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Constructing a Second Language: Some final thoughts

Ewa Dąbrowska

All the papers in this special section address issues central to cognitive linguistics research: usage-based models with their focus on frequency; multi-word units and the relationship between lexical and grammatical knowledge; and the nature of lexical meaning, especially construal or “thinking for speaking”. Cognitive Linguistics is thus clearly a useful paradigm for L2 research. The contributors also emphasise that many of the processes operating in L1 acquisition are relevant in L2A as well. In this paper, I discuss the opposite side of the coin: how cognitively-inspired L2 research can inform work on first language learning and theoretical linguistics, focussing in particular on three issues that have been extensively studied in an L2 context but neglected by the other language sciences: transfer of knowledge between constructions, the role of explicit learning, and individual differences in linguistic knowledge.

Key words: individual differences, explicit learning, first language acquisition, second language acquisition, metalinguistic awareness, transfer, entrenchment, usage-based models

Constructing a Second Language: Some final thoughts

The title of this special section, *Constructing a Second Language*, is an allusion to Mike Tomasello's book, *Constructing a Language*. Tomasello's monograph, and his research on language development generally, is remarkable for two reasons. First, it is the first fully elaborated constructivist theory of first language development – a sketchy and incomplete one, to be sure, but nevertheless one that offers a coherent framework explaining how the abilities that children bring to the learning task allow them to construct the grammar of their native language using information available in the input. Secondly, Tomasello engages with linguistic theory (specifically, construction grammar) to a much greater extent than most psychologists, and consequently his work has had a large impact on linguistics, and is frequently cited not just by language acquisition researchers but also by theoretical linguists.

This has resulted in a new rapprochement between the two disciplines – something we have not seen since the early days of the Chomskyan revolution. Although theoretical linguists, child language researchers, and practitioners of other language sciences – adult psycholinguistics, second language acquisition, language education – share a general interest in language, they attempt to answer very different questions and have different methods, theories, and biases, hindering communication across disciplines. In linguistics, theory building occurs to a large extent independently of data collection; and most linguists make little attempt to test their theories empirically, or even to derive testable predictions from them. This is often regarded as the psycholinguists' task; and if psycholinguistic research appears to support a linguistic

theory, everything is fine and well; if not, it is declared irrelevant (the psycholinguistic research, not the theory).

Most psycholinguists, however, are not interested in testing linguistic theories: they have their own psycholinguistic theories to test, theories dealing primarily with the time course of language processing rather than speakers' knowledge about language. In contrast to linguists, who rely predominantly on their own intuitions, psycholinguists routinely use experimental methods to conduct their research. However, the population that they study is only slightly more varied: in the vast majority of psycholinguistic research, the participants are undergraduate students, typically students enrolled on a first year psychology course, who are assumed to be representative of the population as a whole.

L1 acquisition researchers also tend to work with a very selective sample of speakers – predominantly with children of professional and upper middle class parents, often the researcher's own children. Moreover, work on L1 acquisition focuses almost exclusively on early stages of development (up to age 4 or 5), and a disproportionate amount of effort is devoted to demonstrating that children can understand or produce a particular structure earlier than previously believed – or, in the case of Tomasello and his team, later than previously believed.

Work on later L1 development is conducted almost exclusively by researchers based in education departments. While educationalists usually study much more varied populations of learners, their primary interest is the development of literacy rather than language skills *per se*. Furthermore, most of this work has a strong applied focus, and tends not be very well informed linguistically. This is reflected in the use of fairly gross

measures of attainment such as vocabulary size or utterance length, rather than focussing on particular aspects of the linguistic system.

Second language acquisition as a field takes a broader perspective: L2 researchers are interested in all stages of development, from complete beginners to learners with near-native competence and, like educationalists, they are interested in different types of learners in different settings. As in education, L2 work has a strong applied focus, but there is also a fair amount of basic research; and the work tends to be better informed linguistically: unlike educationalists, L2 researchers often have a linguistic background, and often based in linguistics departments.

Different disciplines, of course, are interested in different questions, so it is hardly surprising that they use different methods and explanatory frameworks and evolve partially independently of each other. The language sciences, however, develop in almost complete isolation from each other even when they address very similar questions. For instance, there is a considerable body of research on whether and how first and second language learners of various ages can acquire new vocabulary through incidental exposure in texts by participating in ordinary conversation, reading texts, or listening to stories read by others. This work has been conducted by researchers specializing in L1 acquisition, L2 acquisition, and literacy development, each set apparently unaware of developments in the other disciplines, or of related work by lexicographers and computational linguists dealing with how a word's meaning can be deduced from its linguistic context.

I hope that the work described in this section will, like Tomasello's book, help to bridge the deep divides between the language sciences – in particular, between L2 research and theoretical cognitive linguistics on the one hand, and L1 and L2 research

on the other. It is clear that cognitive linguistics is a useful paradigm for L2 research (as well as L2 teaching – see Ellis and Cadierno, this issue). All the research discussed in this section deals with topics that are central to cognitive linguistics: usage-based models, with their focus on frequency (Ellis and Ferreira-Junior, Wulff and Gries); multi-word units and the relationship between lexical and grammatical knowledge (Römer); and construal and “thinking for speaking” (Cadierno and Robinson, Gullberg). In their introduction, Ellis and Cadierno explain in an admirably clear way how construction grammar can inform L2 work. In my discussion, I would like to focus on the opposite side of the coin: what L2 research has to offer to the other language sciences.

First v. second language

Traditionally, SLA researchers have stressed the differences between L1 and L2 acquisition. First languages are acquired in early childhood; second languages, by definition, are acquired later. L2 learners typically get less exposure to the language than children learning it as their first language, and the exposure happens in a different setting: while first languages are acquired through face-to-face interaction in a family context, second language learning often takes place in a classroom or work setting and often involves explicit instruction and/or exposure to written language. While first language learning is thought to involve implicit processes, acquiring a second language typically involves at least some explicit learning. While the first language learner, by definition, has had no prior linguistic experience, the L2 learner already knows another

language. Finally, L1 learning is thought to be invariably successful, while the outcome of L2 learning is more variable.

Much of the research presented in this special section stresses the similarities between L1 and L2 learning. Wulff and Gries studied L2 learners' knowledge of individual verbs' preference for infinitival or gerundive complements, and found that, like native speakers, second language learners are sensitive to the strength of the association between the verb and the construction. Ellis and Ferreira-Junior point out that there are very robust correlations between the frequency of fillers in particular slots in a construction in the input and the output and argue that the acquisition of constructions (in L1 *and* L2) is input driven and subject to the same cognitive principles as other types of learning. They propose that in L2 as in L1, the acquisition of argument-structure constructions is "seeded" by a high-frequency verb with a meaning that is prototypical for the construction and also generic. More generally, Ellis and Ferreira-Junior argue, "language as a complex adaptive system has evolved to be learnable", and L1 and L2 learners alike exploit certain properties of frequency distributions to learn the language.

Descriptions of the differences between first and second language learning are full of qualifiers and comparatives: L2 acquisition begins later than that of L1, learners typically get less exposure, and so on. This underscores the fact that second languages are acquired in more varied settings. But are they really so much more varied than the conditions in which L1 learning takes place? All of the dimensions mentioned earlier (age, amount of exposure, etc.) are continua rather than dichotomies; and, if we take a broader view of first language acquisition and look beyond the traditional research with

middle-class pre-schoolers, it will become evident that there is considerable variation on all these dimensions in L1 acquisition as well as.

Beginning with age: L1 acquisition *starts* early – but continuous *at least* until adolescence. It is well known that the school years are a period of very rapid vocabulary growth (Anglin, 1993); there is also a considerable amount of work suggesting that some complex syntactic structures are acquired late in development, largely as a result of exposure to written language (Perera, 1984; Scholes and Willis, 1987). Other changes that occur relatively late in development involve consolidation and reorganization of previously acquired knowledge and hence may not always be visible to the naked eye – but they are very real nevertheless (Dąbrowska, 2008; Karmiloff-Smith, 1992).

There is also a great deal of variation in the amount of exposure that first language learners receive. Some parents talk more to their children than others: Hart and Risley (1995) estimate that by age 3, a child raised in a professional household will have heard 30 million word tokens; a working-class child, 20 million words; and a child raised in a welfare family, 10 million words. Furthermore, some people read more than others. This is an understatement: some people don't read at all, while others spend most of their waking time reading. This results in vast differences in the amount of exposure to written language, which differs grammatically from spoken language in a number of ways (Miller, 1994). Somewhat less obviously, differences in amount of time spent reading also result in differences in the amount of exposure to language *tout court*, since skilled readers can absorb more language per unit of time than skilled listeners (Street & Dąbrowska, submitted). Last but not least, some people write more, and more carefully, than others; and the experience of editing text may have a considerable impact on the language user's mental grammar (Perera, 1986).

With respect to setting, once we start thinking about language development as something that continues right up to adolescence and includes learning the written variety, it is clear that L1 acquisition happens at school (and other places) as well as the home and involves reading and writing.

Moving on to the outcome of the learning process, it is well known that the result of L2 learning is quite variable, while L1 learners are generally thought to converge on the same grammar (cf. Chomsky, 1986, p. 18; Lidz & Williams, 2009, p. 177). However, convergence in L1 acquisition is a myth. Native speakers of a given language are almost certainly more similar to each other with respect to linguistic knowledge than non-native speakers; but there is still a vast amount of variability within the native group. This is evident from the performance of L1 controls in studies comparing native and non-native speakers (e.g. Birdsong, 1992). Römer (this issue) found significant differences between novice and expert academic writers, both native and non-native; interestingly, expertise in academic writing was more important than native/non-native status. Apart from demonstrating large differences in both native and non-native writers, this study is also an excellent illustration of a point made earlier, that, once we look beyond the past tense and basic argument structure constructions, language learning is a long-drawn-out process.

There are also a number of studies demonstrating large individual differences in native speakers' knowledge of basic grammatical constructions (see Dąbrowska, submitted, for a review). Street and Dąbrowska (submitted), for instance, investigated individual and education-related differences in the comprehension of four sentence types: Quantifier-*is* (*Every bird is in a cage*), Quantifier-*has* (*Every cage has a bird in it*), passive (*The boy was chased by the girl*) and active (*The girl chased the boy*), the

latter acting as a control condition. They tested two groups, high academic achievers (HAA), i.e. graduate students, and low academic achievers (LAA), who had no more than a secondary school education, using a sentence-picture matching task. The HAA group performed at ceiling in all conditions. The LAA group also performed at ceiling on active sentences, choosing the correct picture 99% of the time, but were significantly worse on passives (79% correct), still worse in the Quantifier-*is* condition (71% correct), and at chance (53% correct) on Quantifier-*has* sentences. Street and Dabrowska then selected participants who had problems with all three of the experimental sentence types and gave them a brief training session on either passives or quantifiers. This was followed by a series of post-tests with new exemplars of the same construction, one administered immediately after training, one a week later, and one about 12 weeks after training. The training resulted in a dramatic improvement in performance on the construction trained but not on the other construction, and the effects were long-lasting, i.e. performance 12 weeks later was almost as good as immediately after training. The fact that the LAA participants performed at ceiling after additional experience indicates that they were able to learn the construction (i.e., they weren't language impaired) and therefore their lack of knowledge on the pre-test was attributable to insufficient experience. It is not clear, however, exactly what caused them to learn. The training involved a brief "grammar lesson" similar to what one might offer in an L2 classroom: an informal explanation followed by practice with feedback comprising 6 items. It is possible, then, that the learning occurred as a result of the additional exposure – although this seems unlikely, given that the participants almost certainly encountered considerably more than six exemplars of each construction in their lives, and yet they had not mastered it. A second possibility is that learning

occurred as a result of explicit instruction. If this turns out to be the case, we may need to revise our ideas about the role of explicit learning and teaching in first language acquisition.

As pointed out earlier, the mode of learning (implicit v. explicit) is thought to be another important difference between L1 and L2 learning: L1 acquisition relies on implicit learning only, while explicit learning usually plays a significant role in L2 acquisition. I would like to suggest that this distinction is also overstated. While it is undeniable that L1 learning is mostly implicit, explicit learning also plays a role. Unlike adult L2 learners, children are not consciously trying to learn a language; they do, however, consciously try to talk like their parents (and later, like their peers). Some explicit learning (and teaching) occurs at school – although the extent varies depending on the curriculum and teaching methods. Finally, some children at least show a considerable degree of metalinguistic awareness and actively elicit grammatical information. Consider the following conversation between Miś, a three-year-old Polish-speaking child and his mother.

(1) CHI: Mamusiu, *płatek* to on? *Płatek*, jak jeden, to on?

MOT: Tak.

CHI: A dwa?

MOT: To *płatki*.

CHI: A sto?

MOT: To *płatków*. (Smoczyńska, 1985: 629).

CHI: Mommy, is *płatek* [petal] a he? *Płatek*, when (there is) one, is it a he?

MOT: Yes.

CHI: And (when there are) two (of them)?

MOT: Then (it's) *płatki*.

CHI: And (when there are) a hundred?

MOT: Then (it's) *płatków*.

Miś's first question is clearly a request for information about the gender of the noun *platek*. At the time this conversation was recorded, Miś was three years and four months old, but he began asking about gender before his third birthday (Smoczyńska 1985). Moreover, he appears to have discovered the category for himself (Polish-speaking adults don't ask about gender in this way). The second and third question show that he is aware that Polish makes different gender distinctions in the singular and plural¹ and that different numerals require different forms of the noun.²

The final, and most fundamental, difference between first and second language acquisition is the learner's existing linguistic knowledge: by definition, you don't know another language when you are acquiring your first language and you do when acquiring your second language. As is well known, the learners' knowledge of L1 rules may affect the acquisition of L2, resulting in positive transfer, or facilitation, when the relevant structures are similar, and negative transfer, or interference, when they are different. Arguably, however, similar processes are at work in first language acquisition. Except in the earliest stages, you do know some language when acquiring L1: you have already learned some constructions and this knowledge either facilitates or impedes learning other constructions.

To take a concrete example: speakers of satellite framed languages such as English, in which the path of motion is lexicalised separately from the verb (*He went into the room*), experience some difficulties learning motion constructions in verb-framed languages such as Spanish or Japanese, in which path and motion are both lexicalised in the verb (see e.g. Cadierno, 2008; for a discussion of the opposite scenario – speakers of a verb-framed language learning a satellite framed language – see Cadierno and Robinson, this issue). However, English also has some verb-framed constructions (cf. *He entered the room*); and the difficulties that an English-speaking child will experience in acquiring these are not dissimilar from those experienced by an English-speaking adult learning French.

How L2 research can inform L1 work and theoretical linguistics

The traffic between L1 and L2 research is largely one-way: while L2 researchers often borrow ideas and concepts from L1 work, the opposite rarely happens. This is partly because L2 learning is often regarded as a special, even deviant, case of language learning. In addition, L2 learning happens later in life, and, as pointed out earlier, L1 researchers are overwhelmingly interested in very young children. I would like to suggest that first language researchers would do well to pay more attention to L2 work. Three areas in particular which have been extensively studied in an L2 research context have important implications for the other language sciences.

The first of these is work on individual differences in language learning. As noted earlier, second languages are acquired in a much wider range of settings and there is considerable variability in the outcome; individual differences are thus almost

impossible to overlook. Much of the work on first language acquisition, on the other hand, emphasises the role of a shared biological endowment, and consequently, most researchers are more interested in similarities rather than differences. There is, of course, a large amount of research on individual differences in L1 development as well (e.g. Bates, Bretherton and Snyder, 1988; Goldfield & Snow, 1997; Huttenlocher, 1998; Lieven et al., 1992), but most this work focuses on phonology and vocabulary rather than grammar and on the rate of acquisition rather than differences in how learners learn or what they learn, the conventional wisdom being that all normal learners attain the same steady state at the end of the acquisition process. In second language acquisition research, on the other hand, there is much more emphasis on the predictors of individual differences and the relationship between learner and environment (how different learners learn in different environments). It would be interesting to see whether similar relationships can be found in L1. There is some evidence that this may be the case: for instance, Skehan (1989) found significant correlations of the order of 0.4 and above between scores on (foreign) language aptitude tests (obtained at age 13) and various measures of first language development (obtained at age 3).

Another area which has been extensively studied in the L2 context and largely neglected by first language researchers is the role of explicit learning and teaching. It is now generally recognised that explicit learning and teaching have some role to play in second language acquisition, at least at the level of “noticing” (Ellis, 2005; Nassaji & Fotos, 2004; Schmidt, 1990). As suggested earlier, explicit learning also plays a role in L1 development, especially later development. In the training study by Street and Dąbrowska (submitted), selective improvement was observed on the trained structure after a brief explanation followed by practice with feedback comprising just six

exemplars of the constructions. Since the participants (selected adult native speakers of English) are likely to have heard considerably more than six exemplars of the target structures in their lives and yet had not mastered them prior to the experiment, it is unlikely that the improvement in performance was due to additional exposure alone. The improvement is probably attributable to drawing the participants' attention to the relationship between form and meaning, resulting in their "noticing" the relevant construction, or, more plausibly, the combination of "noticing" followed by additional exposure in a meaningful context. (It is interesting to note that the training method used in the study is reminiscent of the "processing instruction" approach in L2 which has been shown to be an effective method of teaching difficult L2 constructions – see VanPatten, 2002.)

The participants in the Street and Dąbrowska study were adults, and it remains to be seen whether explicit instruction of this type also has a facilitating effect on L1 children. It is possible that explicit learning is characteristic of adult learners, regardless of whether they are learning their first or second language. An alternative explanation would be that, at least for some more difficult constructions, successful learning (L1 *and* L2, child and adult) requires conscious attention to aspects of form. If this were the case, individual differences in mastery of such forms could reflect the learner's experience: some parents, especially more educated parents, are more likely to explicitly draw their child's attention to the relationship between form and meaning.

Yet another area where L2 researchers could contribute important data and insights – this time to theoretical linguistics – is the study of relationships between constructions, and in particular, (system internal) motivation: the idea that a construction which shares formal and/or semantic properties with another construction

inherits structure from it. While this is an appealing idea, it is not entirely clear how one might establish whether a proposed inheritance link is psychologically real (cf. Sandra, 1998). What seems plausible to an analyst doesn't necessarily correspond to mental reality (Dąbrowska, in press); and different researchers sometimes propose different motivations.

Traditionally, descriptions of relationships between constructions were made on the basis of the researchers' intuitions, sometimes supplemented by appeals to the principle of economy, the existence of crosslinguistic patterns and recurring patterns of language change. I would like to suggest that acquisition research can provide a more direct means of testing hypotheses about relationships between constructions.

Motivation can be operationalised as the extent to which knowing one construction facilitates the acquisition of another. While one could use data from either first or second language acquisition to test such hypotheses, using L2 data has some methodological advantages: it is easier to test older learners, and one typically has more control over the input (although of course, there is no guarantee that the same facilitating effects will be found in L1 and L2). It should also be pointed out that there already exists a considerable body of L2 research which is relevant to this question.

This includes applied work on language curriculum design which attempts to discover the most effective order of presentation in L2 teaching – one that maximizes transfer of knowledge between constructions, as well as more theoretically oriented research which attempts to determine the extent to which L2 learners' performance can be explained in terms of transfer from the native language on the one hand and generalization (and overgeneralization) of target language rules on the other. There is some work on positive transfer in L1 development (cf. Abbot-Smith & Behrens, 2006); however, most

research on construction learning focuses on individual constructions as relatively independent entities.

New issues and challenges

In their introduction, Ellis and Cadierno point out that L2 acquisition is more complex than learning the first language because it involves *reconstruction* as well as construction: in L2A, the L2 constructions are in direct competition with those of the learner's first language. I do not wish to argue with the validity of this claim; however, I would like to suggest that perhaps the case is somewhat overstated. As argued earlier in this paper, L1 and L2 acquisition are not as different as they are made out to be – or to be more precise, they are not unitary processes: languages are complex networks of constructions of different degrees of entrenchment, generality and complexity; and different constructions require different coalitions of learning mechanisms and are acquired at different times. In L1A, as in L2A, prior knowledge influences later development, either facilitating or interfering with the acquisition of new knowledge. Clearly, there is an important difference: in L2A, the competing pattern is usually much more strongly entrenched, and hence the interference effect more difficult to overcome. It is important to bear in mind, however, that entrenchment is a continuous variable; and while its effects might be non-linear (cf. Ellis, 2002), it is possible to find intermediate cases. Young L2 learners are an obvious example; another interesting case are L1 learners who are not exposed to a particular pattern until relatively late in acquisition (because it is rare in their dialect), when competing constructions are already well established. Studying how the knowledge of one construction affects acquisition of

other constructions, using different populations of learners, will enable us to unravel maturation effects from pure entrenchment effects (which is important for understanding both first and second language development) and to draw inferences about how the construction is organized (which also has important implications for theoretical linguistics and psycholinguistics).

The greatest challenge, however, will be developing empirical methods of studying meaning, particularly aspects of construal, in the speech of both L1 and L2 learners and, of course, also in adult native speakers. The study of meaning is a central part of cognitive enterprise, and there already is a considerable amount of research attempting to test some of the key notions put forward by theoretical linguists. This includes work by Slobin and others on “thinking for speaking” (e.g. Slobin, 1996; Cadierno and Robinson’s paper is part of this research tradition), crosslinguistic studies of categorization (e.g. Kopecka & Narasimhan, in press; Majid et al., 2007), some extremely interesting work on co-speech gesture (e.g. Gullberg, 2008, this issue; McNeill & Duncan, 2000), as well as a large body of corpus-based work (e.g. Atkins, 1994; Gries, 2006; Gries & Divjak, in press, to give just a few examples). However, while the use of corpus data is now fairly standard in cognitive linguistics, there is still considerable resistance to the use of experimental methods and formal elicitation procedures. This is partly due to the fact that most linguists are not trained in such methods. The situation is different in applied linguistics, which has a stronger empirical tradition, as evidenced for instance by graduate training³ and the availability of textbooks. Let us hope, then, that applied linguists, and especially L2 researchers, will lead the way!

Notes

¹ There are three genders in the singular (masculine, feminine and neuter) and two in the plural (virile and non-virile).

² Nouns following the numerals 2, 3, 4 and numerals ending in 2, 3 and 4 (except 12, 13, and 14) take whatever form is required by the syntactic context in which the noun occurs: the nominative plural in the subject position, the accusative plural in direct object position, and so on. Nouns following numerals greater than 4, except those ending in 2, 3, or 4 (but including 12, 13 and 14), take the genitive plural in the subject as well as the object position.

³ Nearly all MA programmes in applied linguistics, and only about half in general linguistics incorporate a dedicated research methods course.

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