

Sławomir Wacewicz

# Concepts as Correlates of Lexical Labels

A Cognitivist Perspective

*Dis/Continuities*

Toruń Studies in Language,  
Literature and Culture

Edited by Mirosława Buchholtz



PETER LANG  
EDITION

# Introduction

## Objectives and Methods

The primary objective of this work consists in providing a typology and a critical examination of the key contemporary approaches to the topic of concepts and conceptual structure in its relation to categorisation. In the course of the text, I advance and defend two specific main theses. Firstly, concepts – at least for the purposes relevant to cognitive scientific research – are most fruitfully understood as ‘lexical categories’, in the sense of *mental representations with lexical correlates*. Secondly, concepts, so conceived, have internal structures, contrary to the influential proposal put forward by conceptual atomists. By way of conclusion, I suggest that quantitative categorisation models from other content domains (e.g. perceptual categorisation), such as exemplar models, may be the best suited to revealing the internal structures of concepts.

The other major goal, which can be considered auxiliary, consists in a comprehensive and epistemologically informed discussion of the cognitive perspective on the study of language, its utility and validity. What is worth stressing is the broad construal of ‘the cognitive perspective’, which embraces but also largely transcends cognitive linguistics. In accordance with the spirit of Cognitive Science, it extends to cover all research that is both founded on strong mentalistic and representational assumptions and relevant to understanding human language processing – thus being open to insights from experimental psycholinguistics, cognitive psychology, neurolinguistics, philosophy of language and mind, as well as a number of related fields.

The character of the present book is theoretical. In view of the breadth of the thematic scope of this work, I pursue the two major goals presented above mostly by way of surveying and synthesising contemporary research in the cognitivist tradition. However, contemporary and historic research from other traditions is presented as well, not just to seek the due theoretical distance that is necessary for this type of academic work, but also in order to provide a proper background. Despite the theoretical character, in the course of the text I devote substantial effort to grounding the theorising in available empirical findings, whenever such results come as relevant. This work is based (largely but not exclusively) on a review and analysis of literature in the English language that dominates contemporary international research on the topic of categorisation and concepts. Philosophically, it builds to a substantial degree on the theoretical achievements

of the Anglo-Saxon analytic tradition (but again, not to the exclusion of other relevant approaches).

At various points in the course of this dissertation, I stop to discuss and clarify matters of terminology. The definitions of several key terms assumed in this work, such as category, concept, and mental representation, are concisely stated in the glossary at the end of this text.

## Profile and Scope

This thesis can be classified as having a historical-systematising profile. I put the views of particular influential authors, as well as larger intellectual approaches, into perspective and broken down into components, with the exposition of underlying philosophical commitments. The survey and analysis of contemporary research into the issue of concepts and categorisation are set in the appropriate historical context. This context, however, is necessarily overall rather than exhaustive, for reasons related to the breadth of the issue under consideration: in practice, most large-scale theoretical problems in the history of Western thought can be claimed to have relevance to the question of concepts. I have chosen to give priority to those thinkers whose contributions can be seen as foundational for occidental epistemology or inspirational for later analytic philosophy of mind and language, including Plato and Aristotle, John Locke, Immanuel Kant, and Gottlob Frege.

As for the current intellectual background, the thesis follows closely Noam Avram Chomsky's general philosophical assumptions regarding the nature of language, i.e. strong mentalism, as well as the crucial methodological postulate of psychological reality<sup>1</sup>. Indeed, spelling out the consequences of the conflict between the mentalistic (internalist) and the non-mentalistic (externalist) perspectives becomes a central motif of this dissertation, discussed in detail in a separate chapter but recurring throughout the text. The views of Ray S. Jackendoff, a linguist with both generative and cognitivist inclinations, are also often referred to in a similar context. Among the key philosophical issues considered in this work that have been developed by contemporary analytic philosophy are those related to the ontological status of conceptual contents – a question which leads to a polemical discussion with the argumentation advanced by Hilary W. Putnam. Finally, the scrutiny of the current empirical research regarding categorisation focuses on the experimental findings from cognitive psychology, most

---

1 While remaining noncommittal on several more detailed premises, such as the autonomy of syntax or the existence of Universal Grammar.

prominently those by Eleanor Rosch (formerly Heider) and her collaborators and continuators, as well as the group of researchers associated with Douglas L. Medin.

Perhaps the most central researcher in the context of this dissertation is the linguist and philosopher Jerry Alan Fodor, for the past two and a half decades affiliated with Rutgers University. This prominence results from both the personal importance of Fodor as a leading cognitive scientist and philosopher of Cognitive Science, and from the relevance of multiple threads of his research. Fodor's views are quoted and discussed regarding several main issues of this work, such as the internalistic perspective in the study of language, the methodological soundness of interdisciplinarity, the ontology of concepts, and the requirements on a theory of concepts. What is more, Fodor's atomistic theory of conceptual content, often seen as a major contender, is reported and then critically addressed in a separate chapter.

## Structure

This thesis assumes a three-part organisation, with the parts devoted, respectively, to the perspective of study, the object of study, and the analysis of the relevant theoretical approaches to the issue of conceptual structure and categorisation.

## Part I – Research Perspective

The first part of this work aims at the presentation of the research perspective as well as a distanced discussion by way of contrasting it with viewpoints external to it. The initial chapter has a preparatory character, having as its objective an introduction of Cognitive Science; most importantly, in the historical aspect of its development over the past several decades, as well as more contemporarily, in the aspect of its relation to the cognitive study of language. It also sets up and critically examines the *representational* and *interdisciplinary* context relevant to the remaining part of this work.

I trace back the history of Cognitive Science to its birth from the research on Artificial Intelligence (Alan M. Turing and others) and memory (George A. Miller), and most importantly, the linguistic as well as philosophical contributions of Noam A. Chomsky. Two ways of understanding Cognitive Science are presented, with the first one, concentrated on the study and simulation of symbolic, computationally explicit processes, being now complemented with – and to an extent replaced by – a different approach, stressing the importance of a bodily and environmental context of cognition, as well as the role of nonsymbolic

representational format. There follows a diagnosis of the present status of Cognitive Science, and in particular of the question of its interdisciplinarity, leading to a suggestion that the canonical descriptions of Cognitive Science in terms of its member disciplines fail to do justice to its present nature.

The issue of interdisciplinarity is explored in more detail, with focus placed on the methodological reservations often raised against it. After acknowledging some of the risks associated with it, I defend the idea of interdisciplinary cooperation, both in general and specifically in the context of the study of the mind. Crucially, I intend the section on the strengths of interdisciplinarity to highlight the mutual relevance of cognitive linguistics (narrowly construed) and Cognitive Science: especially, how data from widely different disciplines of Cognitive Science can enrich, complement and validate purely linguistic data. An important role in this context is played by the examples of actual research; in particular, the examples inspired by George P. Lakoff's study of conceptual metaphor are backed up by several layers of converging empirical nonlinguistic evidence from a range of disciplines.

Chapter Two of the present dissertation seeks to substantiate, on independent grounds, a crucial research decision, that is the assumption of the intrasystemic understanding of concepts and categories. The intrasystemic perspective is evaluated as an alternative to the more routinely taken externalistic perspective. The guiding motivation behind this thread is the avoidance of the *petitio principii* fallacy, i.e. the validation of the intrasystemic standpoint merely on the basis of its being a necessary consequence of the presupposed cognitivist commitments.

I formulate this theoretical problem referring mainly to the framework set up by Noam Chomsky. The rivalling, externalistic perspective is then introduced, leading to the discussion of the reasons for the understanding of concepts as nonmental, abstract beings existing independently of individual minds. Gottlob Frege's influential account is presented in order. I explain the motivations behind his antipsychologism but resist the construal, common in the literature on concepts, of concepts as entities ontologically corresponding to Fregean senses.

The next step in the discussion of the perspective of study consists in the exposition of the overarching debate between externalism and internalism of conceptual content. Particular attention is devoted to a meticulous treatment of terminological distinctions, with a view to avoiding frequent misunderstandings resulting from the terminological intricacies in this area. The presentation of the content of the externalistic doctrine is based on the central example of Hilary Putnam's "Twin Earth" thought-experiment. The rest of the chapter serves to spell out the consequences of such a position: extant and novel arguments

against it are combined, ultimately leading to the rejection of this view, and thus reinforcing the internalistic position.

## **Part II – Object of Study**

The second part of the thesis is concerned with the object of study, that is the topic of concepts and categorisation. These are introduced and depicted in a possibly general and theory-neutral way before being approached specifically from the cognitivist and mentalistic point of view adopted in this work. Terminology, again, plays a central role, and terminological decisions are carefully justified.

Chapter Three deals with the key notions of the thesis: concept, categorisation, mental representation. A maximally broad construal of the notion of concept is offered as a starting point, with an extensive list of conditions of ‘concepthood’ imposed by different theoretical outlooks; it serves as a broad background for the subsequent delimitation of the scope of study in Chapter Four. An important interim conclusion of this part of the work is that at least some of the criteria of concepthood might be impossible to reconcile within a single research perspective.

The notion of categorisation is treated in a more historical way, but in this case, too, a broad and inclusive construal is established. The fundamental role of (so broadly understood) categorisation for all kinds of cognitive activity is highlighted. Important in this context is the acknowledgement of the continuity between higher-level, linguistics categorisation and low-level, perceptual categorisation. With respect to the notion of mental representation, the most significant task to be achieved is the juxtaposition of the traditional philosophical understanding of this term with a modified and more contemporary cognitivist one, proving more functional in the area of today’s Cognitive Science.

Chapter Four is pivotal to the construction of the entire thesis. In this chapter, I make and substantiate in detail several decisions related to terminology. Furthermore, I delimit the exact scope of this work to concepts as understood by Cognitive Science, that is considered from the mentalistic perspective. Most importantly, I advance the central argument regarding the nature of the relation between concepts and word meanings.

The proper scope of this work is restricted to categorematic concepts, in particular such lexical concepts that are expressed by nominal lexemes containing a single lexical morpheme. The special status of categorematic concepts – their psychological reality as a separate category – is documented based on empirical data from psycholinguistic and neurolinguistic research. Subsequently, the central ontological assumption derived from the cognitivist perspective is

formulated: concepts and categories are understood here in an internalistic and individualistic way, as mental entities having the nature of representations. After reviewing a set of possibilities present in the literature on this subject, the definitional relation between concepts and categories is established in the following way: concepts are those categories that possess a lexical correlate (which can be understood as an entry in the mental lexicon).

The numerous theoretical problems resulting from the decisions described above are addressed in order; among them the controversial consequence that the cognitive systems of nonlinguistic organisms are denied concept possession. The wealth of mental representations unequivocally ascribed to such cognitive agents can be reinterpreted in terms of nonconceptual content, so that these systems can be said to have mental representations, but not fully fledged concepts. I adduce a broad range of evidence from linguistics (analyses by Ray Jackendoff, Steven A. Pinker, and others), psycholinguistics (Elisabeth S. Spelke and collaborators, Susan Carey), and general Cognitive Science (Andy Clark) that is intended to support this distinction as a factual rather than purely nominal one – a distinction that reflects the actual ontogenetic influence of language acquisition on the development of the conceptual system. Another section is devoted to showing that the proposed direct linking of the conceptual repertoire to the lexicon need not produce strongly Whorfian consequences. This linking, however, makes it possible to deal with one of the most refractory problems faced by mentalistic theories of concepts, namely that of the shareability of concepts.

Tying together concepts and lexical items in such a straightforward, but principled way is a novel proposal that shows promise for a more rigorous use of ‘concept’ as a theoretical term with a unified meaning across the Cognitive Sciences.

### **Part III – Analysis of Theoretical Approaches**

The third part of the present dissertation considers the particular approaches to of conceptual content in the aspect of categorisation. Accordingly, it constitutes the bulk of this dissertation. Chapter Five comprises a review of the classical theory of categorisation. This review is accomplished mostly from a historical position; however, it leads to conclusions regarding the present utility – or, more precisely, the severe limitations – of this approach. The discussion of the relevant views of the major figures in the history of philosophy – from Plato and Aristotle to the British empiricists to the logical positivists – is aimed at illustrating the unrivalled historical dominance of the generalised ‘classical approach’ to concepts and categorisation; it is then complemented by summing up the major

modern directions of criticism of this stance (notably, by the philosopher Ludwig Wittgenstein and the linguist William Labov). This necessary review of well-known historical positions is followed up by an extended critical commentary and re-evaluation of the classical view. In those sections, I reveal its certain hidden ontological assumptions (being a possible reason for its incompatibility with the cognitivist perspective), and secondly, argue against the attempts to restore its utility for the cognitivist conceptions – the issue of psychological essentialism being perhaps the only viable area for its revival. I also underscore one specific theoretical problem – the problem of the *format of features* into which a concept is decomposed, as opposed to the way of (de)composition.

Chapter Six brings the analysis – and later, a refutation – of the influential position of conceptual atomism, championed most prominently by Jerry Fodor. Both the discussion and the rebuttal of this particular standpoint are important because it constitutes a major contender theory with respect to conceptual content – one that remains incompatible with mainstream Cognitive Science. Concepts, it is argued in Chapter Six, are most fruitfully construed as entities possessing complex internal structures, contrary to the atomistic position.

The substance of the first part of this chapter is comprised of the presentation of Fodor's rich and interconnected doctrine regarding the nature of mind and concepts. Among the main topics reviewed are those of folk psychology, broad and narrow mental content, modularity of mind, nativism, and language of thought (*mentalese*). The establishing of such a context allows the atomistic view to be seen, not as an isolated theoretical position, but rather as a direct consequence following naturally from the above doctrine. In the polemical treatment of conceptual atomism, simplistic arguments sometimes levied against Fodor's view are discarded. The criticism is focussed on the relative fruitlessness of this theoretical outlook, rather than its falsehood in any more absolute sense.

Chapter Seven concludes the dissertation. The theoretical assumptions as well as advantages of the so-called similarity-based approaches to concepts/categorisation are discussed. The exemplar view is suggested as an underestimated approach that maximises the potential advantages of the similarity-based approaches. The other general similarity-based view, the prototype approach, is not considered in detail. Rather, the discussion is focussed on shedding light on the underlying tenets of this broad group of views, in particular, on elucidating the role of the notion of similarity. Secondly, the differences between the very popular prototype view and the relatively undervalued exemplar view are spelled out. Thirdly, the prospects of applying exemplar-based models specifically to the



tasks of modelling lexical categorisation are considered in the convention of research postulates.

## **Acknowledgements**

I thank Professor Piotr Stalmaszczyk. I would like to express not only my gratitude for the years of tutoring and patient support during my PhD studies in Linguistics, but also my deep admiration for him as an academic. I thank Professor Aleksander Szwedek for inspiration and sparking my interest in Cognitive Science. I extend my sincere gratitude to staff members and colleagues from the Department of Philosophy; in particular, I thank Assistant Professor Tomasz Komendziński for his kindness and generosity in sharing the resources of his legendary library, and Professor Urszula Żegleń for the intellectually formative years under her excellent tutoring. I thank Professor Zdzisław Wąsik, whose comments on the earlier draft of this thesis were penetrating, but also most enlightening. Words of gratitude are also extended to the authorities of the Department of English, Professor Mirosława Buchholtz and Professor Waldemar Skrzypczak, as well as to Professor Przemysław Żywicznyński, for their invaluable advice and encouragement. Finally, I thank my Parents for their unfailing support.