

Herrmann, J. Berenike/Berber Sardinha, Tony, eds. (2015): *Metaphor in Specialist Discourse*. (Metaphor in Language, Cognition and Communication 4). Amsterdam/Philadelphia: Benjamins. ISBN 978-90-272-0208-6, 319 pages.

This edited volume presents detailed insights into the role that metaphor plays in various kinds of specialist discourse. It highlights the pervasiveness of metaphor and raises awareness for its importance in shaping experts' ideas and communicating them. The contributions to this volume were mainly selected from papers delivered at the 2010 Researching and Applying Metaphor Conference, Amsterdam, and were in part substantially revised for the book.

The book starts with a preface by Lynne Cameron. As a response to the conceptual turn of metaphor, initiated by Lakoff and Johnson's seminal publication *Metaphors We Live By* (1980), Cameron and others have called for a 'discourse shift' in metaphor studies, i. e. for "rigorous research into metaphor in the real world" (xii). This publication lies within this tradition.

In the first section of the book, the editors introduce the overall purpose and structure of the collective volume. In line with the 'discourse shift', strong emphasis is put on an empirical approach to metaphor in naturally occurring data ranging from written (e. g. scientific journal articles, textbooks, policy documents, newspaper articles) to spoken (soccer broadcasts) and multi-modal (gestures) sources (p. 10). Furthermore, the book aims to examine how metaphor (in terms of its linguistic form, type, as well as communicative function) is determined by factors of register and genre. Key terms like 'register', 'genre', 'specialist discourse' and 'metaphor' are defined.

In section two, *Metaphor variation in specialist discourse*, Tony Berber Sardinha and Anke Beger examine metaphor variation across genre and register. In *Register variation and metaphor use. A multi-dimensional perspective*, Berber Sardinha explores the relation between metaphor and register (here: academic, news, fiction, conversation) in English along a number of variables using detailed statistical analyses. Among these are: metaphor frequency, metaphor signaling, metaphor manifestation. He finds that metaphor accounts less for register variation than grammatical features, yet, metaphor density seems to be differently distributed across registers. In particular, metaphor seems to thrive in literate, non-narrative, reference explicit texts (p. 47).

In *Metaphors in psychology genres. Counseling vs. academic lectures*, Anke Beger analyzes the use of LOVE and ANGER¹ metaphors in two genres – online counseling and academic psychology lectures. In order to investigate metaphor variation across these genres, Beger has compiled a large corpus of written and spoken data of roughly 100,000 words. The data was analyzed using MIP and metaphorical expressions were grouped into possible conceptual metaphors. Beger's findings indicate that there is considerable variation in how laypeople and counselors use metaphors, and how counselors and lecturers perceive them for both LOVE and ANGER metaphors. Beger suggests that this is due to the different settings, audiences, and goals counselors and lecturers are faced with.

In section three, *Metaphor in specific contexts*, three studies zoom in on specific discourses analyzing their characteristics. *Payback and punishment. Figurative language in Scottish penal policy* by Alice Deignan and Sarah Armstrong presents an analysis of metaphor and me-

¹ Conceptual elements like conceptual metaphors or conceptual domains are usually given in small capitals to signal their conceptual status. The concept of anger for example can be reflected by numerous linguistic means – *be angry, full of anger, aggressive, explode with anger* etc.

tonymy in key documents involved in the reform programme of current Scottish penal policy. The authors are particularly interested in metaphor as a device for framing, i. e. hiding and highlighting aspects of a particular topic. Through a combination of automated and manual analysis, the authors reveal intricate patterns of key lexical items. For example, a metonymical use of *court* functions to depersonalize processes of justice. In addition to that, metaphorical expressions are often employed to frame penal discourse in terms of a business, the key lexical items being *payback*, *deliver/y* and *manage/ment*.

The second contribution to this part, *They have to die for the goals. War metaphors in English and German football radio commentary* by Elmar Thalhammer presents a contrastive corpus study of WAR metaphors for football in German and English. Thalhammer combines quantitative and qualitative methods applied to a purpose-made corpus of 200,000 words of English and German radio football commentaries. An analysis of the subcorpora's keywords reveals that in general, there is an overlap of expressions pertaining to the WAR metaphor with common lexical items like *angreifen / attack*, *verteidigen / defend*, *schießen / shoot* between English and German with a slight preference of WAR metaphors in German in terms of frequency. The qualitative analysis revealed, however, that the WAR metaphor is more productive in English, i. e. there is a greater variety of expressions for WAR compared to German.

The production line as a context for low metaphoricality. Exploring links between gestures, iconicity, and artefacts on a factory shop floor by Simon Harrison analyses the gestures used by workers on a production line in a French salmon factory. Harrison focuses in particular on 'technical gestures' (Morris 2002), i.e. gestures to communicate instructions or problems regarding the imminent production process. He finds that none of these technical gestures can be interpreted metaphorically, instead iconic gestures have concrete reference (to machinery or raw material) and point to objects metonymically. The lack of metaphorical gesturing can be explained by the communicative context: Due to the noisy environment and situations in which communication has to be fast, speakers focus on short and highly salient messages to communicate emerging problems.

Section four focuses on *Metaphor in science writing*. It is generally assumed that scientific communication is low in metaphoricality. Studies, however, have shown that academic texts exhibit the highest number of metaphor frequency compared to the register of news, fiction and conversation (Steen et al. 2010). Based on assumptions by Hyland (2006, 2009), Berenike Herrmann in *High on metaphor, low on simile? An examination of metaphor type in sub-registers of academic prose* hypothesizes that metaphor use may further vary within register. She explores metaphor variation across four academic 'sub-registers' – humanities arts, natural sciences, politics law education, social sciences (sub-registers are based on the classification in the British National Corpus, data is taken from the BNC baby) – with respect to the distribution of three metaphor types – indirect metaphor, implicit metaphor, and direct metaphor (cf. Steen et al. 2010). Her findings reveal that metaphor is evenly distributed across the four sub-registers, with only a slight tendency of natural science exhibiting less metaphorical expressions than expected. Sub-registers, however, differ with respect to metaphor type. Direct metaphor, for example occurred most frequently in natural sciences and humanities arts. In the former, direct metaphor probably serves an educational function whereas in the latter it serves a more aesthetic one.

In the second contribution, *A mere metaphor? Framings of the concept of metaphor in biological specialist communication*, Sanne Knudsen examines attitudes towards the use of metaphors in written scientific communication. She analyses direct references to the word

metaphor in a corpus of research articles from the Biological Science database. Her analysis reveals that metaphor is viewed in five different frames which can be collapsed into two opposing positions. On the one hand, metaphors are criticized for their open-endedness and ambiguity. In that respect, metaphors should be “sanitized” (p. 195) or fully discarded. On the other hand, the open-endedness of metaphor is embraced for its value as a heuristic tool. Knudsen suggests that the first, more traditional position tends to be more frequent in classical IMRD-structure papers (introduction-methods-results-discussion), whereas the latter, more open view is often found in review articles and theoretical papers.

In the last contribution on the use of metaphor in science writing, *Dynamical systems metaphors*, Thomas H. Smith investigates how ‘dynamical systems theory’ as a complex source domain is used in educational scientific texts from six disciplines – cognitive psychology, linguistics, transportation studies, social psychology, evolutionary biology and business management. Dynamical systems theory was first used to describe the movement of celestial bodies and in the late twentieth century has been applied to diverse fields such as chemistry, physics, neuroscience, plant and animal evolution, medicine and population dynamics. Based on a corpus of 14,000 words of educational literature from the six fields, his qualitative analysis reveals that exploiting dynamical systems theory for other complex scientific areas overwhelmingly relies on conventional metaphors of force dynamics, movement, and object manipulation. Only a few cases of novel lexical metaphorical expressions were found and no innovative conceptual metaphors could be identified despite scientific advances in the respective fields. Regarding their educational value, Smith notes that it often remained unclear to the reader whether a metaphor was used for pedagogical reasons or whether it was used to model new concepts (i. e. the ‘theory-constitutive’ function of metaphor, cf. Boyd 1993; Semino 2008).

Having examined metaphor in scientific writing, section five, *Metaphor and popularization*, investigates the dissemination of specialist scientific knowledge to a wider audience, known as ‘popularization’ (cf. Richardt 2005; Schulze/Römer 2008). The first contribution, *Metaphor, news discourse and knowledge*, by Julia T. Williams Camus analyzes popularization in a bilingual English and Spanish newspaper corpus of 100 articles on cancer (*The Guardian* and *El País*). As metaphor is usually employed to understand complex and abstract concepts in terms of familiar ones, it should be the device par excellence to fulfil this communicative goal. Camus’ findings, in fact, reveal that conceptions of cancer rely on common metaphors like the personification of genes as well as mechanistic metaphors for bio-chemical processes. Furthermore, the personification of genes usually combines with metonymy thus simplifying complex processes, e. g. GENE FOR PROTEIN PRODUCED BY GENE.

In *Metaphor as tools of enrolment. A case study exploration of the policy press release genre in regards to the Alberta SuperNet*, Amanda Williams examines the ways in which metaphorical language was employed to frame the Alberta SuperNet project in promotional press releases. The project was aimed at supplying 422 communities in Alberta, Canada with fiber optic and wireless infrastructure between the years 2000 and 2006. In her analysis of how the word *SuperNet* was understood, three metaphors turned out to be most prominent: SUPERNET AS A PERSON/SUPER-HUMAN, THE SUPERNET AS A HIGHWAY, AND TECHNOLOGY POLICY-MAKING AS A COMPETITION. Williams shows that the metaphors have persuasive function by exclusively highlighting positive aspects of the source domains, downplaying possible negative features, as well as oversimplifying the complex telecommunications technology at work in SuperNet.

The final section of the book, Jeannette Littlemore's *Metaphor in specialist discourse. Insights and implications for metaphor studies and beyond* presents an excellent summary of the contributions of this edited volume. Her remarks will be given in greater detail as they serve as an overall evaluation of the book.

In terms of "where this volume has taken us" (p. 300), Littlemore firstly stresses that most of the volume's contributions have indicated a strong influence of context on metaphor use and that genre and register clearly have an effect on metaphor. In this respect, she highlights the papers by Thalhammer and Harrison who analyzed metaphors in spontaneous speech as well as gestures in very restricted environments, situations in which metaphor use has hardly been analyzed so far. Secondly, the papers exhibit an inspiring methodological variety from the rigorous application of MIP (Metaphor Identification Procedure, Pragglejaz group 2007) and MIPVU (Metaphor Identification Procedure Vrije Universiteit Amsterdam, Steen et al. 2010) for the identification of metaphorical expressions in discourse to quantitative corpus methods like keyword analysis (Thalhammer's contribution) or multifactorial analysis of metaphor variation (Berber Sardinha's contribution). The contributions thus emphasize the overall value of combining qualitative and quantitative approaches to metaphor studies in (specialist) discourse. Thirdly, several papers have demonstrated how metaphor may frame a particular topic.

While *Metaphor in Specialist Discourse* has provided exciting insights and hopefully will inspire a number of similar studies, there will always remain some issues that are in need of further exploration. A common issue concerns the relation between the metaphors identified for the specialist discourses and classic Lakoff and Johnson conceptual metaphors (p. 306). Are discourse-specific metaphors psychologically real? There is considerable debate about this issue in the metaphor community and the contributions here will give additional food for thought.

The analysis of conceptual metaphors has been posing methodological problems as well since a linguistic analysis of metaphor can only count as indirect evidence for possible mappings at the conceptual level. In my opinion, a sound metaphor-in-discourse analysis restricts itself to some aspects of metaphor which are manageable and discussed in full rendering findings comprehensible and replicable. Part of the data should be analyzed by a second coder and reliability measures should be reported. If assumptions about conceptual mappings are made, they have to be psychologically tested. If they are only potentially suggested, the line of reasoning should nevertheless be made fully explicit (cf. Schmitt 2005).

A second issue and a highly controversial one put forward by Littlemore is the question whether metaphors are used deliberately. Especially metaphors in educational writing might be deliberately employed in order to facilitate understanding. But are speakers aware of metaphoricity? Some metaphors might even be deliberately suppressed in specific situations (cf. Beger's contribution). More research in that field is needed. Littlemore also points to related issues like the function of metaphor signals or the actual effect of metaphor on comprehension which are also in need of deeper investigations. Similarly, the role of metonymy as well as its interaction with and demarcation from metaphor in specialist discourse are still somewhat underrepresented topics.

Given the pervasiveness and importance of metaphor in specialist discourse, Littlemore encourages the promotion of metaphor awareness beyond the metaphor research community (p. 312). LSP teachers, for example, could largely benefit from findings in metaphor in educational or academic writing studies. Moreover, an awareness of metaphors' framing function might reveal its role in the creation of prejudice, especially in the media.

Overall, the edited volume presents a rich collection of metaphor in specialist discourse and a valuable resource to linguists, metaphor scholars, graduate students as well as representatives of specialized areas interested in the metaphoric characteristics and implications of their respective specialized discourses. Furthermore, the fact that the editors have provided an index at the end of the volume makes it possible to quickly search for specific topics.

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Nina Julich, M.A.
 Research Associate
 Institut für Anglistik
 Universität Leipzig
 Nina.Julich@uni-leipzig.de