



PHILOSOPHY OF EMERGING MEDIA

UNDERSTANDING, APPRECIATION, APPLICATION

EDITED BY JULIET FLOYD AND JAMES E. KATZ

PHILOSOPHY OF EMERGING MEDIA

PHILOSOPHY OF EMERGING MEDIA

Understanding, Appreciation, Application

Edited by Juliet Floyd

and

James E. Katz

OXFORD
UNIVERSITY PRESS

OXFORD
UNIVERSITY PRESS

Oxford University Press is a department of the University of Oxford.
It furthers the University's objective of excellence in research, scholarship,
and education by publishing worldwide.

Oxford New York
Auckland Cape Town Dar es Salaam Hong Kong Karachi
Kuala Lumpur Madrid Melbourne Mexico City Nairobi
New Delhi Shanghai Taipei Toronto

With offices in
Argentina Austria Brazil Chile Czech Republic France Greece
Guatemala Hungary Italy Japan Poland Portugal Singapore
South Korea Switzerland Thailand Turkey Ukraine Vietnam

Oxford is a registered trade mark of Oxford University Press
in the UK and certain other countries.

Published in the United States of America by
Oxford University Press
198 Madison Avenue, New York, NY 10016

© Oxford University Press 2016

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,
without the prior permission in writing of Oxford University Press,
or as expressly permitted by law, by license, or under terms agreed with the
appropriate reproduction rights organization. Inquiries concerning reproduction
outside the scope of the above should be sent to the Rights Department,
Oxford University Press, at the address above.

You must not circulate this work in any other form
and you must impose this same condition on any acquirer.

Library of Congress Cataloging-in-Publication Data
Philosophy of emerging media : understanding, appreciation, application /
edited by Juliet Floyd and James E. Katz.

p. cm.

Includes bibliographical references and index.

ISBN 978-0-19-026075-0 (pbk. : alk. paper) — ISBN 978-0-19-026074-3

(hardcover : alk. paper) 1. Mass media—Philosophy. 2. Digital media—Philosophy.

3. Mass media—Technological innovations. 4. Mass media and technology.

I. Floyd, Juliet, 1960— editor.

P90.P4685 2015

302.2301—dc23

2015007980

Printed in the United States of America on acid-free paper

To Aki and Margaux
and
to Kapka

CONTENTS

<i>Preface</i>	xi
<i>Acknowledgments</i>	xiii
<i>Contributors</i>	xv
Introduction—JULIET FLOYD AND JAMES E. KATZ	1
PART I: <i>Ontology</i>	
1. Toward a Science of Emerging Media—BARRY SMITH	29
2. Media and Their Emergence: The Ontology—PETER SIMONS	49
3. New Realism and Media: From Documentality to Normativity—MAURIZIO FERRARIS	59
4. The Pygmalionic Impulse: A Neoromanticism for Emerging Media—VICTOR J. KREBS	82
PART II: <i>Perceptions, Perspectives, Transformations</i>	
5. Changing Philosophical Concerns about Emergence and Media as Emerging: The Long View—JAMES E. KATZ, and ELIZABETH A. ROBINSON	99
6. Human Nature and Social Transformation—GORDON GRAHAM	115

7. New Media, Old Concerns: Heidegger Revisited —ZSUZSANNA KONDOR	132
8. From Traditional Documentation to Network Media —NEAL THOMAS	146
PART III: <i>Time, Fiction, Narrative</i>	
9. Emerging Media and the Philosophy of Time—KRISTÓF NYÍRI	159
10. Binge-watching Television with Walt and Omar —HARVEY CORMIER	171
11. Media, Emergence, and the Analogy of Art—JOHN HALDANE	186
12. Sadness and Photography: Barthes and Benjamin—ILIT FERBER	206
PART IV: <i>Emergence, Agency, Mind</i>	
13. Turing, Wittgenstein, and Emergence—JULIET FLOYD	219
14. Where Is My Mind? Anscombe on Agency—VALÉRIE AUCOUTURIER	243
15. Agential Properties in Computer Games —JOHN R. SAGENG	258
16. Will Emerging Media Create a Collective Mind? —DAVID RAMSAY STEELE	273
PART V: <i>Symbols, Speech Acts</i>	
17. Plato and Aristotle on the Emerging Medium—DAVID ROOCHNIK	295
18. Leibniz on Symbolism as a Cognitive Instrument —SYBILLE KRÄMER	307

19. Semantic and Pragmatic Stances toward Emerging Media —JOHN GREY	319
20. Speech Acts and the Internet: Austin to Bourdieu and Fraenkel —BRUNO AMBROISE	333
PART VI: <i>Social Media, Big Data</i>	
21. Explorations in the Grammar of “Being in Touch”: From Locke to Winch, from SMS to Skype—RICHARD H. R. HARPER	349
22. Emerging Categories of Media Institutions—LARS LUNDSTEN	361
23. Philosophy of Critique: The New Media—RONALD E. DAY	372
24. Big Data and the Big “Conversation”—GARY KING (INTERVIEW)	383
CODA: Conclusion and a Perspective on Future Directions —JULIET FLOYD, JAMES E. KATZ, AND ELIZABETH A. ROBINSON	399
<i>Index</i>	418

PREFACE

A great intellectual pleasure of teaching at Boston University is that, as the fourth largest private university in the United States—comprised of seventeen schools and colleges, all constructed around the heart of Arts and Sciences—the possibilities for interaction among colleagues who do things quite differently, and come from quite different orbits, are real. Our university is changing, and attempting to do so rapidly enough to meet, and even define, the needs of twenty-first-century education. Its aim is to accelerate intellectual achievement in research and teaching while also developing innovative undergraduate and graduate education programs that are rigorous and oriented toward research, while remaining relevant and engaged with career needs of our students, who share a truly global and local profile.

James E. Katz arrived at Boston University from Rutgers in 2012, having been recruited to build our country's first graduate program in "Emerging Media Studies", located in the School of Communications, heretofore largely a journalism and television school couched at the undergraduate and professional levels. His previous accomplishments included being the first sociologist to predict the ubiquitous use of cell phones, back in the early 1990s. Having moved his Center for Mobile Communications Studies to Boston from New Jersey, he needed to devise a creative curriculum for his new MA and PhD programs. Looking ahead, behind, and sideways, he contacted Juliet Floyd, based in the philosophy department, for advice on the emerging character of the university. James had already conceived a plan to hold a conference on "philosophy of emerging media", and drew Juliet into the enterprise of fashioning a philosophy textbook that could be used, immediately, for the incoming class of students but also one that would have enduring interest to a broad-gauged audience of students and scholars.

We look forward to using the volume here next fall, and trust it will stimulate further teaching and research in these and surrounding fields.

J.F.

J.E.K.

Brookline, MA, February 21, 2015

ACKNOWLEDGMENTS

As editors of a commissioned volume we must be indebted in many ways but first and foremost to our contributors. Their names are listed in the table of contents and we extend our heartfelt thanks for their generosity, patience, and most of all their insights, the evidence of which is manifested in their chapters. Though their names are associated with specific chapters, behind the scenes there are some people who also deserve recognition and a note of heartfelt gratitude.

Alison Keir helped organize the workshop that led to this volume, held at Boston University on October 25–27, 2013. She carried out her responsibilities with perfection, much to the appreciation of attendees. The support and enthusiasm of our editor at Oxford University Press, Hallie Stebbins, was profoundly gratifying for us, and she has helped speed development of the manuscript.

Elizabeth A. Robinson provided much-appreciated intellectual contributions throughout the writing process and was vital as well at the logistical level. Her graciously provided insights benefited us greatly. Three anonymous referees for Oxford University Press provided us with feedback and criticism at a crucial time. We are also grateful to Anat Biletzki, Herbert Hrachovec, and Alois Pichler for advice on philosophical issues and coverage of topics, as well as our intellectual framing and introductory chapter, which were greatly improved with their suggestions. The students in Juliet Floyd's fall 2014 Boston University seminar on Analytic Philosophy provided feedback on the organization of the book; especially Alison Pasquariello. Michal Rapoport, with her expertise in the areas treated in the volume, offered tremendously helpful comments on several essays, as well as our conception of the volume's significance as a whole. Anandita Mukherji and Katherine Valde helped proofread our index.

We are grateful to all these colleagues for helping us think through numerous issues connecting philosophy to emerging media. We also acknowledge one another. One of the great pleasures of teaching at a major, urban research university is the intellectual surprise and edification that can occur when a colleague from sociology meets a colleague from philosophy. We trust that this book will foster more such interdisciplinary encounters.

CONTRIBUTORS

Bruno Ambroise is junior researcher in Philosophy at the French National Center for Scientific Research (CNRS). He is currently working on the epistemology and history of speech-acts theories and pragmatics, and studying the relations between linguistic theories and social sciences. He has published many papers on Austin's philosophy, speech-acts theories, and pragmatics, and a book entitled *Qu'est-ce qu'un acte de parole ?* (Paris: Vrin, 2008).

Valérie Aucouturier is *Maîtresse de Conférences* in philosophy, history, and epistemology of psychology at the University Paris-Descartes and CERMES3. Her research lies at the intersection between contemporary philosophy of mind and action and philosophy of psychology. She recently published *Qu'est-ce que l'intentionnalité?* (Vrin, 2012) and *Elizabeth Anscombe. L'esprit en pratique* (CNRS Editions, 2013).

Harvey Cormier is associate professor of philosophy at Stony Brook University. He is the author of *The Truth Is What Works: William James, Pragmatism, and the Seed of Death* (Rowman and Littlefield, 2001), a book on William James's theory of truth, and a number of articles on a variety of philosophical topics.

Ronald E. Day is in the Department of Information and Library Science at Indiana University, Bloomington. His research is in Documentation and Information Science. Among many other works he has written *The Modern Invention of Information: Discourse, History, and Power* and *Indexing It All: The Subject in the Age of Documentation, Information, and Data*.

Ilit Ferber teaches philosophy at Tel-Aviv University. Her publications include *Philosophy and Melancholy: Benjamin's Early Reflections on Theater and Language* (Stanford University Press, 2013) and articles on Benjamin, Leibniz, Herder, Freud, Heidegger, and Scholem. She has also co-edited *Philosophy's Moods* (Springer, 2011) and *Lament in Jewish Thought* (De Gruyter, 2014).

Maurizio Ferraris is full professor of philosophy at the University of Turin, where he is also the director of the LabOnt (Laboratory for Ontology). He is a columnist for *La Repubblica*, the director of *Rivista di Estetica* and the co-director of *Critique* and the *Revue francophone d'esthétique*.

Juliet Floyd is professor of philosophy, Boston University. She is the author of many articles on the history of eighteenth- and twentieth-century philosophy of mathematics, logic, and aesthetics, including many on Wittgenstein, and has co-edited (with Sanford Shieh) *Future Pasts: The Analytic Tradition in Twentieth-Century Philosophy* (Oxford University Press, 2001) and (with Alisa Bokulich) *Philosophical Explorations of the Legacy of Alan Turing: Turing 100* (Springer, forthcoming).

Gordon Graham is Henry Luce III Professor of Philosophy and the Arts, and director of the Center for the Study of Scottish Philosophy, at Princeton Theological Seminary. He is the author of many philosophical papers, and his books include *The Internet: A Philosophical Inquiry* (Routledge, 1999), subsequently translated into Dutch, Spanish, Greek, and Korean. His most recent book is *Wittgenstein and Natural Religion* (Oxford University Press, 2014).

John Grey earned his PhD with a dissertation on Spinoza from Boston University. He currently teaches at Michigan State University. His work has appeared in the *History of Philosophy Quarterly*.

John Haldane is professor of philosophy and director of the Centre for Ethics, Philosophy and Public Affairs in the University of St Andrews. He is also Remick Senior Fellow in the Center for Ethics and Culture and the University of Notre Dame; Chairman of the Royal Institute of Philosophy, London; and consultant to the Pontifical Council for Culture, Rome.

Richard H. R. Harper FRSA, FIET is principal researcher in Socio-Digital Systems at Microsoft Research in Cambridge, England, where he uses an understanding of human values to help change the technological landscape in the twenty-first century. He is author of *Texture: Human Expression in the Age of Communications Overload* (MIT Press, 2010). A sociologist by training, he is concerned with how to design for “being human”, and human communication in an age when human nature is often caricatured or rendered in oversimplifying ways.

James E. Katz is the Feld Professor of Emerging Media Studies at Boston University. Co-author of numerous books, including *The Social Media President: Barack Obama* and *The Politics of Citizen Engagement*, he also holds two

patents. Prior to coming to Boston University in 2012, he was the Board of Governors Professor of Communication at Rutgers University.

Gary King is the Albert J. Weatherhead III University Professor and Director for the Institute for Quantitative Social Science at Harvard University. Among his many interests is inferring individual behavior from aggregate data. He also co-founded Crimson Hexagon, a social media analytics software company.

Zsuzsanna Kondor is senior research fellow at the Institute of Philosophy, Hungarian Academy of Sciences, Research Centre for the Humanities. Her writings comprise several main fields of research: history of philosophy, philosophy of communication, philosophy of cognition, and philosophy of images. Her publications include *Enacting Images. Representation Revisited* (editor) (2013) and “Representations and Cognitive Evolution: Towards an Anthropology of Pictorial Representation”, in *Image: Zeitschrift für Interdisziplinäre Bildwissenschaft* (2013/2014).

Victor J. Krebs is professor of philosophy, Pontifical Catholic University of Perú. He has published on Wittgenstein, aesthetics, and psychoanalysis, and currently works on film, media, and technology, and is author of *Del alma y el arte* (1998), *La recuperación del sentido* (2008), *La imaginación pornográfica* (2014), and contributing co-editor (with William Day) of *Seeing Wittgenstein Anew* (Cambridge University Press, 2010).

Sybille Krämer is professor of philosophy at the Freie Universität Berlin. She held guest professorships in Graz, Lucerne, Tokyo, Zürich, and Vienna. She was permanent fellow at the Wissenschaftskolleg Berlin. Currently she is a member of the Senate of Deutsche Forschungsgemeinschaft and a member of the Scientific Panel of the European Research Council. Her main areas of interest are philosophy of language and media theory, philosophy of rationalism, epistemology, and philosophy of mind.

Lars Lundsten is a docent at the University of Helsinki and principal lecturer in the Arcada University of Applied Sciences, Finland, where he is head of research in media ecology.

Kristóf Nyíri is a member of the Hungarian Academy of Sciences. His main fields of research include: the history of philosophy in the nineteenth and twentieth centuries; the impact of communication technologies on the organization of ideas and on society; the philosophy of images; and the philosophy of time.

Elizabeth A. Robinson is currently an assistant professor of philosophy at Nazareth College, Rochester, New York. She received her PhD from Boston University in 2012, having written a dissertation on Kant's metaphysics and mathematics. She has published several articles, primarily addressing early modern philosophy.

David Roochnik is professor of philosophy at Boston University. He is the author of 5 books and some 30 articles on ancient Greek philosophy. His most recent work is *Retrieving Aristotle in an Age of Crisis* (SUNY Press, 2013).

John R. Sageng is a research affiliate at the Department of Philosophy, Classics, History of Art and Ideas at the University of Oslo. He is one of the founders of the Game Philosophy Initiative and of the conference series The Philosophy of Computer Games.

Peter Simons is professor of philosophy at Trinity College Dublin. He studied mathematics and philosophy at Manchester, and taught in the UK (Bolton, Leeds) and Austria (Salzburg). His work centers on metaphysics (pure and applied), philosophy of logic, and the history of philosophy and logic in Central Europe. He is a member of the British, European, and Royal Irish Academies.

Barry Smith is known primarily for his work on applications of ontology in extraphilosophical domains such as biology and biomedicine, defense, and security. Most recently he has been working on what he calls the "theory of document acts", which he views as a new subfield of social ontology.

David Ramsay Steele is author of *From Marx to Mises: Post-Capitalist Society and the Challenge of Economic Calculation* (1992), *Atheism Explained: From Folly to Philosophy* (2008), and *Orwell Your Orwell: A Worldview on the Slab* (forthcoming in 2016). He is co-author (with Michael Edelstein) of *Three Minute Therapy: Change Your Thinking, Change Your Life* (1997) and (with Michael Edelstein and Richard Kujoth) *Therapy Breakthrough: Why Some Psychotherapies Work Better Than Others* (2013). He edited *Genius: In Their Own Words* (2002). Dr. Steele is editorial director of Open Court Publishing Company, Chicago.

Neal Thomas is an assistant professor of media and technology studies in the Department of Communication Studies at University of North Carolina Chapel Hill. With interests that generally lie at the intersection of social computing and social theory, his research focuses on the formal, cultural, and semiotic dimensions of algorithms.

INTRODUCTION

Juliet Floyd and James E. Katz

The permeation of everyday life by what we call here “emerging media” is evident, ubiquitous, and destined to accelerate. No longer are images, institutions, social networks, thoughts, acts of communication, emotions, and speech—the “media” by means of which we express ourselves in daily life—linked to clearly demarcated, stable entities and contexts. Instead, the loci of meaning within which these occur shift in quick, far-reaching ways we can only begin to comprehend, and never fast enough to suffice. We are all living a grand technological experiment: never before has it been possible for a single tweet to be broadcast instantly to two billion people. In another sense, however, it is not possible for any single individual to understand the meaning of the tweet. Corporate actors like Facebook are performing experiments on social networks, just as we ourselves experiment with handheld apps and the reactions of our friends to social-media endeavors. Given the continuous innovations and transformations, meaning and opportunity appear, flourish, and ebb within specific socio cultural locales and digital object frameworks; some become institutionalized and ritualized in traditional ways, others do so in disruptive and transgressive ways. As such, we who are concerned about philosophical questions face a vast and rapidly emerging transformation of human enterprise and existence.

The present volume’s purpose is to at once be foundational and to broaden and spark future philosophical discussion of emerging media. Drawing from the rich history of philosophical insights, contemporary intellectual pathmakers offer philosophical perspectives, laying the groundwork for future work engaging philosophy and media studies.

The *term emerging media* responds to the “Big Data” now available as a result of the larger role digital media plays in everyday life, as well as the notion of “emergence” that has grown across the architecture of science and technology over the last two decades with

increasing imbrication. Knowledge thereby gained about implicit bias in decision-making, latent psychological processes, and neuroscience of moods have refashioned our sense of what agency and rationality at the individual level are like. But broad social experiments and innovations in governance itself across many levels of society¹ are now entangled with the collection of increasingly vast datasets mined with increasing sophistication and complexity by machine algorithms, as well as the seemingly instantaneous mass delivery of particular pieces of information, images, and words—both uplifting and upsetting—to billions of human users.

Big Data ranges from broad-scoped information about the shopping or voting patterns of large demographic groups to the smaller scale, high volume data an individual can gather about his or her sleep, eating, and exercise habits. Data are being collected, bought, and sold, analyzed computationally and otherwise at a rate that is challenging, if not impossible, to fully survey, and this process continues to accelerate and be increasingly discussed. Big Data is used more and more deftly and constantly by the young and the old, the sick and the healthy, the poor and the wealthy, the disenfranchised and the powerful. It is also being used and collected ever more ingeniously and efficiently, ever more explicitly and yet also ever more secretly as it is hacked and coded and offloaded onto digital computers. Every combination of scale of scrutiny is at issue, from the nanoparticle to the text to the brain and the family tree, distributed across time and space even unto the cosmological as data are collected by digital telescopes and probes from faraway regions of the universe. Everyday acts and expressions are now directly embedded in questions of surveillance and privacy and socioeconomic ramification, affecting the means of distribution as well as the workings of democracy (see Lanier 2013; Cole 2015). Matters of taste and choice and dispute appear differently in the face of a search-engine society.

“Emergence” collectively refers to a wide range of disparate phenomena in which the structure of the evolved whole appears to be larger, or at least different from, its parts, when we go to characterize it by means of code, image, or text. The scientific foundation of emergence resides ultimately in the mathematical theory of complexity, an outgrowth of mathematical logic, in which functions that are very simple to define exhibit powerfully novel types of organization as they are combined, interact, and become re-defined. An example of such a pattern of behavior modeled in nature is the behavior of slime mold, in which single-celled units, each following its own local rule of action, communicate with one another, altering their activity, coalescing from time to time into a larger organism under pressure from the environment, later devolving back into a myriad of smaller elements again when the pressure

lessens. From financial markets where supercomputed trades outstrip what any individual trader can survey, to weather systems, brains, purchasing choices, cancer cells, and patterns of flowers in nature, reflectively embeddable computable models and equations drive analogies, experiments, and explanations throughout science, shaping a way of thinking about, analogizing, and explaining commonalities among an enormous variety of natural and human phenomena (accessible discussions may be found in Gleick 1988; Wolfram 2002; Johnson 2001/2014). The age-old issue of consciousness, a phenomenon of emergence par excellence, is back on the table for philosophers and neuroscientists alike.

Emergence and *Big Data* also cover here the remarkable speed and increase in delivery and amalgamation of speech and thought and deed. In earlier days, a speaker stood on a soapbox to make political pronouncements or nudged readers with a pamphlet or newspaper article; a priest or poster urged the purchase of war bonds; a brief advertisement jingled a happy tune. Nowadays the fabric of an individual's daily life is tracked, recorded, and analyzed; music and companionship are delivered directly to earbud or tablet via sophisticated software; memes and tweets and home movies float novel political proposals—wittingly and unwittingly—before formal institutional speeches of government do. The ever-increasing “nudging” social engineers subject us to—in order to have us alter our individual choices of activities and thoughts—become ever-less visible as they are seamlessly integrated into our daily lives. Ingenuity and choice are offloaded, all of it saturating daily life more fully and in more finely targeted ways. Most of us participate, trading the exposure for the usefulness of the apps, for instance, caring insufficiently about our privacy to resist a few conveniences. We offload tasks, become seemingly addicted to keeping in touch via cellphone or watch, and yet at times feel the urge to pull strongly away, seeking escape from the gerbil wheel of stimulation, working toward relief from stress by shutting off the digital objects around us altogether—but these, whether we like it or not, will eventually float in the air all around us and continue recording data, even as we meditate and reflect. As digital devices become increasingly embedded inside everyday objects, we speak increasingly of an “Internet of things”, as well as of “trolls”: humans with hatred, contempt, and political agendas hiding within the darkness of the Internet we have built, ready to pop out and shame, stalk, and mass around the delivery of sheer gunpower and murderousness to targeted groups and individuals. Here emergence lies less in the problem of the difference between human and machine and more in the concept of human being itself.

What does this mean, philosophically speaking? Enormous headway has been made in translating Big Data into useful information. Yet corporations

and governments—rather than universities or institutions or individuals—hold the lion's share of it. This continues to have significant repercussions for advertising and behavioral management, as well as politics. However, if we think beyond even these urgent issues, it is notable that little attention has been paid to the philosophical resonance of the evolving objects, actions, and meanings within this emerging landscape. In what ways is this influx of new, previously unavailable data changing our everyday world? To what extent are humans themselves taking the initiative in characterizing, organizing, and utilizing the data for meaningful response, relative to algorithms that humans have created, which passively collect and analyze them? What are the potentials for abuse and needed critique and improvement of current institutions and behaviors? In what ways is the system—the logical structure of transfer and the design of software—of crucial importance to our analysis of individual actions, self-knowledge, and social and cultural potential? In what ways, if any, do notions of human nature and creativity and value impact in new ways with emerging media? What are or might be the effects of this on our political and social institutions, and on the history of philosophy itself? What concepts do we need to retain a sense of meaning and semantic stability? Is there a limit to the offloading of human rule-governed activity onto machines via algorithms? Where do interpretive, normative, and semantic categories fit? How are institutions and practices being transformed? What exactly has emerged and how new is it?

The essays that follow explore some of the fascinating and still relatively unexplored terrain surrounding many of these vast and far-reaching questions. We invited our authors to discuss a range of issues, including how conceptions of identity, agency, reality, mentality, time, aesthetics, representation, consciousness, materiality, emergence, and human nature are or are not being fundamentally transformed by emerging media. Without any particular overarching agenda, we were, in a sense, running an experiment by asking authors from different schools of thought to express their vantage point and sketch a future agenda, rather than applying prior categories and theories of philosophy whole-scale to emerging media. Critical approaches to digital networking in media and communication programs often focus on issues inherited from 1960s sociology, as well as journalistic and public-relations praxis. Economists and legal and critical theorists have focused on socioeconomic factors and regulation of markets and behavior. For their part, neurophilosophers have focused on how knowledge of the brain contributes to our conceptions of human nature. Given this landscape, intensively covered though it is, we saw a gap, or more precisely, a perspective in need of exploration. We sought to open up the discussion to wider and more complex

emerging spheres of everyday life. More precisely, we developed a lens through which certain issues and questions can be brought into clearer focus, or even perceived for the first time. Obviously, since no book can cover every subject, we set specific questions of inequality, liberty, law, psychology, ethics, ecological and human economic development to the side, as these are already receiving their fair share of specialized analysis.

The volume is, therefore, not intended to be wholly pioneering, nor do we envisage it as a replacement for, or reduplication of, what has already been done by way of philosophical theory. Philosophy has long interacted with media theory. Already the great Graeco-Roman historian Polybius (died ca. 118 BCE) complained that the excellent Library at Alexandria (with a catalogue system developed by Callimachus) made the historian's work too easy. Was this, philosopher Hilary Putnam asks, the first complaint about high-tech affecting scholarship?²² No. Plato worried over the invention of writing long before that. More recently, media theory and technology have been increasingly theorized about in the areas of political theory, semiotics, and ethics, especially through appropriations and extensions of the work of authors such as Walter Benjamin, Martin Heidegger, Umberto Eco, Roland Barthes, Michel Foucault, and Jacques Derrida. The rise of cultural, material, historicist, and gender and sexuality studies in literary and film theory has grown in the English-speaking world, in significant part from the appropriation of European thought in these areas, as well as the development of Charles Sanders Peirce's idea of semiotics. Critical theory has contributed to our understanding of the role of media and communicative action in society, as have phenomenology and feminism, the latter increasingly from the English-speaking side through speech-act theory (see, e.g., Langton 2009; Maitra and McGowan 2012; Bauer 2015). Discussion of the ontology of social entities and acts has been developed within the Anglo-American context (Searle 1995, 2010; Pettit 2003; Pettit & Schweikard 2006; Millikan 2009a,b; Gilbert 2014; Bratman 2014), as have philosophies of information and the ethics of the Internet (Floridi 2013). In science and technology studies, subjectivity and epistemology have interpenetrated with theories of politics, models, gender, race, history, economic, normative, and institutional structure in which issues of nominalism, essentialism, and liberalism are under active discussion, although the intersection of these problems with emerging media is itself relatively unexplored as a specific topic (the literature is large and growing; cf. Mills 1997, 1998; Mills and Pateman 2007; Cudd 2006; Lee, Koenig, and Richardson 2008; Anderson 2010, Richardson 2013; Haslanger 2012; and the series of conversations run by George Yancy on race in the Opinionator section of the *New York Times* 2014–2014 at <http://opinionator.nytimes.com/tag/philosophers-on-race/>). Ethicists

have discussed how a person's virtual identities on Second Life affect our conceptions of personal identity, narrative, and rational agency (Velleman 2008; Schechtman 2012). All of these philosophical traditions are very much alive, alongside scientific advances ranging from cryptography to robotics. Though our essays work with material drawn from both older traditions and recent efforts to do philosophy of computers and emerging media,³ the volume is not a survey.

Instead, to address the notion of “emergence”, we crafted a book that is philosophically experimental in nature, rather than comprehensive—perhaps an unreachable goal given the rapid cycles of networking and software and hardware design that quickly press specialized discussions of specific media-bound actions into desuetude. Instead, our goal is to delineate problems, offer a series of different approaches to solutions, and ultimately stimulate readers broaching the study of emerging media to reflect on their everyday lives—their expectations and tastes and feelings and activities—and attempt to characterize for themselves what Bourdieu called the *habitus* within which their own immediate actions and practices are to be understood (Bourdieu 1977, 1984). The philosopher Bernard Williams put it well: if we are to be concerned with explaining skills of an everyday kind, we cannot be inattentive to everyday truths, for “no inquiry that is going to help us understand ourselves can do without that kind of truthfulness, an acute and wary sense of the ordinary” (1987/2014, 282). This speaks to *understanding* emerging media, a matter as important for parents and grandparents as it is for politicians, software engineers, corporate heads, or students of emerging media. We also aimed to expose readers to a broad set of traditional philosophical methods and approaches, providing the untutored with an immersion in examples of what philosophy has contributed historically and what it could potentially do for our understanding of emerging media. This speaks to an *appreciation* of philosophical tradition, complexity, and argumentation, a variety of ways of posing questions and thinking that we believe is increasingly needed.

As for *application*, we provide here a series of hooks and suggestions, orientations rather than solutions, starting points, rather than endpoints. The flowing, ubiquitous river of our world of emerging media demands this approach. We did not seek in our chapters *direct* “applications” to crucial issues of human welfare, such as surveillance or human rights, though several of our authors touch on these. Neither did we commission essays devoted to the cryptographic or purely technological questions: drones; artificial intelligence; “singularity”, the notion of human labor becoming fully replaced by robots; “smart” homes; uses of technology to deliver services and knowledge

to far-flung and less developed parts of the globe. Given our interest in emergence, we took the philosophical ramifications of these challenges to be too broad and multifarious, too indebted both to long-standing traditions of theoretical approach and to Big Data sets to be usefully spoken to without the help of other fields, such as gender and sexuality studies, health policy, psychology, political economy, and religion.

Convinced that the more purely philosophical, traditional, experiential questions remain of fundamental importance despite the changes confronting us, we have focused here on issues of objecthood and experience, ontology, agency, meaning, time and narrative, aesthetics, emergent consciousness, symbolism and speech acts, social media and Big Data. We have included enough that is traditional for the student of communication or media to assimilate some real history of philosophy, and to probe into applied areas. But we also have confronted traditional texts and questions with incipient themes and novel phenomena. By focusing on digital objects and acts, imaging, meaning, action, and the use of cognitive and other instruments in everyday life, we aim to shed new light on old themes.

Big Data is here to stay, and with it the increasingly sophisticated uses of algorithms and statistical analysis that we must interpret further and attempt to put to good use. But philosophical questions will remain with us as well, impossible fully to offload or reduce to wholly formal or quantitative terms, and not least because there are many qualitative aspects of data analysis. After all, philosophical questions continually re-emerge, inevitably, through the active structuring of questions and critical discussion among us, philosophy being inherited by each of us, one by one. As the philosopher Ludwig Wittgenstein once remarked (Wittgenstein 2009, §25), thinking is as much a part of our natural history as are the asking of questions, the telling of stories, chatting, walking, eating, drinking, and playing.

1. Ontology

Our first section is devoted to the topic of ontology. The notion has a fluctuating series of uses in connection with philosophical discussions of emerging media. In the first instance, *ontology* derives from Aristotle's "categories of being", and is broadly understood by philosophers to be the study of being and existence: the substance of what is, as opposed to what we know or conceive it to be, and, therefore, a fundamental ground of intelligibility, if not of essence, identity, and truth. Unsurprisingly, there are long-standing disputes about the nature of these primarily ontological concepts themselves, which

are fundamental to most systems of discussing reality: some regard ontology as a quest for the fundamentally grounding entities of our universe; some regard it as a quest to identify and distinguish essential, rather than the accidental, properties of things; others regard it as the answer to the question what, ultimately, there is—a question to be answered, depending upon one’s perspective, by a particular method (e.g., particle physics, everyday talk, metaphysics, mythology, theology). Fundamental to ontology is, of course, the question of what sort of being or existence *human* existence is, although, since Aristotle, the subject has ranged widely, and quite explicitly, across everything that is. Since traditionally each and every science, as a systematic enterprise of knowledge, required that its domain and the nature of its objects be set out ahead of time, ontology in this traditional sense is bound up with our conception of what it is that makes a science a science, something systematic, rather than haphazard.

Evidently this first sense of “ontology” has to do with how reality and thought are or may be organized into categories and systems of classification. This is why the study of ontology has gone hand-in-hand, since Aristotle, with the study of logic, a theory of concepts and classificatory systems, as well as a study of how truth and reference and understanding flow in deductive and other forms of argument, justification, and explanation. Although it is customary nowadays to sharply distinguish between ontology and “epistemology”, the study of knowledge—the two being easy to confuse in the small—the two subjects must at one point or another address one another, for *what* we are talking about is to be discovered in part by *how* we may talk about it, at least if the concepts of emergence and truth are at issue.

To organize a system of entities for scientific study, one must be aware of the possible alternative ways of organizing entities that are available. In this way, grammar and language are of fundamental importance to digital “ontology”, and not simply because programming languages are really formal systems of logic. The verb *to be*, for example, has at least four different inflections according to modern mathematical logic: the notion of existence or realization (“There are A’s”), the notion of identity ($a = b$), the notion of subordination (“All A’s are B’s), and the notion of predication (“A is a horse”). We may add to these the structure of so-called generics, or generalizations that are largely, though not exceptionlessly true (“Dogs bark,” “humans bear live young”) and role, identity, and/or property determining statements (“As a feminist and a mother, I’m concerned”). The second, more-focused use of the term *ontology* standard in artificial intelligence and dataset design emerges just here. In this more specialized sense, an “ontology” is a structured model organizing information by means of systematic characterizations, always

ultimately a formal or explicit specification containing rules for deriving claims about one kind of object from claims about another.

With vast quantities of data to be synthesized, there is no choice but to proceed with this latter task of ontology at the software level. Even if software ultimately instantiates and extends human ends, its design should reflect what *is* as well. Typically such ontologies proceed hierarchically, in a tree- or flow-chart structure, targeted to potential users (for example, a doctor querying a diagnostic tree of possibilities given a patient's symptoms), although probabilistic algorithms, face recognition algorithms, and “fuzzy” sets have been used here as well. The question to be faced in a context of “emerging” objects is this: How are we to do the ontology best? If the ultimate aim is to automate choice sequences and organize information semantically, there nevertheless remains the important question of the extent to which the subject matter of “emerging media” can be set out in advance, and how the user interface is to be best designed. It was one thing for Aristotle to classify animals as to their modes of motion and habitat, quite another to classify digital media as entities governed by rules and laws. A simple downward tree structure is inadequate.

Fundamentally this is because, with the development of “the semantic web”, the whole process of ontology can be applied to language use itself. For example, coders are developing digital ontologies to analyze traditional texts from the history of philosophy. These may then be mined, as are newspapers, for their local patterns of linguistic structure (frequencies of occurrences of words or phrases or verb forms) and their meanings and possible interpretations. In massive cooperative European projects such as the DM2E project (<http://dm2e.eu/>) multilingual, cross-referencing systems are built in which original facsimile pages handwritten by an influential philosopher may be easily placed beside, not simply keyword searches, but organized ontologies that allow users to search as to point, concept, source allusion, historical interpretation, and so on. In the digital history project “history harvest” (<http://historyharvest.unl.edu/>), open source historical artifacts and records are gathered from communities across the United States and collected, preserved, and digitally shared, thereby opening up newly multi faceted historical analyses and perspectives, at the same time teaching the practice of history to new generations. Obviously, the usefulness of the ontologies used in such projects will be parasitic on the usefulness of the philosopher's or community's initial reports, concepts, and expressions, and how they are mined and used, as well as the skills of the designers in organizing what is already known and understood of the ideas and their sensitivity in working with what are in fact usually contested interpretive frameworks (see, for example, Pichler and Zöllner-Weber

2013). We are hardly at the point that a search engine can tell us what is interesting in and of itself. Yet the textual work over centuries on texts can be, to a great extent, preserved, automated, and creatively updated, with potentially novel connections and criticisms being drawn out, through the ontology, automatically.

This raises questions for “digital humanities” research, circling us back to the concept of meaning. What is it to have semantic stability? Reference? Significance? General application? Value? What are the most important connections with our notions of meaning and correctness in interpretation? Each of the four essays in this first section of the book addresses these questions. The first two aim, straightforwardly, at setting out a fundamental ontology for emerging media.

Barry Smith broadens the traditional notion of “media”, including the result of the Internet’s enabling of new communication channels earmarked by rapid creation and customization and by the proliferation of digital objects and their practically cost-free dissemination. These have led to *new* kinds of mass audience, thus expanding the social ontology. Smith stresses future potentialities: emerging subgenres of Internet art, journalism, science, and financial institutions proliferate new entities, as do Second Life and war-gaming. The philosophical need is to extend the notion of an individual “speech act” to a new theory of “document acts”, explaining how emerging media impact human beings. This, he argues, is as yet “hardly understood”. Smith closes his chapter with a call to study digital artifacts and the way humans interact with them. This constitutes part of the larger fabric of social reality, as opposed to a distinct and separable category that would carry with it a subordinate or less-than-real degree of meaningfulness to humans. In this call, he holds that our electronic lives and virtual realities are every bit as real as our spatio-temporal physical existence.

Peter Simons analyzes the concept of “emergence” in the nineteenth century—typically associated with concepts of life and mind. He distinguishes several varieties of emergence, arguing that the specific notion of a “medium” and the taxonomy of varieties of such is currently less well understood and characterized. To broach a specification, he sketches a rational ontology and taxonomy of media designed to make room for new entities and kinds and at the same time encompass older ones. He then explores the important question of whether novelty in this sense really counts as “emergence” in any philosophically interesting sense. In light of his analysis, he concludes that the seeming newness of contemporary developments in media are not (at least not yet) requiring us to consider emergence in any especially novel philosophical light. Rather, although unexpected in their

consequences, their deeper significance lies within the domain of culture but not philosophy.

Framing a “new realism” to critique postmodernism and Kantian views of our subjective contribution to the determination of metaphysical categories, Maurizio Ferraris argues that semantic “externalism”—according to which the content of a representation or concept is taken to be bound up both with the world outside the representation and the division of linguistic labor shaping its employment—is a needed revision to traditional poststructuralist insistence on the pure conventionality of signs. Contrary to McLuhan’s image of a postscribal culture, transcription and documentation are fundamental elements for philosophers to consider in our age of emerging media. Our age reveals that “documentality”, the massive recording and transcription going on, lie at the true basis of the emergence of normativity and mentality. This turn has implications that go to philosophical questions in the domain of perception and memory. In the domain of ethics, “documentation” is entangled with accountability and moral responsibility, as well as the very ecosystem of the planet, since there are now more cell phones than humans.

Victor J. Krebs by contrast defends McLuhan’s vision of a postscribal culture in light of Emerson, Freud, Gasset, Deleuze, Guattari, and Cavell, arguing that emerging media may help to transform our powers of collective emotion, intuition, empathy, and rationality, thus liberating us to explore our own “spontaneous vitality” and overcome Cartesianism, with its dualism, skepticism, and representational conception of knowledge. In reorienting us toward our own mortality and finitude, philosophy must come to terms with the fate of romanticism as a structure of philosophical response to the world. As we see the plasticity of gender and human sexuality becoming more and more explicit in life and in research, new forms of its representation and articulation disseminating with lightning speed through the Internet, religious, social, and legal institutions must respond. Krebs’s perspective points the way forward in numerous directions, his orientation toward ontologies of emotion and passion offering an excellent segue into the second section of the book, which turns to consider the philosophy of human nature.

2. Perceptions, Perspectives, Transformations

Part of ontology, as we have stressed, has always been the question of specifically *human* being. The essays in this second section of the book confront the question of whether and in which ways human nature, including second nature, may be transformed by means of emerging media. Gordon Graham, an expert on philosophy of religion, turns to the attitudes of philosophers of

the Scottish Enlightenment for some guidance here. Rejecting the purely idealistic approach, Graham locates technological emergence in the interstices of actors and artifacts that provide both the spurs and limits that influence developments on the physical plane and activity on the social plane. Building on this position, and using a particular formulation of it known as actor-network theory (ANT), Graham offers his own conceptualization of an emergent technology. Specifically, he sees that emerging media transforms the cultural and social conditions, having been spurred by people's desire to change their cultural and social conditions, and responding to their needs and desires. He has no truck with teleological explanation for this process but rather draws on evolutionary biology to provide a metaphor, namely spandrels. Invoking Hegel's Owl of Minerva metaphor, he points out that we can only understand the significance and meaning of technological changes in hindsight.

Zsuzsanna Kondor revisits what Heidegger called "the question of technology", demonstrating that communication can only be mediated, and only the formats differ. She problematizes the often cited distinction between so-called old and new media. Kondor sees that new philosophical problems, adumbrated by Heidegger, are introduced by new media due to their intimacy and immediacy. Going beyond any new manifestations of technology and the problems they carry with them, she invokes and defends the basic critical stance of Heidegger, namely the privileging of meditative thinking over calculative thinking. This leaves open, of course, the account of how it is that we *are* rooted in being in the present, emerging world.

Neal Thomas, a philosopher of technology and new media, draws on Habermas and other moderns and postmoderns to explore how documentation techniques change when applied to writing practices, which of course are being dramatically re-configured via social media. Issues of retrievability, including those carried out by disembodied semantic choices, and the economically oriented strategic activities of organizations and individuals, have vast consequences for major social institutions and their practices, particularly in the case of libraries. New media have brought forth what has been called the "search engine society", a moniker that not only highlights the role of information but even extends to the conduct of political and interpersonal affairs, broadly conceived. As a result, Thomas argues, major questions are raised about the quality of life in this society, ones that can help guide us if we have the courage to address them.

James E. Katz and Elizabeth Robinson grapple with the question of whether new media—including social media—by the mere fact of their existence and operation, introduce new and meaningful philosophical questions or rather are simply new ways of engaging in old forms of human activity,

thereby raising no fundamentally novel philosophical issues. After analyzing several perspectives, they steer something of a middle course. They do not see profoundly new questions being raised with contemporary communication technologies, but they do see that this may occur at the margins. They suggest that the process of philosophical inquiry itself can be assisted by new/social media due to the affordances they have as research and communication tools. They also assert that these technologies can shed provocative new light on enduring questions.

3. Time, Fiction, Narrative

It is a truism that the experiences of life and productivity are speeded up with the nearly instantaneous delivery of tweets and text messages among us. Daily short message service (SMS) conversations take place sometimes over a period of years because of this feature of their ease of delivery. At the same time, the ubiquity of multitasking has pressed our activities into multiple dimensions simultaneously, while raising fears of constantly overwhelming expectations and distractions. The philosophy of time—as objectively marked and subjectively experienced—addresses the differing ways in which we may place ourselves in our own, and larger, human histories. The emergence of “selfies”—self-presentations in digital photos and via apps such as Instagram and Snapchat and even by means of drones—is but one example raising a number of questions about self-characterization, reputation, acts, acting, fiction, history, time, and self. What happens when we reflect via machine on what is going on when a teacher teaches us via a massive open on-line course (MOOC), or when we teach ourselves by reading, imagining, or entering a constructed virtual world of questions and answers? Emerging technologies that are cloud-connected have the feature of theoretically possessing information exhaustively, moment by moment, and for an unlimited time. For this reason, ever more apps are being designed to erase, to make words and images and actions at least appear to be appropriately ephemeral. We can then ask, Where in these changes, is the place of time; What narratives can be developed and made meaningful; and What is the role of fiction? The essays in this section of the volume address these issues.

Kristóf Nyíri, invoking Minerva’s Owl, finds that philosophy has, from its beginnings, dealt with emerging media. Yet he also argues that emerging media actually shed light on philosophical questions, allowing deeper insight into issues because of their existence. He suggests that emerging media have helped advance the discipline of philosophy. Even more boldly, Nyíri argues that emerging media themselves have given individuals insight into deep

natural phenomena that affect their lives, the most telling of which is the nature of time. He draws on the Snapchat app, which typically makes a photo disappear after a few seconds, to make his point. The ironies of this, concerning the fleeting and ephemeral quality of experience we increasingly seek to document, and the possession of these “ephemeral” images by the company that retains them over time, is inescapable.

Harvey Cormier considers “binge-watching”, the condensed viewing of a series designed to be doled out over weeks into a few hours of absorption. He argues that what really matters here are the interpretive experiences with which a character confronts us, for we are self-constituting entities. Hume attacked the idea of a self as a freestanding, essentially finished entity, insisting that our singular responses to the world over time, joined via narrative, is really what matters to our sense of self as self. Fiction presents a world that is much more coherent than the real one, lending digital imagery—even binge-watched—a powerful self-constituting potentiality. This is an especially significant point, made daily more evident as we increasingly see the power of citizen videos to create powerful narratives of lives and possible lives, sometimes by documenting specific injustices that galvanize and move people far more massively and viscerally than arguments can. In addition to helping us constitute ourselves, as Hume would have argued, the workings of our imaginations and our passions help us constitute, not only ourselves, but also our social institutions.

John Haldane considers the disappearance not of media but of the visible tools of its production. Rifling through several historical literatures in philosophy, Haldane fruitfully explores the term *emergence* using a tripartite distinction: *epistemical*, *causal*, or *metaphysical*. Among the many thinkers Haldane draws upon are Adam Ferguson (who also is found in Graham’s essay), Kenneth Boulding, and Sol LeWitt. Marshall McLuhan also puts in an appearance. For Haldane, McLuhan’s approach, despite its absence of systematic analysis, provides fascinating if incomplete insights. Haldane concludes that despite myriad advances in communication technology, the basic and essential task of being human—retained and recovered orality—will remain at its base.

Ilit Ferber reflects on themes of sadness and photography in Barthes and Benjamin, offering a suggestive analysis about what is fundamental to that medium, and thereby implicitly raising questions about its essence in the age of Instagram and Snapchat. She shows that sadness, nostalgia, and recovery are defining features of the photographic medium insofar as it serves to directly record, frontally, actual persons and objects in their environment. Her focus is on human faces, eyes, looks, and specific artifacts, rather than

buildings, natural objects, or places. She documents in vivid detail how Barthes's memories are colored, not only by his responses in the present, but also his projections and amalgamations of photographs, persons, faces, events, and places drawn from the past. In short, she argues that emotions and abiding philosophical predicaments of human existence constitute the essence and the possibilities for and of such media. She shows that and how photographic images deliver a unique grasp of ourselves by opening us up, not only to observation and documentation, but to the marks and passions of memory and history.

4. Emergence, Agency, Mind

We have already stressed how important the notion of “emergence” has become to science and technology, as well as to a great variety of media. The questions addressed in this section of the book concern the nature and origins of the notion of “emergence” in connection with logic and mentality, individual and collective. Regardless of whether there really *is* a massive group mind emerging, if people *feel* and *believe* that there is, realities of consciousness, agency, and even, perhaps, reality itself may well be fundamentally altered. Access to cloud computing and nearly instantaneous delivery of information are leading to new conceptions of what consciousness and agency are and how these might be newly conceived as embodied. The creation and emergence, not only of novel forms of analogy and explanation, but of our very conceptions of rules, everyday life, and human action, are at issue.

Juliet Floyd explores Alan Turing's philosophical contributions to the digital age. Turing generalized the fact of “medium” to the utmost degree by taking an abstract mathematical journey into the heart of logic and the foundations of mathematics to create his model of a universal Turing machine, an analysis of the notion of algorithm. He thereby developed concepts that, properly viewed, help to account for the emergence of novel levels of typing, explanation, and organization in life and nature. He based his model on a simple analogy, a comparison with a human calculating with pencil and paper that was also a deep conceptual construct. Floyd argues that Turing's interactions with the philosopher Wittgenstein were of critical importance here. The foundational Turing construct is essentially a “language game,” rather than a reduction: a simplified snapshot of a portion of human linguistic behavior designed to shed light on philosophical and logical issues by limiting certain structurings of questions. Rather than arguing reductively that our brains or minds or bodies *are* digital computers, Turing and Wittgenstein insisted on taking the *interface*, the user end of human activity—including social and

cultural activity—as fundamental, one that comprises the loops that occur when we count words, typings, and how we symbolize and narrate as part of reality itself. The interface, while always at issue, is a shifting point, sensitive to the occasion, codings, perspectives, and values of the participants at issue, while simultaneously reflecting patterns that are ubiquitous and increasingly offloaded and engineered, psychologically and otherwise. This explains the foundational importance of Turing’s model, not only to modern science, through the architecture of computation, but also to philosophy: the permeation of our everyday world by exploratory, designed, and evolving contexts of searching and answering questions from a human standpoint, issuing into an evolving *integration* of human, machine, logic, computation, biology, and culture.

Valérie Aucouturier returns to Anscombe’s neo-Aristotelian conception of human mentality to reconsider debates over whether machines can think. She departs from classical debates over materialism about the mind, and moves to ethics. If we ask *where* the mind is, she argues, we should answer, with Anscombe: it lies in the structure of *intention*, the locus of “practical reason”, the ability of individuals to set forth reasons for their actions. What matters here is the *grammar* of our conception of “intending”, its logic in our words and acts and intentions, rather than in metaphysical composition of either mind or matter. This does not necessarily imply that a thinking, practically agential machine might not come into being. For our system of agency, embedded in our ethical and agential talk, is not dualistic, and may well be being altered within in the grammar of our everyday talk about emerging media, “acts”, and “intentions”.

Aside from pornography, gaming is one of the largest software industries today. Massive application of computer games—sometimes quite serious, as in military and business-competition exercises—has grown in sophistication, ubiquity, and complexity. John R. Sageng explores the question of what computer games *are*, as structured entities, explaining how what he calls “agential properties” emerge in special and unique ways in computer games. Although our image at first may be of robotic humans passively being manipulated by software programmers, there is an argument that the special agential contexts allow for experimentation, self-characterization, and creativity of a new kind.

Antidualistic philosophers have pressed in recent decades beyond the computational mind, to develop the hypothesis that mind and mentality are extended categories stretching beyond the boundary of the inner soul of consciousness of the individual to embrace all kinds of collective and individual embodied and responsive capacities. With the emergence of the Internet, the

crowd sourcing of science and history, advances in neuroscience, and other massive connectivity within the semantic web, a further extension of the concept of mentality has been broached: that of *group* mind, in a massive sense. David Ramsay Steele, long involved with the innovative Open Court Publishing initiative, offers a critical review of this concept of a collective mind as advanced by a variety of thinkers, particularly Michael Chorost (though many others share Chorost's basic thesis). In what can only be described as a systematic disassembling of premise after premise, he argues that there can be no basis to believe that any sort of supra-human consciousness or mind could develop. Does this deny philosophers and neuroscientists the opportunity to speculate further about whether such a mind could exist and what its qualities might be? Or does it foreclose one possibility to allow philosophy to ponder others? He thinks not.

5. Symbols, Speech Acts

If the digital age is founded on the digital computer, from another point of view the machine only realizes, highly efficiently, a long-standing phenomenon: the writing down of thoughts in systematic patterns of expression, often with greater and greater compression of meaningful elements into simple symbols, so as to provide us with routines to follow. When we ask whether there are new ontologies or meanings or semantic categories emerging through emerging media, we need to look toward fundamental philosophical questions about how thought is or is not ultimately to be expressed in language. This section reviews several crucial historical moments in the development of human symbolic capacities when philosophers weighed in on this question, and develops some new ideas about acts of expression and their symbolization in media of differing kinds. The point is to confront well-known episodes in the history of philosophy and mathematics with examples from emerging media.

Of course, it is a truism in philosophy that we must not assume that what people say—especially spontaneously—is the end of the story, or that it can be taken at face value. Often enough in real life, what people say and what they are doing in saying what they say diverge. This is clear enough from the phenomenon of *catfishing*, in which virtual selves are created and used to attempt to find and seduce partners under false pretense. Even more, however, with the advent of Big Data, more and more massive collections are being made of what people say, and these may be compared, in more and more massive ways, with what they actually do. Words, in other words, may be used to do a number of different things at once. Instead of polling by

telephone—always a challenging method, since people often say that they will do things that in the end they do not do—we now have statistical analysis, selective probing, pattern-spotting in all kinds of creative ways, often implemented by machines. Public shaming of unwanted behavior occurs now via Twitter-based pile-ons, creating heated wars with words and selective punishment by ignomy with real-life outcomes, just as in the old New England town square a scarlet letter or stint in the stock delivered punishment by assassination of reputation, facilitating group expression of moral outrage (Ronson 2015; Marche 2015).

David Roochnik reviews the classical debate between Plato and Aristotle on writing, showing its direct relevance for our world of emerging media. Focusing on philosophy as the realization of the highest form of human living and thinking, Plato expressed distrust of the writing of philosophy, developing the dialogue form partly as a literary device to represent philosophy in the life of his teacher Socrates. Socrates did not reduce his philosophy to written form, a gesture useful in warning us about loss of understanding, moral experience, and presence to others facilitated by the distillation of speech into characters and bits of stored information. The bandying about of words in no way guarantees we shall use them with understanding of what we are doing with them. It may even be in the way of guaranteeing losses of understanding, though how much and what the price of this might be is surely up for debate.

Sybille Krämer turns to Leibniz's idea that human thought is always mediated. By the seventeenth century, the time was ripe for discussion of the capacity of human beings to symbolize thought in general. Sparked by logic and mathematics—as well as diplomatic need in the wake of Germany's 30 years' war—Leibniz began to devise a “universal characteristic”, a formal symbolic language of concepts to resolve disputes, genealogies, and scientific systematizations, thereby establishing a true metaphysics. How far we have realized Leibniz's dream of reducing truth to calculative correctness by way of algorithmically shared and analyzed images remains an open question, but not the ubiquity of symbolic mediation of thought. Krämer stresses the importance of *operationalism*, the reduction of truth to correctness characteristic of algorithmic thought, and insists with Leibniz that all thinking as such is mediated.

John Grey explores the distinction between *semantics*—the compositional analysis of what complex grammatical forms of expression mean, based on assignments of meaning to their elements—and *pragmatics*—the study of the range of ways in which people (and, potentially, machines) *do* things with words. For Grey, the distinction is one of stance; for other philosophers of

language it is a question of grounding: after all, at some point we require stability for meaning, given that the very same object can be referred to in innumerable different ways within one language. Grey focuses on how changing perceptions of appropriate utterance shape and stabilize our evolving uses of emerging media, arguing for careful attention to pragmatics and speech act stances for the philosophy of emerging media.

Bruno Ambroise elaborates Austin's notion of a "speech act" in the final essay of this section. Austin's original distinctions were drawn in contexts in which the conventions surrounding face-to-face speech acts and events of signature are clear and easily describable. Invoking the analyses of Bourdieu and Fraenkel, Ambroise questions whether the Austinian analysis can be easily extended into the sphere of emerging media. First, the crucial technological backdrop shapes possibilities of interaction in vastly extended ways. Second, it is not at all obvious what is meant by "new" acts, for example, the concept of "poking" on Facebook. Are they extensions of the human facial interactions and recognitions that neurologists tell us are crucial to our mindedness? Ambroise's analysis invites readers to collect their own examples and extend the Austinian analysis into the world of Big Data.

6. Social Media, Big Data

We turn in the final section to effects of Big Data on social forms of connect- edness, from Skyping to stay in touch and look in on friends and family to the emergence of new forms of media institutions that are supplanting the print- ing press and the newspaper in their traditional forms, to forms of censorship and governance that are more subtle than earlier ones. It is evident that fewer and fewer pieces of handwritten and printed media are being distributed, while consumption of a variety of pieces of news becomes ever more inten- sive, variegated, and potentially instantaneously influential. What does this mean for some of our most hallowed social and political institutions?

Richard H. R. Harper, a researcher at Microsoft Research and author of books about the challenges of object design and texting, addresses the gram- mar of "being in touch", primarily via Skype, though also through other mo- dalities. His coverage of thinkers ranges from John Locke to Peter Winch and technologies from the telegraph to Skype. Harper's analyses bypass tradi- tional social-scientific theory to look at the ordinary-language philosophy of Wittgenstein as extended by the sociologist Harold Garfinkel. That is, he seeks to understand the meaning of what is involved in *specific* acts of com- munication using the technology of Skype. He shows that a new set of prac- tices have arisen that draw profoundly on the visual and procedural, but are

also linked with the spoken word. As such, he melds two philosophical traditions, one focused on meaning and the other on the conduct of human relationships.

Lars Lundsten explores the ontology of media institutions. Drawing on the work of John R. Searle and Roman Ingarden, he discerns three major media institutional types: traditional (which act by proxy), emerging (which function as a form of multiple selves), and collective (which rely on sheer numbers). These are largely determined by their inherent nature and their relationship with external forces, particularly their ability to stand independently. In the pursuit of an ontology of emerging media, Lundsten contributes novel insights by tracking the evolution of our traditional institutional understanding of “media” in light of ontology. He also considers the ethical and political power implications of changing media institutional structures, which are being driven by new media.

Ronald E. Day surveys mid-twentieth-century philosophers in terms of their interpretation, or likely interpretation, of emerging media. In his broad survey, he encompasses critics of metaphysics (Martin Heidegger and Jacques Derrida), defenders of the Enlightenment project of critique (Michel Foucault), and advocates of a normative approach based on communicative theories (Jürgen Habermas). He also discusses those who emphasize continuity (Jean Baudrillard) and new media’s liberating strain from the Western metaphysical tradition (Gilles Deleuze, Félix Guattari, and Antonio Negri). Though precise conclusions are not possible with such a diverse group, Day finds, in general, that these thinkers were and/or would be dubious about the likelihood of emerging media and Big Data to substantially advancing the causes of judgment, freedom, and justice. In this sense, they fulfilled their social role as critics of the “new”.

To consider the issues of privacy, surveillance, and censorship, we turned in our final contribution to Big Data expert Gary King, a professor of government at Harvard known for his contributions to quantitative dimensions of social scientific research. King opens up with us about the challenges and future of Big Data, announcing boldly that the debate between qualitative and quantitative methods is over in social science, if only because of the Niagara’s Fall of data it is now not only possible, but in fact necessary, to collect. We pressed him to make some philosophical conjectures about questions of meaning, governmental authority, forms of democratic infrastructure, and normative ethics.

King’s recent study of China is a fascinating case in point (King, Pan, and Roberts 2014). The first large-scale experimental study of censorship in China—the most elaborate governmental system for Internet content control

in the world—yielded what for King and others are surprising results. Sending a large team of anonymous participants into China, King and his team created a host for different social media sites, contracting with Chinese firms to install the same censoring technologies as currently existed, and then, by means of randomized submitted texts, found that they could measure which kinds of texts were censored, and which were not.

It had previously been assumed that the *content* of the text mattered, that is, that posts critical of the current regime would be more likely to be censored than those that were not. But King and his team discovered that this is not the case. In the eighteenth-century sense of “freedom of speech”—that is, the freedom of an individual to express him- or herself in a pamphlet or on a soapbox or a wall—there is full freedom of speech in China, even the freedom to post vitriolic criticisms of the government at the individual level. However, any post forwarded to a large number of people, or likely to point toward real-world collective action—even those praising the government—is censored. An implication is that we must draw somewhat more complicated lines between freedom of expression and freedom of association in an age of emerging media, and also revisit our basic conceptions of action, intention, and reform in a democratic context.

This allows us to begin drawing some conclusions. King’s work shows us an important philosophical point: there is no excuse any longer for philosophers theorizing about the most fundamental concepts—truth, meaning, freedom, justice, goodness, and so on—to adopt an other-worldly ideal approach, ignoring detailed and situated differences in the context and purposes of speech. What people say and what they do—and how these interact—matter fundamentally to our concepts.

Of course, in some ways, King’s “experiment” is hardly surprising. As always, governmental authorities will seek stability of their regime, and sanction collective action accordingly. In other ways, however, his sophisticated quantitative methods are deeply puzzling. Given that his team took the initiative to go out and *design* the situation, it is arguable that what King did hardly belonged to what is often thought of as Big Data: the passive, automated scraping and collecting and associating by concepts and statistical methods of sorting vast quantities of information. Instead, King and his team were, in well-worn scientific fashion, actively posing a *specific* question and getting at an answer by means of randomized trials and methods.

This suggests that the new methods in social science, although they may spell the end of certain types of discussion and are far more sophisticated in their technological and statistical computing power, are perhaps not all that

new, but return us to old concerns and themes about scientific method and modeling, democratic participation and its meaning, voting and gerrymandering, surveillance and authority, and collective norms. King suggests that a new “treaty” must be forged between corporations (who now hold the bulk of the Big Data), governments (who have, at least in the case of the United States, asserted their right to collect what they will), universities (presumably designed for the betterment of the world), and individuals.

We return to some of the questions canvassed in this introduction in our concluding chapter, a coda to the volume that remixes themes, revisits gaps in our volume, and suggests paths of future research. Collectively, we believe that our authors have deepened and refined conventional wisdom about emerging media by exploring its prospects and implications in relation to traditional philosophical questions. Although they thereby adopt differing perspectives on the nature and import of emerging media for our world, they have done crucial groundclearing in producing a series of themes, arguments, historical analyses, and examples ripe for further reflection and analysis. For several contributors, there is no question that novel communication technologies alter both the philosophical enterprise and the questions that philosophers pose. Yet others are equally convinced that, although such technology can cast new light on these questions, they do not lead to fundamental challenges for philosophy as a discipline or a line of inquiry. We see merit in the latter, because it takes a long view. But we believe the former proposition is more likely to be true, and will more likely characterize future work in all areas of philosophy: armchair, experimental, and otherwise.

Notes

- 1 *Governance*, a term that has come into use since the 1980s, draws attention away from the central, hierarchically organized institutions of state and national governments toward more complex, emergent processes of governing, the majority of which are now lodged in private and voluntary organizations as much as in as public ones. See Bevir (2012).
- 2 <http://putnamphil.blogspot.com/2014/10/high-tech-and-humanities-in-1976-when-i.html>, referring to Francesca Wade, “In Transit: Review of Edith Hall, *Introducing the Ancient Greeks: From Bronze Age Seafarers to Navigators of the Western Mind* (Norton 2014)”, *The Times Literary Supplement*, September 5, 2014, p. 5.
- 3 See, e.g., Hrachovec and Pichler, eds. (2008). Perhaps the most well-known philosophy authors writing in English on the interface between humans and computers are Hubert L. Dreyfus (1972, 1992, 2009), John Searle (1984), and Luciano Floridi (2013, 2014); cf. Floridi and Taddeo (2014), Searle (2014).

References

- Anderson, E. 2010. *The Imperative of Integration*. Princeton, NJ: Princeton University Press.
- Bauer, N. 2015. *How to Do Things with Pornography*. Cambridge, MA: Harvard University Press.
- Bevir, M. 2012. *Governance: A Very Short Introduction*. New York: Oxford University Press.
- Bourdieu, P. 1977. *Outline of a Theory of Practice*. New York: Cambridge University Press.
- Bourdieu, P. 1984. *Distinction: A Social Critique of the Judgment of Taste*. Cambridge, MA: Harvard University Press.
- Bratman, M. 2014. *Shared Agency: A Planning Theory of Acting Together*. New York: Oxford University Press.
- Cole, D. 2015. Must Counterterrorism Cancel Democracy? *The New York Review of Books*, January 8.
- Cudd, A. E. 2006. *Analyzing Oppression*. New York: Oxford University Press.
- Dreyfus, H. L. 1972. *What Computers Can't Do: A Critique of Artificial Reason*. New York: Harper & Row.
- Dreyfus, H. L. 1992. *What Computers Still Can't Do: A Critique of Artificial Reason*. Cambridge, MA: MIT Press.
- Dreyfus, H. L. 2009. *On the Internet*. New York: Routledge.
- Floridi, L. 2013. *The Ethics of Information*. New York: Oxford University Press.
- Floridi, L. 2014. *The Fourth Revolution*. Oxford: Oxford University Press.
- Floridi, L. and Taddeo, M. 2014. *The Ethics of Information Warfare*. Law, Governance and Technology Series 14. Switzerland: Springer International Publishing.
- Gilbert, M. 2014. *Joint Commitment: How We Make the Social World*. New York: Oxford University Press.
- Gleick, J. 1988. *Chaos: Making a New Science*. New York: Penguin.
- Haslanger, S. 2012. *Resisting Reality: Social Construction and Social Critique*. New York: Oxford University Press.
- Hrachovec, H. and Pichler, A., eds. 2008. *Philosophy of the Information Society. Publications of the Austrian Ludwig Wittgenstein Society, New Series Vol. 7*. Heusenstamm, Germany: Ontos Verlag.
- Johnson, S. 2001/2014. *Emergence: The Connected Lives of Ants, Brains, Cities and Software*. New York: Scribner.
- King, G., Pan, J., and Roberts, M. E. 2014. Reverse-engineering Censorship in China: Randomized Experimentation and Participant Observation. *Science*, 345, 6199, August 22: 859–892.
- Langton, R. 2009. *Sexual Solipsism: Philosophical Essays on Pornography and Objectification*. New York: Oxford University Press.

- Lanier, J. 2013. *Who Owns the Future?* New York: Simon & Schuster.
- Lee, S. S., Koenig, B. A., and Richardson, S. S. 2008. *Revisiting Race in a Genomic Age*. New Brunswick, NJ: Rutgers University Press.
- Maitra, I. and McGowan, M. K., eds. 2012. *Speech and Harm: Controversies over Free Speech*. New York: Oxford University Press.
- Marche, S. 2015. The Epidemic of Facelessness. *The New York Times* Opinion Page, February 14.
- Millikan, R. 2009a. Biosemantics. In B. P. McLaughlin and A. Beckerman, eds., *The Oxford Handbook of Philosophy of Mind*, 281–297. New York: Oxford University Press.
- Millikan, R. 2009b. Embedded Rationality. In M. Aydede and P. Robbins, eds., *The Cambridge Handbook of Situated Cognition*, 171–183. New York: Cambridge University Press.
- Mills, C. 1997. *The Racial Contract*. Ithaca: Cornell University Press.
- Mills, C. 1998. *Blackness Visible: Essays on Philosophy and Race*. Ithaca: Cornell University Press.
- Mills, C. and Pateman, C. 2007. *The Contract and Domination*. Cambridge, UK: Polity Press.
- Pettit, P. 2003. Groups with Minds of Their Own. In F. Schmitt, ed., *Socializing Metaphysics: The Nature of Social Reality*, 167–195. Lanham, MD: Rowman and Littlefield.
- Pettit, P. and Schweikard, D. 2006. Joint Actions and Group Agents. *Philosophy of the Social Sciences*, 36(1): 18–39.
- Pichler, A. and Zöllner-Weber, A. 2013. Sharing and Debating Wittgenstein Using an Ontology. *Literary and Linguistic Computing*, 28(4): 700–707.
- Richardson, S. S. 2013. *Sex Itself: The Search for Male and Female in the Human Genome*. Chicago: University of Chicago Press.
- Ronson, J. 2015. Justine Sacco's Life. *The New York Times Magazine*, February 12.
- Schechtman, M. 2012. The Story of My (Second) Life: Virtual Worlds and Narrative Identity. *Philosophy and Technology*, 25: 329–343.
- Searle, J. R. 1984. *Minds, Brains and Science: The 1984 Reith Lectures*. Cambridge, MA: Harvard University Press.
- Searle, J. R. 1995. *The Construction of Social Reality*. New York: Free Press.
- Searle, J. R. 2010. *Making the Social World: The Structure of Human Civilization*. New York: Oxford University Press.
- Searle, J. 2014. What Your Computer Can't Know: Review of L Floridi, *The Philosophy of Information* and Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies*. *The New York Review of Books*, October 9.
- Velleman, J. D. 2008. Bodies, Selves. *American Imago*, 65(3): 405–426.
- Yancy, G. 2015. Series of interviews on race in the Opinionator section of *The New York Times* 2014–2015 (at <http://opinionator.blogs.nytimes.com/tag/philosophers-on-race/>).

- Wittgenstein, L. 2009. *Philosophische Untersuchungen = Philosophical Investigations*. Eds. and trans. G. E. M. Anscombe, P. M. S. Hacker, and J. Schulte. Chichester, England; Malden, MA: Wiley-Blackwell.
- Wade, F. 2014. In Transit: Review of Edith Hall. *Introducing the Ancient Greeks: From Bronze Age Seafarers to Navigators of the Western Mind*. Norton 2014. *The Times Literary Supplement*. September 5.
- Williams, B. 1987/2014. Review of Marvin Minsky, *The Society of Mind*. In *Essays and Reviews, 1959–2002*, 274–282. Princeton, NJ: Princeton University Press. Originally published in *The New York Review of Books*, June 11, 1987.
- Wolfram, S. 2002. *A New Kind of Science*. Champaign, IL: Wolfram Media.



Ontology

The world is increasingly populated by technologies of information and media. Our world and daily lives are becoming saturated with these technologies. But how can we characterize these technologies systematically and scientifically, and what does it mean to properly identify them? We need ontology—including social ontology—to make judgments about which analytical categories should be used and to make intelligible decisions about how we organize objects and thoughts about the field. Headlines generated by the media direct attention to the latest and greatest, and, of course, the flashiest, advances in technological capabilities. But too-heavy reliance on fascination for the new obscures distinctions between essential and accidental properties governing information and media artifacts. It thereby prevents the sort of deeper rooted and historically based understanding we need. Absent this understanding, we overlook the commonalities and constraints inherited from earlier regimes of media and documentation, and we fail to see what is stable, and what is not.

The essays in this section concern how one might aim to characterize and describe the fundamental nature of emerging media. Although the essay's methodological approaches vary, and authors deal with topics ranging from financial instruments to neo-Romanticism, the ontological questions they raise form a unified, though not exhaustive, response to these issues.

