COGNITIVE DEVELOPMENT

Neo-Piagetian Perspectives

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Preface

This book ties together almost four decades of neo-Piagetian research. Neo-Piagetian theorists share many similarities with Piaget—they take a constructivist approach to cognitive development, they are broad in their scope, and they assume that cognitive development can be divided into stages with qualitatively different characteristics. They also assume that the complexity of children's thinking increases across these stages, but unlike Piaget, they define the complexity of the stages in accordance with features of the child's information processing system rather than in terms of logical properties. An integration of the various neo-Piagetian theories now seems possible and in this book we outline the directions in which the next generation of researchers might proceed in order to create a unified, general neo-Piagetian theory of cognitive development.

Therefore, the intended audience of this book includes both the present and the next generation of researchers in cognitive development as well as those with broader developmental and educational interests. Our intended audience includes as well all those who study cognitive development from other theoretical points of view and wish to compare the respective perspectives and to enter into a fruitful dialogue about them. Our greatest hope is that the graduate students in developmental programs around the world will find this book emphasizing broad theoretical perspectives a stimulating and useful means for orienting their future research. The book should certainly be valuable for graduate teaching.

The book is focused on both theory and research, and a unique feature is our constant critical analysis and comparison of concepts across theo-

ries. This feature, of course, is a necessary one in view of our desire to work toward an integration of neo-Piagetian approaches.

The neo-Piagetian authors most often cited through the book are Robbie Case, Andreas Demetriou, Kurt Fischer, Graeme Halford, Pierre Mounoud, Juan Pascual-Leone, Anik de Ribaupierre, and Bob Siegler (listed in alphabetic order), and their co-workers. We include in the list Bob Siegler, who likes to call himself an 'atypical neo-Piagetian' because he shares only some, not all of the prototypical features of a 'mainstream neo-Piagetian.' A few of these researchers (namely, Mounoud, Pascual-Leone, and de Ribaupierre) have worked at Geneva for at least a few years, which is another (albeit less important) origin of the term neo-Piagetian.

Although she does not define herself as neo-Piagetian, we also discuss some work of Annette Karmiloff-Smith—on the contrary, she has expressed serious reservations on the whole neo-Piagetian enterprise. Nevertheless, given the importance of her studies, the close relationship of her epistemological and theoretical tenets with those of the neo-Piagetians, and her Genevan academic roots, we feel the book would be incomplete if we did not discuss her work.

Some theories are presented more extensively in the book than others. This is not intended to diminish the importance of the proposals that are presented more briefly, but only to avoid redundancy on points on which some theories are similar. As well, we discuss numerous studies that are not neo-Piagetian. Human information processing and dynamic systems concepts are among the most important sources neo-Piagetian theory has drawn on in a dialogue that will hopefully continue with theorists based in other conceptual frameworks. We intend this book, among other things, to be an instrument for that dialogue.

The book has 10 chapters. The first section of chapter 1 calls the reader's attention to the relevance of the topic, while the bulk of the chapter is a historically oriented introduction to the major neo-Piagetian issues. Chapters 2, 3, 5, and 6 discuss some of the main theories or groups of theories. Chapters 4, 7, 8, and 9 are devoted to specific topic areas and their relation to neo-Piagetian research. Chapter 10 presents our conclusions and our views on possibilities for an integrated neo-Piagetian approach to cognitive development.

The order of the chapters is in part chronological and in part content-based. Chapter 2 is devoted to Pascual-Leone's Theory of Constructive Operators and chapter 3 to the structuralist neo-Piagetian approaches—most notably Halford's theory, followed by Chapman's, Demetriou's, and the work of the so-called "French connection" (Lautrey, de Ribaupierre, and Rieben). The theories of Pascual-Leone and Halford were the first two to come into the world, and for this reason we present them first (even though, as the reader will note, these two theories have been consider-

ably reworked and improved over the years). Consequently, in chapter 2 we also present in some detail several specific lines of research in order to show how the theory 'works.' Chapter 4 deals with problem solving and children's use of heuristics, analogies, and strategies; we consider studies by Siegler, Halford, and Fischer along with several non-Piagetian authors as a means of preparing the ground for chapters 5 and 6. These chapters are devoted to two major neo-Piagetian theories, those of Fischer and Case, respectively. We deemed it appropriate to place these chapters in sequence because the two theories share the assumption of a cyclical recursion in cognitive development. Chapter 7 deals with the role of representation in cognitive development; of course, representation also arises in earlier chapters, but here we focus on theories, such as Mounoud's and Karmiloff-Smith's, in which this aspect is more prominent than in others. We also consider here some authors who are more distant from the constructivism that characterizes the Piagetian and neo-Piagetian tradition. Chapter 8 ties together several contributions on the intertwining of emotional and cognitive development; in addition to authors also cited in other parts of the book, we also cover the work of emotion specialists with a neo-Piagetian background, such as Marc Lewis, Michael Mascolo, and Sheldon White and David Pillemer. Chapter 9 deals briefly with some applications of neo-Piagetian theories in the psychometric and educational domains and with task-analytic methods that readers might wish to apply in their own field.

The final chapter presents our evaluation of the neo-Piagetian theories from the point of view of broad theoretical issues of developmental psychology. These issues include the shape of development (continuous or discontinuous? domain-specific or general?), the explanation of variability in development, the modelling of working memory or processing capacity (a very important issue for most of the neo-Piagetian theories), and the influence of innate and maturational components on development. Finally, in the last section of chapter 10, we outline some perspectives for a possible theoretical integration.

Like neo-Piagetian psychology, the writing of this book has been a collective enterprise. Fortunately email makes communication between Italian and Canadian authors easy today, so that in any given moment we could readily give feedback to one another on all parts of the book. We share the responsibility for the entire book, but the various authors had different responsibilities in drafting and revising each chapter. Chapter 1 was written collectively by Morra, Gobbo, Marini, and Sheese. Morra took responsibility for writing chapters 2, 3, 8, and 9, and Gobbo for chapters 4 and 5. Chapters 6 and 7 were written by Gobbo, Marini, and Morra, and chapter 10 by Gobbo and Morra. Sheese revised material throughout the work and took responsibility for its final editing.

We thank the publisher Il Mulino for allowing us to adapt material from an earlier book by Gobbo and Morra, *Lo Sviluppo Mentale: Prospettive Neopiagetiane.* We thank Marco Dondi, Corrado Federici, Marc Lewis, Yukari Okamoto, Marion Porath, Robert Sandieson, and Robert Siegler for reading and giving valuable comments on preliminary versions of some chapters; Janice Johnson and Juan Pascual-Leone for useful and stimulating discussions; Marinella Parisi for trusting so much our work; and our reviewers, including Ellin Scholnick of the University of Maryland. We also thank the support staff of our four departments who were so helpful (thanks in particular to Stefano Andriolo, Valeria Gazzea, Derek Hope, Amanda Noble, Carol Penner, Liliana Piccoli, and Fabio Spinelli). We are also very grateful to our relatives and friends, who accepted so well the amount of time and effort that we devoted to this book.

Regardless of whether you are a novice or an expert in neo-Piagetian studies, we sincerely hope you will find reading the book worthwhile; above all we hope that you will become engaged in fruitful and rewarding dialogue about the issues we discuss.

—Sergio Morra
—Camilla Gobbo
—Zopito Marini
—Ronald Sheese