
The Cognitive Neuroscience of Mind

A Tribute to Michael S. Gazzaniga

edited by Patricia A. Reuter-Lorenz, Kathleen Baynes,
George R. Mangun, and Elizabeth A. Phelps

A Bradford Book
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Preface

Let's be frank. Michael S. Gazzaniga is the godfather of cognitive neuroscience. That is why, when it comes to Mike, you want to get things right. Imagine, then, the challenge we faced in trying to plan an event that was to be a tribute to Mike. It had to be right. We wanted Mike to be happy. We wanted him to feel the honor, the joy, the impact, the *love*—to understand what he means to us and to the field. But, how to get it right? Should the event be private? Should it be public? Should it happen in Italy, Tahiti, New York? It had to be scholarly but entertaining, grand but intellectual, light but deep. To quote Susan Fitzpatrick, Vice President with the James S. McDonnell Foundation, it had to be an “Extrava-Gazzaniga.”

Things started to crystallize once we returned to earth and realized that, really, there's no place like home. The tribute should be part of the Cognitive Neuroscience Society—the society that Mike founded. It should be in San Francisco, the home of the society's inaugural meeting. And of course, Tara Miller, event planner for the society, would be indispensable.

Like all lived days, the day of the tribute came and went: April 12, 2008. Those of you who were lucky enough to join us that day know how truly delightful the day turned out to be. Every talk was a gift to Mike, an expression of appreciation and a celebration of his influence on our universe of ideas. Mike beamed with joy, and with each presentation the warm glow of relief and pleasure flowed more freely from our hearts. The day ranks as one of the most rewarding in our professional lives. And this is to say nothing of the evening banquet that followed—which, naturally, Mike organized because ... who else for a party?!!

This book is intended to capture some of the words and sentiments expressed at that tribute, along with contributions from several other scientists who are close to Mike. It is only a fraction of all that could be expressed to honor Mike, but we offer it as a lasting token of our gratitude, an attempt to reciprocate, to say thank you.

In this collection you will read about a range of topics organized under four headings each one bearing the name of one of Mike's many books. We left it up to the authors to decide on their chapter's style, and the relative proportion of "memoir" versus scientific story. Part I, "The Bisected Brain," marks the start of Mike's career and includes contributions with "hemispheric" themes from colleagues and students spanning Gazzaniga's years at Cal Tech (Giovanni Berlucchi, Mitchell Glickstein, Steven Hillyard), Cornell Medical Center (Steve Kosslyn, Kathy Baynes), and Dartmouth (Margaret Funnell). Part II, "The Integrated Mind," begins with a story about the discovery of the integrated mind, written by Joe LeDoux, Mike's student from the State University of New York at Stony Brook. The theme of integration by domination is continued by the other two contributions in this section, by Alan Kingstone, who worked with Mike at Dartmouth, and Michael Miller, originally at Dartmouth and as of 2006 a colleague of Mike's at the University of California, Santa Barbara.

The themes touched on in "The Social Brain" chapters are wide-ranging, from collegial relations originating in Mike's Cornell years (Mike Posner, William Hirst, Elisabetta Ladavas) and at Dartmouth (Todd Heatherton). The substance of these chapters ranges from genes to neurons to social conversations and networks—vertical and horizontal explorations of sociality embracing the breadth of Mike's influence. The final section, "Mind Matters," again spans several levels of observations and reflections on the study of mind, from evolutionary biology (Leo Chalupa) to the multi-methodological approaches of cognitive neuroscience (Mark D'Esposito) to the bioethical (Steve Pinker).

A few special features of the book deserve mention. The painting that is rendered on the cover was created especially for this book, for Mike, by his artist friend Henry Isaac, whose style many readers may recognize from covers of the *Journal of Cognitive Neuroscience*—and from Mike's living room. The jacket also includes a portrait that does an exquisite job of capturing a joyful Mike. We thank Charlotte Smylie, Mike's wife,

for her help in choosing these works of art, and for her encouragement and guidance throughout the planning of the tribute event. In the front matter is a historical timeline showing major milestones in the establishment of the field of cognitive neuroscience, constructed by Marc Raichle, with input from a number of quarters to verify dates and other facts. Marc used this slide in the marvelous lecture he delivered upon receiving the George A. Miller Prize in Cognitive Neuroscience. He has generously shared it with us in recognition of Mike's abiding influence and guidance of the field since its inception. Each section of this volume is introduced with a poem written by Marta Kutas, a friend and colleague of Mike's since his Cornell years. Finally, the support of Mary Mohrbach, administrative assistant at the University of Michigan, was invaluable to the preparation of this book.

To all of our contributors, we thank you for your candidness, your timeliness, your generosity and enthusiasm for this celebration. Your art and words make up this tribute, and far exceed what we could have dreamed to honor Mike. For those of you who were at the tribute event, we hope this volume brings back good memories and creates new ones. For those of you who know Mike, we hope the events and influence commemorated by this volume speak to you. And to all readers we hope this collection teaches you new things and invites you to glimpse the extraordinary Gazzaniga, a rare scientist, so worthy of the admiration, praise, gratitude, and love expressed in each one of these chapters.

Did we get it right, Mike?

Cognitive Neuroscience Milestones

John Bruer (James S McDonnell Foundation; JSMF)
 Mike Witunski (JSMF)
 William Bevan (MacArthur Foundation)

Emilio Bizzi (MIT)
 Michael Gazzaniga (Cornell University Medical College)
 Steve Hillyard (UCSD)
 George Miller (Princeton University)
 Michael Posner (University of Oregon)
 Marcus Raichle (Washington University)
 Terry Sejnowski (UCSD)
 Bob Wurtz (NIH)

"Cognitive Neuroscience" coined
 by George Miller with Mike Gazzaniga

Initial Planning Meeting

Summer Institute
 JSMF
 \$2.1M over 10 years

1977 1978 1986 1987 1988-90 1988 →

Cognitive Neuroscience Institute
 funded by Sloan Foundation
 Mike Gazzaniga

Funding Discussed
 With JSMF
 by Mike Gazzaniga

Study Panels

<p>Emotion and Cognition Stan Schacter Jerome Singer Seymour Kety Joe LeDoux David Mayer Robert Zajonc</p>	<p>Higher Cognitive Processes Terry Picton Pat Churchland Mort Mishkin David Premack Terry Sejnowski Edgar Zurif</p>
<p>Memory and Learning Mike Gazzaniga Richard Anderson Ira Black Bill Hirst Gary Lynch</p>	<p>Attention and Perception Michael Posner Bob Desimone Steve Hillyard Geoff Hinton</p>
<p>Motor Control Emilio Bizzi Neville Hogan Calude Ghez</p>	

George Miller (Chair)
John Bruer & Susan Fitzpatrick (JSMF)
Tom Langfitt & Rebecca Reimel (Pew Trust)
Emilio Bizzi (MIT)
Sheila Blumstein (Brown University)
Michael Gazzaniga (Dartmouth College)
Steve Hanson (Siemens Research Center, Princeton)
Jon Kaas (Vanderbilt University)
Endel Tulving (University of Toronto)
Mort Mishkin (NIH)
Marcus Raichle (Washington University)
Ed Smith (University of Michigan)
Anne Treisman (Princeton University)

Founding Committee
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Art Shimamura, UC Berkeley

**First Graduate Program
In Cognitive Neuroscience**
Dartmouth College

**McDonnell-Pew
Cognitive Neuroscience
Advisory Board**

**Cognitive Neuroscience Society
Founded**

1989 → 1990–2003 1992 1994 1998

**Journal of Cognitive Neuroscience
Founded**

Mike Gazzaniga
Charlotte Gazzaniga
Ira Black
Steve Kosslyn
Gordon Shepherd

McDonnell-Pew Centers Funded

McDonnell-Pew Centers
UCSD/Salk/Scripps
University of Oregon
Dartmouth/UC Davis
Johns Hopkins University
McGill University
Oxford University
University of Arizona
MIT

First Textbook
*Cognitive Neuroscience:
Biology of the Mind*
Michael Gazzaniga
Richard Ivry
George R. Mangun

**McDonnell-Pew Small Grants
And Fellowship Program
1994-2003**