

Book Review

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Barczewska, Shala, *Conceptualizing Evolution Education. A Corpus-Based Analysis of US Press Discourse*. Newcastle upon Tyne: Cambridge Scholars Publishing, 2017, 400 pp., ISBN-13: 978-1-4438-4314-0, ISBN-10: 1-4438-4314-8. Hardback £74.99.

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Shala Barczewska's *Conceptualizing Evolution Education* presents an in-depth analysis of the press discourse concerning the controversy over the issue of teaching Darwinian evolution as part of the curriculum in American schools. Although the research is primarily underpinned by the general tenets of Cognitive Linguistics, in her study the author adopts a variety of perspectives and instruments originating from Pragmatics, Critical Discourse Analysis and Corpus Linguistics. The author points to the fact that most studies grounded in Cognitive Linguistics so far have focused primarily on the applications of the Conceptual Metaphor Theory (CMT). She attempts to enrich the Cognitive Linguistic approach to discourse analysis by applying tools of Corpus-Assisted Discourse Studies and by incorporating elements of Cognitive Pragmatics. The general context of the analyzed discourse is constituted by one of American 'culture wars' – a nation-wide debate on the trustworthiness of the theory of evolution, which, in essence, is a dispute over more fundamental ontological and ethical issues concerning the nature of reality – spiritual or material and the source of moral authority – transcendent or personal. The clash of values underpinning the debate, which may be simplistically characterized as *religion* versus *science*, has social and political consequences. The culture war hypothesis suggests that an axiological transformation within public culture results in serious tensions in social order (Dill and Hunter 2010). By investigating how the debate over evolution education is construed in the press, Barczewska hopes to uncover hidden meanings of the controversy and suggest alternative construals that may facilitate public communication (p. 2).

The volume is clearly structured in 7 chapters of varying lengths along with an introduction and conclusions. Chapter 1, titled 'Debating and Legislating Evolution Education in the US', provides an exhaustive description of the context by reporting on various stages and levels of both the debate and the legislation concerning the content of educational programs with respect to the so-called *creation* versus *evolution* controversy. The author undermines this simplistic dichotomy, however, by presenting a diversity of ideological views concerning the origins of man, which form a whole spectrum ranging from Young Earth creationism to neo-Darwinian materialism. The chapter presents a brief history of the debate over evolution education based on sources that are widely acknowledged as "providing a balanced account" (p. 13). The analysis concentrates on the current

press representation of the debate (2003–2012) but it also relates to the discourse concerning the 1925 trial of John T. Scopes, who was accused and convicted of teaching the evolution of man in school. The case, coined the “monkey trial”, has become an important point of reference in the discussions both on the content of biology programs and on the scope and nature of science. Therefore, due to its political and ideological salience, Barczewska, following Jäger and Maier (2009), considers the Scopes’ trial a *discursive event* as it is still shaping the conceptualizations present in the discourse of evolution education (p. 2). In the concluding part of Chapter 1, the author briefly reviews research on the language of the debate, both linguistic and socio-cultural. It includes the shift in the use of such concepts as *science* and *scientist*, their legitimizing value and competing interactional frames present in the press discussion, along with “terminology battles” over key concepts in the debate that reflect the clash of values rather than the battle between truth and error.

Chapter 2, titled ‘Corpus Materials and Methodology’, is devoted to the presentation of the research tools grounded in Corpus-Assisted Discourse Studies (CADS). The author presents different approaches to corpus analysis, which can be broadly divided into two groups, treating the corpus either as a method or a theory. The former called *corpus-based studies* involves hypothesis testing; whereas the latter, referred to as *corpus-driven studies*, is based on inductive methods exploring the corpus as a text (Tognini-Bonelli 2001). Barczewska (pp. 39–40), following Partington (2009), adopts a more integrative approach, which allows for adjusting tools and perspectives to investigate the general picture of the discourse in which the debate is imbedded and, in particular, ways in which language is used to modify people’s beliefs about the issue in question. In the process, the two research perspectives, “induction and hypothesis testing combine and interact” (Partington 2009: 282). Barczewska (pp. 41–42) argues convincingly that Corpus-Assisted Analysis may help to discover hidden patterns of language more effectively and provides arguments against the tool’s insensitivity to context. The author supports the view that CADS studies should be distinguished from critical discourse analysis as the aim of the former is descriptive and “linguistically motivated” (Stubbs 1997: 2–3). The latter, in contrast, concentrates on the investigation of power relations as projected in language and the identification of the misuse of power. Barczewska (p. 41), aligning herself with the non-political agenda, states that her book “is focused on a description of the construal of the debate over evolution education [...], not an evaluation of the claims made therein”. The remaining part of the chapter is devoted to the discussion of the tools used within corpus linguistics (frequency lists, collocations, key words) and the composition of the corpora used for the study.

Chapter 3, titled ‘Cognitive Processes and Discourse Space’, provides the theoretical background for the remaining chapters in the book. The author places her research within the paradigm of *Cognitive Linguistics* (represented by Ronald Langacker, George Lakoff and Charles Fillmore), which covers a variety of approaches sharing the commitment to generalizability and cognitive assumptions. In contrast to *cognitive linguistics*, including both functional and generative approaches, the Cognitive Linguistics paradigm focuses on uncovering general principles underlying linguistic behavior and providing a description of language “in accord with what is generally known

about the mind and brain from disciplines other than linguistics” (Lakoff 1991: 54). The chapter presents notions and specific theories that are relevant to Barczewska’s subsequent analyses that include e.g. encyclopedic meaning, construal, frame semantics, conceptual metaphor and metonymy and conceptual blending. The chapter also surveys some concepts in pragmatics that prove relevant for the analysis of subsequent chapters. It also presents some criticism of specific approaches (CMT in particular) and shows how the study of some of the issues which traditionally fall under the pragmatics umbrella could benefit from Cognitive Linguistics’ insights. The final section of this chapter serves as a road map of theories to be employed in the following empirical chapters.

Discussing encyclopedic meaning in Chapter 3, Barczewska considers the word *scientist* and observes that both the definition given in the OED online (2016) and the binary feature notation fail to do full justice to the complexity of the image in the mind of an average English speaker. In Chapter 1, Barczewska reviews Daniel Thurs’ discussion pertaining to the changing uses of the notion of *science* and the development of the terminology in the realm of *non-science*. It seems that *science* and *scientist* are the two most important concepts in the language of the debate on evolution education. It might be interesting in this respect to refer to a promising approach developed by Knobe, Prasada and Newman (2013) who present empirical evidence that certain concepts such as *scientist*, *mother* or *teacher* have a ‘dual character’. In this approach, a scientist may refer to a person who is professionally involved in doing research and trained in formal experimental methods, as well as to a person who employs analytical methods in his/her activities and thinking, but who lacks formal training. This is to say that the conceptualization may entail both or either of the two: being a formal researcher who may lack scientific rigour and being a ‘real’ scientist who may lack formal education.

Chapter 2 and 3 form the theoretical backbone which directs the methodological framework of the study. Barczewska defines her multi-faceted method of analysis as triangulation. If cognitive linguistics and corpus-assisted linguistics are interpreted as different theoretical models, this type of triangulation may be specified as both theoretical (drawing upon alternative theories) and methodological (utilizing different methods on the same object). In the latter case, however, following the assumptions of Corpus-Assisted Discourse Studies, the author herself admits that diverse methods are used to investigate different aspects of the subject and it is the sum of the results of all the analyses which forms the final picture of the issue under investigation. Within a framework of the traditional research paradigm, researchers are expected to provide a systemic justification for the choice of methods and their utility with respect to particular objects of inquiry. Although Barczewska distances herself from Critical Discourse Analysis, the method she adopts can be described as a *hybrid* and placed within the realm of critical linguistics – the perspective which is characterized by heterosis, i.e. the creative expansion of possibilities resulting from hybridity. As such, it allows for the originating of hybrid models of research, the relating of language to broader social, political, cultural and ethical issues and thus the creation of new schemas of politicization in the Foucauldian sense (Pennycook 1999; 2001).

Chapters 4, 5, 6 and 7 are devoted to the analysis of various aspects of the press representation of evolution education. Chapter 4, titled ‘Construal of the Debate over Evolution in Select Articles’, is the first analytical chapter whose aim is to unpack construal operations present in five articles (see the Appendix) that are claimed to be representative of the viewpoints frequently encountered in a larger corpus of reporting on evolution education from 2003–2012. Linguistic clues taken from the headlines, the subheads as well as from the introductory paragraphs serve as a retrieval aid for reconstructing vantage points from which the debate on evolution is viewed. Some dimensions of construal that are discussed include categorization, force dynamics, scope, schematization, and prominence. More specifically, three different metaphorical conceptualizations of linguistic construal (i.e. vision, geometry and physical interaction) provide the framework for subsequent analysis. This chapter features a number of tables and figures (e.g. domains of science, mappings from the source and target domains, sketches of the conceptual viewing arrangements) which illustrate the points discussed in the chapter. Not only do these display items clearly communicate/summarize information, they also facilitate the reader’s comprehension of the specific points Barczewska develops in chapter 4. As clearly outlined by the author in the summary conclusions (pp. 212–215), the analyses revealed that the journalists of the five articles under analysis construe the debate by (i) employing various figurative devices such as e.g. metonymy and metaphor in the headlines and introductory lines to construct the vantage point from which it is viewed; (ii) using words/phrases from the semantic domain of RELIGION; (iii) picturing it in terms of a dichotomous model of US and THEM; (iv) quoting experts in their discussion; and (v) alluding to different frames. Additionally, the summary includes a comparison of the various ways in which the journalists draw upon these “resources” in construing the debate. For instance, Barczewska observed that some journalists draw on the INTIMIDATED TEACHERS frame while others allude to MORALS/VALUES/TRUTH and PROTECT CHILDREN frames.

Chapter 5, titled ‘Headline Analysis’, examines the headlines of the 601 articles in the EE312 corpus. The chapter aims both to identify semantic domains in the headlines, as well as “to assess the possibility of using headlines as a door to identifying possible source domains when researching metaphorical mappings in a larger corpus, in this case EE312” (p.10). Barczewska observes that the journalists rely on a number of semantic domains in construing the debate over evolution, some of the most prevalent domains identified in the headlines include e.g. RELIGION and SCIENCE, GAME OF SPORT, CONFLICT/WAR, CONTAINER OF CHASM. On the one hand – perhaps not surprisingly – the analysis indicated some of the domains such as e.g. RELIGION and SCIENCE; on the other hand, it also unearthed the conceptualization of the debate in terms of spatial dimensions such as e.g. CONTAINER. However, as Barczewska states, this method of categorizing (i.e. selecting the most salient domains in the headlines) is not a straightforward task as many headlines employ mixed metaphors or rely on several source domains. Perhaps one way of dealing with this difficulty and thus increasing the reliability of the findings, is by utilizing a second coder, which does not seem to be a common practice in linguistics research. According to Barbour (2001) the degree of inter-rater agreement is an important indication of the consistency of ratings between coders;

however, what matters most are insights gained from discussion (about the sources of disagreements between the coders) that can as a result give rise to improvements in categorization schemes.

Chapter 6, titled ‘Keywords in the Corpora’, aims to investigate the *aboutness* of the corpus via a study of keywords in EE312 and TIME25, as well as to study the organization of the sub-corpora according to semantic domains. For this purpose, Barczewska used a word list from *The Guardian* (1998–2004) that served as the reference corpus for calculating keywords. The first part of this chapter presents a list of some of the top keywords found in the EE312 corpus (e.g. the top five include: evolution, science, intelligent, design, and creationism) while the remaining parts of Chapter 6 focus on comparisons between keywords in the sub-corpora categorized according to the stance of the journalist, the genre of the article, and the scope of the publication. Some interesting observations have emerged from the chronological comparison. It shows the shift in the use of key semantic domains between proponents and opponents of Darwinian evolution in the articles under analysis. That is to say that the former group favored words from the domain of RELIGION, as opposed to the latter group that had a tendency to use words from the semantic domain of SCIENCE.

Chapter 7, titled ‘Construal of Keywords in the Corpus’, continues the discussion of keywords within the EE312 corpus, with a focus on the two top keywords: *science* and *evolution*. More specifically, the discussion centers on one grouping of collocates (frequent and statistically significant) of *science* within the corpus—i.e. polarity markers that include for instance such lexemes as *pseudo*, *sound* and *good*, as well as on some collocates of *education*—some of the examples discussed include e.g. *anti-*, *pro-* and *teaching*. Overall, Barczewska shows how journalists make use of the key terms in question to construe their own voice (as well as other participants’) when debating over evolution education. Moreover, Chapter 7 discusses two techniques (metonymic and metaphorical) utilized by the participants of the debate to classify their opponents as religious and it also highlights some of the lexicalizations of the most prevalent conceptual metaphor in the EE312 corpus—i.e. ARGUMENT IS WAR. The summary of the results (Chapters 4–7) concludes this chapter. Here, the author offers some suggestions as to how communication between people representing different viewpoints on the evolution education debate can be improved. Relying on the results of her analyses, Barczewska postulates that “understanding and harnessing effective metaphors and appropriate image schemas” (p. 319) is the essence of the problem at stake.

To conclude, *Conceptualizing Evolution Education* offers a plethora of inspiration for researchers and students working in the fields of corpus linguistics, Cognitive Linguistics and discourse analysis. The author has successfully employed a balanced combination of research theories and tools. The list of references is extensive (26 pages) and provides a valuable resource for other researchers; the volume also contains a detailed index. The book has many strengths, not least of which is its clear and comprehensive presentation. It also provides valuable data and insights for anyone interested in the American debate over evolution education. Importantly, the book does not only present how the debate is construed in the US press, but also offers insights into the “ways in which linguistic choices help and/or hinder communication in this and other controversies” (p. xviii). *Culture wars* over such controversial problems as abortion, immigration policies or same-sex mar-

riages dominate much of public discourse both in the USA and Europe. The volume also makes an excellent template for the analysis of other topics/controversies and as such, it has already taken its place in the list of essential reading for our BA and MA modules at the University of Białystok.

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