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Bogusław Bierwiaczonek, *Metonymy in language, thought and brain*. Sheffield: Equinox, 2013. Pp. iv + 291.

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Research on metonymy in cognitive linguistics (henceforth CL) has grown substantially over the last 15 years, especially since Panther & Radden's (1999) collection of papers. This research has led to widespread recognition, in CL and elsewhere, of the conceptual nature of metonymy and its ubiquity in cognition, language and communication. This book, the first monograph entirely devoted to metonymy from a CL perspective, brings together most of this research and adds much more (especially the discussion of the possible neural basis of metonymy), by providing original theoretical analyses of many phenomena. It is a great, highly stimulating book of its sort, replete with rigorous, tightly packed discussions and a goldmine of examples, most of them from English and Polish. The critical remarks I make below are just friendly disagreements and suggestions for improvement; they do not by any means undermine my highly positive overall appraisal of the book.

Bogusław Bierwiaczonek (henceforth BB) declares in the introduction that the main aim of the book is to survey research demonstrating the pervasiveness of metonymy in language and to shed some light on the 'possible ... neural and evolutionary reasons' (1) for this ubiquity. The book definitely reaches both goals.

Chapter 1, 'A short history of the concept of metonymy', bears too modest a title, since it is not just a 'short history'. The historical part proper occupies only the first seven pages out of the chapter's 60 pages. In it, BB presents and critically discusses Greek and Roman views on metonymy, structuralist formal approaches (especially Jakobson's) and their influence in some present-day

proposals, and finally recent conceptual and semiotic views on metonymy (Nunberg 1978, Lakoff & Johnson 1980, and Norrick 1981). The bulk of the chapter (from Section 1.4 onwards) is actually an insightful discussion of the various theoretical proposals on metonymy within CL since about 1993, all of which are being debated today in CL, and on almost each of which BB takes a stand. The chapter therefore constitutes both a useful introduction to metonymy theory for beginners and a stimulating critical discussion that will appeal to metonymy researchers.

The section on modern theories of metonymy (Section 1.4) analyzes Peter Koch's frame-based proposal and points out some of its limitations, and Kövecses & Radden's (1998) highly influential theory, which BB criticizes, among other things, for its reliance on a single domain or IDEALIZED COGNITIVE MODEL (ICM), which in his view would leave out such examples as *The pork chop left without paying*, and suggests to replace the SINGLE DOMAIN (MATRIX), ICM or FRAME notions in the definition of metonymy with what BB calls SINGLE INTEGRATED CONCEPTUALIZATION, which includes both highly entrenched ICMs and online associations. In any case, Kövecses & Radden (1998: 58) made it clear that source (food) and target (customer) are connected by the specific RESTAURANT ICM in this type of examples. BB also discusses insightfully Kövecses & Radden's attempts at constraining metonymy by means of their cognitive and communicative principles, and Ruiz de Mendoza Ibáñez & Mairal Usón's (2007) own set of principles. In Section 1.5, BB continues the discussion of the role of domains in metonymy through his analysis of Croft's DOMAIN MATRIX and HIGHLIGHTING proposals (which he suggests to modify slightly) and of Ruiz de Mendoza Ibáñez's (2000) suggestion to reduce metonymy to only WHOLE FOR PART and PART FOR WHOLE (which BB accepts in part). Section 1.6 briefly deals with the distinction between metonymy and synecdoche (see below, on Section 1.8). Section 1.7 is an attempt at developing a typology of metonymy, where BB includes Panther & Thornburg's (2007) PROPOSITIONAL and PREDICATIONAL metonymies into one category, i.e. propositional metonymies, comprising SENTENTIAL and PREDICATIVE metonymies. The rest of the typology includes Panther & Thornburg's (2007) REFERENTIAL and ILLOCUTIONARY metonymies and Barcelona's (2005) and Bierwiazzonek's (2007) FORMAL metonymies. I would add as a subtype of propositional metonymies those that guide inferring in inferential chains (see e.g. Barcelona 2003) or reasoning on the basis of metonymic models (Lakoff 1987), whose source is otherwise not directly expressed, as in *Mary's an excellent mother even though she has a demanding job as an executive* (where reasoning is guided by the metonymy HOUSEWIFE-MOTHER SUBCATEGORY FOR WHOLE MOTHER CATEGORY). Also, I find it wrong to claim that CONCEPTUAL metonymies violate maxims (25); on the contrary, they are efficient prompts to derive the corresponding implicature.

In Section 1.8, BB comments on Peirsman & Geeraerts' (2006) prototype approach to metonymy, to which he presents four serious objections, some of which I agree with (BB ignores my prototype approach and my critique of

Peirsman and Geeraerts' approach; see, e.g. Barcelona 2011 in Benczes, Barcelona & Ruiz de Mendoza Ibáñez 2011, a book not included in BB's references). BB offers his own alternative to Peirsman and Geeraerts' theory. In Section 1.9, he discusses quite perceptively the controversial distinction between metonymy, ACTIVE ZONES and perspectivization (Cruse's (2000) FACETS), and he comments on the metonymy-motivated use of certain proper names as common nouns. Finally, in Section 1.10, BB adds an element to the usual explanation for the ubiquity of metonymy, namely its usefulness in filling lexical gaps.

The discussion in all these sections is truly incisive, illuminating and stimulating, albeit occasionally confusing. I have a number of major and minor objections; given space limitation, I will only outline some of the former. In his alternative to Peirsman & Geeraerts' model (Sections 1.8, 32–40), which is based on BB's own general theory of conceptual relations, BB excludes from metonymy those mappings based on CATEGORY–MEMBER (or 'genus–species') relations, which, following Seto (1999), he assigns to synecdoche, in turn excluded from metonymy; but he accepts meronymy-based metonymies. In my view, one should not confuse the static knowledge of category structure with the DYNAMIC use of categories or category members to activate each other. And if metonymy operates within a 'single integrated conceptualization', both category structure and meronymy 'in the world' (31) constitute instances of such conceptualization. The same applies to 'contingency' (i.e. the absence of a conceptually necessary link between source and target) as a requirement for metonymicity: *I need an aspirin* (Panther & Thornburg 2007: 241) entails 'I need a pain killer' but it does not necessarily entail 'I need ANY pain killer' (i.e. any member of that category), so metonymies involving category structure are not restricted to PART FOR PART metonymies operating on 'lower-than-basic' subcategories (which BB calls SYNECDOCHIC metonymies). According to his Principle of Minimal and Maximal Overlap (proposed *inter alia* as a way to distinguish metaphor from metonymy), BB claims that when 'a lower-than-basic level category is used as a source for another lower-than-basic level category, the transfer is metonymic' (34). But if I say *This bulldog is a real poodle* (given the bulldog's usual behavior, etc.) the connection is less likely to be (just) metonymic and more likely to be metaphorical. A similar principle, though applied only to the identification of degrees of prototypicality in metonymy, is proposed in Barcelona (2011). As regards the distinction of metonymy from active zones and facets that BB insightfully discusses in Section 1.9, the notion of PURELY SCHEMATIC metonymy I propose in that chapter might be of some use (especially as regards facets), together with the chapters by Paradis and especially Geeraerts & Peirsman in the same volume. BB objects to some aspects of my treatment of paragon names (as in *Harold is a real Shakespeare*) in Barcelona (2004). One of his objections is that the stereotypical model of Shakespeare (built around the property 'immense literary talent') underlying the use of IDEAL MEMBER FOR CLASS is too rigid and 'essentialist'; however, I do allow for variants of the model and for

alternative, not mutually exclusive, models, which would lead to different paragonic uses of that name.

Chapter 2 is one of the chapters where BB presents some of his more innovative contributions to metonymy theory. In formal metonymy (6), also called SALIENT PART OF FORM FOR WHOLE FORM (27) by Barcelona and Radden in their work, ‘a part of the formal representation of a linguistic unit stands for the whole formal representation of that unit’ (61). After criticizing Radden & Panther’s (2004a) analysis of the connection of *Gosh!* to *God!*, the chapter surveys a vast range of formal metonymies, which BB groups into WRITING metonymies and SPEECH-SOUND metonymies. The first type includes such phenomena as letters for (dirty) words, homophonic alphabetisms (*U* for *you*), other alphabetisms (*AO* for *Accountant Officer*), and acronyms. The second type includes certain types of vowel reduction, clippings and other types of reduced word forms, phonaesthemes, certain types of rhyming slang, metonymies operating on phrases (especially generic adjective-headed NPs like *the rich*), sentential metonymies motivating tag questions, reduced comparatives, anaphoric ellipsis, gapping, independent subordinate clauses (especially *if only*-clauses), discourse- and pragmatic-based elliptical constructions, and raising constructions (BB offers an alternative to their metonymic account by Langacker). Despite my basic agreement with BB on the existence of formal metonymies, I would suggest to restrict them to pure form–form connections; in some of BB’s analyses (e.g. full raising or independent *if*-clause constructions) the metonymies at work seem to be both formal and conceptual or only conceptual (reduced comparatives). In fact the metonymic motivation of morphosyntactic patterns is not restricted to formal metonymies (as witnessed by some of the papers in Panther, Thornburg & Barcelona 2009). I would also suggest not to regard discontinuous structures (like gapping or acronyms) as globally motivated by metonymy – they rather seem to work on the basis of analogy – since they do not constitute a ‘natural’ segment of the full form (this is debatable, of course, and I have myself occasionally not been consistent with this suggestion in my work).

Chapter 3, ‘Metonymy in morphology’, is an excellent critical survey of recent research on the topic: derivation (especially *-er* nouns in English and similar nouns in Polish); major and minor types of conversion; compounding, both endo- and exocentric (including a suggestive alternative to Langacker’s classical analysis of *jar lid*); and onomastics (included in the chapter because most anthroponyms and troponyms involve conversion or compounding). I find questionable, however, the treatment of *bahuvrihis* (e.g. *redbreast*) as endocentric because their conceptual structure is more complex than BB suggests. I have suggested elsewhere (Barcelona 2008) that the overall metonymy motivating these compounds is CHARACTERISTIC PROPERTY (having a red breast) FOR (bird) CATEGORY.

Chapter 4, ‘Metonymy in pragmatics’, is likewise an insightful critical discussion of research in the field, including Panther & Thornburg’s (e.g. 1999, 2003) work on metonymy and pragmatic inferencing (but I miss at least a mention of Gibbs (1994), who inspired their work on indirect speech acts).

The chapter includes BB's interesting analysis of propositional metonymies for love and of blending and metonymy in the illocutionary force of the past *if-only* construction.

Chapter 5, 'Metonymy in semantics', is a fascinating survey replete with detailed, perceptive analyses of the role of metonymy mostly in LEXICAL semantics, which demonstrates BB's profound knowledge of lexical semantic theory. The discussion in the chapter is framed by BB's own theory of conceptual relations presented in Chapter 1 (and his exclusion of taxonomy-based transfers from metonymy) and among other topics it deals with metonymy-motivated polysemy and with the connection between metonymy and interlexemic sense relations. An interesting notion is that of METONYMY GENERATORS (i.e. lexemes that tend to generate polysemous senses by means of metonymy).

The survey of polysemy includes synecdochic and metonymic extensions in general, eponymous uses of names (which then stand for non-personal categories: *a colt* based on the name of the inventor Samuel Colt), and verb polysemy. The topic of metonymy and sense relations is discussed in great detail, with interesting discussion of hyperbole and litotes, metonymy and partial synonymy, meronymy-based metonymy, antonymy- and complementarity-based metonymy, synesthesia-based metonymy, and other issues. Apart from a few confusing passages, the only objection I would voice is BB's continued rejection of any role to CATEGORY-MEMBER metonymies in lexical semantics (which is congruent with his position in Chapter 1).

Chapter 6, 'Metonymy in the embodied mind', is one of the *fortes* of the book. It is a systematic analysis of recent research in neuroscience and related areas in search of a plausible hypothesis on the embodiment of metonymy. The core of that hypothesis and of the Neural Theory of Metonymy, whose foundations BB attempts to lay in this book, is the blending of what Damasio calls IMAGE SPACES (corresponding, according to BB, to metonymic targets) with what that neuroscientist calls DISPOSITION SPACES (corresponding to metonymic sources); the joint processing of these spaces probably takes place in the middle layers of the prefrontal cortex. BB claims that this blending process is mainly constrained by his 'Principle of Correspondence' ('make your dispositional space fit your image space as closely as possible' (252)), which is a re-formulation of three principles earlier put forward by Ruiz de Mendoza Ibáñez & Mairal Usón (2007). BB has worked hard at reading most of the relevant neuroscience literature and makes frequent connections in the chapter to data and analyses in the previous chapters. He modestly presents his claims as mere 'suggestions' that he hopes will stimulate further research, especially by neurolinguists and other neuroscientists. A minor critique here is that despite his statement that linguistic synesthesia is only metonymy-based, this may only be the case for real synesthetes; but it is probably metaphorical (with a metonymic basis) for non-synesthetes.

Chapter 7, 'Summary and prospects for future research', is a clear brief summary of BB's main proposals and also a suggestion for future research.

On the whole this is a great book to be recommended to both experts and newcomers to metonymy research. It does not constitute yet a complete theory of metonymy, but it is a great step in that direction. BB exhibits in general an astounding command of the literature, independent thinking and keen analytical skills. The book is very well written, although a final thorough revision would have eliminated its relatively few formal errors.

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Hagit Borer, *Structuring sense*, vol. III: *Taking form*. Oxford: Oxford University Press, 2013. Pp. xxvi + 671.

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Taking Form is the third volume of Hagit Borer's *Structuring Sense* trilogy. In this book, Borer discusses the syntax of derivational affixes. She advocates that they merge with their base in narrow syntax. As such, the book reacts against lexicalist approaches. It consists of two parts. In the first four chapters after the introduction, Borer discusses deverbal nominalizations with a particular focus on Grimshaw's (1990) eventive nominals. Chapters 6–12 build on the conclusions of the first chapters to address the syntactic properties of derived words. Chapter 13 concludes.

The first chapter of the book is an introduction in which Borer starts with a central question on the ontology of roots. She wonders whether the root is assigned a phonological form, a meaning and syntactic properties that determine its merger possibilities. As readers may remember from the previous two volumes of the trilogy, she denies that any syntactic properties should be associated with the root. A central claim in this volume is that roots can be identified by means of a phonological index present in syntax, but they lack a conceptual identity. The author proposes that the domains of content assignment are defined syntactically. Her claim opposes the lexicalist view, according to which listed items are syntactic atoms with complete phonological, conceptual and syntactic properties. This position becomes a leitmotif in the book.

After introducing the theme of the book, Borer reviews other approaches to word formation known as realizational models, such as Beard (1981, 1995), and Distributed Morphology (Halle & Marantz 1993 and subsequent literature). With these models, she shares the assumption that inflection is realizational (see Halle & Marantz 1993) and even amorphemic (see Anderson 1982, 1992, *pace* Halle & Marantz 1993). She thus submits that *walked* and *sang* are non-complex and their form results from a spell-out rule. Yet, she takes derivation to be strictly