

Scientists Making a Difference

Scientists Making a Difference is a fascinating collection of first-person narratives from the top psychological scientists of the modern era. These readable essays highlight the most important contributions to theory and research in psychological science, show how the greatest psychological scientists formulate and think about their work, and illustrate how their ideas develop over time. In particular, the authors address what they consider their most important scientific contribution: how they got the idea, how the idea matters for the world beyond academic psychology, and what they would like to see as the next steps in research. The contributors, who were chosen from an objectively compiled list of the most eminent psychological scientists of the modern era, provide a broad range of insightful perspectives. This book is essential reading for students, researchers, and professionals interested in learning about the development of the biggest ideas in modern psychological science, described first-hand by the scientists themselves.

Robert J. Sternberg is Professor of Human Development at Cornell University. Formerly, he was IBM Professor of Psychology and Education at Yale. He won the 1999 James McKeen Cattell Fellow Award and the 2017 William James Fellow Award from the Association for Psychological Science. He is editor of *Perspectives on Psychological Science*. His main fields of interest are intelligence, creativity, wisdom, ethics, love, and hate. His PhD is from Stanford and he has 13 honorary doctorates. He is a member of the National Academy of Education and the American Academy of Arts and Sciences. Sternberg is the author of roughly 1,600 publications and has been cited over 112,000 times, with an h index of 160 and an i10 index of 790. He has been a university professor, dean, provost, and president, and is past-president of the American Psychological Association and the Federation of Associations in Behavioral and Brain Sciences.

Susan T. Fiske is Eugene Higgins Professor, Psychology and Public Affairs, Princeton University. She investigates cognitive stereotypes and emotional prejudices, culturally, interpersonally, and neuro-scientifically. Her books include *The Human Brand: How We Relate to People, Products, and Companies* (with Chris Malone, 2013); *Envy Up, Scorn Down: How Status Divides Us* (2011); and *Social Cognition* (with Shelley Taylor,

Cambridge University Press
978-1-107-12713-5 — Scientists Making a Difference
Edited by Robert J. Sternberg, Susan T. Fiske, Donald J. Foss
Frontmatter
[More Information](#)

2013). She edits *Annual Review of Psychology*, *PNAS*, and *Policy Insights from Behavioral and Brain Sciences*. She is past president of the Federation of Associations in Behavioral and Brain Sciences, was elected to the National Academy of Sciences, and won Princeton University's as well as APS's Graduate Mentoring Award.

Donald J. Foss is Professor of Psychology at the University of Houston and has served on the faculties of the University of Texas at Austin and Florida State University. He has served as a department chair, dean, and provost. His publications have focused on language processing, memory, and student success, including a recent book for college students, *Your Complete Guide to College Success: How to Study Smart, Achieve Your Goals, and Enjoy Campus Life*. He has been editor, associate editor, and board member of numerous publications, including *American Psychologist*, *Annual Review of Psychology*, and *Contemporary Psychology*. He is Vice President of the Federation of Associations in Behavioral and Brain Sciences. Foss received an all-University Outstanding Teaching Award at the University of Texas at Austin, and an Outstanding Achievement Award from the University of Minnesota.

Advance Praise for Scientists Making a Difference

“In 100 autobiographical essays, psychology’s preeminent contributors reveal the roots and fruits of their famed contributions. Here are stories for posterity, from the funding barriers that challenged Thomas Bouchard’s study of reared-apart twins, to Michael Gazzaniga’s exhilaration on discovering the wonders of human split-brains, to Carol Dweck’s “me-search” on how she and others could find a thriving mindset when facing obstacles. This is living history—and a great read for both psychological scientists and students.”

– David G. Myers, Professor of Psychology, Hope College

“Reading this book is like spending an afternoon chatting with some of psychology’s most prominent scholars. They talk about the significance of their work, describe how they honed their creative ideas, and offer advice for dealing with failures, adversity, and success. The authors invite us inside their laboratories and provide a rare insight into the process of making a difference.”

– Diane Halpern, Dean of Social Sciences, Emerita,
Minerva Schools at KGI and Professor of Psychology,
Emerita, Claremont McKenna College

“Asking a couple ‘How did you two meet?’ inevitably elicits an interesting story, and this is essentially what the editors of this volume have done by asking a group of eminent psychological scientists to talk about their love affairs with their work. The result is a set of brief but fascinating stories that not only inspire admiration of these brilliant authors but will surely lead some of today’s best students to dream of following in their footsteps.”

– Douglas A. Bernstein, Professor of Psychology,
University of South Florida

“A wonderful book and an instant classic. In this remarkable series of essays bookended by two thought-provoking summaries, 100 eminent psychological scholars offer readers an insider’s glimpse of how to achieve scientific excellence. This superb book is a powerful reminder of the value of serendipity in scientific discovery. Psychology lovers will find the often surprising insights from our field’s premier scholars invaluable, and will have a difficult time putting the book down. Great fun and highly recommended.”

– Scott O. Lilienfeld, Ph.D., Samuel Candler Dobbs
Professor of Psychology, Emory University & Editor,
Clinical Psychological Science

“In engaging and highly personal essays, the most eminent psychologists of our time show the human side of their life’s work. Anyone with an interest in the influences behind the key theories and findings of the discipline will be captivated by this volume.”

– Robert S. Feldman, Professor of Psychological
and Brain Sciences and Deputy Chancellor,
University of Massachusetts Amherst

Cambridge University Press
978-1-107-12713-5 — Scientists Making a Difference
Edited by Robert J. Sternberg, Susan T. Fiske, Donald J. Foss
Frontmatter
[More Information](#)

“Surely every psychological researcher or professor will want to read this insightful book. Moreover, every student should be *required* to read it. Most undergraduate psychology majors and even many graduate students can name hundreds of athletes, singers, and actors, but they struggle to name any living psychologist other than their professors and “Dr. Phil.” It’s about time we call attention to our research rock stars!

– James Kalat, Professor Emeritus, N. C. State University

“Even beyond the Who’s Who of Psychological Scientists represented by the authors and editors of this volume (and talk about an impossible task to begin with!), the sum of the topics contained throughout these chapters makes the indisputable case for Psychological Science as the way forward in understanding so much of what is important in our world.”

– Alan Kraut, Association for Psychological Science,
Executive Director Emeritus

“A wonderful collection of essays from psychology’s A-listers. We quickly learn that they are engaging writers, as their stories bring their important discoveries to life. Every aspiring psychological scientist will want to read these essays, hoping to emulate at least some of the qualities that these eminent scientists share.”

– Todd F. Heatherton, Lincoln Filene Professor
in Human Relations, Dartmouth College

Cambridge University Press
978-1-107-12713-5 — Scientists Making a Difference
Edited by Robert J. Sternberg , Susan T. Fiske , Donald J. Foss
Frontmatter
[More Information](#)

Scientists Making a Difference

*One Hundred Eminent Behavioral and Brain
Scientists Talk about Their Most Important
Contributions*

Edited by

Robert J. Sternberg

Cornell University

Susan T. Fiske

Princeton University

Donald J. Foss

University of Houston



Cambridge University Press
978-1-107-12713-5 — Scientists Making a Difference
Edited by Robert J. Sternberg, Susan T. Fiske, Donald J. Foss
Frontmatter
[More Information](#)

CAMBRIDGE
UNIVERSITY PRESS

32 Avenue of the Americas, New York NY 10013

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

www.cambridge.org

Information on this title: www.cambridge.org/9781107566378

© Cambridge University Press 2016

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 2016

Printed in the United States of America by Sheridan Books, Inc.

A catalogue record for this publication is available from the British Library.

Library of Congress Cataloguing-in-Publication Data

Sternberg, Robert J., editor. | Fiske, Susan T., editor. | Foss, Donald J., 1940–, editor.

Scientists making a difference : one hundred eminent behavioral and brain scientists talk about their most important contributions / edited by Robert J. Sternberg, Susan T. Fiske, Donald J. Foss.

New York NY : Cambridge University Press, 2016. | Includes bibliographical references.

LCCN 2016016315 | ISBN 9781107127135 (hardback) | ISBN 9781107566378 (paperback)

| MESH: Behavioral Sciences | Neurosciences | Personal Narratives

LCC BF76.5 | NLM BF 76.5 | DDC 150.72–dc23

LC record available at <https://lccn.loc.gov/2016016315>

ISBN 978-1-107-12713-5 Hardback

ISBN 978-1-107-56637-8 Paperback

Cambridge University Press has no responsibility for the persistence or accuracy of URLs for external or third-party Internet Web sites referred to in this publication and does not guarantee that any content on such Web sites is, or will remain, accurate or appropriate.

Contents

<i>List of Contributors</i>	<i>page</i> xvii
<i>Foreword: Making a Creative Difference = Person × Environment</i>	
SALOVEY, PETER	xxi
<i>Preface</i>	xxv
Part I Introduction	
1 What Makes a Psychological Scientist “Eminent”? STERNBERG, ROBERT J.	3
Part II Biological Bases of Psychology: Genes, Brain, and Beyond	
Section A Feelings, Fears, Stressors, and Coping	9
2 Feelings and Decisions DAMASIO, ANTONIO	11
3 My Career in Fear DAVIS, MICHAEL	16
4 Child Poverty and Brain Development FARAH, MARTHA J.	20
5 Try It and Assume Nothing GAZZANIGA, MICHAEL S.	24
6 Coming Full Circle: From Psychology to Neuroscience and Back LEDOUX, JOSEPH	28
7 Hormones, Epigenetics, the Brain, and Behavior MCEWEN, BRUCE S.	32
	vii

viii	Contents	
8	Brain Plasticity, Science, and Medicine MERZENICH, MICHAEL	37
	Section B Cognitive and Social Neuroscience	43
9	Social Neuroscience CACIOPPO, JOHN T.	45
10	Modulating Memory Consolidation MCGAUGH, JAMES L.	49
11	Memory Consolidation and Transformation: The Hippocampus and Mental Time Travel MOSCOVITCH, MORRIS	53
12	Imaging the Human Brain POSNER, MICHAEL I.	58
13	Different Mechanisms of Cognitive Flexibility Within the Prefrontal Cortex ROBBINS, TREVOR W.	62
14	Memory and Brain SQUIRE, LARRY R.	66
	Section C Behavioral and Molecular Genetics	71
15	Genes and Behavior: Nature via Nurture BOUCHARD, JR., THOMAS J.	73
16	The View from the Center of the Triangle: Psychology, Psychiatry, and Genetics GOTTESMAN, IRVING I.	77
17	Bringing Genetics into the Mainstream of Psychology PLOMIN, ROBERT	82
	Part III Cognition: Getting Information from the World and Dealing with It	
	Section A Attention and Perception	87
18	Gaining Control JONIDES, JOHN	89
19	The Essential Dave Meyer: Some Musings on “Scholarly Eminence” and Important Scientific Contributions MEYER, DAVID E.	93

Contents	ix
20 Just Turn It Over in Your Mind SHEPARD, ROGER N.	99
21 Attention and Automatism SHIFFRIN, RICHARD M., AND SCHNEIDER, WALTER	104
22 How the Brain Constructs Objects TREISMAN, ANNE	108
Section B Learning and Memory	113
23 Human Memory: A Proposed System and Its Control Processes ATKINSON, RICHARD C., AND SHIFFRIN, RICHARD M.	115
24 Working Memory BADDELEY, ALAN	119
25 Emotionally Colored Cognition BOWER, GORDON H.	123
26 Levels of Processing in Human Memory CRAIK, FERGUS I. M.	128
27 Falling Down the Duck/Rabbit Hole JOHNSON, MARCIA K.	132
28 Memory Matters LOFTUS, ELIZABETH F.	136
29 What Do You Know and How Do You Know It? It's All in Your Connections MCCLELLAND, JAMES L.	140
30 Serendipity in Research: Origins of the DRM False Memory Paradigm ROEDIGER, III, HENRY L.	144
31 Memory: Beyond Remembering SCHACTER, DANIEL L.	148
32 Episodic Memory TULVING, ENDEL	152
33 What We Learn Depends on What We Are Remembering WAGNER, ALLAN R.	156

x	Contents	
	Section C Complex Processes	161
34	A Unified Theory of Mind ANDERSON, JOHN R.	163
35	Multiple Intelligences: Prelude, Theory, and Aftermath GARDNER, HOWARD	167
36	Heuristics and Biases KAHNEMAN, DANIEL	171
37	Comprehension KINTSCH, WALTER	175
38	The Perception of Risk SLOVIC, PAUL	179
39	What Does It Mean to Be Intelligent? STERNBERG, ROBERT J.	183
	 Part IV Development: How We Change Over Time	
	Section A Cognitive Development	187
40	Building a Unique Network of Scientific Enterprises CAREY, SUSAN	189
41	Research on Children's Recollections: What a Difference a Phone Call Made CECI, STEPHEN J.	194
42	Development of Children's Knowledge About the Mind FLAVELL, JOHN H.	198
43	Real Representations in Two Dimensions GELMAN, ROCHEL	202
44	Language and the Social Brain: The Power of Surprise in Science KUHL, PATRICIA K.	206
45	The Importance of Developmental Plasticity NEWPORT, ELISSA L.	210
46	Levels of Analysis in Cognitive Aging SALTHOUSE, TIMOTHY A.	214
47	The Longitudinal Study of Adult Cognitive Development SCHAIE, K. WARNER	218

Contents	xi
48 How Does Change Occur? SIEGLER, ROBERT S.	223
49 Cognitive Abilities of Infants SPELKE, ELIZABETH	228
Section B Social/Personality Development	233
50 The Power of Observational Learning Through Social Modeling BANDURA, ALBERT	235
51 Human Development in Evolutionary-Biological Perspective BELSKY, JAY	240
52 Transitions, Timing, and Texture: A Developmental Psychologist Goes Transdisciplinary BROOKS-GUNN, JEANNE	244
53 Longitudinal Cohort Research: Sowing, Nurturing, Waiting, Harvesting CASPI, AVSHALOM, AND MOFFITT, TERRIE E.	249
54 A Conceptual and Empirical Bridge EISENBERG, NANCY	256
55 Follow the Evidence, Ignore the Words KAGAN, JEROME	260
56 The Incredible Shrinking Conscious Mind NISBETT, RICHARD E.	264
57 The Scientific Study of Self-Knowledge WILSON, TIMOTHY D.	268
Part V Motivation and Emotion: How We Feel and What We Do	
Section A Motivation	273
58 The Motivation for Creativity AMABILE, TERESA M.	275
59 Inner Processes Serve Interpersonal Functions BAUMEISTER, ROY R.	279

xii	Contents	
60	Self-Regulation CARVER, CHARLES S.	283
61	Intrinsic Motivation: The Inherent Tendency to Be Active DECI, EDWARD L.	288
62	Mindsets: From the Classroom to the Middle East DWECK, CAROL S.	293
63	Whether You Think You Can, or You Think You Can't – You're Right FURNHAM, ADRIAN	297
64	Promotion and Prevention Motivations HIGGINS, E. TORY	301
65	The Letter to a Friend That Helped Launch a Career ROSS, LEE	306
66	The Empirical Study of Human Autonomy Using Self-Determination Theory RYAN, RICHARD M.	311
67	Behavioral Self-Regulation: A Little Optimism Goes a Long Way SCHEIER, MICHAEL F.	316
68	The Affective Revolution of the 1980s WATSON, DAVID	320
	Section B Emotion	325
69	Human Aggression and Violence ANDERSON, CRAIG A.	327
70	Research on Automatically Elicited Aggression BERKOWITZ, LEONARD	332
71	The Nature of Emotion and the Impact of Affect CLORE, GERALD L.	336
72	The Rediscovery of Enjoyment CSIKSZENTMIHALYI, MIHALY	341
73	Happiness Is a Virtue – Good for You and Good for the World! DIENER, ED	345

Contents	xiii
Part VI Social and Personality Processes: Who We Are and How We Interact	
Section A Social Cognition	349
74 Doing Good by Doing Good Research ARONSON, ELLIOT	351
75 The Incredible Little Shrinking Man in the Head BARGH, JOHN A.	356
76 Ethnocentrism and the Optimal Distinctiveness Theory of Social Identity BREWER, MARILYNN	360
77 Psychology of Gender: Nature and Nurture Working Together EAGLY, ALICE S.	365
78 How Warmth and Competence Inform Your Social Life FISKE, SUSAN T.	369
79 Two Routes to Persuasion PETTY, RICHARD E.	373
Section B Personal Relationships	377
80 The “Next One” BERSCHIED, ELLEN	379
81 Human Mating Strategies BUSS, DAVID M.	383
82 Love and Sex in the Marketplace HATFIELD, ELAINE	389
Section C Group and Cultural Processes	393
83 Theory to Develop a Cooperative, Just, and Peaceful World DEUTSCH, MORTON	395
84 The Collective Construction of the Self: Culture, Brain, and Genes KITAYAMA, SHINOBU	400
85 The Personal Is Political . . . and Historical and Social and Cultural MARKUS, HAZEL ROSE	405

xiv	Contents	
86	The Science of Our Better Angels PINKER, STEVEN	409
87	Focusing on Culture in Psychology TRIANDIS, HARRY C.	413
Part VII Clinical and Health Psychology: Making Lives Better		
	Section A Stress and Coping	417
88	Psychological Stress, Immunity, and Physical Disease COHEN, SHELDON	419
89	A Goldilocks Idea: Not Too Big, Not Too Small, Just Right FOLKMAN, SUSAN	424
	Section B Understanding Mental Disorders	429
90	Why Study Autism? FRITH, UTA	431
91	Understanding Clinical Depression GOTLIB, IAN H.	435
92	A Sociologist Working in Psychiatric Epidemiology Talks to Psychologists: A Career Bridging Fields KESSLER, RONALD C.	440
93	Closing the Divide: Psychological Science, Basic and Applied LANG, PETER J.	445
	Section C Psychotherapy and Behavior Change	451
94	The Development and Evaluation of Psychological Treatments for Anxiety Disorders BARLOW, DAVID H.	453
95	Psychosocial Treatment of Children with Severe Aggressive and Antisocial Behavior KAZDIN, ALAN E.	457
96	Expressive Writing PENNEBAKER, JAMES W.	462

Contents	xv
97 Staging: A Revolution in Changing Health Risk Behaviors PROCHASKA, JAMES O.	466
Section D Health and Positive Psychology	471
98 Psychological Origins of Cardiovascular Disease MATTHEWS, KAREN	473
99 How Positive Psychology Happened and Where It Is Going SELIGMAN, MARTIN	478
100 Looking Back and Forward TAYLOR, SHELLEY E.	481
Part VIII Conclusion	
101 Becoming an Eminent Researcher in Psychological Science STERNBERG, ROBERT J.	487
<i>Afterword: Doing Psychology 24×7 and Why It Matters</i> CANTOR, NANCY	493
<i>Index</i>	497

Contributors

Amabile, Teresa M.
Anderson, Craig A.
Anderson, John R.
Aronson, Elliot.
Atkinson, Richard C.
Baddeley, Alan.
Bandura, Albert.
Bargh, John A.
Barlow, David H.
Baumeister, Roy R.
Belsky, Jay.
Berkowitz, Leonard.
Berscheid, Ellen.
Bouchard, Thomas J., Jr.
Bower, Gordon H.
Brewer, Marilyn.
Brooks-Gunn, Jeanne.
Buss, David M.
Cacioppo, John T.
Cantor, Nancy.
Carey, Susan.
Carver, Charles S.
Caspi, Avshalom.
Ceci, Stephen J.
Clore, Gerald L.
Cohen, Sheldon.
Craik, Fergus I. M.
Csikszentmihalyi, Mihaly.
Damasio, Antonio.
Davis, Michael.
Deci, Edward L.
Deutsch, Morton.

xviii List of Contributors

Diener, Ed.
Dweck, Carol S.
Eagly, Alice S.
Eisenberg, Nancy.
Farah, Martha J.
Fiske, Susan T.
Flavell, John H.
Folkman, Susan.
Frith, Uta.
Furnham, Adrian.
Gardner, Howard.
Gazzaniga, Michael S.
Gelman, Rochel.
Gotlib, Ian H.
Gottesman, Irving I.
Hatfield, Elaine.
Higgins, E. Tory.
Johnson, Marcia K.
Jonides, John.
Kagan, Jerome.
Kahneman, Daniel.
Kazdin, Alan E.
Kessler, Ronald C.
Kintsch, Walter.
Kitayama, Shinobu.
Kuhl, Patricia K.
Lang, Peter J.
LeDoux, Joseph.
Loftus, Elizabeth F.
Markus, Hazel Rose.
Matthews, Karen.
McClelland, James L.
McEwen, Bruce S.
McGaugh, James L.
Merzenich, Michael.
Meyer, David E.
Moffitt, Terrie E.
Moscovitch, Morris.
Newport, Elissa L.
Nisbett, Richard E.
Pennebaker, James W.
Petty, Richard E.

List of Contributors

xix

Pinker, Steven.
Plomin, Robert.
Posner, Michael I.
Prochaska, James O.
Robbins, Trevor W.
Roediger, Henry L. III.
Ross, Lee.
Ryan, Richard M.
Salovey, Peter.
Salthouse, Timothy A.
Schacter, Daniel L.
Schaie, K. Warner.
Scheier, Michael F.
Schneider, Walter.
Seligman, Martin.
Shepard, Roger N.
Shiffrin, Richard M.
Siegler, Robert S.
Slovic, Paul.
Spelke, Elizabeth.
Squire, Larry R.
Sternberg, Robert J.
Taylor, Shelley E.
Treisman, Anne.
Triandis, Harry C.
Tulving, Endel.
Wagner, Allan R.
Watson, David.
Wilson, Timothy.

Foreword

Making a Creative Difference = Person × Environment

Salovey, Peter

Obviously this volume is a *Who's Who* of contemporary behavioral and neuroscience. In my teaching days, I believe I could have organized an entire Introduction to Psychology course just by describing the work of the individuals listed in the Table of Contents. And it is easy to focus on these names: they represent some of the smartest and most creative individuals in the world, resilient scholars not afraid of hard work or failure.

But as a social psychologist (and one with clinical training), I am also aware of the context in which these individuals carried out this wonderful work – the settings in which these ideas were developed, experiments designed, and findings communicated. Social psychologists place great importance on context – situations and environments that shape behavior. The father of modern social psychology, Kurt Lewin, famously articulated the first principle of this emerging field of study: $B = f(P, E)$. Behavior is a function of the person, his or her environment, and the interaction between the two. This simple formula may seem like a truism to any student of psychology, but it serves to remind us that behavior is not motivated in a vacuum. We may believe we are the architects of our actions – especially our accomplishments – but, in fact, the environments in which we find ourselves, and the manner in which we as individuals respond to those environments, can create huge differences in outcomes that we often assign “merely” to individual agency or internal attributes such as “grit” or determination.

So, let me tell a little story and then circle back to this amazing volume. On a trip to Sweden a few years ago, my wife and I visited the Nobel Museum, a wonderful place located in what was once the Stockholm Stock Exchange. We appreciated a presentation designed to coincide with the 100th anniversary of the Nobel Prize. Remarkably, at what anyone would expect to be the ultimate glorification of the individual person and self-directed accomplishment, the theme of the Museum's Centennial Exhibition was *Cultures of Creativity*. It would be reasonable to expect the Nobel Museum to bask in the glory of personal achievement, but, no, the

Centennial Exhibition was not about Lewin's *P* but about his *E* – the importance of environment in promoting the courage to think in entirely new directions, dare to question established ideas, and innovatively combine insights from different fields of study.

The Nobel Museum's theme was that special places, and the unplanned conversations and interactions that arise within them, spur creativity. Spectacular examples from all over the world were presented in amusing ways. Visitors could travel to Calcutta and find themselves in a progressive school inspired in 1901 by the poet Rabindranath Tagore. Then it is on to the cafes of Paris in the 1920s to feel the atmosphere of creative revolt as experienced by Ernest Hemingway and Samuel Beckett. The exhibition asked us to appreciate next the endless conversations and "Copenhagen spirit" that characterized the theoretical physics institute of Niels Bohr in the 1920s and 1930s. Guests were transported to Cambridge University's Cavendish Laboratories, where young James Watson and Francis Crick worked out the double-helical structure of the DNA molecule. Visitors could enjoy the Basel Institute of Immunology, described as a scientist's paradise, distinguished during the 1970s and 1980s by its lavish resources, egalitarian spirit, lively parties, and, of course, prize-winning science. These and other work environments fostered spontaneity, collegiality, intellectual intensity, and, most importantly, the opportunity for the unfettered exchange of insights and ideas, some bizarre and others amazing. The point was that whatever brilliance we have been able to attain is in part a function of the environments in which we find ourselves.

I was so impressed by this exhibition that I spoke about it at Yale's matriculation ceremony for new graduate students that year, and again in a welcoming address for freshmen in Yale College. And I think it is relevant to the present volume as well: take a look at the places where these great behavioral and brain scientists have conducted their most important work – this is not a list of randomly sampled departments and universities! Rather, they constitute the kinds of cultures of creativity celebrated by the Nobel Museum. Of course the scholars represented in this book bring to their laboratories admirable wisdom, deep insight, and the capacity for persistence in the face of setbacks. But they also are immersed in social environments where they are allowed to flourish and, I suspect, are actively encouraged and supported.

The authors of the chapters of this volume – these scientists making a difference – work in environments where students, postdoctoral scholars, and colleagues influence them, and vice versa. Perhaps they explicitly created environments where ingenuity and imagination can flourish, where tenacity and determination are reinforced. There is no doubt that what they bring to these environments, as well as the nature of these

environments themselves, interact in the way Lewin's formula suggests to motivate inquiry in psychology and the brain sciences. To appreciate the precise way in which that interaction unfolds requires one to read these chapters: Each of the authors describes relevant psychological processes at various levels of analysis, from the biological to the cognitive to the developmental to the social and cultural, and all may matter in motivating work that makes a difference. To their explications of these processes, I might add that emotional intelligence (which Jack Mayer and I defined as the set of abilities that allows one to identify, understand, and manage one's own and others' emotions in order to use this information to organize thinking and motivate behavior) would seem like a good candidate for an attribute that enables scientists to select or create environments that will contribute positively toward their successes or to obtain the most from those environments in which they find themselves.

But I do not want to end this foreword on a self-referential note. Rather, I would like to conclude with a bit of gratitude. These chapters were written by my heroes. Whatever role I may now play at my university, my identity is as a researcher and educator in psychology first, and these are the individuals who have contributed enormously to my understanding of human behavior. They are also role models as investigators and as teachers. I can imagine no better introduction to the major issues in our field, broadly speaking, than the thoughts of these individuals. By reading about their most important contributions, one will be inspired to join them in making a difference.

Preface

What do research psychologists do? How do they think about their work? What does psychological science look like as it goes on in the heads of top psychological scientists? How do these scientists develop their ideas over time?

The purpose of this book is to hear, in the first person, from some of the most eminent psychologists of the modern era regarding what they view as their single most important contribution to the behavioral and brain sciences. The list of invitees was based on rankings compiled by Diener, Shigehiro, and Park (2014), using criteria such as number of major awards, total number of citations, and pages of textbooks devoted to the scholars' work. Such lists, of course, would have different members depending on the criteria used, but the list seemed to us as good a basis for recognition as any we could find.

We invited all living members of the list of 200 individuals (many were deceased at the time we were preparing the book) for whom we could find contact information. The overwhelming majority of individuals still living and able to write, 100 scientists in all, agreed to write either singly or jointly, yielding 101 chapters, including the introduction and conclusion. (Some individuals were still alive but no longer in sufficiently good health to be able to write a chapter.) In each case, they were given the option of either writing a sole-authored piece (which the large majority did), writing with another member of the list (which happened in two cases, in which the individuals became famous for their collaborative work), or writing with someone outside the list (which happened in one case, in which the junior author of the chapter was instrumental to the accomplishment of the work described). After asking each member of the list to write, we asked two additional extremely distinguished psychologists who are also academic leaders and administrators – a university president and a university chancellor – to write the foreword and afterword, and both agreed to do so.

Each essay addresses just five questions:

1. What do you consider to be your most important scientific contribution?
2. Why do you consider it to be your most important contribution?

3. How did you get the idea for the contribution?
4. How does the idea matter for the world beyond academic psychology?
5. What would you like to see as the next steps in theory and/or research?

We asked the scientists to write for a first-year undergraduate taking a course in introductory psychology. The goal of the book is to present to students and possible future scientists the excitement of the field and how some of its best people think about their science. We hope that the book will be inspirational as well as informative to you. It attempts to inform readers not just about the great contributions, but also about how behavioral and brain scientists think about their contributions, where these contributions come from, and where they are going. We have tried to capture personal stories of the authors' involvement in, and excitement about, the scientific process.¹

When students read about the contributions of great behavioral and brain scientists, they usually read them in one of two forms. The first is through textbooks. Such presentations lack the voice of the originators of the ideas and often give students little sense of the science that was involved – where the idea came from, why the scientist thought it was important, and where the scientists wanted to go with it. The second is through articles in journals – the place where much of original science is presented to the world. Such articles purposely lose the autobiographical element and are “formulaically” written. The articles are often so detailed that students at entry levels cannot understand them or see why they are important in a larger context. Our book is intended to convey to you the excitement of the science and the depth of thinking that characterizes the great scientists of the era.

The primary intended audience of the book is undergraduate and graduate students in psychology. We believe the book could serve as a supplementary text in many different courses in psychology and psychological sciences in general. For example, it might serve as a supplement in history of psychology and in methods courses, as well as in first-year graduate proseminars. The secondary intended audience for this book is active behavioral and brain scientists. Many of these scientists will want to learn how some of the greatest scientists in the field go about getting ideas, doing their research, and promoting their theories and findings.

This book is divided into eight parts: Each part corresponds roughly to a part of a course in introductory psychology. Moreover, each part is

¹ A few words about the list: its inclusion criteria were broad and multiple, but no selection rules are perfect. In addition, because of the era in which these scientists achieved eminence, you will not find many women or members of minority groups writing for this collection. Times are steadily changing, however, and we hope this book inspires all kind of students to consider a career in our stimulating field.

further divided into sections corresponding to topics in introductory psychology courses, so the book can easily be used in conjunction with a course in introductory psychology.

This book was written under the auspices of FABBS—the Federation of Associations in Behavioral and Brain Sciences. We, as editors, are all officers of FABBS (at the time that the book is being prepared). The goal of FABBS is to educate people, and especially the public, legislators, and policy analysts, about the contributions the behavioral and brain sciences have to make to science as a whole and to society. All royalties from the book are being donated to FABBS.

We hope you enjoy our book. It was written for *you!*

ROBERT J. STERNBERG
SUSAN T. FISKE
DONALD J. FOSS

REFERENCE

Diener, E., Shigehiro, O., & Park, J.-Y. (2014). An incomplete list of eminent psychologists of the modern era. *Archives of Scientific Psychology*, 2, 20–32 (<http://psycnet.apa.org/journals/arc/2/1/20.html>).