FOREWORD

The ambition of this book is to shed new light on the relations between phenomenology of a Husserlian kind or origin and the contemporary efforts toward a scientific theory of cognition, with its complex structure comprising various disciplines, different levels of explanation, and conflicting hypotheses.

The project of a science of cognitive phenomena did not reach full maturity until the middle of the twentieth century, even though its roots go as far back as the emergence of rational knowledge, and several of its component disciplines severed their ties with philosophy or embraced the experimental method at the dawn of the nineteenth century (or even at the end of the eighteenth). It has become commonplace to refer to this shift as the emergence of a Cognitive Revolution[1] that has also revived many fundamental issues of Husserlian phenomenology.[2] The contributions in this volume should first and foremost be understood as attempts to contribute further to these developments.

Accordingly, the book's primary goal is not to engage in a new exegesis of Husserl's writings, although it certainly does not dismiss the importance of interpretive and critical work. It is rather to assess the extent to which the sort of phenomenological investigation he initiated can favor the construction of a scientific theory of cognition and, more particularly, contribute to progress in specific contemporary theories, by complementing them in some crucial aspects and calling them into question in others.

It is clear, however, that Husserlian phenomenology cannot become instrumental for the development of contemporary cognitive science without undergoing substantial transformations itself. Therefore, this book will also be centrally concerned with the reorientation of Husserlian phenomenology. To what extent, for instance, do recent contributions in cognitive neuroscience, as well as in physico-mathematical and computational modeling of perception, throw new light on the most general assumptions underlying this phenomenology and possibly modify them in a radical way?

There is an unavoidable *reciprocal movement* between the attempt to re-

inforce cognitive research with the help of Husserlian phenomenology and the need to transform that phenomenology itself. Even more, this reciprocal movement naturally suggests a further conjoint issue: is there something fundamentally complementary about these two lines of research that makes a unified cross-fertilization the most productive direction for both of them?

No single volume could satisfactorily apprehend the numerous facets of this wide-ranging interrogation of the relevance of Husserlian phenomenology to contemporary cognitive research and the relevance of contemporary cognitive research to Husserlian phenomenology. This is why the articles collected here take as their focus the issue of naturalization. Nevertheless, this perspective remains far-reaching enough to let them cover a great variety of problems, ranging from the general structures of intentionality to the nature of the founding principles of cognitive science and the analysis of temporality or perception.

The justification for choosing such a perspective is clear. One of the major concerns behind the investigation of cognitive phenomena today is the construction of a science of cognition that is continuous with the most basic sciences of nature and, accordingly, to understand how a *res extensa* could become complex enough through evolution to possess the various attributes of a *res cogitans*. Even though this concern for naturalization is not unanimous, and is actually even dismissed by a minority, it can hardly be denied that it lies at the core of current research in the field. Suffice it here to mention the classical computational theory of cognition, which played a key role in the revival of the study of cognition in the early 1960s, and whose power of attraction largely rested, both among those who contributed to its scientific elaboration and among those who analyzed it from a philosophical angle, on its seeming ability to offer at long last a viable materialist solution to the mind-body problem—at least as far as cognitive abilities are concerned.

This is why the two-part question at the core of this work can be more specifically reformulated in the following terms: how can Husserlian phenomenology contribute to the naturalizing aspect of the contemporary search for a scientific theory of cognition, and how far can a successful naturalization of the theory of cognition, in turn, transform Husserlian phenomenology, and in particular confer upon it an uncontroversial scientific dimension?

It is important to underline that the issues involved are as much scientific as they are methodological and philosophical. This renewed examination of Husserlian phenomenology is also meant as a tribute to Husserl's unwaver-

ing commitment to rationality and rigor. As such it departs in a substantial way from a variety of other continuations of his work, such as existential analysis or the metaphysics of phenomenality.

This book is largely the direct outcome of the activities of the Phénoménologie et Cognition Research Group we created in Paris in October 1993. These activities included a series of seminars, held at the Centre de Recherche en Epistémologie Appliquée of the Ecole Polytechnique and at the Paris Husserl Archives of the Ecole Normale Supérieure, as well as the conference "Actualité cognitive de la phénoménologie: Les Défis de la naturalisation" organized by Jean-Michel Roy in October 1995 in the city of Bordeaux, in collaboration with the Pierre Duhem Research Group of the Department of Philosophy of Michel de Montaigne University. Most of the contributions to this volume have their origins in these various meetings.

The creation of the Phénoménologie et Cognition Research Group was intended as an answer to the recent revival of interest in France in the study of the relations between Husserlian phenomenology and contemporary scientific research. Four main trends can be distinguished in this revival:

1. A number of Husserl specialists, especially among the members of the Paris Husserl Archives, were working on a reassessment of the conflicts between his phenomenology and the sciences of his time, with a view to show that many of these conflicts were made largely obsolete by scientific progress, in particular in the areas of cognitive psychology and cognitive neurosciences as well of physico-mathematical modeling of cognition.

2. As early as the mid-1970s various authors were emphasizing the strong parallels existing between contemporary morphological theories on the one hand, and the main aspects of Husserlian theory of perception, gestalt theory, and Gibsonian perceptive ecology on the other hand. The results of these endeavors were a series of attempts at a topological, geometrical, and dynamic modeling of a phenomenology of perception. In the course of the 1980s this line of investigation was pushed further by the search for new relations between such modeling and the neurosciences of vision as well as by recent work in computational vision.

3. At the same time various parts of the philosophical community became newly interested in studying how contemporary philosophy of logic, language, and mind as well as classical cognitivism were readdressing many of Husserl's central issues. These investigations received a strong impulse from different sources, and mostly from the work of D. Føllesdal and J. Hintikka, and their former students; the collection Husserl, *Phenomenology and Cognitive Science*, edited by Hubert Dreyfus (MIT Press, 1992); and the his-

torical investigations of Kevin Mulligan, Peter Simons, and Barry Smith into the development of ontological theory and mereology.

4. Finally, there was also a growing interest in developing an interface between the phenomenology of embodiment and action in the later work of Husserl and Merleau-Ponty and contemporary research in neurosciences, artificial life, and evolution theory, especially research conducted from a situated, embodied, or enactive perspective—a trend progressively more visible in the contemporary debate within cognitive science.

This book finds its unity in the cross-linking of these various motivations and is accordingly directed at an unusual variety of audiences ranging from cognitive scientists to philosophers of supposedly opposite persuasions. We hope through this book the research programs of Husserlian phenomenology and of the cognitive sciences will be brought closer and mutually enriched. We also hope thereby to throw further light on the conditions to be fulfilled by a science of cognition both naturalist and adequate to "the things themselves."

Finally, a word about the conventions we have used in the text. In citing the works of Husserl, whenever possible we have referred to the Husserliana edition, by paragraph and page number(s). Where an English-language translation of Husserl has been given, it is cited by the translator's name, followed by paragraph and page number(s). For the abbreviations used in the text for works by Husserl, see the Bibliography, pp. 600–602.