



Dædalus

Journal of the American Academy of Arts & Sciences

Winter 2015

What is
the Brain
Good For?

Fred H. Gage

Robert H. Wurtz

Thomas D. Albright

A. J. Hudspeth

Larry R. Squire
& John T. Wixted

Brendon O. Watson
& György Buzsáki

Emilio Bizzi
& Robert Ajemian

Joseph E. LeDoux

Earl K. Miller
& Timothy J. Buschman

Terrence J. Sejnowski

Neuroscience: The Study of the
Nervous System & Its Function 5

Brain Mechanisms for Active Vision 10

Perceiving 22

The Energetic Ear 42

Remembering 53

Sleep, Memory & Brain Rhythms 67

A Hard Scientific Quest:
Understanding Voluntary Movements 83

Feelings: What Are They
& How Does the Brain Make Them? 96

Working Memory Capacity:
Limits on the Bandwidth of Cognition 112

Consciousness 123



Dædalus

Journal of the American Academy of Arts & Sciences

Spring 2015

Successful Aging of Societies

John W. Rowe

S. Jay Olshansky

Robert A. Hummer
& Mark D. Hayward

Frank F. Furstenberg,
Caroline Sten Hartnett,
Martin Kohli
& Julie M. Zissimopoulos

Lisa F. Berkman,
Axel Boersch-Supan
& Mauricio Avendano

Dawn C. Carr,
Linda P. Fried
& John W. Rowe

S. Jay Olshansky,
Dana P. Goldman
& John W. Rowe

David E. Bloom,
David Canning
& Alyssa Lubet

Julie M. Zissimopoulos,
Dana P. Goldman,
S. Jay Olshansky,
John Rother
& John W. Rowe

Successful Aging of Societies 5

The Demographic Transformation
of America 13

Hispanic Older Adult Health & Longevity
in the United States: Current Patterns &
Concerns for the Future 20

The Future of Intergenerational Relations
in Aging Societies 31

Labor-Force Participation, Policies & Practices
in an Aging America: Adaptation Essential
for a Healthy & Resilient Population 41

Productivity & Engagement in an Aging
America: The Role of Volunteerism 55

Resetting Social Security 68

Global Population Aging: Facts, Challenges,
Solutions & Perspectives 80

Individual & Social Strategies to Mitigate
the Risks & Expand Opportunities
of an Aging America 93



Dædalus

Journal of the American Academy of Arts & Sciences

Summer 2015

On Water

Anna M. Michalak
& Christopher B. Field

Christopher B. Field
& Anna M. Michalak

Michael Witzel

John Briscoe

Adena R. Rissman
& Stephen R. Carpenter

Jerald L. Schnoor

Katharine L. Jacobs
& Lester Snow

Richard G. Luthy
& David L. Sedlak

Terry L. Anderson

Charles J. Vörösmarty,
Michel Meybeck
& Christopher L. Pastore

Introduction 5

Water, Climate, Energy, Food:
Inseparable & Indispensable 7

Water in Mythology 18

Water Security in a Changing World 27

Progress on Nonpoint Pollution:
Barriers & Opportunities 35

Water Unsustainability 48

Adaptation in the Water Sector:
Science & Institutions 59

Urban Water-Supply Reinvention 72

Dynamic Markets

for Dynamic Environments:
The Case for Water Marketing 83

Impair-then-Repair: A Brief History
& Global-Scale Hypothesis Regarding
Human-Water Interactions
in the Anthropocene 94



Dædalus

Journal of the American Academy of Arts & Sciences

Fall 2015

The
Future
of Food,
Health
& the
Environ-
ment of a
Full Earth

David Tilman

David Tilman
& Michael Clark

Catherine Bertini

Jaquelyn L. Jahn,
Meir J. Stampfer
& Walter C. Willett

Nathaniel D. Mueller
& Seth Binder

Andrew Balmford,
Rhys Green
& Ben Phalan

G. Philip Robertson

Brian G. Henning

Food & Health of a Full Earth 5

Food, Agriculture & the Environment:
Can We Feed the World & Save the Earth? 8

Invisible Women 24

Food, Health & the Environment: A Global
Grand Challenge & Some Solutions 31

Closing Yield Gaps: Consequences for the
Global Food Supply, Environmental Quality
& Food Security 45

Land for Food & Land for Nature? 57

A Sustainable Agriculture? 76

The Ethics of Food, Fuel & Feed 90