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Variable competence

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Dąbrowka's studies demonstrate that native speakers differ in their linguistic knowledge and that these individual differences result from their prior experience — from the language to which they have been exposed, from what they have attended and perceived during this language usage, and from their educational and social interactions which scaffolded their experience and focused their attention upon it. These are the "interpersonal communicative and cognitive processes that everywhere and always shape language" (Slobin, 1997, p. 267).

It is an impressive portfolio of research. All of the studies show individual differences (Chipere, 2001; Dąbrowska, 1997, 2001, 2008a, 2008b; Dąbrowska & Street, 2006; Street & Dąbrowska, 2010). Five separate investigations (Chipere, 2001; Dąbrowska, 1997, 2008b; Dąbrowska & Street, 2006; Street & Dąbrowska, 2010 Expt 1) adopt correlational designs to illustrate the relationships with educational background. Chipere (2001) and Street & Dąbrowska (2010 Expt 2) use experimental designs to demonstrate direct causal effects of increased exposure. As Dąbrowska points out, such empirical research is the standard fare of investigations of child (Ambridge & Lieven, 2011; Tomasello, 2003) and second (Collins & Ellis, 2009; R. Ellis, 2008) language acquisition. Indeed, debates on 'variable competence' surfaced in second language research over twenty five years ago (R. Ellis, 1985; Gregg, 1990; Tarone, 1988).

Standard too in acquisition research are the findings that language is learned following general principles of cognition:

(1) Acquisition and processing are sensitive to frequency, recency, and context of experience (e.g., Bod, Hay, & Jannedy, 2003; Bybee & Hopper, 2001; Chipere, 2001; Dąbrowska, 2008b; Ellis, 2002, 2011).

(2) The learning of linguistic constructions, like other concepts and categories, is affected by:
     (i)   exemplar type-token frequencies,
     (ii) linguistic form (salience and perception),

    (iii) linguistic meaning and function (prototypicality of meaning, importance of form for message comprehension, redundancy), and

    (iv) interactions between these (e.g., contingency of form-function mapping; low salience redundant forms are less sensitive to frequency of experience, etc.) (e.g., Collins & Ellis, 2009; Dąbrowska, 2008a; Ellis & Cadierno, 2009).

(3)   Learners bring to the task particular attentional biases which themselves are tuned by prior experiences (e.g., Ellis, 2006; Street & Dąbrowska, 2010).

(4)   Learning involves issues of statistical estimation: the population norms of a language have to be induced from a finite sample that is limited in size (e.g., Dąbrowska & Street, 2006; Ellis, 2008; Street & Dąbrowska, 2010).

Dąbrowska's studies demonstrate that some structures (e.g. Polish genitive, Q-has) evidence more variability than others (vs. Polish dative, Q-is). Usage-based research informs which constructions are more difficult to acquire, and hence which evidence more individual differences — generally, constructions high on the dimensions of type-frequency, salience, functionality, semanticity, non-redundancy, and reliability of form-function mapping are robust and productive, while those low on these dimensions are more variable and fragile.

    These factors all feature in our current understanding of variable competence, but it rests upon inter-disciplinary usage-based research collaborations between corpus linguistics, psycholinguists, cognitive linguistics, and associative / cognitive / statistical / emergentist learning researchers to detail their interactions — see, for example, recent or upcoming collections on cognitive linguistics and SLA (Ellis & Cadierno, 2009 [including commentary by Dąbrowska]; Robinson & Ellis, 2008), construction grammar (Trousdale & Hoffmann, 2012), statistical language learning (Williams & Rebuschat, forthcoming), and quantitative cognitive linguistics (Divjak & Gries, in press; Gries & Divjak, in press).

    There is variability within individuals too that comes from recency and context. The activation strength of a particular construction can be temporarily boosted as a result of a recent encounter. Syntactic priming, where recent exposure to specific constructions enhances a speaker's subsequent language comprehension or production of them, has now been extensively demonstrated in fluent native use (Bock, 1986; Pickering & Ferreira, 2008; Pickering & Garrod, 2006), and in L2A (Gries & Wulff, 2005, 2009; McDonough & Mackey, 2008; McDonough & Trofimovich, 2008). Thus an individual's language system is fluid and emergent. It is a dynamic system, as is consciousness itself (Ellis, 2005). The knowledge of a speaker-hearer cannot be understood as a fixed grammar, but rather as patterns

of activation across a statistical ensemble of memorized language experiences that change slightly every time a new utterance is processed.

Yet there is robustness in the face of variability. It remains a central question of language research, when each of us as learners has had different language experiences, how from these diverse, often noisy samples, we have converged on, if not the identical same grammar, a similar-enough core language system to be able to communicate. This must stem from multiple sources — universals of cognition, learning, attention, embodiment and the physical world, and social interaction (Beckner, et al., 2009; Christiansen & Chater, 2008; Ellis & Larsen-Freeman, 2009; Evans & Levinson, 2009). Relevant processes of emergence are those of complex adaptive systems, where scale-free distributions promote robustness. In the dynamics of language usage, Zipfian type-token distributions and scale-free semantic networks provide constraints upon learners' experience. An alternate research strategy, instead of studying idealized competence, divorced from semantics, cognition, usage, and its social and physical context, is to investigate how language form, language meaning, and language use come together to promote robust induction by means of statistical learning over limited samples (Ellis & O'Donnell, 2011, 2012).

Dąbrowska provides a carefully argued case that the individual differences observed in her studies reflect linguistic competence rather than mere performance. Does the distinction between competence and performance make much sense any more? There is no fundamental difference between them, neither there is between the basic communicative and cognitive processes that underpin first and second language acquisition. "Competence and performance both emerge from the dynamic system that is the frequency-tuned conspiracy of memorized exemplars of construction usage, with competence being the integrated sum of prior usage and performance being its dynamic contextualized activation" (Ellis & Larsen-Freeman, 2006, p. 562).

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