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Handbook of cognitive linguistics and second language acquisition

edited by Peter Robinson and Nick C. Ellis.

HANDBOOK OF COGNITIVE LINGUISTICS AND SECOND LANGUAGE ACQUISITION

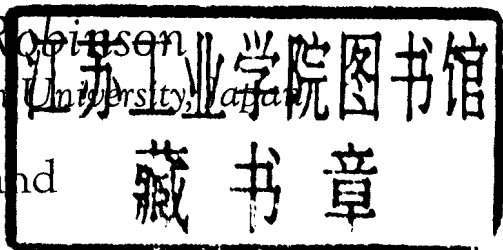
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Part I

INTRODUCTION

AN INTRODUCTION TO COGNITIVE LINGUISTICS, SECOND LANGUAGE ACQUISITION, AND LANGUAGE INSTRUCTION

Nick C. Ellis and Peter Robinson

Cognitive Linguistics (CL) is about language, communication, and cognition. They are mutually inextricable. Cognition and language create each other. Language has come to represent the world as we know it; it is grounded in our perceptual experience. Language is used to organize, process, and convey information, from one person to another, from one embodied mind to another. Learning language involves determining structure from usage and this, like learning about all other aspects of the world, involves the full scope of cognition: the remembering of utterances and episodes, the categorization of experience, the determination of patterns among and between stimuli, the generalization of conceptual schema and prototypes from exemplars, and the use of cognitive models, of metaphors, analogies, and images in thinking. Language is used to focus the listener's attention to the world; it can foreground different elements in the theatre of consciousness to potentially relate many different stories and perspectives about the same scene. What is attended is learned, and so attention controls the acquisition of language itself. The functions of language in discourse determine language usage and language learning. Cognition, consciousness, experience, embodiment, brain, self, and human interaction, society, culture, and history are all inextricably intertwined in rich, complex, and dynamic ways in language. Yet despite this complexity, there are patterns everywhere. Patterns that are not pre-ordained by god, by genes, by school curriculum, or by other human policy, but patterns that emerge—synchronic patterns of linguistic organization at numerous levels (phonology, lexis, syntax, semantics, pragmatics, discourse genre, . . .), dynamic patterns of usage, diachronic patterns

of language change (linguistic cycles of grammaticization, pidginization, creolization, . . .), ontogenetic developmental patterns in child language acquisition, etc. CL investigates these patterns, the cross-linguistic and panchronic generalities as well as the more specific patterns of particular languages, cultures, times, individuals, and places. As a discipline, it is a relatively new area of linguistic and psycholinguistic enquiry, dating back perhaps to 1990, when the first journal, *Cognitive Linguistics*, dedicated to this approach was published.

CL shares many of the assumptions of more broadly defined functional linguistics, which sees the processing conditions of language performance, and the communicative goals and intentions of language users as shaping influences on language structure, but CL seeks to go beyond these functional explanations of linguistic form to further explain how language mutually interfaces with conceptual structure as this becomes established during child L1 development and as it becomes available for change during adult L2 language learning. As Langacker notes, "However great its functional motivation, the structure of a language cannot be predicted in full and precise detail on the basis of the motivating factors" (1999, p. 19). The additional cognitive commitment of CL is to specify the interface of linguistic representation (grammatical factors), which can be used to communicative effect in producing utterances, with other aspects of conceptual structure (e.g., semantic factors, such as our concepts of time, and spatial location), as well as with the constraints imposed by the architecture of cognitive processes, and the structure of cognitive abilities (e.g., psychological factors, such as those involved in the allocation and inhibition of attention).

Because CL holds that the basic units of language representation are *constructions*—form-meaning mappings, conventionalized in the child L1 learner and adult L2 learner speech communities, and gradually entrenched as language knowledge in the child L1 or adult L2 learner's mind—work within this approach links and builds with that in a range of research areas within Cognitive Science:

- *Functional analyses* of language which hold that constructions are symbolic, their defining properties of morphological, syntactic, and lexical form being associated with particular semantic, pragmatic, and discourse functions (Croft, 2001; Croft & Cruise, 2004; González-García & Butler, 2006; Halliday, 1985, 1987; Langacker, 2000; Taylor, 2002).
- *Perception and Attention analyses* of the ways our embodiment and perceptuo-motor systems govern our representation of the world and the ways that language can guide our attention to these representations (Barsalou, 1999; Coventry & Garrod, 2004; Mandler, 2004; Talmy, 1988, 2000a, 2000b).

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- *Usage-based theories* of language acquisition which hold that we learn constructions while engaging in communication (Barlow & Kemmer, 2000; Hopper, 1998), the “interpersonal communicative and cognitive processes that everywhere and always shape language” (Slobin, 1997).
- *Constructionist theories* of child language acquisition where dense longitudinal corpora chart the emergence of creative linguistic competence from children’s analyses of the utterances in their usage history and from their abstraction of regularities within them (Goldberg, 2006; Tomasello, 1998, 2003).
- *Cognitive theories* of categorization and generalization whereby schematic constructions are abstracted over less schematic ones that are inferred inductively by the learner in acquisition (Harnad, 1987; Lakoff, 1987; Schank & Abelson, 1977; Taylor, 1998).
- *Construction Grammar and Phraseological theories* of language demonstrating that much of communication makes use of fixed expressions memorized as formulaic chunks, that language is rich in collocational and colligation restrictions and semantic prosodies, and that the phrase is the basic level of language representation where form and meaning come together with greatest reliability (N. C. Ellis, 1996; Goldberg, 1995, 2003; Granger & Meunier, in press; Pawley & Syder, 1983; Sinclair, 1991, 2004; Vygotsky, 1980, 1986; Wray, 2002).

CL holds that language is learned from usage, and this assumption involves natural interplay with investigations of language usage and language processing and computational and statistical simulations of acquisition:

- *Corpus Linguistic analyses* of large collections of language which show how there are recurrent patterns of words, collocations, phrases, and constructions, that syntax and semantics are inextricably linked, and that grammar cannot be described without lexis, nor lexis without grammar (Biber, Conrad, & Reppen, 1998; Biber, Johansson, Leech, Conrad, & Finegan, 1999; Hoey, 2005; McEnery & Wilson, 1996; Sinclair, 1991, 2004). Distributional analyses of language also show the importance of Zipf’s law at all levels in determining the structure and network characteristics of linguistic systems and the effects of these properties on learning (N. C. Ellis, in press b; Ferrer i Cancho & Solé, 2001, 2003; Ferrer i Cancho, Solé, & Köhler, 2004).
- *Psycholinguistic theories* of the mental representation of language which show that fluent language users are sensitive to the relative probabilities of occurrence of different constructions in the language input and to the contingencies of their mappings to meaning (Altman, 1997; Gernsbacher, 1994).
- *Probabilistic and frequency-based theories* of language which analyze

how frequency and repetition affect and ultimately bring about form in language and how probabilistic knowledge drives language comprehension and production (Bod, Hay, & Jannedy, 2003; Bybee & Hopper, 2001; N. C. Ellis, 2002a, 2002b; Jurafsky, 2002; Jurafsky & Martin, 2000).

- *Connectionist, Competition model, and Rational models* of language which demonstrate the ways in which generalizations emerge from the conspiracy of memorized instances, the ways in which different cues and their cue reliabilities compete for activation, and the ways in which these representations provide the best model of language that is available from the learner's sample of experience, one that is optimized in its organization for usage (Anderson, 1989; Anderson & Schooler, 2000; Bates & MacWhinney, 1987; Chater, 2004; Chater & Manning, 2006; Christiansen & Chater, 2001; N. C. Ellis, 2006; Elman et al., 1996; MacWhinney, 1987, 1997).
- *Dynamic Systems Theory (DST)* which analyses language as a complex dynamic system where cognitive, social and environmental factors continuously interact, where creative communicative behaviors emerge from socially co-regulated interactions, where flux and individual variation abound, and where cause-effect relationships are non-linear, multivariate and interactive in time (de Bot, Lowie, & Verspoor, 2007; N. C. Ellis, in press b; N. C. Ellis & Larsen Freeman, 2006a, 2006b; Port & Van Gelder, 1995; Spivey, 2006; van Geert, 1991).
- *Sociocultural theory* which analyses how language learning takes place in a social context, involving action, reaction, collaborative interaction, intersubjectivity, and mutually assisted performance (Lantolf, 2006; Lantolf & Pavlenko, 1995; Lantolf & Thorne, 2006; van Geert, 1994), and how individual language learning is an emergent, holistic property of a dynamic system comprising many dialectic influences, both social, individual, and contextual, involving the learner in a conscious tension between the conflicting forces of their current interlanguage productions and the evidence of feedback, either linguistic, pragmatic, or metalinguistic, that allows socially scaffolded development (Kramsch, 2002; Lantolf & Pavlenko, 1995; Lantolf & Thorne, 2006; Norton, 1997; Swain, 2000; Vygotsky, 1980, 1986).
- *Emergentist and Chaos/Complexity Theory (CCT)* where language is neither a genetic inheritance, largely prescribed by innate linguistic universals in a modularized Language Acquisition Device, nor a collection of rules and target forms to be acquired, but rather a by-product of communicative processes. CCT analyses how complex patterns are emergent from the interactions of many agents, how each emergent level cannot come into being except by involving the levels that lie below it, and how at each higher level there are new and

INTRODUCTION

emergent kinds of relatedness not found below (N. C. Ellis, 1998; N. C. Ellis & Larsen Freeman, 2006a; MacWhinney, 1999).

One purpose of this Handbook is to summarize current Cognitive Linguistic perspectives on patterns of language, patterns of language use, and patterns of child language acquisition, and this is the focus of the chapters in Part II of the volume. These chapters concern how language draws on other, more basic cognitive systems and abilities, such as perception, attention allocation, memory and categorization, and how it cannot be separated from these as a distinct, modularized, self-governed entity; how knowledge of language is integrated with our general knowledge of the world; and how, in usage-based child language acquisition, attention to input controls the products of learning, the increasingly productive frames, schemata and constructions that reflect and in turn enable the development of fluent, and complex, language use.

The other focus of this Handbook is Second Language Acquisition (SLA). There are many essential patterns of SLA, too (Doughty & Long, 2003; R. Ellis, 1994; Kaplan, 2002; Kroll & De Groot, 2005; Long, 1990; Perdue, 1993). For illustration, consider an agreed list of summary essentials of SLA gathered by Long (1990) as “the least a second language acquisition theory needs to explain”:

- There are common patterns in development in different kinds of learner under diverse conditions of exposure. These systematicities of interlanguage—regular developmental sequences as well as systematic production of non-targetlike forms—indicate that learners do not simply echo input but instead go through successive stages of cognitive analysis and representation of the input.
- There are systematic differences in the problems posed learners of different L1 backgrounds by certain kinds of L1/L2 configuration and by other qualitative features of the input such as the salience of certain linguistic features. These patterns suggest that L1 cognition transfers to that of the L2, sometimes facilitating L2 development, sometimes interfering with it.
- Children and adults learning under comparable conditions differ in their rate of acquisition (adults initially learn faster) and in their level of attainment (children achieve greater ultimate proficiency).
- Learners’ aptitude, attitude and motivation are all systematically related to rate of progress and ultimate attainment, but affective factors are subordinate to more powerful cognitive developmental and maturational factors.
- Some aspects of an L2 require awareness and/or attention to language form—implicit learning is not sufficient for successful SLA and focus on form improves rate and ultimate L2 attainment.

- Some aspects of the L2 are unlearnable for positive evidence alone—exposure to samples of comprehensible input is necessary for SLA but not sufficient, and some forms of negative feedback and correction are necessary.
- Development is gradual and U-shaped acquisition profiles occur, suggesting that learners gradually construct their system of L2 representation over considerable periods of time and language usage.

These systematicities of Second Language Acquisition are all, in essence, issues of second language cognition. The adult's language learning task is clearly different from the child's. As Slobin notes, "For the child, the construction of the grammar and the construction of semantic/pragmatic concepts go hand-in-hand. For the adult, construction of the grammar often requires a revision of semantic/pragmatic concepts, along with what may well be a more difficult task of perceptual identification of the relevant morphological elements" (1993, p. 242). In cases where the forms lack perceptual salience and so go unnoticed by learners (Robinson, 1995, 1996; Schmidt, 1990, 2001), or where the semantic/pragmatic concepts available to be mapped onto the L2 forms are unfamiliar, additional "Focus on Form" (attention to form in communicative context: Doughty & Williams, 1998; N. C. Ellis, 2005; R. Ellis, 2001; Lightbown, Spada, & White, 1993; Long, 1991; Long & Robinson, 1998; Robinson, 2001, 2002, 2003, in press 2007a, 2007b) is likely to be needed in order for the mapping process to be facilitated. Thus, the second aim of this volume is the development of a Cognitive Linguistics of SLA and L2 pedagogy. This is why many of the authors of the chapters in Part II, primarily from the fields of linguistics and psycholinguistics, have been asked to make links between their own work and SLA, and why the issues they raise are then taken up and expanded upon in the Part III by authors from the fields of SLA and SL pedagogy.

Chapter overviews

Part II. Cognitive Linguistics and cognition

Chapters 2–5 represent classic *Cognitive Linguistics*: cognitive semantics, the ways language controls listener attention, the grounding of language in cognition, the prototype structure of linguistic construction categories, the interrelation of linguistic and other information in semantic networks, and the interplay of language and usage. Chapter 6 supplements these with a more *Psycholinguistic* investigation of how the perceptual systems interface with language—introspection is a good start to the understanding of cognition, but psychological experimentation is necessary, too. Chapter 7 focuses upon *Language Processing* and how the