

HANDBOOK OF DEVELOPMENTAL COGNITIVE NEUROSCIENCE

Second Edition

Edited by

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A BRADFORD BOOK
THE MIT PRESS
CAMBRIDGE, MASSACHUSETTS
LONDON, ENGLAND

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This book was set in Baskerville by SNP Best-set Typesetter Ltd., Hong Kong and was printed and bound in the United States of America.

Library of Congress Cataloging-in-Publication Data

Handbook of developmental cognitive neuroscience / edited by Charles A. Nelson and Monica Luciana.—2nd ed.

p. ; cm.—(Developmental cognitive neuroscience)

Includes bibliographical references and index.

ISBN 978-0-262-14104-8 (hardcover : alk. paper)

1. Developmental neurobiology—Handbooks, manuals, etc.
 2. Cognitive neuroscience—Handbooks, manuals, etc.
- I. Nelson, Charles A. (Charles Alexander) II. Luciana, Monica. III. Series.

[DNLM: 1. Nervous System—growth & development. 2. Central Nervous System Diseases—physiopathology. 3. Cognition—physiology. 4. Human Development. 5. Perception—physiology. WL 102 H23535 2008]

QP363.5.H365 2008

612.8'2—dc22

2008007886

10 9 8 7 6 5 4 3 2 1

Preface to the Second Edition

The first edition of this Handbook appeared in 2001, at a time when the field of developmental cognitive neuroscience had only recently taken root. The volume contained forty-one chapters distributed over eight topical areas, including overviews of the fundamentals of developmental neurobiology, a surveying of methodological paradigms, neural plasticity and its expression during development and in the context of disease, sensory and motor system development, language development, cognition (broadly construed), neurodevelopmental aspects of clinical disorders, and emotion-cognition interactions.

Seven years have now passed since the first edition was published and the field of developmental cognitive neuroscience has expanded enormously. To illustrate how the field has grown, we recently conducted Medline searches spanning the interval from 1902 to 2007 using the following three search parameters combined: brain, development, and cognition. From 1902 to 2001, there were 972 articles that represented this intersection of topics. From 2002 to 2007 alone, there were 988 articles. Thus, developmental cognitive neuroscience, following the pattern of its parent discipline, cognitive neuroscience, is growing at an exponential rate, with evidence of massive proliferation over the past five years. Many accomplishments within the field have resulted from the application of new methods to developmental samples. This proliferation of activity is also evident through other, more concrete, indices of change, including (a) an exponential increase in the number of developmental papers published in the *Journal of Cognitive Neuroscience*, (b) the appearance of special issues on this topic in a number of other journals, including *Developmental Review*, *Child Development*, *Human Development*, *Neuropsychologia*, and *Developmental Psychology*, (c) authored and edited volumes by a number of senior investigators (e.g., Mark Johnson, Michelle de Haan), and finally (d) the ease with which we were able to expand this volume. We have expanded to fifty-four chapters from the original forty-one. More importantly, we now present a number of areas that in our view represent new inroads made possible by advances in both developmental and cognitive neuroscience. First, there is a greater emphasis on affective and social neuroscience. This offshoot of cognitive neuroscience has firmly taken root in the adult literature and is gradually trickling down to the developmental literature. Second, we have placed a greater emphasis on clinical disorders. We have done so primarily because such work is inherently translational in nature, and translational research is currently receiving a great deal of attention by many working at the interface of brain and behavior. Finally, one chapter exclusively, and several to a lesser degree, discuss the breakthroughs being made in imaging genomics. In our mind the intersection of brain, behavior, and genetics represents an exciting new area of inquiry that will gain considerable traction in coming years, due in large part to advances being made in genetics/genomics and in neuroimaging.

We are pleased to bring you this second edition and trust that it will serve as a resource for all those interested in the development of brain-behavior relations in the context of both typical and atypical development.

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