with accompanying English possessive determinatives (e.g. *his hotelolp* vs. *her hotelu*). In the second part of the reading task, some trials violated the target agreement rules, yielding ungrammatical morphemes. Increased gaze durations on ungrammatical morphemes are taken as an online measure of grammaticality

sensitivity (or implicit knowledge; cf. Godfroid 2015). Half of the participants received comprehension questions, while the other half received untimed grammaticality judgements, thereby introducing an implicit and explicit condition respectively. Participants' working memory (WM) capacity was gauged with the Dutch Reading Span Test (Van den Noort et al., 2008). The participants further took four posttests (an elicited imitation, a grammaticality judgment, a gap-fill, and a metalinguistic knowledge test) to assess the difficulty of learning the target morphemes in terms of implicit and explicit knowledge.

Results show that the L2 learners are generally more sensitive towards the perceptually high salient L2 morphemes, regardless of their WM capacity. However, high WM learners pay significantly more attention to the low salient L2 morphemes than low WM learners, at least in the implicit condition where the high WM learners are also more sensitive to the ungrammatical morphemes (especially those of low salience). In the explicit condition, however, the effect of salience is overruled by the explicit knowledge that the L2 learners bring to bear, and no effect of WM is observed. Similarly, there is no differential influence of working memory on the processing of high salient L2 morphemes.

The role of input in language attrition

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Research on language attrition has long been based on the assumption that attrition results from lack of use, often in conjunction with an extended period of time since immigration. This is why lack of use is frequently referred to as part of the definition of attrition itself (Köpke, 2004). Rather surprisingly, however, many empirical investigations of L1 attrition have failed to demonstrate a direct relationship between frequency of use and attrition (e.g., Cherciov, 2010; Schmid & Dusseldorp, 2010; Yilmaz, 2013). This has led more recently to specific attention to qualitative aspects of use in addition to frequency.

This presentation will focus on the discussion of qualitative aspects of use in attrition research. In particular, we will reflect on the relationship between “active” use in language production (the focus of most attrition studies) and input, on the different types of input available in situations presumed to be conductive to attrition, and on the specific role of immersion in language attrition (Baus, Costa & Carreiras, 2013; Dussias & Sagarra, 2007). Since research on attrition suggests that children and adults have very different needs with respect to input, our focus will be on post-puberty migrants.

We will then speculate a) on the reasons why usage does not have a more direct influence on attrition in post-puberty migrants and b) on parallels and divergences in the role of input between different situations of language development such as attrition and acquisition.

Electrophysiological signatures of initial processing of second language input: Insights into underlying cognitive processes

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Electrophysiology, a method that allows researchers to measure the brain's electrical activity, has been utilized widely to examine how aural and written language is processed. Electrophysiological research with native speakers has revealed a set of neural signatures that are commonly elicited by language processing. These signatures are typically called event-related potential (ERP) components as they reflect the electrical potentials that are analyzed in relation to cognitive events, such as processing words. Although particular ERPs were traditionally associated with lexical-semantic or grammatical processing, the current understanding of ERPs is that they likely reflect multiple processes that are not necessarily specific to language, such as meaning-based processing, combinatorial processing, and automatic or controlled processing. In this talk, I will first provide an overview of ERP components commonly elicited by aural and written language processing and will discuss the cognitive processes that appear to underlie such neural signatures. Second, I will provide a summary of the empirical ERP literature related to initial, or at least relatively early, stages of processing L2 vocabulary and grammar. Finally, given the set of ERP components evidenced at initial or early stages of L2 processing and given our understanding of the cognitive processes underlying each component, I will draw conclusions about the cognitive processes underlying initial stages of L2 input processing. How these neural processing signatures are related to L2 acquisition more generally will also be considered both in light of theoretical and pedagogical frameworks.

Modelling the relationship between processing and acquisition

Michael Sharwood Smith
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This presentation will locate the notion of input processing within the Modular Online Growth and Use of Language (MOGUL) framework (Truscott & Sharwood Smith 2004, Sharwood Smith & Truscott 2014). MOGUL provides a basic working model of the mind based on current cognitive science. Within this framework, input processing is conceived of as a multistage process. A network of collaborating systems attempt to construct knowledge representations of different kinds in response to perceptual input presented to the learner, or more properly the learner's mind at any given moment. In short, any kind of development linguistic or otherwise is the result of processing and requires no special learning mechanism to explain it.

'Acquisition' should be distinguished from 'growth'. Acquisition, the creation of a new combination of properties, is instant. It can only be detectable using very sophisticated methods. It may also be transitory. The more an acquired representation is activated, the more established, accessible and competitive it becomes and the more likely it will show up in overt behavior. Whereas environmental frequency is not a fully reliable predictor of development, *internal* frequency of activation *within* a given system, e.g. syntax, is: there, activation drives development. The more a representation is activated, the more consolidated it becomes. Attrition can be partly explained as the reverse process.

Most of the mind's operations are and have to be carried out below the level of consciousness. Explicit knowledge and explicit learning however assume the involvement of conscious awareness. Explicit 'grammatical' knowledge is constructed in the form of conceptual representations like any other kind of world knowledge: it must be distinguished from the representations constructed elsewhere, in the grammatical modules to which we have no conscious access. Explicit knowledge is also important in a number of ways and the framework explains why this should be so. At the same time, since implicit grammatical knowledge has to grow through learners simply processing the language to which they are exposed, the teacher's role is to help learners to give their minds the best possible conditions for the desired growth to take place. While this general advice is hardly new, this model of the mind's operations helps us understand the why and the how.

Form as Part of Lexicon: Why Initial Processing is not Form Focused

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How learners initially process input in an unknown language ought to be a well-researched topic. Unlike discussions about "initial starting point" (e.g., White, 2003), it is not. The scholarship to date regarding input processing in the very initial stages of L2 acquisition is open to criticism (e.g., Han & Rast 2014). This criticism stems from two major issues. The first is the nature of the tasks given to learners to perform. The second—and related to the first—involves the underspecification of major constructs relevant to input processing: (1) the nature of "acquisition"; (2) the nature of "language"; and (3) the nature of "processing" (see also VanPatten, 2015).

In this paper, I discuss the direction that research on the initial input processing should take once we clarify notions of acquisition, language, and processing. I will argue that initial input processing is largely lexical in nature (i.e., that form = lexical item, e.g. VanPatten & Rothman, 2014) and, in addition, that it involves basic syntactic relationships and phrase structure (e.g., VanPatten & Smith, 2015).