



REVIEW

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Daniela Pettersson-Traba, *The development of the concept of SMELL in American English: A usage-based view of near-synonymy* (Applications of Cognitive Linguistics 51). Berlin and Boston: De Gruyter Mouton, 2022. Pp. xviii + 270. ISBN 9783110792201.

Reviewed by Moisés Almela-Sánchez , University of Murcia

Two decades ago, in the Foreword to a book on antonymy, Michael Hoey included a remark which emphasized the compatibility of theoretical and empirical rigor and the possibility of integrating these two goals within the framework of corpus-based research. Hoey stated that there is ‘no conflict between a corpus-based investigation and theoretical rigour, nor between careful attention to the evidence and powerful generalisation’ (Hoey 2002: xii). This review of Daniela Pettersson-Traba’s *The Development of the Concept of SMELL in American English*, on another category of semantic relation (near-synonymy), provides the occasion to reaffirm the validity of Hoey’s remark. The book is an excellent example of how a rich and solid theoretical framework can be harmoniously combined with prolific empirical observation and sophisticated statistical analysis. The one does not have to be achieved at the expense of the other.

The research objectives of this monograph are sufficiently well defined to be deliverable, but at the same have implications beyond the specific object of study. Pettersson-Traba focuses on a specific semantic relation (near-synonymy) and on a specific semantic domain (PLEASANT SMELL) in American English, but the analysis of this specific domain of vocabulary serves as a basis for exploring issues of broader theoretical relevance, such as the elucidation of the factors that most strongly influence lexical choice among near-synonyms and the analysis of the forces (intralinguistic and extralinguistic) that control semantic change. The task undertaken is not merely descriptive, since it includes a search for explanations for the phenomena observed.

From a theoretical standpoint, the framework adopted by Pettersson-Traba is characterized by an eclectic stance. It combines insights contributed by the two dominant approaches in contemporary lexical semantics: neostructuralism and cognitive linguistics. As Geeraerts (2010) explained in his overview of the major traditions in lexical semantic research, there are currently a number of diverse frameworks in the field which ‘may be linked to the different forms of structuralist semantics ... but that build on this structuralist background in original ways’ (2010: 122). One of these frameworks is distributional corpus analysis. The study by Pettersson-Traba represents a specific development within this framework, since it

maintains some fundamental elements of structural semantics but at the same time explores (and finds) new ways of elaborating on it, making use not only of corpus-based methods but also of a broad range of conceptual resources, including cognitive linguistic ones.

The part of the study that is most directly influenced by the structuralist background is the onomasiological analysis of the selected semantic domain, i.e. PLEASANT SMELL. This analysis involves an account of how this semantic space is divided among semantically neighboring lexemes and, consequently, this part of the research focuses on the patterns of similarity and contrast among words and the impact of these relations on the semantic structure of the set.

The elaboration of the structuralist heritage is mostly conducted through the comprehensive and maximalist treatment of distributional data. In this respect, this monograph is highly representative of the developments currently taking place in corpus-based distributional semantics. In this form of distributionalism, the central role assigned to syntagmatic relations works simultaneously as a link with the classical structuralist background and as a catalyst for the transformation of this heritage. Geeraerts (2010) explains this process using a metaphorical formulation, as he compares syntagmatic relations with ‘a Trojan horse (so to speak) in the decontextualizing structuralist framework’ (2010: 177). Indeed, in certain forms of classical structuralism, especially in those which adopted a distributionalist method, syntagmatic relations were given a central role in the analysis of meaning. However, syntagmatic relations represent co-textual information, and co-textual information is often a point of access to (non-linguistic) contextual information. Therefore, when they are approached from a non-reductionist perspective, syntagmatic relations – or, rather, the attention given to them – can also trigger a departure from the tenets of structuralist semantics and, at the same time, facilitate the convergence with theoretical frameworks that favor a maximalist, usage-based approach to semantic analysis.

Pettersson-Traba illustrates perfectly this process of usage-based/maximalist elaboration of the structuralist background. The distributional data obtained from the corpus are approached from a decidedly non-reductionist perspective, and this facilitates the convergence of a corpus-based methodology with tenets of cognitive semantics. In this respect, the study conducted here can be related to growing but still not mainstream trends in cognitive semantics which work towards the convergence with corpus-based distributional analysis. There are essentially two aspects of the research reported in the book that establish this connection between corpus-based methods and cognitive semantics. The first one is the semasiological analysis of the near-synonym set, where frequency information is related to prototypicality. The second one is the use of collocational data in order to assess the impact of non-linguistic factors on the development of semantic change.

The discussion about the role played by intralinguistic and extralinguistic factors represents one of the most interesting theoretical debates addressed in this monograph. The author approaches this issue skilfully, making use of a rich theoretical and methodological apparatus and using techniques aimed at identifying the effects of

different types of factors. Admittedly, the distinction of these different types of factors is, by nature, a challenging task, because actual language data are often determined by both of them at the same time. As Pettersson-Traba explains, ‘disentangling intra- and extralinguistic processes is not a straightforward endeavor because in many cases both types of processes are simultaneously at play’ (p. 219). The difficulty of the endeavor makes the attempt all the more valuable, and the strategy applied by the author is one that deserves attention and that can set a model for later work: it is based on a careful, fine-grained classification of contextual (and co-textual) variables followed by a thorough, statistically rigorous analysis of the distribution of corpus data across different variables.

Another valuable contribution of Pettersson-Traba’s work lies in adapting the concept of *attraction*, as formulated by De Smet *et al.* (2018), from a construction-grammar framework to a lexico-semantic one. Near-synonymy research has been strongly influenced by the competition model, which emphasizes the tendency for semantically similar words to become differentiated. This view of near-synonymy is in turn favored by the thesis that every difference in form in the language corresponds to some difference, however minute, on the semantic side. Bolinger is one of the linguists that formulated this thesis in the boldest terms: ‘the natural condition of a language is to preserve one form for one meaning, and one meaning for one form’ (Bolinger 1977: x). This thesis has inspired explanatory hypotheses about semantic change in which the need to avoid synonymy is considered as a trigger for diachronic processes. The *principle of ‘no-synonymy’* (Nuyts & Byloo 2015) predicts that, when different words come to share the same semantic ground, they will undergo changes which will either differentiate their functions in the system or cause the disappearance of one of the alternatives. De Smet *et al.* (2018) introduce the concept of *attraction* in the context of a critical revision of the competition model. They argue that, in addition to differentiation, there are other forces that steer functional and semantic change, and that the changes undergone by functionally similar forms can also be determined by analogical pressure, which makes them become more similar.

The case studies analyzed by De Smet *et al.* (2018) involve grammatical structures and the framework they apply is based on construction grammar. Pettersson-Traba’s approach has the merit of adapting the concept of attraction to lexical semantics and giving it a central role in a critical revision of the competition model of near-synonymy. Results suggest that not all the changes undergone by near-synonymous words can be accounted for in terms of differentiation or substitution, and that semantic changes in sets of near-synonyms can also lead to convergence. More specifically, in relation to the group of adjectives examined in this monograph, the phenomenon of attraction is observed in the variation between the ‘natural’ and the ‘artificial’ senses of *SMELL*. In this semantic set there is a continuum of sense variation ranging between a natural and an artificial end, depending on the source of the smell, and Pettersson-Traba observes that the semantic developments undergone by most members of the domain over approximately the last two centuries (from 1810 to 1910) have followed a similar path, with their uses moving towards the artificial end. More specifically, of the five

adjectives analyzed (*fragrant, perfumed, scented, sweet-scented, sweet-smelling*), all of them except *sweet-scented* have undergone this evolution.

This book is written in clear, concise and accurate language, and the sequence of chapters provides a gradual thematic progression of topics as well as a consistent relation among the different parts. The first chapter, the Introduction (pp. 1–13), provides an outline of the main issues addressed in the study, a brief summary of basic notions in the field of lexical semantics, a definition of the aims of the study and an overview of the structure of the book. This first chapter helps the reader to identify the different linguistic traditions and disciplines that are related to the research framework applied in the study. The second chapter (pp. 14–47) offers an extensive, in-depth and up-to-date literature review of previous research on synonymy. The review is organized around three main topics: the classification of synonyms, the development of the distributional corpus-based approach to synonymy, and the diachronic perspective on synonymy research. The contribution of the study in relation to prior work is convincingly explained. The chapter offers a detailed analysis of the evolution of corpus-based synonymy research over the last three decades, with a division into two main waves. The second wave, starting approximately from the mid 2000s onwards, is characterized by an increase in the size of the groups of near-synonyms investigated, the inclusion of a wider range of parameters of comparison and the use of more sophisticated quantitative techniques. The research presented here by Pettersson-Traba can be understood as a development of this second wave, considering the impressive array of cutting-edge statistical techniques that are applied and the variety of factors that are employed in the comparison of the behavior of near-synonyms. The author concludes the chapter arguing that there is a scarcity of research into lexical synonymy conducted from a diachronic perspective. In sum, she provides detailed justification for undertaking this piece of research and helps the reader to locate this contribution among the recent advances made in the field.

In the third chapter, we find a detailed description of the object of study and of the data employed for its investigation: ‘The concept PLEASANT SMELLING’ (pp. 48–96). This includes a description of the synonym set, of the corpus employed and of the data annotation. The description of the set of near-synonyms is accompanied by an explanation of the reasons for selecting this specific list of words. The description of the corpus (*Corpus of Historical American English*, COHA) is followed by a description of different databases created from the same corpus for different case studies here reported. The section dealing with the annotation of corpus data is the most complex and arguably also the most interesting one in the chapter. One of the cornerstones of the methodology employed by Pettersson-Traba is the typology of variables that influence the choice among near-synonyms. This classification of variables is explained in detail in the section dealing with the process of data annotation. The classification distinguishes six different language-internal semantic variables (Sense, Semantic category, Animacy, Concreteness rating, Concreteness binary, Countability), three language-internal non-semantic variables (Syntactic function, Degree, Collocate) and two language-external variables (Period, Text-type).

Chapters 4, 5 and 6 present results from three different case studies. The first of them (pp. 97–130) applies a univariate analysis of the data and offers a description of the synonym set from various angles, including semasiological and onomasiological perspectives as well as an account of diachronic changes. The findings provide evidence for the semantic development of the set towards the ‘artificial’ end of the continuum, with the aforementioned exception of *sweet-scented*. The results are also interpreted as evidence that the competition model is not sufficient to account for the diachronic evolution of this set, given that for most of its members the semantic development observed can be described as one of attraction. Chapter 5 (pp. 131–69) takes the step towards more sophisticated, multivariate statistical methods and lays the focus on onomasiological analysis. One of the most interesting conclusions from this chapter is that the semantic variables constitute the strongest intralinguistic determinants of lexical choice among the members of this set. Chapter 6 (pp. 170–97) delves into the collocational behavior of the words investigated using a combination of quantitative and qualitative analyses. The results highlight the idiosyncratic character of the collocational preferences observed.

Chapter 7 pursues an explanatory goal: ‘The concept PLEASANT SMELLING: A victim of societal change?’ (pp. 198–219). Here, Pettersson-Traba tests the hypothesis that the diachronic development described in previous chapters reflects non-linguistic historical factors, particularly socio-economic changes in American society. Needless to say, the challenges posed by this task are formidable. The author’s strategy deserves credibility and shows awareness of the complexity of the task. It is based on a combination of two different approaches, which she describes as a *dictionary-based approach* and a *data-driven approach*. The first one takes into account changes in the frequency of semantic categories of collocates over time. The second one analyzes the semantic categories of second-order collocates, i.e. words which collocate with collocates of the adjectives investigated. Put together, the two types of approaches can be regarded as a reasonably effective way of tracking correspondences between contextual variables and referential categories.

The last chapter (pp. 220–29) provides concluding remarks and suggestions for future research. The conclusions are consistently linked with the series of findings obtained from the preceding chapters. The most interesting ideas can be summarized in three points. The first one is the semantic development of most members of the set towards the ‘artificial’ sense. The second one is the insufficiency of the competition model to account for this development and the need to consider the effect of attraction. The third key idea refers to the multifactorial nature of semantic change, which, as the results suggest, is steered by both intralinguistic and extralinguistic factors.

Finally, the suggestions for future research point in the direction of increasing the range of empirical data and of variables. Three specific proposals are formulated by Pettersson-Traba. The first one is to apply the multivariate analysis to data from additional corpora in order to compensate for the low frequency of two adjectives, *sweet-scented* and *sweet-smelling*, which were excluded from two case studies on these grounds. The second proposal is to extend the time span covered (by including earlier

periods) and to investigate a larger set of adjectives, such as *balmy*, *odorous* and *redolent*. The third suggestion is to enlarge the set of variables to include further possible factors, such as priming, as well as additional levels of co-occurrence, such as semantic prosody. As can be observed, all these suggestions are consistent with the development of the second wave of corpus-based synonymy research and its pursuit of greater empirical rigor and methodological accuracy.

Coming full circle from the remark quoted at the beginning, we can say that one of the best qualities of this monograph is to show that all its attention to detail and methodological thoroughness are made compatible with a bird's-eye view of the theoretical issues at stake. The author delves deep into the intricacies of each case study without losing sight of the general picture defined at the outset. It is evident that in order to extrapolate the results from these case studies, more research into other areas of vocabulary would be necessary, but it is important to stress that the explicitness and clarity with which the methodology is described make it possible to replicate it and to apply a similar framework to the analysis of other semantic domains. This is, in sum, an inspiring book, which can set a model for future studies on near-synonymy and which deserves to receive serious attention in the future by all experts undertaking research in lexical semantics.

Reviewer's address:

Departamento de Filología Inglesa

Facultad de Letras

Universidad de Murcia

Campus de La Merced

30001 Murcia

Spain

moisesal@um.es

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