

FORGET ME NOT

The Neuroethical Case Against Memory Manipulation

Peter A. DePergola II

Cognitive Science and Psychology



VERNON PRESS

Copyright © 2018 Vernon Press, an imprint of Vernon Art and Science Inc, on behalf of the author.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of Vernon Art and Science Inc.

www.vernonpress.com

In the Americas:
Vernon Press
1000 N West Street,
Suite 1200, Wilmington,
Delaware 19801
United States

In the rest of the world:
Vernon Press
C/Sancti Espiritu 17,
Malaga, 29006
Spain

Cognitive Science and Psychology

Library of Congress Control Number: 2017962800

ISBN: 978-1-62273-364-4

Product and company names mentioned in this work are the trademarks of their respective owners. While every care has been taken in preparing this work, neither the authors nor Vernon Art and Science Inc. may be held responsible for any loss or damage caused or alleged to be caused directly or indirectly by the information contained in it.

Cover designed by Vernon Press, using elements from pixabay.com/Tumisu .

For Laura and Mary, who give me every reason to remember

“There is something quite definite I have to say, and I have it so much upon my conscience that ... I dare not die without having uttered it. For the instant I die and so leave this world ... the question will be put to me: ‘Hast thou uttered the definite message *quite definitely?*’ And if I have not done so, what then?”

- Søren Kierkegaard, *Papers and Journals: A Selection*

“You think you have [memory], but it has you. ...”

- John Irving, *A Prayer for Owen Meany*

“There was a long hard time when I kept far from me the remembrance of what I had thrown away when I was quite ignorant of its worth.”

- Charles Dickens, *Great Expectations*

“Memory is the scribe of the soul.”

- Aristotle, *On Memory*

“Thence entered I the recesses of my memory, those manifold and spacious chambers, wonderfully furnished with innumerable stores; and I considered, and stood aghast. ...”

- Augustine of Hippo, *Confessions*, Bk. XIII

“Gatsby believed in the green light, the orgastic future that year by year recedes before us. It eluded us then, but that’s no matter – tomorrow we will run faster, stretch out our arms farther. ... And one fine morning — So we beat on, boats against the current, borne back ceaselessly into the past.

- F. Scott Fitzgerald, *The Great Gatsby*

Table of Contents

ABSTRACT	xi
ACKNOWLEDGMENTS	xv
FOREWORD: NEUROETHICS & MEMORY MANIPULATION	xvii
1. INTRODUCTION: THE FALSE HOPE OF DELIBERATE FORGETTING	1
1.1. Status Quaestionis	2
1.2. Argument and Method	2
1.3. Clarification of Terms	3
1.4. Notes	4
2. THE NEUROSCIENCE OF MM: PRACTICES AND POSSIBILITIES, PROPONENTS, AND PROBLEMS	7
2.1. Practices and Possibilities of MM	7
2.1.1. Beta-Adrenergic Receptor-Blocking Pharmacologicals	8
2.1.2. Electroconvulsive Therapy (ECT)	10
2.1.3. False Memory Creation (FMC)	12
2.1.4. Deep Brain Stimulation (DBS)	14
2.2. Proponents of Limited-Use Memory Manipulation (LUMM)	16
2.2.1. LUMM for Post-Traumatic Stress Disorder (PTSD)	16
2.2.1.1. The Neurobiology of PTSD	17
2.2.1.2. The Case in Favor of LUMM for PTSD	19

2.2.2. LUMM for Substance Addiction	22
2.2.2.1. The Neurobiology of Substance Addiction	23
2.2.2.2. The Case in Favor of LUMM for Substance Addiction	26
2.3. Problems of MM: A Preliminary Response to LUMM Proponents	29
2.3.1. Biomedicalization and the Codification of New Diseases	29
2.3.2. The Myth of Global Autonomy Loss	32
2.4. Conclusion	35
2.5. Notes	36
3. THE CASE AGAINST EPISODIC DISINTEGRATION: THE MORAL SIGNIFICANCE OF AUTOBIOGRAPHICAL MEMORY FOR ETHICAL DECISION MAKING	47
3.1. Autobiography, Memory, and Judgment	47
3.1.1. The Metaphysics of Autobiographical Memory	48
3.1.2. Autobiographical Memory as Pillar of Moral Judgment	51
3.2. Autobiographical Memory and Rationality	53
3.2.1. Imaging and Socialization of Autobiographical Memory	54
3.2.2. The Functional and Developmental Ontology of Rational Autobiographical Memory	57
3.2.3. The Phenomenology of Autobiographical Reasoning	61
3.2.4. Autobiographical Meta-Memory and Rational Prospecction	63
3.3. Autobiographical Memory and the Narrative of Human Emotion	66
3.3.1. The Empirical Effects of Emotion on Autobiographical Memory	67
3.3.2. The Contextual Effects of Emotion on Autobiographical Memory	70

3.3.3. The Cognitive Effects of Autobiographical Memory on Empathic Intentionality	73
3.3.4. Emotional Memory Specificity and Autobiographical Narrative Centrality	76
3.4. Autobiographical Memory and the Emotional Nature of Rational Ethical Decision Making	78
3.4.1. Integrated Affective Foresight and Autobiographical Context Prediction	79
3.4.2. The Affective Structure of Autobiographical Moral Thought	82
3.4.3. The Primacy of Autobiographical Memory in Emotionally Rational Choice	85
3.4.4. Autobiographical Prospection and Rational Ethical Decision Making	88
3.5. Conclusion	91
3.6. Notes	92
4. THE CASE AGAINST AFFECTIVE DEGENERATION: THE MORAL SIGNIFICANCE OF EMOTIONAL RATIONALITY FOR ETHICAL DECISION MAKING	107
4.1. Emotion, Reason, and Choice	107
4.1.1. Emotion and Reason in Ancient Greek Philosophy	108
4.1.2. The Emotional and Rational Tenets of Choice	110
4.2. Emotion and Rationality	114
4.2.1. The Functional Ontology of Rational Emotion	114
4.2.2. The Epistemology of Rational Emotion	117
4.2.3. The Phenomenology of Rational Affective Awareness	120
4.2.4. Emotional Rationality as Necessary Condition for Evaluative Judgment	124
4.3. Emotional Rationality and Morality	127
4.3.1. The Cognitive Dimensions of Emotionally Rational Moral Intuition	128

4.3.2. The Psychology of Emotionally Rational Moral Value	131
4.3.3. The Rationality of Affective Moral Objectivity	134
4.3.4. Emotional Rationality as Canon of Moral Motivation	137
4.4. Emotional Rationality and Ethical Decision Making	141
4.4.1. The Cognitive Neuroscience of Emotionally Rational Ethical Decision Making	141
4.4.2. Emotional Rationality as Ethical Insight and Practical Reason	144
4.4.3. Emotionally Rational Moral Reflection as Ethical Problem Solving	147
4.4.4. The Normative Logic of Emotionally Rational Ethical Decision Making	150
4.5. Conclusion	154
4.6. Notes	156
5. THE CASE AGAINST NARRATIVE DECAYING: THE MORAL SIGNIFICANCE OF NARRATIVE IDENTITY FOR ETHICAL DECISION MAKING	167
5.1. Narrative, Identity, and Development	167
5.1.1. The Evolution of Narrative in History	168
5.1.2. The Ontology of Narrative Identity	171
5.1.3. Narrative Identity and Moral Development	175
5.2. Narrative Identity as Product of Autobiographical Memory and Emotional Rationality	179
5.2.1. The Autobiographical and Emotionally Rational Ontology of Narrative Identity	179
5.2.2. Narrative Identity as Moral Education, Moral Methodology, and Moral Discourse	183
5.2.3. Narrative Identity as Ground and Object of Normative Ethical Principles	185
5.2.4. Rigor in Narrative Judgment and Ethical Justification	188

5.3. The Requisite Unpredictability of Narrative Identity	191
5.3.1. The Cognitive Correlates of Narrative Values	192
5.3.2. The Variable and Creative Evolution of Narrative, Identity, and Agency	195
5.3.3. The Developmental and Redemptive Metaphysics of Narrative Identity	199
5.3.4. The Narrative Objectivity of Subjective Identity	203
5.4. The Threat of Manipulation to Narrative, Authenticity, and Ethical Decision Making	207
5.4.1. Manipulation as Splintering of the Narrative Self	207
5.4.2. Manipulation as Corrosive of Narrative Authenticity	211
5.4.3. Manipulation as Destructive of Narrative Self-Control, Narrative Growth, and Narrative Responsibility	215
5.4.4. Manipulation as Disabling of Narrative-Based Ethical Decision Making	218
5.5. Conclusion	222
5.6. Notes	224
6. CONCLUSION: THE TERMINAL NORMLESSNESS OF MEMORY MANIPULATION	237
6.1. The Case Against MM: The Normative Demands of Proportionate Reason	237
6.2. Implications	242
6.3. Notes	243
BIBLIOGRAPHY	245
INDEX	275

ABSTRACT

An increasingly blurred understanding of the moral significance of accurate and authentic autobiographical memory for an adequate apprehension of self, other, and community suggests a critical need to explore the inter-relationships shared between autobiographical memory, emotional rationality, and narrative identity in light of the contemporary possibilities of memory manipulation (MM), particularly as it bears on ethical decision making. Grounding its thesis in four evidential effects – namely, (i) MM disintegrates autobiographical memory, (ii) the disintegration of autobiographical memory degenerates emotional rationality, (iii) the degeneration of emotional rationality decays narrative identity, and (iv) the decay of narrative identity disables one to seek, identify, and act on the good – the book argues that MM cannot be justified as a morally licit practice insofar as it disables one to seek, identify, and act on the good.

ACKNOWLEDGMENTS

Writing this book required years of reflection on the moral significance of memory. Now that it is finished, I want to thank those who helped to create so many of the most beautiful and formative memories I have.

I am eternally indebted, above all, to my inspiring, supportive, and courageous wife, Laura, without whose love, friendship, and motivation this book would not have been possible. I am similarly indebted to my heroic mother, Mary, for her life-changing introduction to the world of clinical bioethics so many years ago.

My profoundest admiration and respect extend to my formidable mentor, Dr. Gerard Magill, whose rigorous attention and meticulous intellect served as my faithful and unwavering guide throughout the composition of an earlier dissertation version and, subsequently, its transformation into the present manuscript. Like the ropes that bound Odysseus to the ship's mast as he sailed past the Siren voices, Gerry's methods and expectations were the wise constraints that made me free. For that and much more, I am indebted to him beyond expression.

Steadfast thanks are due also for the encouragement of my supportive and talented colleagues at Baystate Health, the College of Our Lady of the Elms, University of Massachusetts Medical School, Tufts University School of Medicine, and Sacred Heart University.

I owe reverence and gratitude, finally, to my loyal patrons, Saints Augustine and Thomas Aquinas, whose intercession aided in pointing out the beginning, directing the progress, and helping in the completion of this work.

FOREWORD:

NEUROETHICS & MEMORY MANIPULATION

Gerard Magill, Ph.D., Vernon F. Gallagher Chair,
Center for Healthcare Ethics, Duquesne University

A bold stance that challenges received wisdom is a difficult endeavor for the best of writers. The author sets out on an exciting pathway to write an imaginative and original analysis of the relation between memory, emotion, identity and ethical decision-making. Being the first major book on this extraordinary subtle interaction, the reader not only evidences brinkmanship on the cutting edge of neuroscience but also offers a tour de force on moral normativity. In this astute study on the ethics of memory manipulation, there is a breathtaking view of over fifty years of memory research interpreted through the philosophical lens of normative ethics.

The outcome is dramatic and strategically significant. The drama accompanies a rigorous ethical defense of an absolutist position against memory manipulation, such as for patients suffering from PTSD or addiction. Hopefully, those who may be surprised at or opposed to such a counter-cultural stance will recognize the cautious and temperate analysis that carefully and precisely presents both sides of the ethical debate on memory manipulation. The strategic significance of the argument emerges from a persistent consideration of the evidence by a skilled researcher who started out in favor of memory manipulation only to be led by the data to oppose it, and strenuously so. Here is a master ethicist at work, balancing each side, presenting fair and accurate perspectives of the debate, perceptively seeing difficulties that have gone unnoticed, and pivoting to a conclusion that was as startling to the author as it may be to the reader. The outcome is stark: memory manipulation cannot be justified as an ethical medical practice – the noble goals to support and treat patients whose suffering elicits

heart-wrenching compassion cannot be justified by what should be construed as immoral means of treatment. It could have been much more palatable for the author to have argued in favor of the mainstream defense of memory manipulation in the medical profession, as was his initial instinct at the start of the project. Yet, the study demonstrates how complex the topic is to grapple with intellectually and professionally. Fortunately, the clarity of writing and amenable manner of arguing present an approach that will be accessible to health professionals, researchers and scholars, as well as teachers and students.

To appreciate the contribution of this challenging and novel work, it can help to situate its charge within the broader context of bioethics and neuroscience, typically referred to as neuroethics. Over recent years, there has been a substantive increase in published works on neuroethics. They can be broadly categorized as follows. The appearance of several handbooks of neuroethics highlights the increasing appeal of this field both to professional ethicists and to a general audience insofar as these texts cover a wide variety of topics with scientific, medical, ethical, legal, and social implications, such as related to consciousness, intention and responsibility, or to aging and dementia.¹ Interestingly, the advances in neuroethics are so expansive that already the impact upon higher education policy is under consideration.² Not surprisingly, much of the recent literature deals with interdisciplinary issues about treatment and practical case studies in neuroscience, of which there is an abundance.³ Also, the reciprocal impact of neuroethics discourse on theology and philosophy receives considerable scrutiny.⁴ And the significance of neuroscience for morality itself presents captivating insights about the genesis and function of processes in ethical discernment, not only regarding the role of emotions and reason but also regarding the impact of moral cognition upon social conduct.⁵ Predictably, the technological developments in neuroscience, including discoveries in nanotechnology and the neuroethics of biomarkers around breakthroughs in the human genome,⁶ promise a fascinating future with the anticipation of exciting new social frontiers and ethical challenges.⁷

On such an expansive landscape of neuroethics this book makes its mark, and it is a very distinctive one to behold. The creativity and perspicacity of the analysis on the ethics of opposing memory manipulation is woven together with a treasure trove of classical writers, from ancient times onwards, whose time-tested insights shed

light on this new topic that most could never have imagined. The list of giants is extensive, including Plato and Aristotle, Hume and Descartes, Dostoyevsky and Shakespeare, Freud and Heidegger, Husserl and William James, Kant and Locke, Nietzsche and Nussbaum, Pascal and Rawls, Ricoeur and Rorty, Sartre and Scheler, Charles Taylor and Wittgenstein, MacIntyre and McCormick.

The conversation with these greats enlightens and bolsters the analysis to yield a rich tapestry of scholarship that projects a clear-minded message to establish the significance of the work: memory manipulation cannot be morally justified and therefore its practice must cease – even the best of good ends do not justify immoral means. Taking bad, haunting memories away in an immoral manner simply compounds the original physical, emotional, mental harm with a moral harm that disintegrates identity, compromises values, and constitutes a morally corrosive approach to a profoundly human need. But such a bold stance does not bear any callousness for the many patients in dire need of treatment that memory manipulation has sought to address. Rather, the clarity of the ethical posture necessarily challenges professionals and society to up the game so to speak to provide urgent medical and social support for those who may see some relief in memory manipulation. The author faces up steadfastly to the implications of rejecting memory manipulation: there is a dire need to radically increase investment in and support for mental healthcare, especially in this fast-developing field of neuroscience where ethics has so much to contribute.

Notes

1. See, for example, Matthew Rizzo, Matthew, et al., eds., *The Wiley Handbook on the Ageing Mind and Brain* (Wiley-Blackwell, 2018); L. Syd M. Johnson, Karen S. Rommelfanger, eds., *The Routledge Handbook of Neuroethics* (Routledge, 2017); Jens Clausen, Neil Levy, *Handbook of Neuroethics* (New York: Springer, 2014); Judy Illes, Barbara J. Sahakian, eds., *The Oxford Handbook of Neuroethics* (New York: Oxford University Press, 2013); Robert H. Blank, *Intervention in the Brain: Politics, Policy and Ethics* (Cambridge, MA: MIT Press, 2013); John Bickle, ed., *The Oxford Handbook of Philosophy and Neuroscience* (New York: Oxford University Press, 2013).
2. See, Dana Lee Baker, Brandon Leonard, *Neuroethics in Higher Education Policy* (Palgrave MacMillan, 2016).
3. See, for example, Robert J. Sternberg, Susan T. Fiske, *Ethical Challenges in the Behavioral and Brain Sciences. Case Studies and Commentaries* (New York: Cambridge University Press, 2015); Anjan Chatterjee, Martha J. Farah, eds., *Neuroethics in Practice* (New York: Oxford University Press, 2013); Elis-

abeth Hildt, Andreas G. Franke, eds., *Cognitive Enhancement: An Interdisciplinary Perspective* (New York: Springer, 2013); Eric Racine, *Pragmatic Neuroethics: Improving Treatment and Understanding of the Mind-Brain* (Cambridge, MA: MIT Press, 2010).

4. See, for example, Geran F. Dodson, *Free Will, Neuroethics, Psychology and Theology* (Wilmington, Delaware: Vernon Press, 2017); Neil Messer, *Theological Neuroethics: Christian Ethics Meets the Science of the Human Brain* (New York: T&T Clark, Bloomsbury, 2017); E. Fuller Torrey, *Evolving Brains, Emerging Gods. Early Humans and the Origins of Religion* (New York: Columbia University Press, 2017); Thomas M. Crisp, et al., *Neuroscience and the Soul. The Human Person, in Philosophy, Science and Theology* (Eerdmans, 2016); Nasda Gligorov, *Neuroethics and the Scientific Revision of Common Sense* (New York: Springer, 2016); Tibor Solymosi, John R. Shook, eds., *Neuroscience, Neurophilosophy and Pragmatism: Brains at Work with the World* (Palgrave MacMillan, 2014); Charles T. Wolfe, ed., *Brain Theory: Essays in Critical Neurophilosophy* (Palgrave MacMillan, 2014); James J. Giordano, Bert Gordijn, eds., *Scientific and Philosophical Perspectives in Neuroethics* (New York: Cambridge University Press, 2010); Andrew B. Newberg, *Principles of Neurotheology* (Routledge, 2010).

5. See, S. Matthew Liao, ed., *Moral Brains: The Neuroscience of Morality* (New York: Oxford University Press, 2016).

6. See, Matthew L. Baum, *The Neuroethics of Biomarkers. What the Development of Bioprediction Means for Moral Responsibility, Justice, and the Nature of Mental Disorder* (New York: Oxford University Press, 2017); Sean Hays, et al., eds., *Nanotechnology, the Brain, and the Future* (New York: Springer, 2013).

7. See, for example, Judy Illes, ed., *Neuroethics: Anticipating the Future* (New York: Oxford University Press, 2017); Eric Racine, John Aspler, eds., *Debates about Neuroethics: Perspectives on its Development, Focus, and Future* (New York: Springer, 2017); Andrea Lavazza, ed., *Frontiers in Neuroethics* (England: Cambridge Scholars Publishing, 2016).

1.

**INTRODUCTION:
THE FALSE HOPE OF
DELIBERATE FORGETTING**

Perhaps foremost among the controversial possibilities of cognitive neuroscience is the capacity to interrupt the reconsolidation of autobiographical memories,¹ thereby “dampening”² the acuteness of emotions associated with painful, and often perpetually traumatic, experiences of past events.³ The use of pharmacologicals to extinguish the sting of traumatic memories is but one of the current pathways being explored in the name of benevolent therapy. Others include the implantation of false memories to alter or replace those considered unsavory, and targeted electroconvulsive and surgical techniques to delete specific recollections of the past.⁴ Amid a field of gray matter, this book takes an absolutist position, and argues that any technique employed to directly and intentionally erase episodic memory poses grave neuroethical threats to the human condition that cannot be justified within a normative moral calculus.⁵

In its steadfast cultivation of increasingly effective and permanent memory manipulation techniques, modern neuroscience ominously mirrors the Homeric tale of Odysseus’s unanticipated visit to the land of Lotus-eaters, whose inhabitants repeatedly consume the flowery plant to render themselves forgetful of everything once known, blissfully careless of all.⁶ As the epic goes, Odysseus’s shipmates, desiring to share in the euphoria of the natives, follow suit in consumption of the plant. Yet they receive only a blurry, amoral reality in return. While the plant successfully eradicates the episodic memories of the shipmates, it also expunges the positive and beneficial desire to engage in human relationships, thereby decorticating them of any corresponding sense of moral responsibility. The scene concludes with Odysseus dragging his shipmates, against their will, back into the boat as they wail in rebellion, pleading for one more taste of self-annihilation.

PAGES MISSING
FROM THIS FREE SAMPLE

BIBLIOGRAPHY

- Addis, Donna Rose, Alana T. Wong, and Daniel L. Schacter. "Remembering the Past and Imagining the Future: Common and Distinct Neural Substrates During Event Construction and Elaboration." *Neuropsychologia* 45, no. 7 (April 2007): 1363-77.
- _____. "Age-Related Changes in the Episodic Simulation of Future Events." *Psychological Science* 19, no. 1 (2008): 33-41.
- Amodio, David M., and Chris D. Frith. "Meeting of Minds: The Medial Frontal Cortex and Social Cognition." *Nature Reviews Neuroscience* 7 (April 2006): 268-77.
- Anderson, Harlene. *Conversation, Language, and Possibilities: A Postmodern Approach to Therapy*. New York: BasicBooks, 1997.
- Aristotle. *Movement of Animals*. In *The Complete Works of Aristotle*, edited by Jonathan Barnes, 1087-96. Vols. 1-2. Translated by A. S. L. Farquharson. Princeton, NJ: Princeton University Press, 1984.
- _____. *Nicomachean Ethics*. In *The Complete Works of Aristotle*, edited by Jonathan Barnes, 1729-1867. Vols 1-2. Translated by W. D. Ross. Revised by J. O. Urmson. Princeton, NJ: Princeton University Press, 1984.
- Arndt, Jason. "The Role of Memory Activation in Creating False Memories of Encoding Context." *Journal of Experimental Psychology* 36, no. 1 (2010): 66-79.
- Arras, John D. "Nice Story, But So What? Narrative and Justification in Ethics." In *Stories and Their Limits: Narrative Approaches to Bioethics*, edited by Hilde Lindemann Nelson, 65-88. New York: Routledge, 1997.
- Atkins, Kim. "Narrative Identity, Practical Identity, and Ethical Subjectivity." *Continental Philosophy Review* 37 (2004): 341-66.
- Baker, Dana Lee, Leonard, Brandon. *Neuroethics in Higher Education Policy*. Palgrave MacMillan, 2016.
- Balfour, David J. K. "The Neurobiology of Tobacco Dependence: A Preclinical Perspective on the Role of the Dopamine Projections to the Nucleus Accumbens." *Nicotine & Tobacco Research* 6, no. 6 (2004): 899-912.
- Bamberg, Michael. "Who am I? Narration and its Contribution to Self and Identity." *Theory and Psychology* 2, no. 1 (2010): 1-22.
- Barsalou, Lawrence W. "The Content and Organization of Autobiographical Memories." In *Remembering Reconsidered: Ecological and Traditional Approaches to the Study of Memory*, edited by Ulrich Neisser and Eugene Winograd, 193-243. New York: Cambridge University Press, 1988.

- Bartlett, Francis E. *Remembering: A Study in Experimental and Social Psychology*. Cambridge, UK: Cambridge University Press, 1932.
- Bassok, Miriam, and Laura R. Novick. "Problem Solving." In *The Oxford Handbook of Thinking and Reasoning*, edited by Keith J. Holyoak and Robert G. Morrison, 413-32. New York: Oxford University Press, 2012.
- Bauer, Jack J., Dan P. McAdams, and Jennifer L. Pals. "Narrative Identity and Eudaimonic Well-Being." *Journal of Happiness Studies* 9 (2008): 81-104.
- Bauer, Jack J., Dan P. McAdams, and April R. Sakaeda. "Interpreting the Good Life: Growth Memories in the Lives of Mature, Happy People." *Journal of Personality and Social Psychology* 88, no. 1 (2005): 203-17.
- Baum, Matthew L. *The Neuroethics of Biomarkers. What the Development of Bioprediction Means for Moral Responsibility, Justice, and the Nature of Mental Disorder*. New York: Oxford University Press, 2017.
- Baumeister, Roy F. "Ego Depletion and Self-Control Failure: An Energy Model of the Self's Executive Function." *Self and Identity* 1, no. 2 (2002): 129-36.
- Baumeister, Roy F., Arlene Stillwell, and Sara R. Wotman. "Victim and Perpetrator Accounts of Interpersonal Conflict: Autobiographical Narratives About Anger." *Journal of Personality and Social Psychology* 59, no. 5 (November 1990): 994-1005.
- Baylis, Françoise. "'I Am Who I Am': On the Perceived Threats to Personal Identity from Deep Brain Stimulation." *Neuroethics* 6 (2013): 513-26.
- Bechara, Antoine, Antonio R. Damasio, Hanna Damasio, and Steven W. Anderson. "Insensitivity to Future Consequences Following Damage to Human Prefrontal Cortex." *Cognition* 50 (1994): 7-15.
- Bechara, Antoine, Hanna Damasio, and Antonio R. Damasio. "Emotion, Decision Making and the Orbitofrontal Cortex." *Cerebral Cortex* 10 (March 2000): 295-307.
- _____. "Role of the Amygdala in Decision-Making." *Annals of the New York Academy of Sciences* 985 (2003): 356-69.
- Bell, Jennifer. "Propranolol, Post-Traumatic Stress Disorder and Narrative Identity." *Journal of Medical Ethics* 34, no. 11 (2008): e23.
- Ben-Ze'ev, Aaron. "The Thing Called Emotion." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 41-62. New York: Oxford University Press, 2010.
- Benoit, Roland G., Karl K. Szpunar, and Daniel L. Schacter. "Ventromedial Prefrontal Cortex Supports Affective Future Simulation by Integrating Distributed Knowledge." *Proceedings of the National Academy of Sciences of the United States of America* 111, no. 46 (November 2014): 16550-55.

- Benveniste, Emile. "Subjectivity in Language." In *Problems in General Linguistics*, 223-30. Translated by Mary Elizabeth Meek. Miami: University of Miami Press, 1971.
- Berns, Gregory S., Emily Bell, C. Monica Capra, Michael J. Prietula, Sara Moore, Brittany Anderson, Jeremy Ginges, and Scott Atran. "The Price of Your Soul: Neural Evidence for the Non-Utilitarian Representation of Sacred Values." *Philosophical Transactions of the Royal Society B* 367 (2012): 754-62.
- Bernstein, Daniel M., Nicole L. M. Pernet, and Elizabeth F. Loftus. "The False Memory Diet: False Memories Alter Food Preferences." In *Handbook of Behavior, Food and Nutrition*, edited by Victor R. Preedy, Ronald Ross Watson, and Colin R. Martin, 1645-63. New York: Springer, 2011.
- Bickle, John, ed. *The Oxford Handbook of Philosophy and Neuroscience*. New York: Oxford University Press, 2013.
- Bird, Amy, and Elaine Reese. "Emotional Reminiscing and the Development of an Autobiographical Self." *Developmental Psychology* 42, no. 4 (July 2006): 613-26.
- Blank, Robert H. *Intervention in the Brain: Politics, Policy and Ethics*. Cambridge, MA: MIT Press, 2013.
- Blasi, Augusto. "Emotions and Moral Motivation." *Journal for the Theory of Social Behaviour* 29, no. 1 (March 1999): 1-19.
- Bloom, Daniel. "The Self-Awareness of Reason in Plato." *Journal of Cognition and Neuroethics* 2, no. 1 (2014): 95-103.
- Bluck, Susan, Jacqueline M. Baron, Sarah A. Ainsworth, Amanda N. Gesselman, and Kim L. Gold. "Eliciting Empathy for Adults in Chronic Pain through Autobiographical Memory Sharing." *Applied Cognitive Psychology* 27, no. 1 (January/February 2013): 81-90.
- Bluck, Susan, and Karen Z. H. Li. "Predicting Memory Completeness and Accuracy: Emotion and Exposure in Repeated Autobiographical Recall." *Applied Cognitive Psychology* 15, no. 2 (March/April 2001): 145-58.
- Boals, Adriel, and Darnell Schuettler. "A Double-Edged Sword: Event Centrality, PTSD and Posttraumatic Growth." *Applied Cognitive Psychology* 25, no. 5 (September/October 2011): 817-22.
- Bolla, K. I., D. A. Eldreth, E. D. London, K. A. Kiehl, M. Mouratidis, C. Contoreggi, J. A. Matochik, V. Kurian, J. L. Cadet, A. S. Kimes, F. R. Funderburk, and M. Ernst. "Orbitofrontal Cortex Dysfunction in Abstinent Cocaine Abusers Performing A Decision-Making Task." *NeuroImage* 19, no. 3 (July 2003): 1085-94.
- Boritz, Tali, Lynne Angus, Georges Monette and Laurie Hollis-Walker. "An Empirical Analysis of Autobiographical Memory Specificity Subtypes in Brief Emotion-Focused and Client-Centered Treatments of Depression." *Psychotherapy Research* 18, no. 5 (September 2008): 584-93.
- Boritz, Tali Zweig, Lynne Angus, Georges Monette, Laurie Hollis-Walker, and Serine Warwar. "Narrative and Emotion Integration in

- Psychotherapy: Investigating the Relationship Between Autobiographical Memory Specificity and Expressed Emotional Arousal in Brief Emotion-Focused and Client-Centered Treatments of Depression." *Psychotherapy Research* 21, no. 1 (January 2011): 16-26.
- Bower, Gordon R. "A Brief History of Memory Research." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 3-32. New York: Oxford University Press, 2000.
- Buchanan, Allen. *Beyond Humanity? The Ethics of Biomedical Enhancement*. New York: Oxford University Press, 2011.
- Brody, Eugene B., and Judith F. Tormey. "Clinical Psychoanalytic Knowledge—An Epistemological Perspective." *Perspectives in Biology and Medicine* 24 (1980): 143-59.
- Brody, Howard. *Stories of Sickness*. 2nd ed. New York: Oxford University Press, 2003.
- Bruner, Jerome. *Actual Minds, Possible Worlds*. Cambridge, MA: Harvard University Press, 1986.
- _____. "Life as Narrative." *Social Research* 54, no. 1 (2004): 11-32.
- Brunet, Alain, Scott P. Orr, Jacques Tremblay, Kate Robertson, Karim Nader, and Roger K. Pitman. "Effect of Post-Retrieval Propranolol on Psychophysiological Responding During Subsequent Script-Driven Traumatic Imagery in Post-Traumatic Stress Disorder." *Journal of Psychiatric Research* 42, no. 6 (May 2008): 503-06.
- Bryant, R. A. "Early Interventions Following Psychological Trauma." *CNS Spectrum* 7, no. 9 (2002): 650-54.
- Bryant, Richard A. "Psychological Interventions for Trauma Exposure and PTSD." In *Post-Traumatic Stress Disorder*, edited by Dan J. Stein, Matthew J. Friedman, and Carlos Blanco, 171-202. Hoboken, NJ: Wiley-Blackwell, 2011.
- Cahill, Larry, Ralf Babinsky, Hans J. Markowitsch, and James L. McGaugh. "The Amygdala and Emotional Memory." *Nature* 377 (September 1995): 295-96.
- Cahill, Larry, Bruce Prins, Michael Weber, and James L. McGaugh. " β -Adrenergic Activation and Memory for Emotional Events." *Nature* 371 (October 1994): 702-04.
- Calvo, Manuel G., and David Beltrán. "Recognition Advantage of Happy Faces: Tracing the Neurocognitive Processes." *Neuropsychologia* 51, no. 11 (September 2013): 2051-61.
- Camille, Nathalie, Giorgio Coricelli, Jerome Sallet, Pascale Pradat-Diehl, Jean-René Duhamel, and Angela Sirigu. "The Involvement of the Orbitofrontal Cortex in the Experience of Regret." *Science* 304 (May 2004): 1167-70.
- Canli, Turhan, and Zenab Amin. "Neuroimaging of Emotion and Personality: Ethical Considerations." In *Neuroethics: An Introduction with Readings*, edited by Martha J. Farah, 147-54. Cambridge, MA: The MIT Press, 2010.
- Caplan, Arthur. "Denying Autonomy in Order to Create It: The Paradox of Forcing Treatment on Addicts." *Addiction* 103, no. 12 (December 2008): 1919-21.

- Capps, Lisa. "Narrative Authenticity." *Journal of Narrative and Life History* 7, nos. 1-4 (1997): 83-89.
- Carruthers, Mary J. *The Book of Memory: A Study of Memory in Medieval Culture*. Cambridge, UK: Cambridge University Press, 1990.
- Carson, Ronald A. "Medical Ethics as Reflexive Practice." In *Philosophy of Medicine and Bioethics: A Twenty-Year Retrospective and Critical Analysis*, edited by Ronald A. Carson and Chester R. Burns, 181-92. Dordrecht: Kluwer Academic Publishers, 1997.
- Carter, Sid, and Marcia Smith Pasqualini. "Stronger Autonomic Response Accompanies Better Learning: A Test of Damasio's Somatic Marker Hypothesis." *Cognition and Emotion* 18, no. 7 (November 2004): 901-911.
- Cavell, Maria. "The Self: Growth, Integrity, and Coming Apart." In *The Oxford Handbook of The Self*, edited by Shaun Gallagher, 592-605. New York: Oxford University Press, 2013.
- Cialdini, Robert B., Stephanie L. Brown, Brian P. Lewis, Carol Luce, and Steven L. Neuberg. "Reinterpreting the Empathy-Altruism Relationship: When One Into One Equals Oneness." *Journal of Personality and Social Psychology* 73, no. 3 (1997): 481-94.
- Chandler, Jennifer A., Alexandra Mogyoros, Tristana Martin Rubio, and Eric Racine. "Another Look at the Legal and Ethical Consequences of Pharmacological Memory Dampening: The Case of Sexual Assault." *Journal of Law, Medicine & Ethics* 41, no. 4 (Winter 2013): 859-71.
- Charland, Louis C. "Cynthia's Dilemma: Consenting to Heroin Prescription." *American Journal of Bioethics* 2, no. 2 (Spring 2002): 37-47.
- Charon, Rita. "Narrative Contributions to Medical Ethics: Recognition, Formulation, Interpretation, and Validation in the Practice of the Ethicist." In *A Matter of Principles? Ferment in U.S. Bioethics*, edited by Edwin R. DuBose, Ron Hamel, and Laurence J. O'Connell, 260-83. Valley Forge, PA: Trinity Press International, 1994.
- Chater, Nick, and Mike Oaksford. "Normative Systems: Logic, Probability, and Rational Choice." In *The Oxford Handbook of Thinking and Reasoning*, edited by Keith J. Holyoak and Robert G. Morrison, 11-21. New York: Oxford University Press, 2012.
- Chatterjee, Anjan, Farah, Martha J., eds. *Neuroethics in Practice*. New York: Oxford University Press, 2013.
- Chiao, Joan Y., Tokiko Harada, Hidetsugu Komeda, Zhang Li, Yoko Mano, Daisuke Saito, Todd B. Parrish, Norihiro Sadato, and Tetsuya Iidaka. "Dynamic Cultural Influences on Neural Representations of the Self." *Journal of Cognitive Neuroscience* 22, no. 1 (January 2010): 1-11.
- Childress, James F. "Narrative(s) Versus Norm(s): A Misplaced Debate in Bioethics." In *Stories and Their Limits: Narrative Approaches to Bioethics*, edited by Hilde Lindemann Nelson, 252-71. New York: Routledge, 1997.

- Clausen, Jens, Levy, Neil. *Handbook of Neuroethics*. New York: Springer, 2014.
- Clifasefi, Seema L., Daniel M. Bernstein, Antonia Mantonakis, and Elizabeth F. Loftus. "‘Queasy Does It’: False Alcohol Beliefs and Memories May Lead to Diminished Alcohol Preferences." *Acta Psychologica* 143 (2013): 14-19.
- Clare, Gerald L. "Psychology and the Rationality of Emotion." *Modern Theology* 27, no. 2 (April 2011): 325-38.
- Clare, Gerald L., and Justin Storbeck. "Affect as Information about Liking, Efficacy, and Importance." In *Hearts and Minds: Affective Influences on Social Cognition and Behavior*, edited by Joseph Forgas, 123-42. New York: Psychology Press, 2006.
- Conrad, Peter, and Joseph W. Schneider. *Deviance and Medicalization: From Badness to Sickness*. St. Louis: The C. V. Mosby Company, 1980.
- Conway, Martin A., and Christopher W. Pleydell-Pearce. "The Construction of Autobiographical Memories in the Self-Memory System." *Psychological Review* 107, no. 2 (2000): 261-88.
- Coricelli, Giorgio, Hugo D. Critchley, Mateus Joffily, John P. O’Doherty, Angela Sirigu, and Raymond J. Dolan. "Regret and Its Avoidance: A Neuroimaging Study of Choice Behavior." *Nature Neuroscience* 8 (2005): 1255-62.
- Crisp, Thomas M., et al., eds. *Neuroscience and the Soul. The Human Person, in Philosophy, Science and Theology*. Eerdmans, 2016.
- Curran, Charles. *A New Look at Christian Morality*. Notre Dame, IN: Fides Publishers, 1970.
- D’Argembeau, Arnaud, Helena Cassol, Christophe Phillips, Evelyne Baeteau, Eric Salmon, and Martial Van der Linden. "Brain Creating Stories of Selves: The Neural Basis of Autobiographical Reasoning." *Social Cognitive and Affective Neuroscience* 9 (2014): 646-52.
- D’Argembeau, Arnaud, and Martial Van der Linden. "Phenomenal Characteristics Associated with Projecting Oneself Back into the Past and Forward into the Future: Influence of Valence and Temporal Distance." *Consciousness and Cognition* 13, no. 4 (2004): 844-58.
- Damasio, Antonio. *Descartes’ Error: Emotion, Reason, and the Human Brain*. New York: Grosset/Putnam Group, 1994.
- _____. *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. New York: Harcourt, Inc., 1999.
- _____. "Neuroscience and Ethics—Intersections." *American Journal of Bioethics—AJOB Neuroscience* 7, no. 1 (2007): 3-7.
- Daniels, Norman. "Wide Reflective Equilibrium and Theory Acceptance in Ethics." *Journal of Philosophy* 79 (1979): 256-82.
- Davidov, Maayan, and Joan E. Grusec. "Untangling the Links of Parental Responsiveness to Distress and Warmth to Child Outcomes." *Child Development* 77, no. 1 (January/February 2006): 44-58.

- Davis, Mark H. *Empathy: A Social Psychological Approach*. Madison, WI: Westview Press, 1996.
- De Brigard, Felipe and Kelly S. Giovanello. "Influence of Outcome Valence in the Subjective Experience of Episodic Past, Future, and Counterfactual Thinking." *Consciousness and Cognition* 21 (2012): 1085-96.
- de Waal, Frans B. M., and Pier Francesco Ferrari. "Towards a Bottom-Up Perspective on Animal and Human Cognition." *Trends in Cognitive Sciences* 14, no. 5 (May 2010): 201-07.
- Decety, Jean, and Stephanie Cacioppo. "The Speed of Morality: A High-Density Electrical Neuroimaging Study." *Journal of Neurophysiology* 108 (September 2012): 3068-72.
- Delistraty, Cody C. "The Ethics of Erasing Bad Memories." *The Atlantic*. 15 May 2014.
- Deng, Zhi-De, Shawn M. McClintock, Nicodemus E. Oey, Bruce Luber, and Sarah H. Lisanby. "Neuromodulation for Mood and Memory: From the Engineering Bench to the Patient Bedside." *Current Opinion in Neurobiology* 30 (2015): 38-43.
- Denke, Claudia, Michael Rotte, Hans-Jochen Heinze, and Michael Schaefer. "Belief in a Just World is Associated with Activity in Insula and Somatosensory Cortices as a Response to the Perception of Norm Violations." *Social Neuroscience* 9, no. 5 (2014): 514-21.
- Dennett, Daniel. *Elbow Room: The Varieties of Free Will Worth Wanting*. Cambridge, MA: The MIT Press, 1984.
- Denny, Bryan T., Hedy Kober, Tor D. Wager, and Kevin N. Ochsner. "A Meta-analysis of Functional Neuroimaging Studies of Self- and Other Judgments Reveals a Spatial Gradient for Mentalizing in Medial Prefrontal Cortex." *Journal of Cognitive Neuroscience* 24, no. 8 (2012): 1742-52.
- Descartes, René. *The Philosophical Work of Descartes*. Vols. 1-2. Translated by Elizabeth S. Haldane and G. R. T. Ross. Cambridge, UK: Cambridge University Press, 1911.
- Dhar, Benulal. "The Phenomenology of Value-Experience: Some Reflections on Scheler and Hartmann." *Indian Philosophical Quarterly* 26, no. 2 (April 1999): 183-97.
- Dilthey, Wilhelm. "Über Eine Beschreibende und Zergliedernde Psychologie." Vol. 5 of *Die geistige Welt: Einleitung in die Philosophie des Lebens*, edited by Wilhelm Dilthey, 139-240. Stuttgart, Göttingen: Teubner, Vandenhoeck & Ruprecht, 1895.
- Dodson, Geran F. *Free Will, Neuroethics, Psychology and Theology*. Wilmington, Delaware: Vernon Press, 2017.
- Donovan, Elsie. "Propranolol Use in the Prevention and Treatment of Posttraumatic Stress Disorder in Military Veterans." *Perspectives in Biology and Medicine* 53, no. 1 (Winter 2010): 61-74.
- Dolcos, Florin, Kevin S. LaBar, and Roberto Cabeza. "Interaction Between the Amygdala and the Medial Temporal Lobe Memory System Predicts Better Memory for Emotional Events." *Neuron* 42 (June 2004): 855-63.

- _____. "Remembering One Year Later: Role of the Amygdala and the Medial Temporal Lobe Memory System in Retrieving Emotional Memories." *Proceedings of the National Academy of Sciences of the United States of America* 102, no. 7 (February 2005): 2626-31.
- Dostoyevsky, Fyodor. *Crime and Punishment*. Translated by David McDuff. New York: Penguin Books, 2002.
- Duc, Corinne, Martin Hanselmann, Peter Boesiger, and Carmen Tanner. "Sacred Values: Trade-Off Type Matters." *Journal of Neuroscience, Psychology, and Economics* 6, no. 4 (December 2013): 252-63.
- Duncan, Jhodie R., and Andrew J. Lawrence. "Molecular Neuroscience and Genetics." In *Addiction Neuroethics: The Ethics of Addiction Neuroscience Research and Treatment*, edited by Adrian Carter, Wayne Hall, and Judy Illes, 27-54. San Diego: Academic Press, 2012.
- Dunlop, William L., and Jessica L. Tracy. "The Autobiography of Addiction: Autobiographical Reasoning and Psychological Judgment in Abstinent Alcoholics." *Memory* 21, no 1 (2013): 64-78.
- Drummond, John J. "Moral Objectivity: Husserl's Sentiments of the Understanding." *Husserl Studies* 12, no. 2 (1995): 165-83.
- Ebbinghaus, Hermann. Urmanuskript "Über das Gedächtnis." Passau, Germany: Passavia Universitätsverlag, 1983.
- Elliott, Carl. "Who Holds the Leash?" *American Journal of Bioethics* 2, no. 2 (Spring 2002): 48.
- Elster, Jon. "Emotional Choice and Rational Choice." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 263-81. New York: Oxford University Press, 2010.
- Engelhardt Jr., H. Tristram. *The Foundations of Bioethics*. 2nd ed. New York: Oxford University Press, 1996.
- Erikson, Erik H. *Childhood and Society*. New York: W. W. Norton & Company, 1963.
- Erk, Susanne, Markus Kiefer, Jo Grothe, Arthur P. Wunderlich, Manfred Spitzer, and Henrik Walter. "Emotional Context Modulates Subsequent Memory Effect." *NeuroImage* 18, no. 2 (February 2003): 439-47.
- Erk, Susanne, Sonja Martin, and Henrik Walter. "Emotional Context During Encoding of Neutral Items Modulates Brain Activation Not Only During Encoding But Also During Recognition." *NeuroImage* 26, no. 3 (July 2005): 829-38.
- Ersche, Karen D., and Barbara J. Sahakian. "The Neuropsychology of Amphetamine and Opiate Dependence: Implications for Treatment." *Neuropsychology Review* 17, no. 3 (September 2007): 317-36.
- Escobedo, Jessica R., and Ralph Adolphs. "Becoming a Better Person: Temporal Remoteness Biases Autobiographical Memories for Moral Events." *Emotion* 10, no. 4 (August 2010): 511-18.
- Farah, Martha J., Judy Illes, Robert Cook-Deegan, Howard Gardner, Eric Kandel, Patricia King, Erik Parens, Barbara Sahakian, and

- Paul Root Wolpe. "Neurocognitive Enhancement: What Can We Do and What Should We Do?" In *Neuroethics: An Introduction with Readings*, edited by Martha J. Farah, 30-41. Cambridge, MA: The MIT Press, 2010.
- Fingarette, Herbert. *Heavy Drinking: The Myth of Alcoholism as a Disease*. Berkeley, CA: University of California Press, 1988.
- Fisher, Walter R. "Narration as a Human Communication Paradigm: The Case of Public Moral Argument." *Communication Monographs* 51 (1984): 1-22.
- _____. "Technical Logic, Rhetorical Logic, and Narrative Rationality." *Argumentation* 1 (1987): 3-21.
- Fivush, Robyn, Tilmann Habermas, Theodore E. A. Waters, and Widaad Zaman. "The Making of Autobiographical Memory: Intersections of Culture, Narratives and Identity." *International Journal of Psychology* 46, no. 5 (2011): 321-45.
- Fivush, Robyn, Catherine A. Haden, and Elaine Reese. "Elaborating on Elaborations: Role of Maternal Reminiscing Style in Cognitive and Socioemotional Development." *Child Development* 77, no. 6 (November/December 2006): 1568-88.
- Fivush, Robyn, and Jessica McDermott Sales. "Coping, Attachment, and Mother-Child Narratives of Stressful Events." *Merrill-Palmer Quarterly* 52, no. 1 (January 2006): 125-50.
- Flavell, John H., and Henry M. Wellman. "Metamemory." In *Perspectives on the Development of Memory and Cognition*, edited by Robert V. Kail and John W. Hagen, 3-34. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc., Publishers, 1977.
- Ford, Jaclyn Hennessey, Donna Rose Addis, and Kelly S. Giovanello. "Differential Effects of Arousal in Positive and Negative Autobiographical Memories." *Memory* 20, no. 7 (2012): 771-781.
- Frankfurt, Harry. "Freedom of the Will and the Concept of a Person." *Journal of Philosophy* 68 (1971): 5-20.
- Fraser, Louisa M., Ronan E. O'Carroll, and Klaus P. Ebmeier. "The Effect of Electroconvulsive Therapy on Autobiographical Memory: A Systematic Review." *Journal of ECT* 24, no. 1 (March 2008): 10-17.
- Freud, Sigmund, and Joseph Breuer. *Studies in Hysteria*. Translated by Nicola Luckhurst. New York: Penguin Books, 2004.
- Fuchs, Thomas. "Fragmented Selves: Temporarily and Identity in Borderline Personality Disorder." *Psychopathology* 40 (2007): 379-87.
- Gaesser, Brendan. "Constructing Memory, Imagination, and Empathy: A Cognitive Neuroscience Perspective." *Frontiers in Psychology* 3 (January 2013): 1-6.
- Gaesser, Brendan, Daniel C. Sacchetti, Donna Rose Addis, and Daniel L. Schacter. "Characterizing Age-Related Changes in Remembering the Past and Imagining the Future." *Psychology and Aging* 26, no. 1 (March 2011): 80-84.

- Gahr, Maximilian, Carlos Schönfeldt-Lecuona, Manfred Spitzer, and Heiko Graf. "Electroconvulsive Therapy and Posttraumatic Stress Disorder: First Experience With Conversation-Based Reactivation of Traumatic Memory Contents and Subsequent ECT-mediated Impairment of Reconsolidation." *Journal of Neuropsychiatry and Clinical Neurosciences* 26, no. 3 (Summer 2014): E38-39.
- Gardiner, John M., and Alan Richardson-Klavehn. "Remembering and Knowing." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 229-44. New York: Oxford University Press, 2000.
- Gergen, Kenneth J. *The Saturated Self*. New York: Basic Books, 1991.
- _____. "Narrative, Moral Identity, and Historical Consciousness: A Historical Constructionist Account." In *Narration, Identity, and Historical Consciousness*, edited by Jürgen Straub, 99-119. New York: Berghahn Books, 2005.
- Gerlach, Kathy D., David W. Dornblaser, and Daniel L. Schacter. "Adaptive Constructive Processes and Memory Accuracy: Consequences of Counterfactual Simulations in Young and Older Adults." *Memory* 22, no. 1 (January 2014): 1-26.
- Gilhooly, Kenneth J., and P. Murphy. "Differentiating Insight from Noninsight Problems." *Thinking and Reasoning* 11, no. 3 (2005): 279-302.
- Gillett, Grant R. "The Subjective Brain, Identity, and Neuroethics." *American Journal of Bioethics* 9, no. 9 (2009): 5-13.
- Gino, Francesca, and Sreedhari D. Desai. "Memory Lane and Morality: "How Childhood Memories Promote Prosocial Behavior." *Journal of Personality and Social Psychology* 102, no. 4 (April 2012): 743-58.
- Giordano, James J., Gordijn, Bert., eds. *Scientific and Philosophical Perspectives in Neuroethics*. New York: Cambridge University Press, 2010.
- Glannon, Walter. "Psychopharmacology and Memory." *Journal of Medical Ethics* 32, no. 2 (2006): 74-78.
- _____. *Brain, Body, and Mind: Neuroethics with a Human Face*. New York: Oxford University Press, 2011.
- Gligorov, Nasda. *Neuroethics and the Scientific Revision of Common Sense*. New York: Springer, 2016.
- Godsil, Rachel D., and Brianna Goodale. *Telling Our Own Story: The Role of Narrative in Racial Healing*. East Battle Creek, MI: W. K. Kellogg Foundation, June 2013.
- Goldstein, Rita Z., and Nora D. Volkow. "Drug Addiction and Its Underlying Neurobiological Basis: Neuroimaging Evidence for the Involvement of the Frontal Cortex." *American Journal of Psychiatry* 159, no. 10 (October 2002): 1642-52.
- Gray, Kevin M., Noreen L. Watson, Matthew J. Carpenter, and Steven D. LaRowe. "N-Acetylcysteine (NAC) in Young Marijuana Users: An Open-Label Pilot Study." *American Journal of Addiction* 19, no. 2 (March 2010): 187-89.

- Greenberg, Leslie S., and Lynne E. Angus. "The Contributions of Emotional Processes to Narrative Change in Psychotherapy: A Dialectical Constructivist Approach." In *The Handbook of Psychotherapy*, edited by Lynne E. Angus and John McLeod, 330-50. Thousand Oaks, CA: SAGE Publications, 2004.
- Greene, Joshua D., Sylvia A. Morelli, Kelly Lowenberg, Leigh E. Nystrom, and Jonathan D. Cohen. "Cognitive Load Selectively Interferes with Utilitarian Moral Judgment." *Cognition* 107, no. 3 (June 2008): 1144-54.
- Greene, Joshua D., Leigh E. Nystrom, Andrew D. Engell, John M. Darley, and Jonathan D. Cohen. "The Neural Bases of Cognitive Conflict and Control in Moral Judgment." *Neuron* 44 (October 2004): 389-400.
- Greenhalgh, Trisha, and Brian Hurwitz, eds. *Narrative Based Medicine: Dialogue and Discourse in Clinical Practice*. London: BMJ Books, 1998.
- Greenspan, Patricia. "Practical Reasoning and Emotion." In *The Oxford Handbook of Rationality*, edited by Alfred R. Mele and Piers Rawling, 206-21. New York: Oxford University Press, 2004.
- _____. "Learning Emotions and Ethics." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 539-59. New York: Oxford University Press, 2010.
- Grillon, Christian, Jeremy Cordova, Charles Andrew Morgan III, Dennis S. Charney, and Michael Davis. "Effects of the Beta-blocker Propranolol on Cued and Contextual Fear Conditioning in Humans." *Psychopharmacology* 175, no. 3 (September 2004): 342-52.
- Grühn, Daniel, Kristine Rebucal, Manfred Diehl, Mark Lumley, and Gisela Labouvie-Vief. "Empathy Across the Adult Lifespan: Longitudinal and Experience-Sampling Findings." *Emotion* 8, no. 6 (December 2008): 753-65.
- Gui, Dan-Yang, Tian Gan, and Chao Liu. "Neural Evidence for Moral Intuition and the Temporal Dynamics of Interactions Between Emotional Processes and Moral Cognition." *Social Neuroscience* [Epub ahead of print] (August 2015): 1-15.
- Habermas, Tilmann. "Autobiographical Reasoning: Arguing and Narrating from a Biographical Perspective." *New Directions for Child and Adolescent Development* 131 (Spring 2011): 1-17.
- Habermas, Tilmann, and Susan Bluck. "Getting a Life: The Emergence of the Life Story in Adolescence." *Psychological Bulletin* 126, no. 5 (September 2000): 748-69.
- Haidt, Jonathan. "The New Synthesis in Moral Psychology." *Science* 316 (May 2007): 998-1002.
- Hall, Wayne, and Adrian Carter. "Debunking Alarmist Objections to the Pharmacological Prevention of PTSD." *American Journal of Bioethics* 7, no. 9 (2007): 23-24.

- Han, Hyemin, Gary H. Glover, and Changwoo Jeong. "Cultural Influences on the Neural Correlate of Moral Decision Making Processes." *Behavioural Brain Research* 259 (February 2014): 215-28.
- Han, Sanghoon, Akira R. O'Connor, Andrea N. Eslick, and Ian G. Dobbins. "The Role of Left Ventrolateral Prefrontal Cortex During Episodic Decisions: Semantic Elaboration or Resolution of Episodic Interference." *Journal of Cognitive Neuroscience* 24, no. 1 (January 2012): 223-34.
- Hariz, Marwan, Patric Blomstedt, and Ludvic Zrinzo. "Future of Brain Stimulation: New Targets, New Indications, New Technology." *Movement Disorders* 28, no. 13 (2013): 1784-92.
- Harris, Richard Jackson, Steven J. Hoekstra, Christina L. Scott, Fred W. Sanborn, Laura A. Dodds, and Jason Dean Brandenburg. "Autobiographical Memories for Seeing Romantic Movies on Date: Romance Is Not Just for Women." *Media Psychology* 6, no. 3 (August 2004): 257-84.
- Hart, J. T. "Memory and the Feeling-of-Knowing Experience." *Journal of Educational Psychology* 56, no. 4 (August 1965): 208-16.
- Hartmann, Nicolai. *Ethics*. Translated by Stanton Colt. London: George Allen & Unwin Ltd., 1958.
- Hauser, Marc D. "The Liver and the Moral Organ." *Social Cognitive and Affective Neuroscience* 1, no. 3 (December 2006): 214-20.
- Hawkins, Anne Hunsaker. *Reconstructing Illness: Studies in Pathography*. 2nd ed. West Lafayette, IN: Purdue University Press, 1999.
- Hays, Sean, et al., eds. *Nanotechnology, the Brain, and the Future*. New York: Springer, 2013.
- Heidegger, Martin. *Existence and Being*. Chicago: Henry Regnery Company, 1949.
- _____. *Being and Time*. Translated by John Macquarrie and Edward Robinson. Cambridge, MA: Blackwell Publishers Ltd., 1962.
- Hein, Grit, and Robert T. Knight. "Superior Temporal Sulcus—It's My Area: Or Is It?" *Journal of Cognitive Neuroscience* 20, no. 12 (December 2008): 2125-36.
- Helm, Bennett W. "Emotions and Motivation: Reconsidering Neo-Jamesian Accounts." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 303-23. New York: Oxford University Press, 2010.
- Hemmer, Pernille, and Kimele Persaud. "Interaction Between Categorical Knowledge and Episodic Memory Across Domains." *Frontiers in Psychology* 5 (June 2014): 1-5.
- Henderson, Michael B., Alan I. Green, Perry S. Bradford, David T. Chau, David W. Roberts, and James C. Leiter. "Deep Brain Stimulation of the Nucleus Accumbens Reduces Alcohol Intake in Alcohol-Preferring Rats." *Neurosurgical Focus* 29, no. 2 (August 2010): 1-7.
- Henry, Michael, Jennifer R. Fishman, and Stuart J. Younger. "Propranolol and the Prevention of Post-Traumatic Stress Disorder: Is

- It Wrong to Erase the 'Sting' of Bad Memories?" *American Journal of Bioethics* 7, no. 9 (2007): 12-20.
- Heyman, Gene M. *Addiction: A Disorder of Choice*. Cambridge, MA: Harvard University Press, 2009.
- Higgins, Stephen T., Alan J. Budney, Warren K. Bickel, Florian E. Foerg, Robert Donham, and Gary J. Badger. "Incentives Improve Outcome in Outpatient Behavioral Treatment of Cocaine Dependence." *Archives of General Psychiatry* 51, no. 7 (1994): 568-76.
- Hildt, Elisabeth, Franke, Andreas G. Franke, eds. *Cognitive Enhancement: An Interdisciplinary Perspective*. New York: Springer, 2013.
- Hillman, James. "The Fiction of Case History: A Round." In *Religion as Story*, edited by J. B. Wiggins, 123-73. New York: Harper and Row, 1975.
- Hintzman, Douglas L. "Memory Judgments." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 165-77. New York: Oxford University Press, 2000.
- Hoffmann, Janina A., Bettina von Helversen, and Jörg Rieskamp. "Pillars of Judgment: How Memory Abilities Affect Performance in Rule-Based and Exemplar-Based Judgments." *Journal of Experimental Psychology: General* 143, no. 6 (2014): 2242-61.
- Holland, Alisha C., and Elizabeth A. Kensinger. "Emotion and Autobiographical Memory." *Physics of Life Reviews* 7, no. 1 (March 2010): 88-131.
- Horberg, Elizabeth J., Christopher Oveis, and Dacher Keltner. "Emotions as Moral Amplifiers: An Appraisal Tendency Approach to the Influences of Distinct Emotions upon Moral Judgment." *Emotion Review* 3, no. 3 (July 2011): 237-44.
- Hu, Jiangyuan, Larissa Ferguson, Kerry Adler, Carole A. Farah, Margaret H. Hastings, Wayne S. Sossin, and Samuel Schacher. "Selective Erasure of Distinct Forms of Long-Term Synaptic Plasticity Underlying Different Forms of Memory in the Same Postsynaptic Neuron." *Current Biology* 12 (July 2017): 1-12.
- Huebner, Bryce, Susan Dwyer, and Marc Hauser. "The Role of Emotion in Moral Psychology." *Trends in Cognitive Sciences* 13, no. 1 (January 2009): 1-6.
- Hume, David. *A Treatise of Human Nature*. Edited by P. H. Nidditch. Oxford: Clarendon Press, 1978.
- _____. "Of the Standard of Taste." In *Essays: Moral, Political, and Literary*, edited by Eugene F. Miller, 226-49. Indianapolis: Liberty Classics, 1985.
- Hunter, Kathryn Montgomery. "'There Was This One Guy . . .': The Use of Anecdotes in Medicine." *Perspectives in Biology and Medicine* 29 (1986): 619-30.
- _____. *Doctors' Stories: The Narrative Structure of Medical Knowledge*. Princeton, NJ: Princeton University Press, 1991.
- Hurlemann, R., H. Walter, A. K. Rehme, J. Kukolja, S. C. Santoro, C. Schmidt, K. Schnell, F. Musshoff, C. Keysers, W. Maier, K. M.

- Kendrick, and O. A. Onur. "Human Amygdala Reactivity is Diminished by the β -noradrenergic Antagonist Propranolol." *Psychological Medicine* 27 (2010): 1-10.
- Husserl, Edmund. *The Crisis of the European Sciences and Transcendental Phenomenology*. Exeter, UK: Imprint Academic, 1970.
- Hyman Ira E., and F. James Billings Jr. "Individual Differences and the Creation of False Childhood Memories." *Memory* 6, no. 1 (1998): 1-20.
- Illes, Judy, Sahakian, Barbara J., eds. *The Oxford Handbook of Neuroethics*. New York: Oxford University Press, 2013.
- Illes, Judy, ed. *Neuroethics: Anticipating the Future*. New York: Oxford University Press, 2017.
- Immordino-Yang, Mary Helen, Joanna A. Christodoulou, and Vanessa Singh. "Rest Is Not Idleness: Implications of the Brain's Default Mode for Human Development and Education." *Perspectives on Psychological Science* 7, no. 4 (2012): 352-64.
- Inbar, Yoel, David A. Pizarro, Joshua Knobe, and Paul Bloom. "Disgust Sensitivity Predicts Intuitive Disapproval of Gays." *Emotion* 9, no. 3 (2009): 435-39.
- Jaggar, Alison M. "Love and Knowledge: Emotion in Feminist Epistemology." *Inquiry* 32, no. 2 (1989): 151-76.
- James, William. *The Principles of Psychology*. Vols. 1-2. Cambridge, MA: Harvard University Press, 1890.
- Johnson, L. Syd M., Rommelfanger, Karen S., eds. *The Routledge Handbook of Neuroethics*. Routledge, 2017.
- Jones, Gregory V., and Maryanne Martin. "Primacy of Memory Linkage in Choice Among Valued Objects." *Memory & Cognition* 34, no. 8 (2006): 1587-97.
- Jonsen, Albert R., and Stephen Toulmin. *The Abuse of Casuistry: A History of Moral Reasoning*. Los Angeles: University of California Press, 1988.
- Joy, Morny. "Feminism and the Self." *Theory and Psychology* 3 (1993): 275-302.
- Kalberg, Stephen. "Max Weber's Types of Rationality: Cornerstones for the Analysis of Rationalization Processes in History." *The American Journal of Sociology* 85, no. 5 (March 1980): 1145-79.
- Kant, Immanuel. *The Metaphysics of Morals*. Translated by M. J. Gregor. Cambridge: Cambridge University Press, 1996.
- _____. *Fundamental Principles of the Metaphysics of Morals*. Translated by Thomas Kingsmill Abbott. Mineola, NY: Dover Publications, Inc., 2005.
- Kaplan, Jonas T., Sarah I. Gimbel, Morteza Dehghani, Mary Helen Immordino-Yang, Kenji Sagae, Jennifer D. Wong, Christine M. Tipper, Hanna Damasio, Andrew S. Gordon, and Antonio Damasio. "Processing Narratives Concerning Protected Values: A Cross-Cultural Investigation of Neural Correlates." *Cerebral Cortex* 26, no. 1 (January 2016): 1-11.

- Keltner, Dacher, Phoebe C. Ellsworth, and Kari Edwards. "Beyond Simple Pessimism: Effects of Sadness and Anger on Social Perception." *Journal of Personality and Social Psychology* 64, no. 5 (1993): 740-52.
- Kennett, Jeanette. *Agency and Responsibility: A Common Sense Moral Psychology*. Oxford: Oxford University Press, 2001.
- Kensinger, Elizabeth A. "Negative Emotion Enhances Memory Accuracy: Behavioral and Neuroimaging Evidence." *Current Directions in Psychological Science* 16, no. 4 (2007): 213-18.
- Kensinger, Elizabeth A., and Suzanne Corkin. "Two Routes to Emotional Memory: Distinct Neural Processes for Valence and Arousal." *Proceedings of the National Academy of Sciences of the United States of America* 101, no. 9 (March 2004): 3310-15.
- Kensinger, Elizabeth A., and Daniel L. Schacter. "When the Red Sox Shocked the Yankees: Comparing Negative and Positive Memories." *Psychonomic Bulletin & Review* 13, no. 5 (2006): 757-63.
- Kiefer, Markus, Stefanie Schuch, Wolfram Schenck, and Klaus Fiedler. "Emotion and Memory: Event-Related Potential Indices Predictive for Subsequent Successful Memory Depend on the Emotional Mood State." *Advances in Cognitive Psychology* 3, no. 3 (2007): 363-73.
- Kilpatrick, Lisa, and Larry Cahill. "Amygdala Modulation of Parahippocampal and Frontal Regions During Emotionally Influenced Memory Storage." *NeuroImage* 20, no. 4 (December 2003): 2091-99.
- Kindt, Merel, Marieke Soeter, and Bram Vervliet. "Beyond Extinction: Erasing Human Fear Responses and Preventing the Return of Fear." *Nature Neuroscience* 12 (2009): 266-58.
- King, Laura A. "The Hard Road to the Good Life: The Happy, Mature Person." *Journal of Humanistic Psychology* 41 (2001): 51-72.
- Klein, Stanley B. "The Complex Act of Projecting Oneself into the Future." *Wiley Interdisciplinary Reviews: Cognitive Science* 4, no. 1 (January/February 2013): 63-79.
- Klein, Stanley B., Judith Loftus, and John F. Kihlstrom. "Memory and Temporal Experience: The Effects of Episodic Memory Loss On An Amnesic Patient's Ability to Remember the Past and Imagine the Future." *Social Cognition* 20, no. 5 (2002): 353-79.
- Kochanska, Grazyna. "Mutually Responsive Orientation Between Mothers and Their Young Children: A Context for the Early Development of Conscience." *Current Directions in Psychological Science* 11 (2002): 191-95.
- Koenigs, Michael, Liane Young, Ralph Adolphs, Daniel Tranel, Fiery Cushman, Marc Hauser, and Antonio Damasio. "Damage to the Prefrontal Cortex Increases Utilitarian Moral Judgements [sic]." *Nature* 446, no. 7138 (April 2007): 908-11.
- Kohut, Heinz. *The Restoration of the Self*. Chicago: The University of Chicago Press, 1977.

- Kolber, Adam J. "Therapeutic Forgetting: The Legal and Ethical Implications of Memory Dampening." *Vanderbilt Law Review* 59, no. 5 (2006): 1561-1626.
- Korsgaard, Christine M. *The Sources of Normativity*. Cambridge, UK: Cambridge University Press, 1996.
- _____. "Autonomy and the Second Person Within: A Commentary on Stephen Darwall's The Second-Person Standpoint." *Ethics* 118, no. 1 (2007): 8-23.
- Kramer, Peter D. *Listening to Prozac: A Psychiatrist Explores Antidepressant Drugs and the Remaking of the Self*. New York: Viking Press, 1993.
- Kraemer, Felicitas. "Me, Myself and My Brain Implant: Deep Brain Stimulation Raises Questions of Personal Authenticity and Alienation." *Neuroethics* 6 (2013): 483-97.
- Kroes, Marijn C. W., Indira Tendolkar, Guido A. van Wingen, Jeroen A. van Waarde, Bryan A. Strange, and Guillén Fernández. "An Electroconvulsive Therapy Procedure Impairs Reconsolidation of Episodic Memories in Humans." *Nature Neuroscience* 17, no. 2 (February 2014): 204-08.
- Kuhn, Jens, Theo O. J. Gründler, Robert Bauer, Wolfgang Huff, Adrian G. Fischer, Doris Lenartz, Mohammad Maarouf, Christian Bührle, Joachim Klosterkötter, Markus Ullsperger, and Volker Sturm. "Successful Deep Brain Stimulation of the Nucleus Accumbens in Severe Alcohol Dependence is Associated with Changed Performance Monitoring." *Addiction Biology* 16, no. 4 (October 2011): 620-23.
- Kuhn, Jens, Doris Lenartz, Wolfgang Huff, SunHee Lee, Athanasios Koulousakis, Joachim Klosterkötter, and Volker Sturm. "Remission of Alcohol Dependency Following Deep Brain Stimulation of the Nucleus Accumbens: Valuable Therapeutic Implications?" *Journal of Neurology, Neurosurgery & Psychiatry* 78 (2007): 1152-53.
- LaBar, Kevin S., and Roberto Cabeza. "Cognitive Neuroscience of Emotional Memory." *Nature Reviews Neuroscience* 7, No. 1 (January 2006): 54-64.
- Laible, Deborah J., Gustavo Carlo, and Scott C. Roesch. "Pathways to Self-Esteem in Late Adolescence: The Role of Parent and Peer Attachment, Empathy, and Social Behaviors." *Journal of Adolescence* 27, no. 6 (December 2004): 703-16.
- Lambie, John A. "On the Irrationality of Emotion and the Rationality of Awareness." *Consciousness and Cognition* 17 (2007): 946-71.
- Lapsley, Daniel K. "Moral Agency, Identity and Narrative in Moral Development." *Human Development* 53 (2010): 87-97.
- Lavazza, Andrea, ed. *Frontiers in Neuroethics*. England: Cambridge Scholars Publishing, 2016.
- LeBoeuf, Robyn A., and Eldar Shafir. "Decision Making." In *The Oxford Handbook of Thinking and Reasoning*, edited by Keith J. Holyoak and Robert G. Morrison, 301-21. New York: Oxford University Press, 2012.

- LeDoux, Joseph. *The Emotional Brain: The Mysterious Underpinnings of the Emotional Life*. New York: Touchstone, 1998.
- Lerner, Jennifer S., and Dacher Keltner. "Fear, Anger, and Risk." *Journal of Personality and Social Psychology* 81, no. 1 (July 2001): 146-59.
- Leshner, Alan. "Science-Based Views of Drug Addiction and Its Treatment." *Journal of the American Medical Association* 282 (1999): 1314-16.
- Levy, Dino J., and Paul W. Glimcher. "The Root of All Value: A Neural Common Currency for Choice." *Current Opinion in Neurobiology* 22 (2012): 1027-38.
- Levy, Neil. "Autonomy, Responsibility and the Oscillation of Preference." In *Addiction Neuroethics: The Ethics of Addiction Neuroscience Research and Treatment*, edited by Adrian Carter, Wayne Hall, and Judy Illes, 139-51. San Diego: Academic Press, 2012.
- Liao, S. Matthew, ed. *Moral Brains: The Neuroscience of Morality*. New York: Oxford University Press, 2016.
- Little, Margaret O. "Moral Generalities Revisited." In *Moral Particularism*, edited by Brad Hooker and Margaret O. Little, 276-304. New York: Oxford University Press, 2000.
- Locke, John. *An Essay Concerning Human Understanding*. Edited by Roger Woolhouse. London: Penguin Books, 1997.
- Lombardo, Michael V., Jennifer L. Barnes, Sally J. Wheelwright, and Simon Baron-Cohen. "Self-Referential Cognition and Empathy in Autism." *PLoS ONE* 2, no. 9 (September 2007): e883.
- Long, Roderick T. *Reason and Value: Aristotle versus Rand*. Washington, DC: The Atlas Society, 2000.
- Lyns, John O. *The Invention of the Self: The Hinge of Consciousness in the Eighteenth Century*. Carbondale, IL: Southern Illinois University Press, 1978.
- Lyubomirsky, Sonja, Lorie Sousa, and Rene Dickerhoof. "The Costs and Benefits of Writing, Talking, and Thinking About Life's Triumphs and Defeats." *Journal of Personality and Social Psychology* 90, no. 4 (2006): 692-708.
- MacIntyre, Alasdair. *After Virtue: A Study in Moral Theory*. 3rd ed. Notre Dame, IN: Notre Dame University Press, 2007.
- Mar, Raymond A. "The Neuropsychology of Narrative: Story Comprehension, Story Production and Their Interrelation." *Neuropsychologia* 42 (2004): 1414-43.
- Maratos Elizabeth J., and Michael D. Rugg. "Electrophysiological Correlates of the Retrieval of Emotional and Non-Emotional Context." *Journal of Cognitive Neuroscience* 13, no. 7 (October 2001): 877-91.
- Marder, Eve, and Jean-Marc Goillard. "Variability, Compensation and Homeostasis in Neuron and Network Function." *Nature Reviews Neuroscience* 7 (July 2006): 563-74.

- Markowitsch, Hans J. "Neuroanatomy of Memory." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 465-84. New York: Oxford University Press, 2000.
- Mars, Rogier B., Franz-Xaver Neubert, MaryAnn P. Noonan, Jerome Sallet, Ivan Toni, and Matthew F. S. Rushworth. "On the Relationship between the 'Default Mode Network' and the 'Social Brain.'" *Frontiers in Human Neuroscience* 6 (June 2012): 1-9.
- Martínez-Galindo, Joyce Graciela, and Selene Cansino. "Positive and Negative Emotional Contexts Unevenly Predict Episodic Memory." *Behavioural Brain Research* 291 (2015): 89-102.
- Masten, Carrie L., Sylvia A. Morelli, and Naomi I. Eisenberger. "An fMRI Investigation of Empathy for 'Social Pain' and Subsequent Prosocial Behavior." *NeuroImage* 22 (2011): 381-88.
- Mathur, Vani A., Tokiko Harada, Trixie Lipke, and Joan Y. Chiao. "Neural Basis of Extraordinary Empathy and Altruistic Motivation." *NeuroImage* 51 (2010): 1468-75.
- Mazzoni, Giuliana, Andrew Clark, and Robert A. Nash. "Disowned Recollections: Denying True Experiences Undermines Belief in Occurrence But Not Judgments of Remembering." *Acta Psychologica* 145 (January 2014): 139-46.
- Mazzoni, Giuliana, Alan Scoboria, and Lucy Harvey. "Nonbelieved Memories." *Psychological Science* 21 (August 2010): 1334-40.
- McAdams, Dan P. "The Role of Narrative in Personality Psychology Today." *Narrative Inquiry* 16, no. 1 (2006): 11-18.
- _____. "Personal Narratives and the Life Story." In *Handbook of Personality: Theory and Research*, 3rd ed., edited by Oliver P. John, Richard W. Robins, and Lawrence A. Pervin, 242-62. New York: The Guilford Press, 2008.
- McAdams, Dan P., Jeffrey Reynolds, Martha Lewis, Allison H. Patten, and Phillip J. Bowman. "When Bad Things Turn Good and Good Things Turn Bad: Sequences of Redemption and Contamination in Life Narrative and their Relation to Psychosocial Adaptation in Midlife Adults and in Students." *Personality and Social Psychology Bulletin* 27, no. 4 (April 2001): 472-83.
- McCabe, Allyssa, Carole Peterson, and Dianne M. Connors. "Attachment Security and Narrative Elaboration." *International Journal of Behavioral Development* 30, no. 5 (2006): 8-19.
- McCormick, Richard A. "Ambiguity in Moral Choice." In *Doing Evil to Achieve Good: Moral Choice in Conflict Situations*, edited by Richard A. McCormick and Paul Ramsey, 7-53. Lanham, MD: University Press of America, 1985.
- McCullough, Andrew M., and Andrew P. Yonelinas. "Cold-Pressor Stress After Learning Enhances Familiarity-Based Recognition Memory in Men." *Neurobiology of Learning and Memory* 106 (November 2013): 11-17.
- McLean, Kate C., and Cade D. Mansfield. "To Reason or Not to Reason: Is Autobiographical Reasoning Always Beneficial?" *New Di-*

- rections for Child and Adolescent Development* 131 (Spring 2011): 85-97.
- McLean, Kate C., Monisha Pasupathi, and Jennifer L. Pals. "Selves Creating Stories Creating Selves: A Process Model of Self-Development." *Personality and Social Psychology Review* 11, no. 3 (August 2007): 262-78.
- McLellan, M. Faith, and Anne Hudson Jones. "Why Literature and Medicine?" *The Lancet* 348 (1996): 109-11.
- Mele, Alfred R. "Self-Control in Action." In *The Oxford Handbook of The Self*, edited by Shaun Gallagher, 465-86. New York: Oxford University Press, 2013.
- Mendez, Mario, Eric Anderson, and Jill S. Shapira. "An Investigation of Moral Judgement [sic] in Frontotemporal Dementia." *Cognitive and Behavioral Neurology* 18, no. 4 (December 2005): 193-97.
- Menzies, Robin. "Propranolol Treatment of Traumatic Memories." *Advances in Psychiatric Treatment* 15 (2009): 159-60.
- _____. "Propranolol, Traumatic Memories, and Amnesia: A Study of 36 Cases." *The Journal of Clinical Psychiatry* 73, no. 1 (January 2012): 129-30.
- Meretoja, Hanna. "Narrative and Human Experience." *New Literary History* 45 (2014): 89-109.
- Messer, Neil. *Theological Neuroethics: Christian Ethics Meets the Science of the Human Brain*. New York: T&T. Clark, Bloomsbury, 2017.
- Metcalf, Janet. "Metamemory." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 197-211. New York: Oxford University Press, 2000.
- Metcalf, Janet, and David Wiebe. "Intuition in Insight and Noninsight Problem Solving." *Memory and Cognition* 15, no. 3 (1987): 238-46.
- Mikulincer, Mario. "Adult Attachment Style and Individual Differences in Functional versus Dysfunctional Experiences of Anger." *Journal of Personality and Social Psychology* 74 (1998): 513-24.
- Miller, Fred D. "Rationality and Freedom in Aristotle and Hayek." *Reason Papers* 9 (Winter 1983): 29-36.
- Mishler, Elliot G. "The Analysis of Interview-Narratives." In *Narrative Psychology: The Storied Nature of Human Conduct*, edited by Theodore R. Sarbin, 233-55. New York: Praeger Press, 1986.
- Mizumori, Sheri J. Y. "Context Prediction Analysis and Episodic Memory." *Frontiers in Behavioral Neuroscience* 7 (October 2013): 1-10.
- Moll, Jorge, Ricardo de Oliveira-Souza, and Paul J. Eslinger. "Morals and the Human Brain: A Working Model." *NeuroReport* 14, no. 3 (March 2003): 299-305.
- Moll, Jorge, Ricardo de Oliveira-Souza, Paul J. Eslinger, Ivanei E. Bramati, Janaína Mourão-Miranda, Pedro Angelo Andreiuolo, and Luiz Pessoa. "The Neural Correlates of Moral Sensitivity: A Functional Magnetic Resonance Imaging Investigation of Basic and

- Moral Emotions." *The Journal of Neuroscience* 22, no. 7 (April 2002): 2730-36.
- Moll, Jorge, Roland Zahn, Ricardo de Oliveira-Souza, Frank Krueger, and Jordan Grafman. "The Neural Basis of Human Moral Cognition." *Nature Reviews Neuroscience* 6 (October 2005): 799-809.
- Moll, Jorge, Ricardo de Oliveira-Souza, and Roland Zahn. "The Neural Basis of Moral Cognition: Sentiments, Concepts, and Values." *Annals of the New York Academy of Sciences* 1124 (March 2008): 161-80.
- Moore, Adam B., Brian A. Clark, and Michael J. Kane. "Who Shalt Not Kill? Individual Differences in Working Memory Capacity, Executive Control, and Moral Judgment." *Psychological Science* 19, no. 6 (2008): 549-57.
- Moosa, Imtiaz. "A Critical Examination of Scheler's Justification of the Existence of Values." *The Journal of Value Inquiry* 25, no. 1 (1991): 23-41.
- Morein-Zamir, Sharon, and Barbara J. Sahakian. "Pharmaceutical Cognitive Enhancement." In *The Oxford Handbook of Neuroethics*, edited by Judy Illes and Barbara J. Sahakian, 229-44. New York: Oxford University Press, 2011.
- Morton, Adam. "Epistemic Emotions." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 385-99. New York: Oxford University Press, 2010.
- Moynihan, Ray, and David Henry. "The Fight Against Disease Merging: Gathering Knowledge for Action." *PLoS Medicine* 3, no. 4 (2006): 425-28.
- Mullen, Mary K. "Earliest Recollections of Childhood: A Demographic Analysis." *Cognition* 52 (1994): 55-79.
- Müller, U. J., V. Sturm, J. Voges, H. J. Heinze, I. Galazky, M. Heldmann, H. Scheich, and B. Bogerts. "Successful Treatment of Chronic Resistant Alcoholism by Deep Brain Stimulation of Nucleus Accumbens: First Experience with Three Cases." *Pharmacopsychiatry* 42, no. 6 (November 2009): 288-91.
- Müller, Ulf J., Jürgen Voges, Johann Steiner, Imke Galazky, Hans-Jochen Heinze, Michaela Möller, Jared Pisapia, Casey Halpern, Arthur Caplan, Bernhard Bogerts, and Jens Kuhn. "Deep Brain Stimulation of the Nucleus Accumbens for the Treatment of Addiction." *Annals of the New York Academy of Sciences* 1282 (2013): 119-28.
- Murray, Thomas H. "What Do We Mean By 'Narrative Ethics'?" In *Stories and Their Limits: Narrative Approaches to Bioethics*, edited by Hilde Lindemann Nelson, 3-17. New York: Routledge, 1997.
- Neale, Joanne. *Drug Users in Society*. New York: Palgrave, 2002.
- Nelson, Hilde Lindemann, ed. *Stories and Their Limits: Narrative Approaches to Bioethics*. New York: Routledge, 1997.
- Nelson, Katherine. "Language and the Self: From the 'Experiencing I' to the 'Continuing Me.'" In *The Self in Time: Developmental Per-*

- spectives*, edited by Chris Moore and Karen Lemmon, 15-33. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers, 2001.
- Nelson, Katherine, and Robyn Fivush. "Socialization of Memory." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 283-95. New York: Oxford University Press, 2000.
- _____. "The Emergence of Autobiographical Memory: A Social Cultural Developmental Theory." *Psychological Review* 111, no. 2 (2004): 486-511.
- Newberg, Andrew B. *Principles of Neurotheology*. Routledge, 2010.
- Nichols, Shaun, and Ron Mallon. "Moral Dilemmas and Moral Rules." *Cognition* 100, no. 3 (2006): 530-42.
- Niedźwieńska, Agnieszka. "Metamemory Knowledge and the Accuracy of Flashbulb Memories." *Memory* 12, no. 5 (2004): 603-13.
- Nietzsche, Friedrich. *The Genealogy of Morals*. Translated by Horace B. Samuel. New York: Dover Publications, Inc., 2003.
- Nisbett, Richard E., and Yuri Miyamoto. "The Influence of Culture: Holistic versus Analytic Perception." *Trends in Cognitive Sciences* 9, no. 10 (October 2005): 467-73.
- Nobler, Mitchell S., and Harold A. Sackeim. "Neurobiological Correlates of the Cognitive Side Effects of Electroconvulsive Therapy." *Journal of ECT* 24, no. 1 (March 2008): 40-45.
- Northoff, Georg, Alexander Heinzl, Moritz de Greck, Felix Bermpohl, Henrik Dobrowolny, and Jaak Panksepp. "Self-Referential Processing in Our Brain—A Meta-Analysis of Imaging Studies on the Self." *NeuroImage* 31 (2006): 440-57.
- Nussbaum, Martha C. *Love's Knowledge: Essays on Philosophy and Literature*. New York: Oxford University Press, 1990.
- Nyberg, Lars, and Roberto Cabeza. "Brain Imaging of Memory." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 501-519. New York: Oxford University Press, 2000.
- Ogle, Christin M., David C. Rubin, and Ilene C. Siegler. "Changes in Neuroticism Following Trauma Exposure." *Journal of Personality* 82, no. 2 (April 2014): 93-102.
- O'Neill, Onora. "Kant: Rationality as Practical Reason." In *The Oxford Handbook of Rationality*, edited by Alfred R. Mele and Piers Rawling, 93-109. New York: Oxford University Press, 2004.
- Osman, Magda. "What are the Essential Cognitive Requirements for Prospection (Thinking About the Future)?" *Frontiers in Psychology* 5 (June 2014): 1-4.
- Østby, Ylva, Kristine B. Walhovd, Christian K. Tamnes, Håkon Grydeland, Lars Tjelta Westlye, and Anders M. Fjell. "Mental Time Travel and Default-Mode Network Functional Connectivity in the Developing Brain." *Proceedings of the National Academy of Sciences of the United States of America* 109, no. 42 (2012): 16800-04.
- Paharia, Neeru, Karim S. Kassam, Joshua D. Greene, and Max H. Bazerman. "Dirty Work, Clean Hands: The Moral Psychology of

- Indirect Agency." *Organizational Behavior and Human Decision Processes* 109, no. 2 (2009): 134-41.
- Parens, Erik. "The Ethics of Memory Blunting: Some Initial Thoughts." *Frontiers in Behavioral Neuroscience* 4 (December 2010): 1-2.
- Parsons, Talcott. "Definitions of Health and Disease in Light of American Values and Social Structures." In *Patients, Physicians and Illness*, edited by E. Gartley Jaco, 120-44. New York: Free Press, 1979.
- Pascal, Blaise. *Pensees*. Edited by Robert Maynard Hutchins. Vol. 33 of *Great Books of the Western World*. Chicago: Encyclopedia Britannica, 1952.
- Pasupathi, Monisha. "The Social Construction of the Personal Past and its Implications for Adult Development." *Psychological Bulletin* 127 (2001): 651-72.
- _____. "Silk from Sows' Ears: Collaborative Construction of Everyday Selves in Everyday Stories." In *Identity and Story: Creating Self in Narrative*, edited by Dan P. McAdams, Ruthellen Josselson, and Amia Lieblich, 129-50. Washington, DC: American Psychological Association, 2006.
- Pasupathi, M., E. Mansour, and J. R. Brubaker. "Developing a Life Story: Constructing Relations Between Self and Experience in Autobiographical Narratives." *Human Development* 50 (2007): 85-110.
- Pasupathi, Monisha, and Cecilia Wainryb. "Developing Moral Agency through Narrative." *Human Development* 53 (2010): 55-80.
- Paxton, Joseph M., and Joshua D. Greene. "Moral Reasoning: Hints and Allegations." *Topics in Cognitive Science* 2, no. 3 (July 2010): 511-27.
- Paxton, Joseph M., Leo Ungar, and Joshua D. Greene. "Reflection and Reasoning in Moral Judgment." *Cognitive Science* 36 (2012): 163-77.
- Petty, Richard E., and John T. Cacioppo. "The Elaboration Likelihood Model of Persuasion." *Advances in Experimental Social Psychology* 19 (1986): 123-205.
- Phelps, Elizabeth A., Kevin S. LaBar, Adam K. Anderson, Kevin J. O'Connor, Robert K. Fulbright, and Dennis D. Spencer. "Specifying the Contributions of the Human Amygdala to Emotional Memory: A Case Study." *Neurocase* 4, no. 6 (1998): 527-40.
- Philippe, Frederick L., Richard Koestner, Geneviève Beaulieu-Pelletier, and Serge Lecours. "The Role of Need Satisfaction as a Distinct and Basic Psychological Component of Autobiographical Memories: A Look at Well-Being." *Journal of Personality* 79, no. 5 (October 2011): 905-38.
- Philippe, Frederick L., Richard Koestner, Serge Lecours, Geneviève Beaulieu-Pelletier, and Katy Bois. "The Role of Autobiographical Memory Networks in the Experience of Negative Emotions: How

- Our Remembered Past Elicits Our Current Feelings." *Emotion* 11, no. 6 (2011): 1279-90.
- Pitman, Roger K., Kathy M. Sanders, Randall M. Zusman, Anna R. Healy, Farah Cheema, Natasha B. Lasko, Larry Cahill, and Scott P. Orr. "Pilot Study of Secondary Prevention of Posttraumatic Stress Disorder with Propranolol." *Biological Psychiatry* 51 (2002): 189-92.
- Pizarro, David A., and Paul Bloom. "The Intelligence of the Moral Intuitions: Comment on Haidt (2001)." *Psychological Review* 110, no. 1 (2003): 193-96.
- Pizarro, David A., Eric Uhlmann, and Paul Bloom. "Causal Deviance and the Attribution of Moral Responsibility." *Journal of Experimental Social Psychology* 39, no. 6 (2003): 653-60.
- Polkinghorne, Donald E. *Narrative Knowing and the Human Sciences*. New York: State University of New York Press, 1988.
- President's Council on Bioethics. *Beyond Therapy: Biotechnology and the Pursuit of Happiness*. New York: HarperCollins Publishers, 2003.
- Price, A. W. "Emotions in Plato and Aristotle." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 121-42. New York: Oxford University Press, 2010.
- Prinz, Jesse J. "The Moral Emotions." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 519-38. New York: Oxford University Press, 2010.
- Przegaliński, Edmund, Małgorzata Filip, Małgorzata Frankowska, Magdalena Zaniewska, and Iwona Papla. "Effects of CP 154,526, A CRF1 Receptor Antagonist, On Behavioral Responses to Cocaine in Rats." *Neuropeptides* 39, no. 5 (October 2005): 525-33.
- Qin, Pengmin, and Georg Northoff. "How is Our Self Related to Midline Regions and the Default-Mode Network?" *NeuroImage* 57, no. 3 (August 2011): 1221-33.
- Quartz, Steven R. "Reason, Emotion, and Decision Making: Risk and Reward Computation with Feeling." *Trends in Cognitive Sciences* 13, no. 5 (April 2009): 209-15.
- Racine, Eric, Aspler, John, eds. *Debates about Neuroethics: Perspectives on its Development, Focus, and Future*. New York: Springer, 2017.
- Racine, Eric. *Pragmatic Neuroethics: Improving Treatment and Understanding of the Mind-Brain*. Cambridge, MA: MIT Press, 2010.
- Raine, Adrian, and Yaling Yang. "Neural Foundations to Moral Reasoning and Antisocial Behavior." *Social Cognitive and Affective Neuroscience* 1, no. 3 (October 2006): 203-13.
- Rasmussen, Anne S., and Dorth Bersten. "Emotional Valence and the Functions of Autobiographical Memories: Positive and Negative Memories Serve Different Functions." *Memory & Cognition* 37, no. 4 (June 2009): 477-92.

- Ratcliffe, Matthew. "The Phenomenology of Mood and the Meaning of Life." In *The Oxford Handbook of Philosophy of Emotion*, edited by Peter Goldie, 349-71. New York: Oxford University Press, 2010.
- Rawls, John. "Kantian Constructivism in Moral Theory." *The Journal of Philosophy* 77, no. 9 (September 1980): 515-72.
- _____. *A Theory of Justice*. Rev. ed. Cambridge, MA: Harvard University Press, 1998.
- Reese, Elaine, Catherine A. Haden, and Robyn Fivush. "Mother-Child Conversations About the Past: Relationships of Style and Memory Over Time." *Cognitive Development* 8 (1993): 403-30.
- Reichel, Carmela M., Khaled Moussawi, Phong H. Do, Peter W. Kalivas, and Ronald E. See. "Chronic N-Acetylcysteine during Abstinence or Extinction after Cocaine Self-Administration Produces Enduring Reductions in Drug Seeking." *The Journal of Pharmacology and Experimental Therapeutics* 337, no. 2 (2011): 487-93.
- Reisenzein, Rainer. "Pleasure-Arousal Theory and the Intensity of Emotions." *Journal of Personality and Social Psychology* 67, no. 3 (1994): 525-39.
- Ricoeur, Paul. "L'histoire Comme Récit et Comme Pratique." *Espirit* 54, no. 6 (June 1981): 155-65.
- _____. *Time and Narrative*. Vols. 1-3. Translated by Kathleen McLaughlin and David Pellauer. Chicago: University of Chicago Press, 1984.
- _____. "L'identité Narrative." *Espirit* 7-8 (1988): 295-304.
- _____. "The Creativity of Language." In *A Ricoeur Reader: Reflection and Imagination*, edited by Mario Valéds, 463-81. New York: Harvester Wheatsheaf, 1991.
- _____. *Oneself as Another*. Translated by Kathleen Blamey. Chicago: The University of Chicago Press, 1992.
- Ritchey, Maureen, Florin Dolcos, and Roberto Cabeza. "Role of Amygdala Connectivity in the Persistence of Emotional Memories Over Time: An Event-Related fMRI Investigation." *Cerebral Cortex* 18 (November 2008): 2494-2504.
- Rizzo, Matthew, et al., eds. *The Wiley Handbook on the Ageing Mind and Brain*. Wiley-Blackwell, 2018.
- Roberts, Robert C. "Emotions and the Canons of Evaluation." In *The Oxford Handbook of Philosophy of Emotion*, ed. Peter Goldie, 561-83. New York: Oxford University Press, 2010.
- Robertson, Diana, John Snarey, Opal Ousley, Keith Harenski, F. Du-Bois Bowman, Rick Gilkey, and Clinton Kilts. "The Neural Processing of Moral Sensitivity to Issues of Justice and Care." *Neuropsychologia* 45 (2007): 755-66.
- Robinson, Terry E., and Kent C. Berridge. "Addiction." *Annual Review of Psychology* 54 (2003): 25-53.
- Rorty, Richard. *Philosophy and the Mirror of Nature*. Princeton, NJ: Princeton University Press, 1979.

- Rosenbaum, R. Shayna, Donald T. Stuss, Brian Levine, and Endel Tulving. "Theory of Mind is Independent of Episodic Memory." *Science* 23 (November 2007): 1257.
- Rousseau, Jean-Jacques. *Les Rêveries du Promeneur Solitaire*. In *Oeuvre Complètes*. Vols. 1-5. Paris: Gallimard, 1959.
- Rubin, David C. *Memory in Oral Traditions*. New York: Oxford University Press, 1995.
- Rubin, David C., Andriel Boals, and Rick H. Hoyle. "Narrative Centrality and Negative Affectivity: Independent and Interactive Contributors to Stress Reactions." *Journal of Experimental Psychology: General* 143, no. 3 (June 2014): 1159-70.
- Ryan, Erin. "The Discourse Beneath: Emotional Epistemology in Legal Deliberation and Negotiation." *Harvard Negotiation Law Review* 10, no. 231 (Spring 2005): 231-85.
- Samuelson, Paul A. *Foundations of Economic Choice*. Cambridge, MA: Harvard University Press, 1947.
- Sarbin, Theodore R. "The Poetics of My Identities." In *Narrative Identities: Psychologists Engaged in Self-Construction*, edited by George Yancy and Susan Hadley, 13-35. London: Jessica Kingsley Publishers, 2003.
- Sarlo, Michela, Lorella Lotto, Andrea Manfrinati, Rino Rumiati, Germano Gallicchio, and Daniela Palomba. "Temporal Dynamics of Cognitive-Emotional Interplay in Moral Decision-Making." *Journal of Cognitive Neuroscience* 24, no. 4 (March 2012): 1018-29.
- Sartre, Jean-Paul. *Nausea*. Translated by R. Baldick. London: Penguin Books, 1963.
- Schacter, Daniel L., Donna Rose Addis, and Randy L. Buckner. "Episodic Simulation of Future Events: Concepts, Data, and Applications." *Annals of the New York Academy of Sciences* 1124 (2008): 39-60.
- Schacter, Daniel L., Roland G. Benoit, Felipe De Brigard and Karl K. Szpunar. "Episodic Future Thinking and Episodic Counterfactual Thinking: Intersections Between Memory and Decisions." *Neurobiology of Learning and Memory* 117 (2015): 14-21.
- Schaefer, Alexandre, Claire L. Pottage, and Adam J. Rickart. "Electrophysiological Correlates of Remembering Emotional Pictures." *NeuroImage* 54, no. 1 (January 2011): 714-24.
- Schafer, Roy. *Language and Insight*. New Haven, CT: Yale University Press, 1978.
- Scheler, Max. *Formalism in Ethics and the Non-Formal Ethics of Values: A New Attempt toward the Foundation of an Ethical Personalism*. Translated by Manfred S. Frings and Roger L. Funk. Evanston, IL: Northwestern University Press, 1973.
- Schnall, Simone, Jennifer Benton, and Sophie Harvey. "With a Clean Conscience: Cleanliness Reduces the Severity of Moral Judgments." *Psychological Science* 19, no. 12 (December 2008): 1219-22.

- Schooler, Jonathan W., and Joseph Melcher. "The Ineffability of Insight." In *The Creative Cognition Approach*, edited by Steven M. Smith, Thomas B. Ward, and Ronald A. Finke, 97-133. Cambridge, MA: The MIT Press, 1995.
- Schooler, Jonathan W., Stellan Ohlsson, and Kevin Brooks. "Thoughts Beyond Words: When Language Overshadows Insight." *Journal of Experimental Psychology: General* 122, no. 2 (1993): 166-83.
- Schüpbach, M., M. Gargiulo, M. L. Welter, L. Mallet, C. Béhar, J. L. Houeto, D. Maltête, V. Mesnage, and Y. Agid. "Neurosurgery in Parkinson Disease: A Distressed Mind in a Repaired Body?" *Neurology* 66, no. 12 (June 2006): 1811-16.
- Scissons, Hannah. "Psychiatrist Studies Treatment for Traumatic Memories." *The StarPhoenix*. 27 January 2010.
- Scoboria, Alan, Jennifer M. Talarico, and Lisa Pascal. "Metamemory Appraisals in Autobiographical Event Recall." *Cognition* 136 (2015): 337-49.
- Sellnow, Deanna D. *The Rhetorical Power of Popular Culture: Considering Mediated Texts*. Thousand Oaks, CA: SAGE Publications, 2010.
- Semkovska, Maria, and Declan M. McLoughlin. "Measuring Retrograde Autobiographical Amnesia Following Electroconvulsive Therapy." *Journal of ECT* 29, no. 2 (June 2013): 127-33.
- Sharot, Tali, and Andrew P. Yonelinas. "Differential Time-Dependent Effects of Emotion on Recollective Experience and Memory for Contextual Information." *Cognition* 106 (2008): 538-47.
- Sharot, Tali, Mieke Verfaellie, Andrew P. Yonelinas. "How Emotion Strengthens the Recollective Experience: A Time-Dependent Hippocampal Process." *PLoS ONE* 2, no. 10 (2007): e1068.
- Sher, Leo. "Memory Creation and the Treatment of Psychiatric Disorders." *Medical Hypotheses* 54, no. 4 (2000): 628-29.
- Sherin, Jonathan E., and Charles B. Nemeroff. "Post-Traumatic Stress Disorder: The Neurobiological Impact of Psychological Trauma." *Dialogues in Clinical Neuroscience* 13 (2011): 263-78.
- Shoemaker, David. "Moral Responsibility and the Self." In *The Oxford Handbook of The Self*, edited by Shaun Gallagher, 487-518. New York: Oxford University Press, 2013.
- Simon, Herbert A. "A Behavioral Model of Rational Choice." *The Quarterly Journal of Economics* 69, no. 1 (February 1955): 99-118.
- Singer, Jefferson A. *Personality and Psychotherapy: Treating the Whole Person*. New York: Guilford Press, 2005.
- Singer, Jefferson A., Pavel Blagov, Meridith Berry, and Kathryn M. Oost. "Self-Defining Memories, Scripts, and the Life Story: Narrative Identity in Personality and Psychotherapy." *Journal of Personality* 81, no. 6 (December 2013): 569-82.
- Singer, Jefferson A., and Peter Salovey. *The Remembered Self: Emotion and Memory in Personality*. New York: Free Press, 1993.

- Singer, Peter. "Ethics and Intuitions." *Journal of Ethics* 9 (2005): 331-52.
- Slovic, Paul, Melissa Finucane, Ellen Peters, and Donald G. MacGregor. "The Affect Heuristic." In *Heuristics and Biases: The Psychology of Intuitive Judgment*, edited by Thomas Gilovich, Dale Griffin, and Daniel Kahneman, 397-420. New York: Cambridge University Press, 2002.
- Solomon, Robert C. *The Passions: Emotions and the Meaning of Life*. Cambridge, UK: Hackett Publishing Company, 1993.
- Solymosi, Tibor, Shook, John R., eds. *Neuroscience, Neurophilosophy and Pragmatism: Brains at Work with the World*. Palgrave MacMillan, 2014.
- Somers, Margaret R. "The Narrative Constitution of Identity: A Relational and Network Approach." *Theory and Society* 23 (1994): 605-49.
- Specht, Jule, Boris Egloff, and Stefan C. Schmukle. "Stability and Change of Personality Across the Life Course: The Impact of Age and Major Life Events on Mean-Level and Rank-Order Stability of the Big Five." *Journal of Personality and Social Psychology* 101, no. 4 (2011): 862-82.
- Specio, Sheila E., Sunmee Wee, Laura E. O'Dell, Benjamin Boutrel, Eric P. Zorrilla, and George F. Koob. "CRF1 Receptor Antagonists Attenuate Escalated Cocaine Self-Administration in Rats." *Psychopharmacology (Berl)* 196, no. 3 (February 2008): 473-82.
- St. Jacques, Peggy, David C. Rubin, Kevin S. LaBar, and Roberto Cabeza. "The Short and Long of It: Neural Correlates of Temporal-order Memory for Autobiographical Events." *Journal of Cognitive Neuroscience* 20, no. 7 (2008): 1327-41.
- Staudinger, Ursula M. "Life Reflection: A Social-Cognitive Analysis of Life Review." *Review of General Psychology* 5, no. 2 (June 2001): 148-60.
- Sternberg, Robert J., Fiske, Susan T. *Ethical Challenges in the Behavioral and Brain Sciences. Case Studies and Commentaries*. New York: Cambridge University Press, 2015.
- Strange, B. A., R. Hurlmann, and R. J. Dolan. "An Emotion-Induced Retrograde Amnesia in Humans is Amygdala- and β -Adrenergic-Dependent." *Proceedings of the National Academy of Sciences of the United States of America* 100, no. 23 (November 2003): 13626-31.
- Talarico, Jennifer M., Dorte Berntsen, and David C. Rubin. "Positive Emotions Enhance Recall of Peripheral Details." *Cognition and Emotion* 23, no. 2 (February 2009): 380-98.
- Tani, Franca, Carole Peterson, and Andrea Smorti. "Empathy and Autobiographical Memory: Are They Linked?" *The Journal of Genetic Psychology* 175, no. 3 (2014): 252-69.
- Taylor, Charles. *Philosophical Papers 1: Human Agency and Language*. Cambridge, UK: Cambridge University Press, 1985.

- _____. *The Ethics of Authenticity*. Cambridge, MA: Harvard University Press, 1991.
- _____. *Sources of the Self*. Cambridge, MA: Harvard University Press, 1992.
- Taylor, Shelley E., and Jonathon D. Brown. "Illusion and Well-Being: A Social Psychological Perspective on Mental Health." *Psychological Bulletin* 103, no. 2 (1988): 193-210.
- Terbeck, Sylvia, Guy Kahane, Sarah McTavish, Julian Savulescu, Neil Levy, Miles Hewstone, and Philip J. Cowen. "Beta Adrenergic Blockade Reduces Utilitarian Judgement [sic]." *Biological Psychology* 92 (2013): 323-28.
- Thomson, Judith Jarvis. "A Defense of Abortion." *Philosophy and Public Affairs* 1, no. 1 (1971): 67-95.
- Thorne, Avril. "Developmental Truths in Memories of Childhood and Adolescence." *Journal of Personality* 63, no. 2 (1995): 139-63.
- Thorne, Avril, and Kate C. McLean. "Telling Traumatic Events in Adolescence: A Study of Master Narrative Positioning." In *Connecting Culture and Memory: The Development of an Autobiographical Self*, edited by Robyn Fivush and Catherine A. Haden, 169-85. Mahwah, NJ: Lawrence Erlbaum Associates, 2003.
- Todorov, Alexander, and Ingrid R. Olson. "Robust Learning of Affective Trait Associations with Faces When the Hippocampus is Damaged, But Not When the Amygdala and Temporal Pole are Damaged." *Social Cognitive and Affective Neuroscience* 3, no. 3 (September 2008): 195-203.
- Tomlinson, Tom. "Perplexed about Narrative Ethics." In *Stories and Their Limits: Narrative Approaches to Bioethics*, edited by Hilde Lindemann Nelson, 123-33. New York: Routledge, 1997.
- Torrey, E. Fuller. *Evolving Brains, Emerging Gods. Early Humans and the Origins of Religion*. New York: Columbia University Press, 2017.
- Tromp, Shannon, Mary P. Koss, Aurelio Jose Figueredo, and Melinda Tharan. "Are Rape Memories Different? A Comparison of Rape, Other Unpleasant, and Pleasant Memories Among Employed Women." *Journal of Traumatic Stress* 8, no. 4 (October 1995): 607-27.
- Tulving, Endel. "Memory and Consciousness." *Canadian Psychology* 26 (1985): 1-12.
- Tusche, Anita, Jonathan Smallwood, Boris C. Bernhardt, and Tania Singer. "Classifying the Wandering Mind: Revealing the Affective Content of Thoughts During Task-Free Rest Periods." *NeuroImage* 97 (2014): 107-16.
- Unterrainer, Marcus, and Fuat S. Oduncu. "The Ethics of Deep Brain Stimulation (DBS)." *Medicine, Health Care and Philosophy* [Epub ahead of print] (January 2015): 1-11.
- Valdesolo, Piercarlo, and David DeSteno. "Moral Hypocrisy: Social Groups and the Flexibility of Virtue." *Psychological Science* 18, no. 8 (2007): 689-90.

- van Steenburgh, J. Jason, Jessica I. Fleck, Mark Beeman, and John Kounios. "Insight." In *The Oxford Handbook of Thinking and Reasoning*, edited by Keith J. Holyoak and Robert G. Morrison, 475-91. New York: Oxford University Press, 2012.
- van Stegeren, Anda H., Walter Everaerd, and Louis J. Gooren. "The Effect of Beta-Adrenergic Blockade after Encoding on Memory of an Emotional Event." *Psychopharmacology* 163, no. 2 (September 2002): 202-12.
- Van Strien, Jan W., Sandra J. E. Langeslag, Nadja J. Strekalova, Liselotte Gootjes, and Ingmar H. A. Franken. "Valence Interacts with the Early ERP Old/New Effect and Arousal with the Sustained ERP Old/New Effect for Affective Pictures." *Brain Research* 1251 (2009): 223-35.
- von Herder, Johann Gottfried. *Ideen*. In *Herders Sämtliche Werke*, edited by Bernhard Suphan. Vols. I-XV. Berlin: Weidmann, 1877-1913.
- Walker, Margaret Urban. *Moral Understandings: A Feminist Study of Ethics*. New York: Routledge, 1998.
- Weiner, Richard D., Helen J. Rogers, Jonathan R. T. Davidson, and Larry R. Squire. "Effects of Stimulus Parameters on Cognitive Side Effects." *Annals of the New York Academy of Sciences* 462 (March 1986): 315-25.
- Wheeler, Mark A. "Episodic Memory and Auto-noetic Awareness." In *The Oxford Handbook of Memory*, edited by Endel Tulving and Fergus I. M. Craik, 597-608. New York: Oxford University Press, 2000.
- Wild, T. Cameron, Jody Wolfe, and Elaine Hyshka. "Consent and Coercion in Addiction Treatment." In *Addiction Neuroethics: The Ethics of Addiction Neuroscience Research and Treatment*, edited by Adrian Carter, Wayne Hall, and Judy Illes, 153-74. San Diego: Academic Press, 2012.
- Williams, Bernard. "A Critique of Utilitarianism." In *Utilitarianism: For and Against*, edited by J. J. C. Smart and Bernard Williams, 77-150. New York: Cambridge University Press, 1973.
- Williams, J. Mark G., Thorsten Barnhofer, Catherine Crane, Dirk Hermans, Filip Raes, Ed Watkins, and Tim Dalgleish. "Autobiographical Memory Specificity and Emotional Disorder." *Psychological Bulletin* 133, no. 1 (January 2007): 122-48.
- Witt, Karsten, Jens Kuhn, Lars Timmermann, Mateusz Zurowski and Christiane Woopen. "Deep Brain Stimulation and the Search for Identity." *Neuroethics* 6 (2013): 499-511.
- Wittgenstein, Ludwig. *Tractatus Logico-Philosophicus*. New York: Cosimo, Inc., 2007.
- Wolfe, Charles T., ed. *Brain Theory: Essays in Critical Neurophilosophy*. Palgrave MacMillan, 2014.
- Wu, Yanhong, Cheng Wang, Xi He, Lihua Mao, and Li Zhang. "Religious Beliefs Influence Neural Substrates of Self-Reflection in Tibetans." *Social Cognitive and Affective Neuroscience* 5, nos. 2-3 (June/September 2010): 324-31.

- Yeung, Cecilia Au, Tim Dalgleish, Ann-Marie Golden, and Patricia Schartau. "Reduced Specificity of Autobiographical Memories Following a Negative Mood Induction." *Behaviour Research and Therapy* 44, no. 10 (November 2006): 1481-90.
- Yoder, Keith J., and Jean Decety. "Spatiotemporal Neural Dynamics of Moral Judgment: A High-Density ERP Study." *Neuropsychologia* 60 (July 2014): 39-45.
- Yonelinas, Andrew P., and Maureen Ritchey. "The Slow Forgetting of Emotional Episodic Memories: An Emotional Binding Account." *Trends in Cognitive Neuroscience* 19, no. 5 (May 2015): 259-67.
- Zhou, Hongyu, Jiwen Xu, and Jiyao Jiang. "Deep Brain Stimulation of the Nucleus Accumbens on Heroin-Seeking Behaviors: A Case Report." *Biological Psychiatry* 69, no. 11 (2011): e41-42.
- Zhou, Qing, Nancy Eisenberg, Sandra H. Losoya, Richard A. Fabes, Mark Reiser, Ivanna K. Guthrie, Bridget C. Murphy, Amanda J. Cumberland and Stephanie A. Shepard. "The Relations of Parental Warmth and Positive Expressiveness to Children's Empathy-Related Responding and Social Functioning: A Longitudinal Study." *Child Development* 73, no. 3 (May/June 2002): 893-915.

INDEX

An 'n' following a page number indicates an endnote.

A

- abstract thoughts, 130, 194
- ACC (anterior cingulate cortex), 18, 131
- accountability, 220. *see also* responsibility
- addiction. *see* substance addiction; 12-step recovery programs
- Addis, Donna, and colleagues, 63–66
- ADHD (attention deficit hyperactivity disorder), 30, 31
- Adler, Alfred, 168
- adrenaline, 8
- affective degeneration. *see* emotional rationality
- affective foresight, 79–82
- After Virtue* (MacIntyre), 188
- agency, narrative, 196. *see also* autonomy; moral agency; self-agency
- “aha” phenomenon, 144
- alcoholism, 15, 20, 21, 22, 33, 39n51. *see also* substance addiction
- altruism, 160n93
- American culture, 178–179, 195, 212–213
- amnesia, 9, 10, 20, 21, 65, 74, 89
- amygdala
 - emotionally rational moral intuition and, 130–131
 - emotions and, 8, 67, 69, 70, 82–83
 - episodic memory and, 69, 70
 - ethical decision making and, 82–83, 84
 - moral cognition and, 141
 - moral emotion and, 114
 - negative contexts and, 71
 - post-traumatic stress disorder and, 18, 19
 - protected values and, 192
 - substance addiction and, 24, 25
- anger
 - autobiographical narrative and, 72
 - body and, 108
 - emotional rationality and, 146
 - moral agency and, 134
 - motivation and, 116
 - narrative goals and, 209–210
 - practical reason and, 146
 - rational evaluative judgment and, 126
 - risk-seeking and, 133
 - shame and, 108
 - trauma and, 17

- angular gyrus, 55
 Angus, Lynne, 77
 anterior cingulate cortex (ACC), 18, 131
 anterior temporal cortex, 131, 132
 anterior temporal lobes, 193
 Arendt, Hannah, 172
 Aristotle, 108–109, 110, 146, 173, 174, 204, 215–216
 Arras, John, 185–186, 228nn99,103
 association cortices, 83, 194
 attachments, 73, 176, 210, 211. *see also* parents
 attention, 114, 153
 attention deficit hyperactivity disorder (ADHD), 30, 31
 authenticity, 64, 65–66, 157n29, 204, 207, 211–215, 219, 223, 238
 autobiographical (episodic) memory. *see also* affective foresight; casuistry (case-based moral reasoning); coherence; integration; narrative identity; the self
 authenticity and, 64, 65–66, 157n29, 207, 219, 223, 238
 autozoetic awareness and, 49
 centrality of, 76–78
 children and, 56–57
 electroconvulsive therapy and, 11–12
 emotions and, 57, 66–78, 82–85, 92, 98n98
 erasure of, 2, 4n4
 ethical decision making and, 78–91, 78–92, 85–88, 92
 historical views of, 48–49, 61–63
 imaging and socialization of, 54–57
 imprecision of, 200–201
 limited-use memory manipulation and, 36
 memory manipulation and, 2, 4n4, 7–8, 92, 209
 meta-memory and rational prospection of, 63–66, 91–92
 moral judgment and, 48–53, 59, 83–84, 91, 92, 176
 narrative identity and, 179–188
 narrative of emotion and, 66–78
 neurobiology and, 48–49, 50, 53–54, 54–55, 66–67, 69, 79, 82, 94n28, 194
 ontology of, 57–60
 phenomenology and, 61–63
 prospective thinking and, 65–66
 rationality and, 53–66, 61–63, 91–92
 responsibility and, 58–59
 selective loss of, 50
 self and, 48
 semantic memory *versus*, 11
 social and cultural mediation of, 48, 55–60, 200–201, 205
 stories and, 199–200
 subjectivity of, 214–215
 temporal understanding and, 59
 autobiographical prospection, 88–91
 autozoetic awareness, 49–50, 51
 autonomy. *see also* control; desires; free will; goals; moral agency; self-control
 growth and, 48
 limited-use memory manipulation and, 240–242
 myth of global loss of, 32, 36
 narrative self-control and, 215
 reasons and, 203–204
 respect for, 187

substance addiction and,
22–23, 27–29, 32–35, 34
autoregulation, 81

B

Balfour, David, 33–34
Bartlett, Francis, 55
basal forebrain, 83, 131
basolateral limbic circuit,
98n98
Baumeister, Roy, and col-
leagues, 63
Bechara, Antoine, and col-
leagues, 82
behavioral approaches, 77–
78
behavioral economics, 108
being in the world, 171–172
beliefs, 64–65, 112, 113, 118,
151, 152, 154–155
Benabid, Alim-Louis, and
colleagues, 15
Benjamin, Walter, 186
Benoit, Roland, and col-
leagues, 79–80
Benveniste, Emile, 196–197
Berns, Gregory, 192
Berntsen, Dorthe, 70
beta-adrenergic receptor-
blocking pharmacologi-
cals, 8–10, 17, 35, 36
Billings Jr., F. James, 12
biomedicalization, 29–30,
29–31, 36
bioregulatory states, 142
bipolar disorder, 29–30
Bloom, Paul, 148
Bluck, Susan, and colleagues,
73
the body, 108, 121, 133–134,
142–144, 194, 221. *see also*
motor activity
body-loop, 142–143
Boritz, Tali, and colleagues,
76
brain-stem nuclei, 83
Brentano, Franz, 124
Brody, Eugene, 169
Brody, Howard, 170

Bruner, Jerome, 172, 178
Bryant, Richard, 21

C

Cacioppo, Stephanie, 129
Cahill, Larry, and colleagues,
9, 69
Camille, Nathalie, and col-
leagues, 90–91
care, 84–85
Carruthers, Mary, 56
Carter, Adrian, 17, 22
Carter, Sid, 133–134
casuistry (case-based moral
reasoning), 52–53, 168,
183–184, 227nn84,86,
228n103
categorization, 55, 79, 141,
142
caudate, 88
CDZs (convergence-
divergence zones), 194
centro-parietal area, 70
change, 62–63, 77, 130–131,
177
character, 187–188, 204. *see*
also personality
Charland, Louis, 28
Charon, Rita, 185–186
children, 56–57, 95n44, 139,
210, 228n107. *see also* par-
ents
Childress, James, 186
choice. *see* autonomy; ethical
decision making; rational
theory of choice
Christian story, 232n202
cingulate cortex, 18, 48–49,
80, 83, 84, 85, 128
cingulate gyrus, 66–67
circuit remodeling (mye-
lination patterns), 19
class, social, 170, 201
Clifasefi, Seema, and col-
leagues, 13–14, 39n51
clinical bioethics, 168
clinical reasoning, 168–171
cocaine addiction, 33. *see*
also substance addiction

codification of new diseases, 31–32
 cognition. *see* being in the world; insight; knowledge; morality and moral judgment; neurobiology; rationality (reason)
 cognitive reflection test (CRT), 149
 coherence, 178, 179, 189–190, 209, 216–217, 226n61
 Cohler, Bertram, 170
 commitment, 126–127
 community narratives, 196
 compassion, 140
 conceptual narrative, 180, 182
 conscience, 176, 207–208
 consciousness, 143, 173, 199. *see also* auto-noetic awareness; introspection; noetic consciousness; self-reflection; subjectivity
 consistency, 153, 154
 consolidation and reconsolidation, 67
 contexts. *see also* social and cultural mediation
 consistency and, 153
 emotions and, 68, 69, 70–72
 limited-use memory manipulation and, 36
 narrative identity and, 72, 170, 177, 190–191, 204–205
 neurobiology and, 69, 88–89
 post-traumatic stress disorder and, 18, 19
 control, 134, 204. *see also* autonomy; self-control
 convergence-divergence zones (CDZs), 194
 conversation, 173
 Coricelli, Giorgio, and colleagues, 91
 cortices, 94n4, 141, 142, 193
 corticotropin-releasing factor (CRF), 25–26
 cortisol, 18

counterfactual reflection, 88–89, 91
 court witnesses, 92n1
 CRF (corticotropin-releasing factor), 25–26
 crime, 20–22
 CRT (cognitive reflection test), 149
 cultural narratives, 222, 239. *see also* American culture; narratives, Christian; social and cultural mediation
 curiosity, 117–118

D

Damasio, Antonio, 132, 147, 199
 D'Argembeau and colleagues, 54–55, 94n33
 DBS (deep brain stimulation), 7, 14–16, 35, 36, 40n63
 De Brigard, Felipe, 89
 Decety, Jean, 129
 declarative memory, 18, 19, 73
 deduction, 151
 deep brain stimulation (DBS), 7, 14–16, 35, 36, 40n63
 default mode network, 193–194
 deliberation, 123–124
 denial, 217
 Dennett, Daniel, 215
 depression, 29–30, 31, 72, 76–77, 89, 217
 Descartes, René, 63–64, 212, 216
 desires, 28–29, 32–34, 33, 108, 113, 116, 126. *see also* autonomy; goals
 diagnoses. *see* biomedicalization
 Dilthey, Wilhelm, 60
 diseases, codification of new, 31–32
 disgust, 134
 “disorder of choice,” 34

dissociation, 217
 distancing, 123–124
 Disulfiram, 13
Doctor's Stories (Hunter), 170
 dopamine, 23–24, 25–26, 34–35, 112
 Dostoyevsky, Fyodor, 138, 217
 drug aversion therapies, 12–13
 dual process theory, 148
 Duncker, Karl, 149–150

E

earliest memories, 95n44
 East Asian traditions, 195
 Ebbinghaus, Hermann, 61
 economic models, 152–153
 economic value, 87–88
 ECT (electroconvulsive therapy), 2, 7, 10–12, 35, 36, 38n31
 education, moral, 109, 183–185. *see also* learning
 ego depletion, 35
 ego identity, 177–178
 electric shock (negative stimulus pairing), 39n43
 electroconvulsive therapy (ECT), 2, 7, 10–12, 35, 36, 38n31
 electrostimulants, 36
 electrotherapies, 14–15
 Elliot, Carl, 28
 emotion, narrative of, 66–72
 emotional rationality. *see also* emotions; knowledge; motivation, moral; narrative identity; rationality
 autobiographical memory and, 85–88
 ethical decision making and, 78–79, 88–91, 107–114, 141–156
 evaluative judgment and, 114–127
 the good and, 137, 146
 memory manipulation and, 92, 207
 morality and, 127–140, 155
 narrative identity and, 179–188
 neurobiology and, 128–132
 rational affective awareness and, 122–124
 emotions. *see also* affective foresight; altruism; depression; emotional rationality; empathic intentionality; feelings; mood; propranolol and other treatments
 adrenaline and, 8
 amygdala and, 69, 70
 Aristotle on, 108–109
 autobiographical memory and, 57, 66–78, 82–85, 92, 98n98
 autobiographical moral thought and, 82–85
 described, 114–117
 judgment and, 68
 judgment and decision making and, 111–112
 meaning and, 121–122
 memory manipulation and, 2, 211
 moral, 114, 157n27
 neurobiology and, 69–71, 82, 194
 punishment and, 160n94
 subjectivity and, 157n29
 subthalamic nucleus and, 16
 traumatic events and, 78
 empathic intentionality, 73–76, 92, 139
 empathy, 131
 Engelhardt, H. Tristram, 184, 185, 188
 Epictetus, 138
 episodic memory. *see* autobiographical (episodic) memory
 Erikson, Erik, 177–178
 ethical decision making, xvii–xix, 150, 151, 154–156, 218–222. *see also* autobiographical (episodic) memory; emotional rationality;

judgment and decision making; morality and moral judgment; normative ethical decision making (NEDM); reasons, moral ethics as propositions, 183
 event-related potentials (ERPs), 70
 event-related potential (ERP) signals, 129–130, 160n104

F

facial muscles, 134
 fairness, 186
 false memory creation (FMC), 7, 12–14, 29, 35, 36
 familiarity, 80, 122. *see also* recognition memory
 fantasy, 74
 FDA (Food and Drug Administration), 30
 fear
 behavior and, 116
 the body and, 108
 empathy and, 74
 extinction of, 18, 19, 24–25
 Heidegger on, 121–122
 intention and, 121
 irrational, 120
 narrative and, 159
 neurobiology and, 8, 112
 post-traumatic stress disorder and, 17
 practical reason and, 146
 primary inducers and, 83
 without propositional content, 112
 risk and, 113
 value judgments and, 133
 feedback, 81
 feeling perception, 83
 feelings, 116, 120–121, 124–125, 127, 212. *see also* emotions; moral emotion
 fiction, 180
 Fingarette, Herbert, 33
 Fisher, Walter, 179, 180, 226n66
 Fivush, Robyn, 63

flashbulb memories, 72
 FMC (false memory creation), 7, 12–14, 29, 35, 36
 Food and Drug Administration (FDA), 30
 forebrain, 23
 forecasting, 153–154
 forgetting, deliberate, 1–4
Formalism in Ethics and the Non-Formal Ethics of Values (Scheler), 124
 fornix, 66–67
Foundations of Bioethics (Engelhardt), 188
 FPC (frontopolar cortex), 131
 Frankfurt, Harry, 28
 Fraser, Louise, and colleagues, 11
 freedom, 212–213, 214, 216, 241–242. *see also* independence *versus* interdependence
 free will, 27, 127. *see also* autonomy
 Freud, Sigmund, 10, 168, 208
 frontal brain areas, 18, 35, 55, 70, 79, 129, 192
 frontopolar cortex (FPC), 131
 frontotemporal dementia (FTD), 132
 FTD (frontotemporal dementia), 132
Fundamental Principles for the Metaphysics of Morals (Kant), 187
 the future. *see also* autobiographical prospection; autonomy; goals; imagination; narrative identity (life stories); planning; prediction; redemption
 medial left pre-frontal parietal and, 65
 memory manipulation and, 211
 negative events and, 72
 objectivity and, 136
 practical reason and, 146, 155
 the present and, 219

self-consciousness and,
203

G

GABA (gamma-aminobutyric acid), 18, 25
 Gadamer, Hans-Georg, 172
 Gage, Phineas, 147
 gambling experiments, 82, 90–91
 gamma-aminobutyric acid (GABA), 18, 25
 gender, 57, 60, 87, 170, 201
Genealogy of Morals (Nietzsche), 207–208
 gene expression, 19
 generativity, 60, 202
 Gestalt psychology, 145, 149
 Giovanello, Kelly, 89
 Glimcher, Paul, 111
 glucocorticoids, 11, 19
 glutamate hypothesis, 24–25
 glutamate transporter 1 (GLT1), 24–25
 Goillard, Jean-Marc, 81
 goals. *see also* autonomy; desires; prospection, rational
 Aristotle on, 109
 autobiographical memory and, 48
 deliberation and, 123
 emotional memory and, 76
 emotional rationality and, 151
 growth and, 216
 memory manipulation and, 209–210
 neurobiology and, 23, 81
 Plato on, 109
 prospective thinking and, 66
 redemption and, 202
 subthalamic nucleus and, 16
 the good. *see also* values
 emotions and, 127
 guilt and, 135
 intention and, 139

knowledge and, 109
 memory manipulation and, xix, 155, 211, 218, 222, 223, 237, 238, 239, 240, 242
 narrative identity and, 177, 181–182, 201–202, 220–222
 neurobiology and, 129, 143, 174
 sociocultural context and, 124, 135, 174, 181–182, 184–185, 201–202, 238
 tradition and, 206
 Greenberg, Leslie, 77
 Greene, Joshua, 148
 Greene, Joshua, and colleagues, 128, 148
 Gregg, Gary, 170
 grief, 137
 growth, personal, 48, 76, 216–218, 223
 guess responses, 52–53
 Gui, Dan-Yang, and colleagues, 129, 130
 guilt, 131, 134–136, 140, 207–208, 210–211, 217

H

Haidt, Jonathan, 128, 147, 148
 Hall, Wayne, 17, 22
 Han, Sanghoon, and colleagues, 88–89
 happiness, 110, 154, 208, 209–210, 211. *see also* well-being
 harm-doing, 175
 Harris, Richard, and colleagues, 73
 Hart, J.T., 64
 Hartmann, Nicolai, 124–125
 Hauser, Marc, 130
 Hawkins, Anne Hunsaker, 170
 Heidegger, Martin, 121–123, 158n54, 172, 203–207
 Hemmer, Pernille, 55
 Henry, Michael, and colleagues, 20, 22

Herder, Johann Gottfried von, 212–213
 Hermans, Hubert, 170
 hermeneutic approach, 171–173, 177, 209
 Heyman, Gene, 33–34
 Higgins, Stephen, and colleagues, 33
 Hillman, James, 169
 hippocampal formation, 66–67, 79
 hippocampus. *see also* parahippocampal gyrus
 autobiographical memory and, 79
 emotion and memory and, 69, 70, 131
 episodic memory and, 48–49, 82
 post-traumatic stress disorder and, 18, 19
 regret and, 91
 historical accounts, 16, 59, 239. *see also* narrative identity; tradition
 history, 180, 182, 206
 homeostatic neural plasticity, 81–82
 Homer, 2
 HPA (hypothalamic pituitary axis), 25
 Hume, David, 112, 137–138
 Hunter, Kathryn Montgomery, 168–169, 170
 Husserl, Edmund, 124, 125, 173
 Hyman, Ira, 12
 hypnopsychological memory editing, 36
 hypocrisy, 148
 hypothalamic pituitary axis (HPA), 25
 hypothalamus, 83

I

the “I,” 196, 197, 216. *see also* narrative identity (life stories); the self
 identity. *see* ego identity; narrative identity (life stories); self; subjective identity
 identity as sameness *versus* as self, 180
The Illness Narratives (Kleinman), 170
 images, 141, 142, 153, 156, 194
 imagination, 63–64, 74–75, 89, 108, 198–199. *see also* affective foresight; autobiographical prospection; fantasy; the future; self-reflection; storytelling
 incentives, perverse, 21
 incest taboo, 149
 independence *versus* interdependence, 195
 individualism, 212
 inferior frontal gyrus, 55
 inferior parietal lobes, 193
 informed consent, 31–32
 inner voice, 213
 insight, 144–145
 insula, 18, 112
 integration, 194, 199–200, 204, 209, 216–217, 223
 memory manipulation and, 210–211, 223
 intention. *see also* empathic intentionality; goals; motivation, moral; planning to forget, 208
 morality and, 138–139, 140, 151
 narrative identity and, 201, 219
 rational emotion and, 122, 124, 151
 self-control and, 215
 introspection, 51. *see also* consciousness; self-reflection
 intuitions, moral, 148, 151–152
 Iranians, 195
 item memory, 50, 68

J

- James, William, 49, 126
 JDM (judgment and decision making), 111–112
 Jones, Anne Hudson, 170
 Jones, Gregory, 85–87
 Jonsen, Albert, 183–184, 186, 227n84
 Josselson, Ruthellen, 170
 joy, 147
 judgment, evaluative. *see also* judgment and decision making; knowledge; morality and moral judgment
 autobiographical memory and, 47–50
 cognition and, 132–133
 competing, 148–149
 emotional rationality and, 124–127, 137–148, 155
 emotions and, 68, 121
 narrative and, 188–191
 neurobiology and, 67, 131
 practical reason and, 147
 rationality and, 137
 judgment and decision making (JDM), 111–112
 Jung, Carl, 168
 justice, 84–85, 134–137, 160n94, 175

K

- Kant, Immanuel, 127, 135, 136, 173, 187
 Kaplan, Jonas T., and colleagues, 193, 194–195
 Kennett, Jeanette, 215
 Kiefer, Markus, and colleagues, 70
 Klein, Stanley, and colleagues, 65
 Kleinman, Arthur, 170
 knowledge. *see also* affective foresight; categorization; judgment, evaluative; rationality (reason); self-knowledge; self-reflection
 background, 151–152, 156

- described, 51–53
 ethical decision making and, 141
 memory judgments *versus*, 104n202
 moral judgment and, 52–53
 Plato on, 109–110
 rational emotion and, 117–120
 self-reflection and, 63–64
 Kochanska, Grazyna, 176
 Koenigs, Michael, and colleagues, 132
 Korsgaard, Christine, 203, 204
 Kroes, Marijn, and colleagues, 11
 Kuhn, Jens, and colleagues, 15

L

- Lambie, John, 122–123
 language, 192, 196–197, 205, 213
 late positive potential (LPP), 130, 131
 lateral inferior parietal cortices, 194
 learning, 19, 142, 183. *see also* education, moral
 Leshner, Alan, 28
 Levy, Dino, 111
 life review *versus* reminiscence, 62
 life stories. *see* autobiographical (episodic) memory; narrative identity
 life-world (Husserl), 173
 limbic system, 66–67, 84, 131. *see also* amygdala and other structures
 Locke, John, 204, 207, 212
 Lombardo, Michael, and colleagues, 74
 Lotus-eaters, 2
 love, 137
 LPP (late positive potential), 130, 131

LUMM (limited-use memory manipulation), 7, 16, 36, 237–243. *see also* PTSD (post-traumatic stress disorder); substance addiction
 Lyubomirsky, Sonja, and colleagues, 63

M

MacIntyre, Alasdair, 184–185, 187–188, 208–209
 Mallon, Ron, 148
 mammillary bodies, 66–67
 mammillothalamic tract, 66–67
 Marder, Eve, 81
 Martin, Maryanne, 85–87
 Masten, Carrie, and colleagues, 75
 master narratives, 60, 95n54
 Mathur, Vani, and colleagues, 75
 McAdams, Dan, 168–169
 McCormick, Richard, 238–239, 240–242
 McLean, Kate C., 60, 95n54
 meaning. *see also* redemption
 emotions and, 121–122
 memory manipulation and, 209, 211
 narrative identity and, 77, 171, 172, 173, 177–178, 207, 208–209
 narrative integration and, 200
 neurobiology and, 174, 194–195
 others and, 214–215
 medial frontal gyrus, 131
 medicine, 168–171
 mediodorsal nucleus, 98n98
 medial temporal lobe (MTL), 50, 69–70
 Melcher, Joseph, 145
 memory. *see* autobiographical (episodic) memory; item memory; propranolol; recognition memory
 memory consolidation and reconsolidation, 67
 memory manipulation. *see also* autobiographical (episodic) memory; ethical decision making; false memory creation (FMC) *and other manipulations*; the good; memory manipulation, limited-use (LUMM); narrative identity (life stories); neurobiology; neuroscience
 argument against, vii–xix, 1–4
 effects of, 4n3
 enhancement and, 4n3, 5n10, 7, 10, 21
 proportionate reason and, 237–243
 terminology and, 3–4, 4n2
 memory manipulation, limited-use (LUMM), 7, 16, 36, 237–243. *see also* PTSD (post-traumatic stress disorder); substance addiction
 Menzies, Robin, 9
 meta-memory, 63–66
 metanarrative, 181, 182
 metaontological narratives, 180
 Metcalfe, Janet, 145
 methylphenidate, 31
 midbrain, 131
 middle temporal gyrus, 55, 88
 Mikulincer, Mario, 210
 mimesis, 173
 minorities, 201
 Mishler, Elliot, 178
 Mizumori, Sheri, 81
 Mohamed, 138
 moods, 71, 121–122. *see also* emotions
 Moore, Adam, and colleagues, 148

- moral agency, 134, 175–176, 177, 197–198, 207, 223. *see also* agency, narrative; autonomy
 moral emotion, 114, 157n27
 moral failure, 175
 moral identity, 175–176, 206–207
 moral intuition, 128–131, 212
 morality and moral judgment. *see also* casuistry; conscience; ethical decision making; the good; judgment, evaluative; judgment and decision making; knowledge; motivation, moral; principles and rules; reasons, moral; redemption; responsibility; rules and principles; values
 Aristotle on, 110
 autobiographical memory and, 59, 83–84, 91, 176
 contexts and, 219
 development of, 175–179, 183–185, 228n107
 emotional rationality and, 127–140, 155
 episodic memory and, 48–53
 exceptionless, 238
 factual character of, 222
 memory manipulation and, 242
 modern denial of, 222
 narrative identity and, 175–179, 183–185, 201–202, 222, 228n99, 242–243
 neurobiology and, 82, 83–85, 128–132
 personal identity and, 204
 rational emotion and, 118–119
 substance addiction and, 34
 unity and, 220–221
 morphine-induced place preference, 40n63
 “most valued object,” 87–88
 motivation, moral, 66–67, 116, 125–126, 137–140, 178, 210. *see also* intention; reasons, moral
 motor activity, 25, 34, 49, 141, 142, 194
 MTL (medial temporal lobe), 50, 69–70
 Mullen, Mary, 95n44
 Müller, Ulf, and colleagues, 15
 Murray, Henry, 168
 Murray, Thomas, 188
 myelination patterns (circuit remodeling), 19
- ## N
- NAC (N-acetylcysteine), 24–25, 43n113
 NAc (nucleus accumbens), 15, 23, 24–25, 34, 40n63
 narrative as images, 141
Narrative Based Medicine (Greenhalgh and Hurwitz), 170
 narrative identity. *see also* subjective identity
 relationships and, 221–222, 223
 narrative identity (life stories). *see also* affective foresight; autobiographical (episodic) memory; coherence; emotional rationality; self-deception; storytelling; truth
 authenticity and, 217
 autobiographical memory and, 57–58
 autobiographical memory and emotional rationality and, 179–191, 222, 226n66
 autonomy and, 241–242
 case-based moral reasoning and, 228n103
 defined, 176–177
 faulty, 202

- limited-use memory manipulation and, 239–240, 241–242
 memory manipulation and, 207–223
 morality and, 175–179, 183–185, 201–202, 222, 228n99, 242–243
 ontology of, 171–174
 social and cultural mediation and, 173, 177, 178, 182, 191–192, 198–199, 201–202, 223
 theories of, 167–171, 177–178, 199–202
 unpredictability of, 191–207, 219–220, 222–223
 narratives, Christian, 232n202
 narratives, community, 196, 222
 narrative self, 195–199
 narrative theory, 196
 narrative therapies, 77
 natural reinforcers, 27
 Neale, Joanne, 33
 NEDM (normative ethical decision making), 151
 negative stimulus pairing, 12, 39nn43,44
 Nelson, Hilde Lindemann, 170
 Nelson, Katherine, 57–58
 nervous system, 173
 neurobiology. *see also* dopamine *and other substances*; electroconvulsive therapy (ECT) *and other treatments*; neuroscience; PFC (prefrontal cortex) *and other brain structures*
 affective foresight and, 79–81, 82
 autobiographical (episodic) memory and, 48–49, 50, 53–54, 54–55, 66–67, 69, 79, 82, 94n28, 98n98, 194
 autobiographical prospection and, 88–89
 context memory and, 88–89
 cultural values and, 192–195
 emotionally rational choice and, 88–89, 110–114, 128–132
 emotionally rational moral intuition and, 128
 emotions and, 69–71, 82, 194
 empathic intentionality and, 74–76
 ethical decision making and, 82, 141–145, 145–146
 insight and, 144–145
 language and, 145–146, 192
 meaning and, 174, 194–195
 moral intuition and, 128–131
 moral judgment and, 82, 83–85
 narrative identity and, 173–174, 192–193
 the past and, 65
 post-traumatic stress disorder and, 18–19
 propranolol and, 8–9
 regret and, 90–91
 substance addiction and, 23–26, 34–35
 neuroendocrine system, 134
 neuropeptides, 18, 19, 25
 neuroplasticity, 19
 neuroscience, xviii, 3, 35–36. *see also* electroconvulsive therapy (ECT) *and other therapies*; neurobiology; neuroticism, 78, 208
 neurotrophic factors, 19
 Nichols, Shaun, 148
 nicotine, 39n44. *see also* substance addiction
 Nietzsche, Friedrich, 138, 207–208
 n-methyl-d-aspartate (NMDA) receptor, 10–11
 noetic consciousness, 51

non-conscious influences, 143. *see also* insight
 norepinephrine (CHR-NE) cascade, 18–19
 normative ethical decision making (NEDM), 151
 nucleus accumbens (NAc)
 Nussbaum, Martha, 183–185

O

objectivity, 134–137, 139, 157n29, 203–207, 222. *see also* false memory creation (FMC); truth
 Odysseus, 1
 OFC (orbitofrontal cortex), 82, 84, 90–91, 111, 112, 131
 older adults, 74, 89, 174
Oneself as Another (Ricoeur), 172
 oral memory, 56
 orbitofrontal cortex (OFC), 82, 84, 90–91, 111, 112, 131
 orbitofrontal region, 18
 originality, 213
 Osman, Magda, 66
 others. *see also* empathic intentionality; relationships; social and cultural mediation
 narrative identity and, 195–196, 208–209, 213–214, 214–215, 219
 narrative identity of, 220
 neurobiology and, 85
 responsibility and, 218
 self-agency and, 198

P

palliative sedation, 52–53
 “Papez circuit,” 98n97
 parahippocampal gyrus, 70, 130–131
 parents, 33, 56–57, 63, 176, 186, 189–190, 214, 242. *see also* attachment
 parietal cortex, 110–111
 parietal region, 129

Parkinson’s disease, 15–16
 Pasqualini, Martha, 133–134
 the past, 65, 211, 221. *see also* narrative identity (life stories)
 Pasupathi, Monisha, 175, 200
 Paxton, Joseph, 148
 Paxton, Joseph, and colleagues, 149
 PCB (President’s Council on Bioethics), 20, 22, 31
 PCC (post cingulate cortex), 130–131
 periaqueductal gray, 83
 perirhinal cortex, 69, 70
 Persaud, Kiele, 55
 personality. *see also* character; empathic intentionality; narrative identity
 autobiographical memories and, 48, 58, 62, 73, 77–78
 integrated, 204
 memory manipulation and, 4n3
 narrative and, 167, 169–171, 178
 neurobiology and, 193
 script theory of, 168–169
 perspective, 74
 PFC (prefrontal cortex)
 affective foresight and, 79–80, 82
 autobiographical memory and, 54–55, 94n33
 choice and, 111
 cultural contexts and, 195
 emotionally rational ethical decision making and, 142–143
 emotionally rational moral intuition and, 128, 131
 emotions and, 70
 empathic intentionality and, 75–76
 gambling experiment and, 82
 memory and, 94n29
 moral judgment and, 84–85

- post-traumatic stress disorder and, 18, 19
 protected values and, 192, 193
 regret and, 91
 semantic retrieval and, 88
 substance addiction and, 23, 24–25
 temporal-order memory and, 50
 pharmaceutical industry, 22, 31
 pharmacologicals, 2, 7, 36, 36n2, 240. *see also* biomedicalization; propranolol *and other pharmacologicals*
 Phelps, Elizabeth, and colleagues, 69
 phenomenological-hermeneutic approaches, 172
 Pizarro, David, 148
 planning, 65, 110. *see also* affective foresight; intention
 Plato, 108, 109–110, 124–125, 137
 political narratives, 180–181
 Polkinghorne, Donald, 178
 post-central gyrus, 130
 post cingulate cortex (PCC), 130–131
 posterior brain regions, 54
 posterior cortical regions, 80
 posterior medial cortices, 193, 194, 195
 posterior middle temporal gyrus, 88
 post-trauma debriefing, 17, 21
 post-traumatic stress disorder. *see* PTSD
 practical reason, 146–147, 155
 Pratt, Michael, 170
 precuneus, 75, 128
 prediction, 153–154. *see also* affective foresight; planning
 prefrontal brain regions, 49, 53–54, 65. *see also* PFC (prefrontal cortex)
 prefrontal cortex. *see* PFC
 prefrontal temporal cortex, 132
 the present, 219
 President's Council on Bioethics (PCB), 20, 22, 31
 "prevention," 31
 pride, 147, 212
 primary inducers, 83
 principles and rules, 52–53, 183–188, 190–191, 192, 227n86, 228n103
 Prinz, Jesse, 160n94
 promises, 207, 208
 prophylactics, 31. *see also* propranolol
 propranolol
 crime and, 20–22
 informed consent and, 31–32
 memory and, 9–10, 37n11
 neurobiology and, 8–9
 pharmaceutical rebranding and, 30–31
 post-traumatic stress disorder and, 20, 21, 22, 31–32
 prospection, rational, 63–66. *see also* goals
 protected values, 192–193
 Proust, Marcel, 196
 pseudo body loop, 142–143, 143–144
 psychoanalytic theory, 12, 169
 psychopaths, 131
 psychotherapy, 202, 240
 psychotropic drugs, 36n2. *see also* propranolol *and other psychotropic drugs*
 PTSD (post-traumatic stress disorder). *see also* biomedicalization; fear, extinction of
 autobiographical narrative centrality and, 77, 78
 beta-blocking pharmacologicals and, 17

electroconvulsive therapy and, 11
 episodic detail and, 89
 informed consent and, 31–32
 limited-use memory manipulation and, 16–22, 36, 239–240
 neurobiology and, 18–19
 overview, 17, 19–20
 propranolol and, 8–10, 21
 repression theory and, 12
 punishment, 160n94

Q

Qur'an, 138

R

race, 170
 radiation problem, 150
 Rasmussen, Anne, 70
 rational emotion. *see* emotional rationality
 rationality (reason). *see also* autobiographical (episodic) memory; cognition; emotional rationality; knowledge; narrative identity (life stories); practical reason
 autobiographical, 200–201
 bounded, 153
 emotionally rational moral intuition and, 131–134
 Greek philosophy and, 108–110
 memory and, 91–92
 normativity and, 107–108, 156n2
 practical, 3–4
 proportionate, 237–243
 self-control and, 215
 utilitarian, 128, 132, 149, 152–153
 rationalizing, 148
 rational prospection, 63–66
 rational theory of choice, 152–153

Rawls, John, 134–137
 reason. *see* rationality
 reasons, moral
 autonomy and, 203–204
 deliberation and, 123–124
 emotional rationality and, 146–147, 155–156, 180
 emotions and, 117, 136–137
 intentionality and, 138
 narrative identity and, 179, 188, 204
 rationality and, 180
 self-reflection and, 203–204
 recall, judge, recognize (RJR) paradigm, 64
 recognition memory, 51. *see also* familiarity
 redemption, 199–202, 202–203, 211, 212
 redemptive life narratives, 178–179
 regret, 21, 90–91
 regulatory processes, 148
 reinforcers, natural, 27
 relationships. *see also* attachments; empathic intentionality; others; parents; social and cultural mediation
 autobiographical memory and, 48, 178
 memory manipulation and, 211
 narrative identity and, 221–222, 223
 relevant alternatives theory, 118
 religion, 195, 206–207
 reminiscence, 62, 64–65
 remorse, 210–211
 representations, 83, 149–150
 repression, 12
 resilience, 19
 responsibility. *see also* accountability
 autobiographical memory and, 58–59

emotional rationality and, 140
 freedom and, 241–242
 for knowledge, 118–119
 Lotus-eaters and, 2
 memory manipulation and, 210–211, 223
 narrative identity and, 189, 208, 217–218
 retrieval models, 210
 reward magnitude, 111
 rhinal and perirhinal cortex, 69, 70
 Ricoeur, Paul, 172, 173, 180–181, 208
 right-brain hemisphere, 146, 192
 right inferior parietal lobule (BA 40), 130
 risk, 112–113, 133, 153
 RJR (recall, judge, recognize) paradigm, 64
 Robertson, Diana, and colleagues, 84–85
 romanticists, 205
 Rorty, Richard, 195
 Rousseau, Jean-Jacques, 212
 Rubin, David, 56
 rules and principles, 52–53, 183–188, 190–191, 192, 227n86, 228n103

S

sadness, 209–210
 Sales, Jessica, 63
 Salovey, Peter, 209–210
 Samuelson, Paul, 111
 Sarbin, Theodore, 178
 Sarlo, Michela, and colleagues, 129
 Sartre, Jean-Paul, 122
 satiation technique, 12, 39n44
 Schafer, Roy, 196
 Scheler, Max, 124–125
 schizophrenia, 10, 65, 89
 Schooler, Jonathan, 145
 Schüpbach, M., and colleagues, 15–16
 script theory of personality, 168–169
 secondary inducers, 83
 selective serotonin reuptake inhibitors (SSRIs), 31
 the self. *see also* authenticity; autobiographical (episodic) memory; autonomy; the “I”; narrative identity; others
 autobiographical memory and, 48
 language and, 196–197
 narrative and, 180, 195–199
 neurobiology and, 75–76, 193
 splintering of, 207–211
 self-agency, 197–198
 self-control, 35, 215–216, 223. *see also* autonomy
 self-deception, 217
 self-destructive behavior, 62
 self-knowledge, 194, 238
 self-reflection, 63–64, 140, 188, 190, 203–204, 213, 215. *see also* introspection
 self-understanding, 208
 semantic integration, 194
 semantic memory, 11, 47, 51, 88, 94n4
 semantic self-knowledge, 48
 sensory cortices, 83, 142, 194
 sensory experiences, 130
 septal nucleus, 67
 serotonin, 18. *see also* SSRIs (selective serotonin reuptake inhibitors)
 shame, 108, 131
 Sharot, Tali, 67, 68
 SIM (social intuitionist model), 128, 148
 Singer, Jefferson, 209–210
 skin conductance, 133–134
 social and cultural mediation. *see also* American culture; independence *versus* interdependence; others; tradition
 authenticity and, 220

- autobiographical memory and, 48, 55–60, 200–201, 205
 earliest memories and, 95n44
 emotional rationality and, 127, 139–140
 ethical decision making and, 221–222
 happiness and, 208
 narrative identity and, 173, 177, 178, 182, 191–192, 198–199, 201–202, 223
 neurobiology and, 193, 194–195
 objectivity and, 136, 206
 proportionate rationality and, 27–28
 protected values and, 192
 Rawls on, 134
 self-identities and, 197
 social intuitionist model (SIM), 128, 148
 social status, 170
 sociological theories, 182
 Solomon, Robert, 120–121, 126
 somatic marker hypothesis, 82, 141, 143–144, 147
 somatosensory structures, 142–143
 sorrow, 211
 specificity, memory, 76–78
 speech, 173
 SSRIs (selective serotonin reuptake inhibitors), 31
 STN (subthalamic nucleus stimulation), 15–16
Stories and Their Limits (Nelson, ed.), 170
Stories of Sickness (H. Brody), 170
 storytelling, 168–171, 193, 199. *see also* narrative identity (life stories); untold stories
 stress, 18, 25–26. *see also* trauma
 STS (superior temporal sulcus), 84, 128, 129
Studies in Hysteria (Freud), 10
 Studinger, Ursula, 62
 subcortical nuclei, 141
 subcortical structures, 142, 194
 subjective identity, 173, 203–207. *see also* narrative identity
 subjectivity, 157n29, 172. *see also* consciousness; self-reflection
 subject/object, 109–110, 123–124
 substance addiction. *see also* alcoholism; cocaine addiction; desires; drug aversion therapies
 autonomy and, 22–23, 27–29, 32–35, 34
 Clifasefi and colleagues' study and, 39n51
 deep brain stimulation and, 15
 limited-use memory manipulation and, 22–23, 26–29, 36, 239–240
 neurobiology of, 23–26, 35
 subthalamic nucleus stimulation (STN), 15–16
 suffering, 211
 superior temporal sulcus (STS), 84, 128, 129
 surgeries, 2, 22, 36
 synaptic plasticity, 4n4
- ## T
- Taylor, Charles, 170–171, 177, 181, 207, 213
 temporal gyrus, 88
 temporal-order memory, 50, 55, 59, 61
 temporoparietal junction (TPJ), 128, 192, 193, 195
 thalamus, 83, 131
 Thematic Apperception Test, 168
 Thomson, Judith Jarvis, 184

Thorne, Avril, 60, 95n54, 170, 210
 time, 67–68, 69, 78, 81, 87–88, 193. *see also* change; the future; the past; the present
Time and Narrative (Ricoeur), 172, 180–181
 Tomkins, Silvan, 168–169
 Tomlinson, Tom, 189–190
 Tormey, Judith, 169
 Toulmin, Stephen, 183–184, 186, 227n84
 TPJ (temporoparietal junction), 128, 192, 193, 195
 tradition, 56, 221. *see also* historical accounts
 trauma. *see also* flashback memories; PTSD (post-traumatic stress disorder); stress
 autobiographical reason and, 63
 biomedicalization and, 30–31
 informed consent and, 31–32
 narrative identity and, 207
 truth, 180, 214–215, 220, 226, 229n114, 242. *see also* objectivity
 Tulving, Endel, 51, 52
 12-step recovery programs, 243n10

U

Ulysses, 138
 uncertainty, 152–153
 untold stories, 198–199
 utilitarian reasoning, 128, 132, 149, 152–153

V

validation, 199
 values, 4, 5n14, 124–125, 206, 217. *see also* the good; protected values
 ventral striatum, 83, 111

ventral tegmental area (VTA), 23, 25, 26, 34–35
 ventromedial cortex, 83
 ventromedial sector, 142
 verbal overshadowing, 145
 Vico, Giambattista, 242
 virtue, 187
 VTA (ventral tegmental area), 23, 25, 26, 34–35

W

Wainryb, Cecilia, 175
 Walker, Margaret Urban, 188–189
 Weber, Max, 3
 Weiner, Richard, and colleagues, 11–12
 well-being, 60, 63, 76, 154, 170. *see also* happiness
 wide reflective equilibrium, 190–191
 Wiebe, David, 145
 Williams, Bernard, 184
 Williams, J. Mark, and colleagues, 76–77
 Wittgenstein, Ludwig, 205
 worldviews, 126
 worry, epistemic, 119

Y

Yoder, Keith, 129
 Yonelinas, Andrew, 67, 68