J. B. Herrmann & T. B. Sardinha (Eds.). (2015) *Metaphor in Specialist Discourse* [Metaphor in Language, Cognition, and Communication 4]. Amsterdam: John Benjamins. ISBN 978-9-027-20208-6 978-9-027-26784-9, xii + 319 pp.

Reviewed by Andreas Musolff (University of East Anglia, Norwich)

"The history of figurative language [is] more of a conglomeration of discontinuities than a coherent progression towards resolution of common problems": this quotation from Honeck (1980, p. 37) provided the motto for Lynne Cameron's own chapter in her and Graham Low's landmark 1999 publication "Researching and Applying Metaphor", which kick-started the research program of investigating metaphor use in the real world and led, inter alia, to the foundation of "Metaphor and the Social World" (Cameron, 1999, p. 3). Honeck's dictum is disproved (anachronistically speaking) in the book under review here, at least in regard to present-day research. "Metaphor in specialist discourse" showcases the advances of applied, real-world related metaphor research since 1999 in ten fascinating case studies, which are framed by Lynne Cameron's programmatic preface, the editors' introduction and a concluding chapter by Jeannette Littlemore. The latter two provide a methodological bracket: the introduction references and explicates the theoretical foundations for the discourse-oriented and function-oriented approach to metaphor such as register and genre, the Systemic Functional Linguistics (SFL) categories of field, tenor, mode and discourse community, and the dialectical relationship of specialist and popular discourse. The concluding chapter draws together the thematic threads of the volume so as to highlight key challenges for future research: e.g., analysis of metaphor as an emergent phenomenon, genre dependency of deliberate metaphor use (and avoidance) and of the metonymymetaphor relationship, integration of metaphor signalling devices with the theory of discourse markers, and operationalisation of functionalist metaphor analysis for professional and therapeutic training purposes.

The case studies are grouped into four main sections. The first of these, "Metaphor variation in specialist discourse" is initiated by Tony Berber Sardinha with a substantial chapter that probes the significance of metaphor for variation across Biber's (1988) four broad registers, i.e. academic writing, news, fiction and conversation. Its database is the "VU Amsterdam metaphor corpus" (VUAMC, see Steen et al. 2010), which is also used in other contributions to this volume. Here, it is (re-)tagged and examined for a wide range of variables: metaphor frequency and signalling, direct/indirect and implicit metaphor expression, clustering, conventionalization, semantics (i.e. semantic field membership) and word class. This multi-factor analysis shows that variation can be observed in two dimensions: "one related to metaphor density, where metaphor is the chief element, and the other to stance expression, where metaphor plays a marginal role, in quantitative terms" (p. 47). Statistically, metaphor variation 'only accounts' for 41% at most of register variation, with grammar capturing twice as much variation; but given metaphor's limited frequency compared with grammatical features, this result strongly corroborates the high importance of metaphor for academic writing and, slightly less, for news and conversely, its absence in registers characterized by "greater interlocutor involvement" (pp. 47–8). The author acknowledges that further research on larger databases is needed (the VUAMC version he uses has 84 texts and 208,915 tokens) to allow more representative and cross-linguistic analyses, but he succeeds in demonstrating that corpus-driven analysis of metaphor variation can yield detailed statistical results for register differences in figurative language use.

Further proof for the fundamental importance of register differentiation is provided in the following chapter in this section, by Anke Beger. It deals with the thematically seemingly homogeneous issue of LOVE and ANGER metaphors in counselling and psychology. We know from Z. Kövecses's (1990, 2000) research on emotion metaphors about their common underlying physiological and cultural concepts, but when used in academic contexts on the one hand and in internet counselling on the other, contrasting patterns of mapping choices emerge that relate to differences in discourse structures and goals. Counsellors frequently use conceptual metaphors for LOVE involving aspects of activity, creation and responsibility of partners in romantic relationships for therapeutic purposes, whereas academic experts favour the mapping LOVE IS A BUSINESS TRANSACTION that lends itself to theoretical modelling. Likewise, in the case of ANGER, the counsellors' use of metaphors seems to aim at conveying a concept of the emotion that involves the possibility to reduce anger and prevent actual aggressive behaviour, including the famous ANGER IS A HOT FLUID IN A CONTAINER mapping, whereas academics prioritise a version that lacks the heat element but links up with a 'hydraulic' theory of emotion, i.e. a 'mere' ANGER IS A FLUID IN A CONTAINER mapping (pp. 71–3). Thus, while the two groups use roughly the same range of metaphors for the same target topics, the mappings that dominate their discourses differ in a systematic way.

The following section, "Metaphor in specific contexts", contains three chapters. Using Wordsmith v.5-based frequency counts and concordancing tools, Alice Deignan and Sarah Armstrong analyse the figurative language of government documents on Scottish Penal Policy reform from 2008–9. The most striking metaphor is *payback* which collocates with two types of semantic environment: those where it refers to "repayment for harm done with a suggestion of rehabilitation" and those in which "revenge" seems to be the target meaning, as in the collocation payback time (p. 91). Overall, however, the figurative use of business language (manage, deliver ...) provides the main framing device of such documents, as it is "realized throughout the text by a variety of word uses and forms" rather than by the 'oneshot' term payback (pp. 98-9). In the tellingly titled following chapter, "They have to die for the goals", Elmar Thalhammer compares war metaphors in English and German football radio commentaries. On the basis of two special corpora of radio coverage, analysed with AntConc 3.2.1, the author shows that the lexemes *shoot*, attack and defend and their German counterparts are so pervasive "that virtually any discourse about football will at some point have to resort to them" (p. 127). Interestingly, however, use of the pair *defend-attack* was "balanced in English" but "the German scale tipped in strong favour of attack, which could be explained by its wider scope" (ibid.). Further qualitative analysis shows that whilst war metaphors are slightly more prevalent in German radio commentaries, English 'compensates' for not being as prolific by displaying a larger variety of metaphorical expressions, which typically draw on aspects like DESTRUCTION, DEATH OF POSSESSION. By contrast, German focuses on particular strategic moves to gain an advantage on the pitch (ibid.). In his conclusion, Thalhammer rightly points out that these exploratory findings lend themselves to further testing, not just with corpus linguistic methods, but also with psycholinguistic experiments, as well as with diachronic and cultural comparisons. A further dimension that could profitably be explored is perhaps the difference between background terms such as *defend-attack* and the hyperbolic aspect of salient terminology (ready to die, killer-pass, killer-blow, etc.).

Then for something quite different: Simon Harrison's chapter "The production line as a context for low metaphoricity". In a fascinating piece of ethnologically oriented gesture research, Harrison analyses the iconicity of conversational and technical gesturing in a French salmon factory. Due to the tightly controlled and timed working process, conversational gesturing is limited to work pauses and its verbal/acoustic component could not even be recorded due to the high noise-level – hence it plays only a marginal role in the analysis. Instead, technical gestures of orientation, measurement and a set of conventionalised gestures signifying specific issues with the product, which were often mute or accompanied only by short shouts, are in the focus. These gestures turned out to be based on metonymies rather than metaphors, due to the special situational constraints of this type of communication, i.e. the linkage to manual labour, the short duration and the restriction to concrete work aspects.

The chapters of the following section deal with "Metaphor in science writing", thus analysing further the most metaphor-prone mega-register of academic writing (see Berber Sardinha's contribution). First, J. Berenike Herrmann, in "High on metaphor, low on simile?" investigates the distribution of metaphor types (direct,

indirect, implicit) across the four academic disciplines of Humanities/Arts, Social Sciences, Natural Sciences and Politics/law/education. She highlights a preponderance of indirect metaphors across all these sub-registers and contrasts in the use and function of direct metaphors: they are most frequent in Humanities and Sciences, but the detailed analysis shows that the latter tend "to restrict direct metaphor use to educational and ideational functions, whereas the humanities & arts may also apply it to create aesthetically rich and possibly entertaining prose" (p. 186). In "A mere metaphor? Framings of the concept of metaphor in biological specialist communication", Sanne Knudsen pursues another approach to differentiating sub-register nuances of metaphor use by focusing on the explicit signalling, referencing and discussion of figurative language in research articles across four biology-related disciplines. She demonstrates that scientific attitudes to and discursive treatment of metaphor are by no means uniform (and certainly not uniformly negative!) but can be grouped into five frames, which Knudsen summarizes into "two basic, and expected frames: internalist/experimental and externalist/ critical" plus a "third [...] critical/analytical frame, in which both internal as well as external influences are recognized" and where "the emphasis is rather on the application of metaphor as a discursive, communicative and culturally situated phenomenon open to theoretical analysis of content, emphasis and resonance" (p. 209). These three types are then related to the Kuhnian model of science evolution (pre-science, normal science and scientific revolution), which promises an auspicious avenue for research that can overcome prejudicial assumptions about science's alleged anti-figurative ideology.

If the preceding two chapters narrow the focus from the broad category of academic writing to specific disciplines and sub-genres, the last chapter in this section takes the specialisation trend even further and homes in on one particular theory, i.e. 'Dynamical Systems Theory' (DST), originally developed in physics but nowadays applied in several natural and social sciences. They all need to metaphorize DST, due to its inherent abstractness (which has prevented it from becoming a source domain itself). The author, Thomas H. Smith identifies ten main conceptual metaphors (each with further sub-mappings), some of which strongly collocate and semantically reinforce each other due to common spatial grounding, e.g. DS IS ENTITY/OBJECT, MOVEMENT, TERRAIN, STATE/POSITION, ATTRACTOR (pp. 221-7). Others, however, e.g. DS IS FEEDBACK, LIFE, SOCIAL, do not fit the 'Newtonian' bias of the main group, and attempts to link them result in over-complex and contradictory configurations. All mappings are shown to be oversimplifying and only illuminating with regard to sub-aspects of the theory; even this limited adequacy can be appreciated mainly by "sophisticated readers already familiar with dynamical systems", whereas lay readers are misled into conceptualising DST through reifying and even 'mystifying' blends (pp. 236-7).

This sceptical tenor provides a bridge to the book's last section on "Metaphor and popularization", which contains the last two case studies. The first of these, by Julia T. Williams Camus, compares metaphors that popularize aspects of cancer research, i.e. insights into the illness aetiology and its 'progress' stages in the newspapers "The Guardian" and "El País". Whilst both the English and Spanish media relied heavily on a few common conceptual sources, especially personification and machine, there were also language-specific characteristics: descriptions in English tended to avoid technical terminology as well as some scientific metaphors and showed specifically less metaphor usage and metaphor variation in the coverage of metastasis than the Spanish descriptions. The relatively small corpus basis of 100 articles with a little over 62,000 tokens altogether calls for follow-up studies. In "Metaphors as tools of enrolment", Amanda Williams investigates Canadian policy press releases advocating the adoption of a public-private internet infrastructure programme called "Alberta SuperNet". Seventy per cent of the metaphorical material in the promotion campaign was covered by just three mappings: SUPERNET AS PERSON/ SUPER-HUMAN), SUPERNET AS HIGHWAY/TRANSPORTATION, and TECH-NOLOGY POLICYMAKING AS A COMPETITION. Among them, they highlight the impressive speed, reach, prestige and transformational capabilities of the technology at the expense of explaining the government's role (which is effectively left out) and minimising the role of citizens: the latter appear only as passive beneficiaries (pp. 290-1). Corpus-based metaphor analysis of a specific genre is thus shown to be able to provide the basis for critical metaphor analysis (Charteris-Black 2004), which could be complemented by comparisons with resistant metaphor use and reflection by campaign critics and the media.

Overall, this volume achieves what it promises in the cover text, i.e. to show "that aspects of discourse variation are the beginning of, not an afterthought to, accurate empirical metaphor studies". Its great advantage is a high degree of methodological coherence (without uniformity), with all case studies being based on empirical, real-life data, the combination of quantitative and qualitative analysis, well-explained metaphor identification procedures (mostly based on the Pragglejaz MIP-model and its further developments to MIPVU), in two cases involving reliability checks for different teams of coders (Thalhammer, Herrmann) and explicit responses to the research questions in conclusions that highlight both the significance and the limitations of the respective findings. All studies presented here point to further confirmatory work and empirical corroboration, which can only be seen as a highly promising prospect of future variationist studies of figurative language.

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Reviewer's address

Andreas Musolff Research Park University of East Anglia Norwich NR4 7TJ United Kingdom

a.musolff@uea.ac.uk