

# NEUROPSYCHOLOGY

CLINICAL AND EXPERIMENTAL FOUNDATIONS



LORIN J. ELIAS • DEBORAH M. SAUCIER



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# Neuropsychology

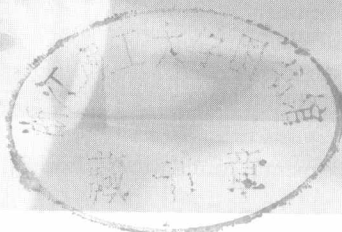
## Clinical and Experimental Foundations

**Lorin J. Elias**

*University of Saskatchewan*

**Deborah M. Saucier**

*University of Saskatchewan*



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*To Phil and Doreen*



## Preface

Like so many textbooks, this one was born out of frustration rather than a deep desire to spend years working on a project of this scale. Both of us were teaching neuroscience courses with the available textbooks, and we found that our course outlines read like a puzzle: Read Chapter 1, then Chapter 13, then Chapters 8, 9, 11, and 18–22, but read pages 453–459 of Chapter 26 with Chapter 18, pages 459–463 of Chapter 26 with Chapter 19, and so on. Most neuroscience textbooks separate discussions of structure and function, often by hundreds of pages. Even worse, most discuss intact functional systems in one chapter but detail what happens when the system is broken in a different chapter. This type of organization makes the material more difficult to learn and more difficult to teach.

A second frustration that we shared was that the available neuropsychology textbooks generally fell into two groups: those that emphasized clinical neuropsychology and those that emphasized experimental neuropsychology. Neither one of these perspectives is more important than the other, and ideally, the two perspectives should be balanced within the same book.

We were fond of many of the features that are commonly included with current introductory psychology textbooks, such as interim summaries, self-tests, and sections that related the material to the student's daily life. We wished that a neuroscience textbook was available with these same beneficial features. Eventually, we chose to try to create a book that was well organized, balanced, and easy to read and relate to. The product of our efforts is now in your hands.

## Organization of This Book

We took a primarily functional approach when organizing this book, grouping most of the chapters by functions such as visual perception, language, and memory. Within each chapter, we discuss both intact and lesioned/dysfunctional systems (e.g., discussing the visual perceptual system and visual agnosias within the same chapter). Further, each chapter is organized into two or three related, self-contained modules. Each module opens with a brief description of what is to come in the module, and each module ends with a summary of the significant concepts contained within the subunit. Although this approach is not unique in psychology textbooks, these features do not appear within the currently available neuropsychology textbooks. In terms of balance, we sought to incorporate representative clinical and experimental content. Even the title of our book, *Neuropsychology: Clinical and Experimental Foundations*, was meant to reflect this balance.

## Pedagogical Aids

There are a number of features that appear throughout the book. These are meant to engage, to inform, and, in some cases, to help students study as they read the book.

*Neuropsychological Celebrity:* Some neuroscience textbooks feature interviews with “neuroscience celebrities,” namely, researchers who have made major contributions to their field of study. However, we believe that neuropsychology is unique in that the real celebrities are not the researchers, but the remarkable people whom neuropsychologists study. So much of neuropsychology has been founded on famous case studies (see the two volumes of Code et al.’s *Classic Cases in Neuropsychology* for more examples). We have provided descriptions of topical case studies in most chapters to engage the student and put a human face on the conditions (abilities and disabilities) being described.

*The Real World:* These feature boxes focus on questions drawn from real-life and familiar experiences. Each feature box is directly related to the material in the chapter in which it appears and is meant to make the material relevant to the student’s own life. For an example, see the “Real World” section in Chapter 10 about how people give directions to others.

*Current Controversy:* These feature boxes highlight more general questions in neuropsychology. The questions include ethical issues, more general philosophical issues, and issues of current debate in neuropsychology. They are meant to enhance critical thinking with respect to issues in neuropsychology, to integrate the material among the chapters and modules, to place the study of neuropsychology within society, and to help the student develop a larger perspective of brain and brain function. For an example, see the discussion of nutraceuticals in Chapter 7.

*Self-Tests:* These short quizzes are designed to help gauge mastery of the material, encourage independent learning, and enhance critical thinking skills. Two to four quizzes appear in most chapters, and answers to the questions can be found in the instructor’s manual.

We hope that you find this book both useful and enjoyable. Your feedback is more than welcome; we can be contacted via e-mail at: [Lorin.Elias@Usask.ca](mailto:Lorin.Elias@Usask.ca) or [Deb.Saucier@Usask.ca](mailto:Deb.Saucier@Usask.ca).

## Acknowledgments

This project was dependent on the efforts of many, and the names of only two of these people appear on the cover. In this section, we attempt to thank all of those who helped this project from concept to completion.

Students motivated this project, and they also contributed to its development. Among these were Alastair MacFadden, Kate Goodall, Karen Gilleta, Laurie Sykes Tottenham, Brent Robinson, Marla Pender, Marianne Hrabok, Josh Gitlin, Kelly Suschinsky, Nicole Thomas, Crystal Ehresman, Jennifer Burkitt, Avril Keller, and numerous sections of Psychology 246.3 at the University of Saskatchewan.

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Perhaps most of all, we should thank our families. Living with someone who is writing a book is like taking in a new family member, and this new member is quite needy, impolite, resource intensive, and generally unrewarding. We thank our families for tolerating us through this process and welcoming this manuscript into their lives. We think it was worth it, and we hope you do too.

# Neuropsychology





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