

- Heim, Irene. 1983. On the projection problem for presuppositions. In Daniel Flickinger, Michael Barlow & Michael Westcoat (eds.), *The Second West Coast Conference on Formal Linguistics (WCCFL 2)*, 114–125. Stanford, CA: Stanford University Press.
- Heim, Irene & Angelika Kratzer. 1998. *Semantics in Generative Grammar*. Oxford: Blackwell.
- Kratzer, Angelika. 2010. Situations in natural language semantics. In Edward Zalta (ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2010 edition). Stanford, CA: CSLI. <http://plato.stanford.edu/archives/fall2010/entries/situations-semantics/>.
- Lapierre, Serge. 1992. Partial functions in type theory. *Notre Dame Journal of Formal Logic* 33, 493–516.
- Partee, Barbara H. 1986. Noun phrase interpretation and type-shifting principles. In Jeroen Groenendijk, Dick de Jongh & Martin Stokhof (eds.), *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*, 115–143. Dordrecht: Foris.
- Schoubye, Anders J. 2009. Descriptions, truth value intuitions, and questions. *Linguistics and Philosophy* 32(6), 583–617.
- Schoubye, Anders J. 2012. Against the argument from convention. *Linguistics and Philosophy* 35(6), 515–532.
- Schoubye, Anders J. 2013. Ghosts, murderers, and the semantics of descriptions. *Noûs* 47(3), 496–533.
- Strawson, Peter. 1950. On referring. *Mind* 59, 320–344.
- Tichý, Pavel. 1982. Foundations of partial type theory. *Reports on Mathematical Logic* 14, 59–72.
- Winter, Yoad. 2001. *Flexibility Principles in Boolean Semantics*. Cambridge, MA: MIT Press.

François Grosjean & Ping Li et al., *The Psycholinguistics of Bilingualism*. Malden, MA & Oxford: Wiley-Blackwell, 2013. Pp. v +248.
doi:10.1017/S0332586514000109

Reviewed by Annika Andersson

Humanities Laboratory, Lund University. Box 201, 221 00, Lund, Sweden.
annika.andersson@humlab.lu.se

The book *The Psycholinguistics of Bilingualism* is intended primarily for undergraduate and first-year graduate students. The book covers a wide range of topics, including methodologies used in bilingualism research. The subdisciplines presented include both those that have been extensively researched as well as some that to date have been investigated less. These are just some of the strengths of the book.

The introductory first chapter includes a presentation of the aims of the book, chapter outlines and a general introduction to the field of bilingualism. The following nine chapters are divided into four parts: ‘Spoken language processing’, ‘Written language processing’, ‘Language acquisition’, and ‘Cognition and the bilingual brain’. Both the primary authors – François Grosjean and Ping Li – and other

authors – Raluca Barac and especially Ellen Bialystok, Annette de Groot, Rosa Manchón, and Virginia Yip – are well known for their contributions to the field and are leading authorities on the matters that they write about in the book. The reason not to include contributing authors' names on the book's cover along with those of the primary authors could be due to the former mainly authoring only one chapter each though De Groot, like Li, is responsible for two chapters. It is not clear why the book is not an edited volume instead of having two categories of authors.

Each chapter starts with an introduction outlining its aims and ends with 'Research questions' and 'Further readings', to encourage the readers to review and process the material in the chapter. References are given at the end of each chapter.

In the first chapter, 'Bilingualism: A short introduction', Grosjean introduces basic important concepts in the field that will be used throughout the book. He further describes how language fluency and usage of languages are dynamic and differ across domains, modalities and time. At any point in time, the 'language mode' (monolingual or bilingual mode), which Grosjean presents as a continuum rather than as a dichotomy, relates to the activation and deactivation of the languages of a bilingual. This is an important aspect when studying bilinguals as this will affect language choice, code-switching, borrowing, and interference.

Grosjean is the author of two additional chapters, which together make Part I of the book, 'Spoken language processing'. The first of these two chapters, 'Speech perception and comprehension', describes how bilinguals process one language without the influence of another language and how bilinguals process bilingual speech, and introduces the methodology used to study oral language perception and comprehension in bilinguals. Grosjean makes the point that most studies of bilinguals are focused on reading even though most bilinguals know the oral languages but often cannot read and write in more than one language. Monolinguals' processing of auditory speech is thoroughly explained prior to a description of bilinguals' processing. When covering activation of a bilingual's two languages, he relates this to language mode, monolingual or bilingual, presented in the earlier chapter. He then nicely follows with a discussion of code-switching and borrowing. The chapter ends with a presentation of Lévy & Grosjean's (2008) bilingual model of lexical access (BIMOLA).

In Chapter 3, 'Speech production', Grosjean covers language selectivity, base-language change versus code-switch, and methodologies used in the study of speech production. To set the stage for language selectivity, he first presents monolinguals' speech production, from thought to articulation, followed by a description of experimental evidence of factors that affect the activation of bilinguals' languages. This ties nicely with the discussions of language switch and code-switch, when and why they appear.

Chapter 4, 'Reading' – the first of two chapters in the part 'Written language processing' – is authored by Annette M. B. de Groot. In a pedagogic manner, readers

are introduced to the reading process in monolinguals prior to the exploration of the same process in bilinguals. De Groot focuses on studies of word recognition, which is 'reading's most central constituent process' (p. 73) by presenting studies of interlexical homographs, interlexical neighbors, cognates, and phonological activation but also mentioning studies of sentence processing. She raises the question of ecological validity, that is, whether experimental results can be generalized to real life settings. This is important especially for the student audience, as it coaches them to question results and to reflect on how results pertain to natural language processes. De Groot also presents the theoretical model of bilingual word recognition, the Bilingual Interactive Activation (BIA) model and its successors.

Chapter 5, 'Writing', by Rosa M. Manchón, has the aim of 'defining characteristics of bilingual text production' (p. 100). The author outlines the writing process – planning, formulation, and revision – and suggests that these component processes are activated and deactivated at different stages of the writing process. After that, Manchón explains the cognitive demands on bilingual writing and reminds us that many bilinguals are illiterate in their first language (L1), whereas the vast majority of research studies are actually conducted with bilinguals who were literate in their second language (L2). In this group, bilinguals transfer skills across languages. The chapter covers bilinguals' text production processes within and across languages often presenting multiple-data collection procedures such as direct observation, text analysis, and introspection techniques.

Chapter 6, 'Simultaneous language acquisition', by Virginia Yip, opens Part III, 'Language acquisition'. In the field of language acquisition there is an intense nature/nurture debate. Whereas it is not necessary to describe the debate in detail to an audience new to the field, care should be taken to present both accounts. However, Yip's chapter has an apparent nature bias, which might lead readers new to the field to believe that this is a fact rather than a theory.

Yip acknowledges that the insights into language acquisition have been gained by the study of bilingualism. The chapter, which focuses on bilingualism in children starts with discussions on the definitions of simultaneous and successive language acquisition. Yip discusses theories and also methodological issues relevant in bilingual research, such as the wide variability in language background among bilinguals, a bilingual's language mode and language dominance, methods of data collection, and choice of control groups. The author briefly covers language development and differentiation, and continues to cross-linguistic influences and code-mixing. The chapter finishes with a short description of trilingual acquisition and bilingual children in clinical settings. Yip claims that trilingual acquisition probes the limits of the child's 'language faculty'. Unfortunately, there is no further consideration of what Yip considers to be the critical features, constraints and environmental requirements (if any) necessary for such a 'language faculty' to be established.

In Chapter 7, 'Successive language acquisition', Li covers age of acquisition (AoA) effects. The chapter compares simultaneous language acquisition in children to L2 acquisition in adults, who use different strategies than children and have different learning experiences. However, Li also presents the 'less is more' hypothesis (which he attributes to Johnson & Newport, 1989, although it was first presented by Newport, 1988), the theory of 'entrenchment' (Hernandez, Li & MacWhinney 2005), and the recent theoretical framework the Unified Competition Model (UCM; MacWhinney 2012). According to these theories, children's and adults' language acquisition cannot be equated. Li also discusses the interaction between L1 and L2, and thereby highlights the dynamics of bilingualism.

Part IV, 'Cognition and the bilingual brain', starts with 'Bilingual memory', by De Groot. The bilingual memory discussed concerns exclusively the long-term declarative memory. De Groot presents and assesses theories and models of the mental lexicon and explains how they have developed over time. When discussing concepts and categories, De Groot presents studies showing that they can be merged from L1 and L2 in bilinguals so that they do not match those of monolinguals of either language. De Groot explains that not only emotional states are coded with memory but also language, such that an interview in a specific language will trigger memories different from those triggered by an interview in another language (Schrauf & Rubin 2000).

In Chapter 9, 'Cognitive effects', Bialystok & Barac describe how previous research findings on cognitive deficits associated with bilingualism can be explained by examining how these studies were conducted. More specifically, findings can be attributed to factors such as diversity in the bilingual group, faulty controls and methods. Indeed, changes to methodologies have resulted in more recent findings of cognitive advantages of bilingualism. Cognitive advantages of bilingualism presented in the chapter include enhanced executive function and metalinguistic abilities in children, and delayed dementia in the elderly. In children, bilingualism can lead to advanced literacy skills in addition to positive transfer of literacy skills and phonological awareness across languages.

Chapter 10, 'Neurolinguistic and neurocomputational models', is the other chapter in this volume authored by Li. In 'Successive language acquisition' (Chapter 7), Li refers to several neurolinguistic studies of bilingualism. In Chapter 10, the aim is to focus on the perspectives, concepts, and methodologies of neurolinguistic studies and how they can extend our knowledge about bilingual language processing. Li explains how the field has developed from relying on phrenology and lesion deficit models, to utilize functional magnetic resonance imaging (fMRI) and event-related potentials (ERP). Brain areas that earlier were thought to be specific to language are now known to be related also to other cognitive functions, such as selective attention, inhibitory control, and working memory (but he fails to give references to these studies). Li acknowledges that there are several variables such as AoA, proficiency,

task demands, levels of analysis, cross-language overlap, etc. that can modulate the activity in the brain and thus also the results of the studies. At the end of the chapter, the author presents a number of neurolinguistic computational models and relates these to findings that he has addressed earlier in the chapter.

The content of this book is presented at a level where advanced undergraduates, early graduates and also established researchers new to the field will acquire knowledge of the vast field of psycholinguistics of bilingualism. The aim to present a good introduction to all subdisciplines, whether heavily researched or not, is fulfilled admirably.

The order of the chapters has a nice flow and teachers will be able to use this book as a whole in a course on psycholinguistics. Research questions and suggested further readings will be of great help for both teachers and students. Visualizations like those presented in the introduction (pages 8 and 10), with grids of usage and fluency in L1 and L2, help the reader to understand that bilingualism is dynamic.

In the opening chapter, 'Bilingualism: A short introduction', Grosjean raises many issues related to bilingualism, and describes what can activate the languages of a bilingual (Chapter 3). Ideally, all researchers in the field would follow his suggestions and remarks on how to approach bilingualism and language activation when performing psycholinguistic research. However, it is possible that some studies presented in the book did not fully follow Grosjean's suggestions.

There are a couple of places in the book where I would like to have had extensions. For instance, a more thorough description of the difference between inhibition and deactivation in Chapter 2 could have explained how they affect the interpretation of results. Yip's chapter, 'Simultaneous language acquisition', could also have included a discussion of types of acquisition, that is, implicit learning, or immersed learning vs. explicit learning, such as second language learning in school. Such a discussion would have made a nice bridge into the second chapter on language acquisition, 'Successive language acquisition', and could have been drawn upon when discussing effects of AoA. In this chapter, Li presents a longitudinal study on language acquisition by Snow & Hoefnagel-Hohle (1978), who found that the older children were faster at learning compared to younger children. It was not highlighted that this longitudinal study only studied acquisition during the first year of immersion. Other studies have shown that when older children reach a plateau, the younger children continue to advance in their abilities (Snow & Hoefnagel-Hohle 1977, MacSwan & Pray 2005). Finally, De Groot claims, in Chapter 4, that proficiency is more important than AoA for second language processing. Other conclusions in the literature are that proficiency has a stronger relationship with semantic processing while AoA has a stronger relationship with syntactic processing (e.g., Neville, Mills & Lawson 1992).

The book reviews many topics of psycholinguistic research on bilingualism. While many of the authors are not critical in their reviews, Li and De Groot present several models critically and show how theories have developed with findings.

Li's explanation of advantages of models as enabling researchers to modulate variables and study the effects directly should have been introduced earlier in the book; instead, the early parts contain many descriptions of models. The coauthors Bialystok & Barac are less critical when reviewing studies in Chapter 9, on 'Cognitive effects'. Correlation does not imply causation and this is important for students to understand as early as possible in their education. Unfortunately, some statements in this chapter seem to imply that causation can be discerned. For example, they should have pointed out that the fact that elderly bilinguals have a later onset of dementia compared to monolinguals could be due to factors other than bilingualism, such as differences in diet, exercise, and cognitive activities.

This book is political in the sense that it presents positive effects or no effects of bilingualism on language proficiency and cognition. The deficits reported seem to arise from the fact that experimental conditions are nonstandard situations and therefore less ecologically valid.

This is a pedagogic book that covers a large range of methodologies and findings in the field of psycholinguistics of bilingualism. However, the consequence is that methodologies and findings are often not thoroughly explained. I enjoyed reading this book and would very much recommend it to students, teachers and anyone else interested in the field. If you have not been fascinated by bilingualism before, you will be after reading the introduction chapter!

REFERENCES

- Hernandez, Arturo, Ping Li & Brian MacWhinney. 2005. The emergence of competing modules in bilingualism. *Trends in Cognitive Sciences* 9(5), 220–225.
- Johnson, Jacqueline S. & Elissa L. Newport. 1989. Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language. *Cognitive Psychology* 21(1), 60–99.
- Léwy, Nicolas & François Grosjean. (2008). The Léwy and Grosjean BIMOLA model. In François Grosjean (ed.), *Studying Bilinguals*, 201–210. Oxford & New York: Oxford University Press.
- MacSwan, Jeff & Lisa Pray. 2005. Learning English bilingually: Age of onset of exposure and rate of acquisition among English language learners in a bilingual education program. *Bilingual Research Journal* 29(3), 653–678.
- MacWhinney, Brian (2012). The logic of the Unified Model. In Susan Gass & Allison Mackey (eds.), *The Routledge Handbook of Second Language Acquisition*, 211–227. New York: Routledge.
- Neville, Helen J., Debra L. Mills & Donald S. Lawson. 1992. Fractionating language: Different neural subsystems with different sensitive periods. *Cerebral Cortex* 2(3), 244–258.
- Newport, Elissa L. 1988. Constraints on learning and their role in language acquisition: Studies of the acquisition of American Sign Language. *Language Sciences* 10, 147–172.
- Schrauf, Robert & David Rubin. 2000. Internal languages of retrieval: The bilingual encoding of memories for the personal past. *Journal of Memory and Language* 39, 616–623.

- Snow, Catherine E. & Marian Hoefnagel-Hohle. 1977. Age differences in the pronunciation of foreign sounds. *Language and Speech* 20(4), 357–365.
- Snow, Catherine E. & Marian Hoefnagel-Hohle. 1978. The critical period for language acquisition: Evidence from second language learning. *Child Development* 49(4), 1114–1128.

Gregory Stump & Raphael A. Finkel, *Morphological Typology: From Word to Paradigm* (Cambridge Studies in Linguistics **138**). Cambridge: Cambridge University Press, 2013. Pp. xxiv + 402.
doi:10.1017/S0332586514000110

Reviewed by Östen Dahl

*Department of Linguistics, Stockholm University, SE-106 91 Stockholm, Sweden.
oesten@ling.su.se*

In this book, according to the announcement from the publisher, Gregory Stump and Raphael A. Finkel (S&F henceforth) ‘set out new and explicit methods for the typological classification of languages’, proposing ‘innovative ways of measuring inflectional complexity’.

I have not found the book easy to review. The dense and quite technical line of argument does not always follow a straight line and its level of abstraction can make it hard to follow. The authors introduce a large number of new notions – the reader is grateful to find at the end of the book a glossary of terms, most definitions of which are specific to this work, even if the terms themselves are not. Even this glossary alone is almost twice as long as this review is allowed to be, so it is clear that I can only skim the surface here. I will also refrain from trying to follow the linear order of the chapters and instead organize the review according to some of the major strands of the plot, whose treatment tends to be dispersed over different parts of the book.

The authors start out pedagogically enough by a comparison to Sudoku puzzles whose filled-in squares make it possible to deduce the rest of it. Similarly, there tend to be certain forms in an inflectional paradigm from which the others can be derived. These forms are called PRINCIPAL PARTS (henceforth PPs) in traditional grammar. Thus, to identify the conjugation of a Latin verb, it is sufficient to specify four forms, the 1st person singular of the present and perfect indicative, the supine, and the present infinitive, as in *capīō* ‘take’, *cēpī*, *captus*, *capere*.

Although PPs have been more salient in language pedagogy than in theoretical grammar, S&F argue for their theoretical relevance because ‘they hint at – and to an extent reify – the complex network of implicative relations affiliating the different cells in a lexeme’s paradigm’ (p. 1). Consider the fact that the 1st and 2nd person singular of the Latin active perfect indicative always follow the pattern exemplified