CONTENTS

Trade 2-49

Academic Trade 50-58

Professional 59-86

Paperback Reprints 87-107

Journals 108-111

The Digital MIT Press 112

Order Information 114-117

Index 118-120

Paperback Highlights 121-123

Recent Highlights 124-125

Gift Books 126-Inside Back Cover

DISTRIBUTED BY THE MIT PRESS 43-49

Goldsmiths Press 43

Semiotext(e) 44-47

Zone 48

Afterall 49

Front cover: Images courtesy of The Active Network LLC.
From Thirtyfour Campgrounds.

Inside Front: Bruce Davidson, Camp Ground no. 4, Yosemite National Park (1966). © Bruce Davidson / Magnum.
Photos From Thirtyfour Campgrounds.
“Gazzaley and Rosen’s work is brilliant and practical, just what we need in these techno-human times.”

—JACK KORNFIELD, Author of The Wise Heart
The Distracted Mind
Ancient Brains in a High-Tech World
Adam Gazzaley and Larry D. Rosen

Most of us will freely admit that we are obsessed with our devices. We pride ourselves on our ability to multitask—read work email, reply to a text, check Facebook, watch a video clip. Talk on the phone, send a text, drive a car. Enjoy family dinner with a glowing smartphone next to our plates. We can do it all, 24/7! Never mind the errors in the email, the near-miss on the road, and the unheard conversation at the table. In *The Distracted Mind*, Adam Gazzaley and Larry Rosen—a neuroscientist and a psychologist—explain why our brains aren’t built for multitasking, and suggest better ways to live in a high-tech world without giving up our modern technology.

The authors explain that our brains are limited in their ability to pay attention. We don’t really multitask but rather switch rapidly between tasks. Distractions and interruptions, often technology-related—referred to by the authors as “interference”—collide with our goal-setting abilities. We want to finish this paper/spreadsheet/sentence, but our phone signals an incoming message and we drop everything. Even without an alert, we decide that we “must” check in on social media immediately.

Gazzaley and Rosen offer practical strategies, backed by science, to fight distraction. We can change our brains with meditation, video games, and physical exercise; we can change our behavior by planning our accessibility and recognizing our anxiety about being out of touch even briefly. They don’t suggest that we give up our devices, but that we use them in a more balanced way.

Adam Gazzaley is Professor in the Departments of Neurology, Physiology, and Psychiatry at the University of California, San Francisco, where he is also Director of the Neuroscience Imaging Center. He wrote and hosted the PBS special “The Distracted Mind with Dr. Adam Gazzaley.” Larry D. Rosen is Professor Emeritus of Psychology at California State University, Dominguez Hills. He is a blogger for *Psychology Today* and the author of *iDisorder: Understanding Our Obsession with Technology and Overcoming Its Hold on Us* and six other books.

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In the year 2014, Google fired a shot heard all the way to Detroit. Google’s newest driverless car had no steering wheel and no brakes. The message was clear: cars of the future will be born fully autonomous, with no human driver needed. In the coming decade, self-driving cars will hit the streets, rearranging established industries and reshaping cities, giving us new choices in where we live and how we work and play.

In this book, Hod Lipson and Melba Kurman offer readers insight into the risks and benefits of driverless cars and a lucid and engaging explanation of the enabling technology. Recent advances in software and robotics are toppling long-standing technological barriers that for decades have confined self-driving cars to the realm of fantasy. A new kind of artificial intelligence software called deep learning gives cars rapid and accurate visual perception. Human drivers can relax and take their eyes off the road.

When human drivers let intelligent software take the wheel, driverless cars will offer billions of people all over the world a safer, cleaner, and more convenient mode of transportation. Although the technology is nearly ready, car companies and policy makers may not be. The authors make a compelling case for why government, industry, and consumers need to work together to make the development of driverless cars our society’s next “Apollo moment.”

Hod Lipson is Professor of Mechanical Engineering at Columbia University. Melba Kurman writes about disruptive technologies. Lipson and Kurman are the authors of the award-winning book Fabricated: The New World of 3D Printing.
The Apparently Marginal Activities of Marcel Duchamp

Elena Filipovic

This groundbreaking book tells a new story of the twentieth century’s most influential artist, recounted not so much through his artwork as through his “non-art” work. Marcel Duchamp is largely understood in critical and popular discourse in terms of the objects he produced—whether readymade or meticulously fabricated. Elena Filipovic asks us instead to understand Duchamp’s art through activities not normally seen as artistic—from exhibition making and art dealing to administrating and publicizing. These were no occasional pursuits; Filipovic argues that for Duchamp, these curatorial tasks were a veritable lifework.

Filipovic traces a variety of practices and projects undertaken by Duchamp from 1913 to 1969, from the invention of the readymade to the release of his last, posthumous work. She examines Duchamp’s note writing, archiving, and quasi-photographic activities, which resulted in *The Box of 1914* and *La Boîte verte*; his art dealing, marketing, and curating that culminated in experimental exhibitions for the Surrealists and his miniature museum, *La Boîte-en-valise*; and his administrative efforts and clandestine maneuvering in order to realize his posthumous *Étant donnés*. Filipovic’s detailed study proposes that Duchamp’s “non-art” labor, and in particular his curatorial strategies, more than merely accompanied his artworks; in a certain sense, they made them.

Duchamp’s elusive but vital activities revealed how artworks signify and are transformed by their institutional context. These activities were, in short, only apparently marginal. With them, Duchamp revised the idea of what a modern artist could be. With this fascinating book, Filipovic in turn revises our ideas of Duchamp.

Elena Filipovic, an art historian, is Director and Chief Curator of the Kunsthalle Basel. Among her curatorial projects is the traveling retrospective “Marcel Duchamp: A Work That Is Not a Work ‘of Art’” (2008–2009).

The heat-sensitive cover transforms at a touch.
Experience
Culture, Cognition, and the Common Sense
edited by Caroline A. Jones, David Mather, and Rebecca Uchill

*Experience* offers a reading experience like no other. A heat-sensitive cover by Olafur Eliasson reveals words, colors, and a drawing when touched by human hands. Endpapers designed by Carsten Höller are printed in ink containing carefully calibrated quantities of the synthesized human pheromones estratetraenol and androstadienone, evoking the suggestibility of human desire. The margins and edges of the book are designed by Tauba Auerbach in complementary colors that create a dynamically shifting effect when the book is closed. When the book is opened, bookmarks cascade from the center, emerging from spider web prints by Tomás Saraceno. *Experience* produces experience while bringing the concept itself into relief as an object of contemplation. The sensory experience of the book as a physical object resonates with the intellectual experience of the book as a container of ideas.

*Experience* convenes a conversation with artists, musicians, philosophers, anthropologists, historians, and neuroscientists, each of whom explores aspects of sensorial and cultural realms of experience. The texts include new essays written for this volume and classic texts by such figures as William James and Michel Foucault. The first publication from MIT’s Center for Art, Science, & Technology (CAST), *Experience* approaches its subject through multiple modes.

Caroline A. Jones is Professor of Art History in the History, Theory, Criticism section of the Department of Architecture at MIT. She is the editor of *Sensorium: Embodied Experience, Technology, and Contemporary Art* (MIT Press). David Mather is Assistant Professor of Art History at the State University of New York, Stony Brook. Rebecca Uchill is cofounder of Experience Economies, a curatorial collaboration, and a CAST Postdoctoral Fellow.

Contributors
Tauba Auerbach, Bevil Conway, John Dewey, Olafur Eliasson, Michel Foucault, Adam Frank, Vittorio Gallese, Renée Green, Stefan Helmreich, Carsten Höller, Edmund Husserl, William James, Caroline A. Jones, Douglas Kahn, Brian Kane, Leah Kelly, Bruno Latour, Alvin Lucier, David Mather, Mara Mills, Alva Noë, Jacques Rancière, Michael Rossi, Tomás Saraceno, Natasha Schüll, Joan W.Scott, Tino Sehgal, Alma Steingart, Josh Tenenbaum, Rebecca Uchill

A book that produces sensory experiences while bringing the concept of experience itself into relief as a subject of criticism and an object of contemplation.

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Copublished with the Center for Art, Science & Technology (CAST), MIT
Traditional network television programming has always followed the same script: executives approve a pilot, order a trial number of episodes, and broadcast them, expecting viewers to watch a given show on their television sets at the same time every week. But then came Netflix’s House of Cards. Netflix gauged the show’s potential from data it had gathered about subscribers’ preferences, ordered two seasons without seeing a pilot, and uploaded the first thirteen episodes all at once for viewers to watch whenever they wanted on the devices of their choice.

In this book, Michael Smith and Rahul Telang, experts on entertainment analytics, show how the success of House of Cards upended the film and TV industries—and how companies like Amazon and Apple are changing the rules in other entertainment industries, notably publishing and music. We’re living through a period of unprecedented technological disruption in the entertainment industries. Just about everything is affected: pricing, production, distribution, piracy. Smith and Telang discuss niche products and the long tail, product differentiation, price discrimination, and incentives for users not to steal content. To survive and succeed, businesses have to adapt rapidly and creatively. Smith and Telang explain how.

How can companies discover who their customers are, what they want, and how much they are willing to pay for it? Data. The entertainment industries must learn to play a little “moneyball.” The bottom line: follow the data.

Michael D. Smith is Professor of Information Systems and Marketing at Carnegie Mellon University’s Heinz College, where Rahul Telang is Professor of Information Systems and Management. Smith and Telang are Codirectors of the Initiative for Digital Entertainment Analytics (IDEA) at Carnegie Mellon.

“Streaming, Sharing, Stealing is a must-read for anyone wanting to understand how technology is reshaping the entertainment industries.”

—Chris Anderson, CEO, 3D Robotics, author of The Long Tail
The Science of Managing Our Digital Stuff

Ofer Bergman and Steve Whittaker

Each of us has an ever-growing collection of personal digital data: documents, photographs, PowerPoint presentations, videos, music, emails and texts sent and received. To access any of this, we have to find it. The ease (or difficulty) of finding something depends on how we organize our digital stuff. In this book, personal information management (PIM) experts Ofer Bergman and Steve Whittaker explain why we organize our personal digital data the way we do and how the design of new PIM systems can help us manage our collections more efficiently.

Bergman and Whittaker report that many of us use hierarchical folders for our personal digital organizing. Critics of this method point out that information is hidden from sight in folders that are often within other folders so that we have to remember the exact location of information to access it. Because of this, information scientists suggest other methods: search, more flexible than navigating folders; tags, which allow multiple categorizations; and group information management. Yet Bergman and Whittaker have found in their pioneering PIM research that these other methods that work best for public information management don’t work as well for personal information management.

Bergman and Whittaker describe personal information collection as curation: we preserve and organize this data to ensure our future access to it. Unlike other information management fields, in PIM the same user organizes and retrieves the information. After explaining the cognitive and psychological reasons that so many prefer folders, Bergman and Whittaker propose the user-subjective approach to PIM, which does not replace folder hierarchies but exploits these unique characteristics of PIM.

Ofer Bergman is Senior Lecturer in the Department of Information Science at Bar-Ilan University. Steve Whittaker is Professor of Human-Computer Interaction at the University of California, Santa Cruz.
The Wild and the Wicked
On Nature and Human Nature

Benjamin Hale

Most of us think that in order to be environmentalists, we have to love nature. Essentially, we should be tree huggers—embracing majestic redwoods, mighty oaks, graceful birches, etc. We ought to eat granola, drive hybrids, cook tofu, and write our appointments in Sierra Club calendars. Nature’s splendor, in other words, justifies our protection of it. But, asks Benjamin Hale in this provocative book, what about tsunamis, earthquakes, cancer, bird flu, killer asteroids? They are nature, too.

For years, environmentalists have insisted that nature is fundamentally good. In The Wild and the Wicked, Benjamin Hale adopts the opposite position—that much of the time nature can be bad—in order to show that even if nature is cruel, we still need to be environmentally conscientious. Hale argues that environmentalists needn’t be so concerned to defend the value of nature, or even to adopt the attitudes of tree-hugging nature lovers. We can acknowledge nature’s indifference and periodic hostility. Deftly weaving anecdote and philosophy, he shows that we don’t need to love nature to be green. What really ought to be driving our environmentalism is our humanity, not nature’s value.

Hale argues that our unique burden as human beings is that we can act for reasons, good or bad. He claims that we should be environmentalists because environmentalism is right, because we humans have the capacity to be better than nature. As humans, we fail to live up to our moral potential if we act as brutally as nature. Hale argues that despite nature’s indifference to the plight of humanity, humanity cannot be indifferent to the plight of nature.

Benjamin Hale is Associate Professor of Environmental Studies and Philosophy at the University of Colorado Boulder.
Innovating
A Doer’s Manifesto for Starting from a Hunch, Prototyping Problems, Scaling Up, and Learning to Be Productively Wrong

Luis Perez-Breva

Innovation is the subject of countless books and courses, but there’s very little out there about how you actually innovate. Innovation and entrepreneurship are not one and the same, although aspiring innovators often think of them that way. They are told to get an idea and a team and to build a show-and-tell for potential investors. In Innovating, Luis Perez-Breva describes another approach—a doer’s approach developed over a decade at MIT and internationally in workshops, classes, and companies. He shows that to start innovating it doesn’t require an earth-shattering idea; all it takes is a hunch. Anyone can do it. By prototyping a problem and learning by being wrong, innovating can be scaled up to make an impact. Perez-Breva shows that at the outset of what we later celebrate as “innovations” nothing is new.

In Innovating, the process—illustrated by unique and dynamic artwork—is shown to be empirical, experimental, nonlinear, and incremental. You give your hunch the structure of a problem. Anything can be a part. Your innovating accrues other people’s knowledge and skills. Perez-Breva describes how to create a kit for innovating, and outlines questions that will help you think in new ways. Finally, he shows how to systematize what you’ve learned: to advocate, communicate, scale up, manage innovating continuously, and document—“you need a notebook to converse with yourself,” he advises. Everyone interested in innovating also needs to read this book.

Luis Perez-Breva, an innovator and entrepreneur, is a Lecturer and a Research Scientist at MIT’s School of Engineering and the originator and Lead Instructor of the MIT Innovation Teams Program.
Impossible Languages
Andrea Moro

Can there be such a thing as an impossible human language? A biologist could describe an impossible animal as one that goes against the physical laws of nature (entropy, for example, or gravity). Are there any such laws that constrain languages? In this book, Andrea Moro—a distinguished linguist and neuroscientist—investigates the possibility of impossible languages, searching, as he does so, for the indelible “fingerprint” of human language.

Moro shows how the very notion of impossible languages has helped shape research on the ultimate aim of linguistics: to define the class of possible human languages. He takes us beyond the boundaries of Babel, to the set of properties that, despite appearances, all languages share, and explores the sources of that order, drawing on scientific experiments he himself helped design. Moro compares syntax to the reverse side of a tapestry revealing a hidden and apparently intricate structure. He describes the brain as a sieve, considers the reality of (linguistic) trees, and listens for the sound of thought by recording electrical activity in the brain. Words and sentences, he tells us, are like symphonies and constellations: they have no content of their own; they exist because we listen to them and look at them. We are part of the data.

Andrea Moro is Professor of General Linguistics at the Institute for Advanced Study IUSS Pavia, Italy, where he is also Director of the Research Center for Neurolinguistics and Theoretical Syntax (NEtS). He is the author of The Boundaries of Babel: The Brain and the Enigma of Impossible Languages (MIT Press) and other books.

An investigation into the possibility of impossible languages, and the search for the indelible “fingerprint” of human language.

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Hate Spin
The Manufacture of Religious Offense and Its Threat to Democracy

Cherian George

In the United States, elements of the religious right fuel fears of an existential Islamic threat, spreading anti-Muslim rhetoric into mainstream politics. In Indonesia, Muslim absolutists urge suppression of churches and minority sects, fostering a climate of rising intolerance. In India, Narendra Modi’s radical supporters instigate communal riots and academic censorship in pursuit of their Hindu nationalist vision. Outbreaks of religious intolerance are usually assumed to be visceral and spontaneous. But in *Hate Spin*, Cherian George shows that they often involve sophisticated campaigns manufactured by political opportunists to mobilize supporters and marginalize opponents. Right-wing networks orchestrate the giving of offense and the taking of offense as instruments of identity politics, exploiting democratic space to promote agendas that undermine democratic values.

George calls this strategy “hate spin”—a double-sided technique that combines hate speech (incitement through vilification) with manufactured offense-taking (the performing of righteous indignation). It is deployed in societies as diverse as Buddhist Myanmar and Orthodox Christian Russia. George looks at the world’s three largest democracies, where intolerant groups within India’s Hindu right, America’s Christian right, and Indonesia’s Muslim right are all accomplished users of hate spin. He also shows how the Internet and Google have opened up new opportunities for cross-border hate spin.

George argues that governments must protect vulnerable communities by prohibiting calls to action that lead directly to discrimination and violence. But laws that try to protect believers’ feelings against all provocative expression invariably backfire. They arm hate spin agents’ offense-taking campaigns with legal ammunition. Anti-discrimination laws and a commitment to religious equality will protect communities more meaningfully than misguided attempts to insulate them from insult.

*Cherian George* is Associate Professor in the Department of Journalism at Hong Kong Baptist University. He is the author of *Freedom from the Press: Journalism and State Power in Singapore* and other books.

How right-wing political entrepreneurs around the world use religious offense—both given and taken—to mobilize supporters and marginalize opponents.

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6 x 9, 288 pp.
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Information Policy series
Portland, Oregon, is one of the most beautiful, livable cities in the United States. It has walkable neighborhoods, bike lanes, low-density housing, public transportation, and significant green space—not to mention craft-beer bars and locavore food trucks. But liberal Portland is also the whitest city in the country. This is not circumstance; the city has a long history of officially sanctioned racialized displacement that continues today.

Over the last two and a half decades, Albina—the one major Black neighborhood in Portland—has been systematically uprooted by market-driven gentrification and city-renewal policies. African Americans in Portland were first pushed into Albina and then contained there through exclusionary zoning, predatory lending, and racist real estate practices. Since the 1990s, they’ve been aggressively displaced—by rising housing costs, developers eager to get rid of low-income residents, and overt city policies of gentrification.

Displacement and disposessions are convulsing cities across the globe, becoming the dominant urban narratives of our time. In What a City Is For, Matt Hern uses the case of Albina, as well as similar instances in New Orleans and Vancouver, to investigate gentrification in the twenty-first century. In an engaging narrative, effortlessly mixing anecdote and theory, Hern questions the notions of development, private property, and ownership. Arguing that home ownership drives inequality, he wants us to disown ownership. How can we reimagine the city as a post-ownership, post-sovereign space? Drawing on solidarity economics, cooperative movements, community land trusts, indigenous conceptions of alternative sovereignty, the global commons movement, and much else, Hern suggests repudiating development in favor of an incrementalist, non-market-driven unfolding of the city.

Matt Hern is Codirector of 2+10 Industries, teaches at multiple universities, and lectures widely. He is the author of Common Ground in a Liquid City.
Free Innovation

Eric von Hippel

In this book, Eric von Hippel, author of the influential *Democratizing Innovation*, integrates new theory and research findings into the framework of a “free innovation paradigm.” Free innovation, as he defines it, involves innovations developed by consumers who are self-rewarded for their efforts, and who give their designs away “for free.” It is an inherently simple grassroots innovation process, unencumbered by compensated transactions and intellectual property rights.

Free innovation is already widespread in national economies and is steadily increasing in both scale and scope. Today, tens of millions of consumers are collectively spending tens of billions of dollars annually on innovation development. However, because free innovations are developed during consumers’ unpaid, discretionary time and are given away rather than sold, their collective impact and value have until very recently been hidden from view. This has caused researchers, governments, and firms to focus too much on the Schumpeterian idea of innovation as a producer-dominated activity.

Free innovation has both advantages and drawbacks. Because free innovators are self-rewarded by such factors as personal utility, learning, and fun, they often pioneer new areas before producers see commercial potential. At the same time, because they give away their innovations, free innovators generally have very little incentive to invest in diffusing what they create, which reduces the social value of their efforts.

The best solution, von Hippel and his colleagues argue, is a division of labor between free innovators and producers, enabling each to do what they do best. The result will be both increased producer profits and increased social welfare—a gain for all.

Eric von Hippel, the T. Wilson (1953) Professor of Technological Innovation at the MIT Sloan School of Management, is a leading research scholar on the economics and management of free, open, and distributed innovation.
Building Old Cambridge
Susan E. Maycock and Charles M. Sullivan
foreword by Jill Lepore
preface by William B. King

Old Cambridge is the traditional name of the once-isolated community that grew up around the early settlement of Newtowne, which served briefly as the capital of the Massachusetts Bay Colony and then became the site of Harvard College. This abundantly illustrated volume from the Cambridge Historical Commission traces the development of the neighborhood as it became a suburban community and bustling intersection of town and gown. Based on the city’s comprehensive architectural inventory and drawing extensively on primary sources, Building Old Cambridge considers how the social, economic, and political history of Old Cambridge influenced its architecture and urban development.

Old Cambridge was famously home to such figures as the proscribed Tories William Brattle and John Vassall; authors Henry Wadsworth Longfellow and William Dean Howells; publishers Charles C. Little, James Brown, and Henry O. Houghton; developer Gardiner Greene Hubbard, a founder of Bell Telephone; and Charles Eliot, the landscape architect. Throughout its history, Old Cambridge property owners have engaged some of the country’s most talented architects, including Peter Harrison, H. H. Richardson, Eleanor Raymond, Carl Koch, and Benjamin Thompson.

The authors explore Old Cambridge’s architecture and development in the context of its social and economic history; the development of Harvard Square as a commercial center and regional mass transit hub; the creation of parks and open spaces designed by Charles Eliot and the Olmsted Brothers; and the formation of a thriving nineteenth-century community of booksellers, authors, printers, and publishers that made Cambridge a national center of the book industry. Finally, they examine Harvard’s relationship with Cambridge and the community’s often impassioned response to the expansive policies of successive Harvard administrations.

Susan E. Maycock is an architectural historian and Survey Director of the Cambridge Historical Commission.

Charles M. Sullivan, a city planner, has been Executive Director of the Cambridge Historical Commission since 1974.
The End of Ownership
Personal Property in the Digital Economy
Aaron Perzanowski and Jason Schultz

If you buy a book at the bookstore, you own it. You can take it home, scribble in the margins, put it on the shelf, lend it to a friend, sell it at a garage sale. But is the same thing true for the ebooks or other digital goods you buy? Retailers and copyright holders argue that you don’t own those purchases, you merely license them. That means your ebook vendor can delete the book from your device without warning or explanation—as Amazon deleted Orwell’s 1984 from the Kindles of surprised readers several years ago. These readers thought they owned their copies of 1984. Until, it turned out, they didn’t. In The End of Ownership, Aaron Perzanowski and Jason Schultz explore how notions of ownership have shifted in the digital marketplace, and make an argument for the benefits of personal property.

Of course, ebooks, cloud storage, streaming, and other digital goods offer users convenience and flexibility. But, Perzanowski and Schultz warn, consumers should be aware of the tradeoffs involving user constraints, permanence, and privacy. The rights of private property are clear, but few people manage to read their end user agreements. Perzanowski and Schultz argue that introducing aspects of private property and ownership into the digital marketplace would offer both legal and economic benefits. But, most important, it would affirm our sense of self-direction and autonomy. If we own our purchases, we are free to make whatever lawful use of them we please. Technology need not constrain our freedom; it can also empower us.

Aaron Perzanowski is Professor of Law at Case Western Reserve University. Jason Schultz is Professor of Clinical Law at New York University School of Law and Director of NYU’s Technology Law and Policy Clinic.

An argument for retaining the notion of personal property in the products we “buy” in the digital marketplace.

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6 illus.
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The Information Society series
Bad Call
Technology’s Attack on Referees and Umpires and How to Fix It

Harry Collins, Robert Evans, and Christopher Higgins

Good call or bad call, referees and umpires have always had the final say in sports. Bad calls are more visible: plays are televised backward and forward and in slow motion. New technologies—the Hawk-Eye system used in tennis and cricket, for example, and the goal-line technology used in English football—introduced to correct bad calls sometimes get it right and sometimes get it wrong, but almost always undermine the authority of referees and umpires. Bad Call looks at the technologies used to make refereeing decisions in sports, analyzes them in action, and explains the consequences.

Used well, technologies can help referees reach the right decision and deliver justice for fans: a fair match in which the best team wins. Used poorly, however, decision-making technologies pass off statements of probability as perfect accuracy and perpetuate a mythology of infallibility. The authors re-analyze three seasons of play in English Premier League football, and discover that goal-line technology was irrelevant; so many crucial wrong decisions were made that different teams should have won the Premiership, advanced to the Champions League, and been relegated. Simple video replay could have prevented most of these bad calls. (Major League Baseball learned this lesson, introducing expanded replay after a bad call cost Detroit Tigers pitcher Armando Galarraga a perfect game.)

What matters in sports is not computer-generated projections of ball position but what is seen by the human eye—reconciling what the sports fan sees and what the game official sees.

Harry Collins is Distinguished Research Professor at Cardiff University, School of Social Sciences, and Director of KES—the Centre for the Study of Knowledge, Expertise and Science. He is the author of The Golem: What You Should Know about Science and other books. Robert Evans is Personal Chair in the Cardiff School of Social Sciences. Christopher Higgins is a PhD candidate at Cardiff University.
Ecologies of Power
Countermapping the Logistical Landscapes and Military Geographies of the U.S. Department of Defense

Pierre Bélanger and Alexander Arroyo

This book is not about war, nor is it a history of war. Avoiding the shock and awe of wartime images, it explores the contemporary spatial configurations of power camouflaged in the infrastructures, environments, and scales of military operations. Instead of wartime highs, this book starts with drawdown lows, when demobilization and decommissioning morph into realignment and pre-positioning. It is in this transitional milieu that the full material magnitudes and geographic entanglements of contemporary militarism are laid bare. Through this perpetual cycle of buildup and breakdown, the U.S. Department of Defense—the single largest developer, landowner, equipment contractor, and energy consumer in the world—has engineered a planetary assemblage of “operational environments” in which militarized, demilitarized, and non-militarized landscapes are increasingly inextricable.

In a series of critical cartographic essays, Pierre Bélanger and Alexander Arroyo trace this footprint far beyond the battlefield, countermapping the geographies of U.S. militarism across five of the most important and embattled operational environments: the ocean, the atmosphere, the highway, the city, and the desert. From the Indian Ocean atoll of Diego Garcia to the defense-contractor archipelago around Washington, D.C.; from the A01 Highway circling Afghanistan’s high-altitude steppe to surveillance satellites pinging the planet from low-earth orbit; and from the vast cold chain conveying military perishables worldwide to the global constellation of military dumps, sinks, and scrapyards, the book unearths the logistical infrastructures and residual landscapes that render strategy spatial, militarism material, and power operational. In so doing, Bélanger and Arroyo reveal unseen ecologies of power at work in the making and unmaking of environments—operational, built, and otherwise—to come.

Pierre Bélanger is Associate Professor of Landscape Architecture at Harvard University’s Graduate School of Design. Alexander Arroyo is a doctoral student in Geography at the University of California, Berkeley.
Thirtyfour Campgrounds

Martin Hogue

Camping can make us feel a powerful connection to nature and our rugged backwoods forebears. Campers once confronted the elemental facts of life, but now, the millions of Americans taking to the road on camping trips are more likely to drive to a campground, hook up service conduits, connect to WiFi, drop their awnings, and set out patio chairs. It is as if, Martin Hogue observes, each campsite functions as a stage upon which campers perform a series of ritualized activities (pitching the tent, building a fire, cooking over flames). In Thirtyfour Campgrounds, Hogue investigates these sites, individually and in multiples, offering a photographic and typological survey of nearly 6,500 American campsites, mapping subtle differences within the apparently identical.

The central part of the book consists of color photographs of individual campsites, downloaded from such online reservation websites as koa.com and recreation.gov, organized by zip code, and arranged in grids across the pages. Hogue nods to artist Ed Ruscha’s Thirtyfour Parking Lots for his title and its attitude, and to the work of Bernd and Hilla Becher for the serial arrangement of images in grids.

The campsite pictures seem at first endlessly repetitious; but then the repetition makes way for difference. Time reveals itself in fading light and passing clouds, the weather changes between photographs of neighboring sites, leaves turn color and fall, in an unexpected kind of time-lapse photography. What kind of book is this? More scientific than any campground literature, Thirtyfour Campgrounds calls the very nature of site survey, field research, and documentary publication into question.

Martin Hogue teaches landscape architecture in the College of Environmental Science and Forestry at the State University of New York, Syracuse.
Environmentalism of the Rich

Peter Dauvergne

Over the last fifty years, environmentalism has emerged as a clear counterforce to the environmental destruction caused by industrialization, colonialism, and globalization. Activists and policymakers have fought hard to make the earth a better place to live. But has the environmental movement actually brought about meaningful progress toward global sustainability? Signs of global “unsustainability” are everywhere, from decreasing biodiversity to scarcity of fresh water to steadily rising greenhouse gas emissions. Meanwhile, as Peter Dauvergne points out in this provocative book, the environmental movement is increasingly dominated by the environmentalism of the rich—diverted into eco-business, eco-consumption, wilderness preservation, energy efficiency, and recycling. While it’s good that, for example, Barbie dolls’ packaging no longer depletes Indonesian rainforest, and that Toyota Highlanders are available as hybrids, none of this gets at the source of the current sustainability crisis. More eco-products can just mean more corporate profits, consumption, and waste.

Dauvergne examines extraction booms that leave developing countries poor and environmentally devastated—with the ruination of the South Pacific island of Nauru a case in point; the struggles against consumption inequities of courageous activists like Bruno Manser, who worked with indigenous people to try to save the rainforests of Borneo; and the manufacturing of vast markets for nondurable goods—for example, convincing parents in China that disposable diapers made for healthier and smarter babies.

Dauvergne reveals why a global political economy of ever more—more growth, more sales, more consumption—is swamping environmental gains. Environmentalism of the rich does little to bring about the sweeping institutional change necessary to make progress toward global sustainability.

Peter Dauvergne is Professor of International Relations at the University of British Columbia. He is the author of The Shadows of Consumption: Consequences for the Global Environment and Eco-Business: A Big-Brand Takeover of Sustainability (with Jane Lister), both published by the MIT Press.
What makes an expert software designer? It is more than experience or innate ability. Expert software designers have specific habits, learned practices, and observed principles that they apply deliberately during their design work. This book offers sixty-six insights, distilled from years of studying experts at work, that capture what successful software designers actually do to create great software.

The book presents these insights in a series of two-page illustrated spreads, with the principle and a short explanatory text on one page, and a drawing on the facing page. For example, “Experts generate alternatives” is illustrated by the same few balloons turned into different balloon animals. The text is engaging and accessible; the drawings are thought-provoking and often playful.

Organized into such categories as “Experts reflect,” “Experts are not afraid,” and “Experts break the rules,” the insights range from “Experts prefer simple solutions” to “Experts see error as opportunity.” Readers learn that “Experts involve the user”; “Experts take inspiration from wherever they can”; “Experts design throughout the creation of software”; and “Experts draw the problem as much as they draw the solution.”

One habit for an aspiring expert software designer to develop would be to read and reread this entertaining but essential little book. The insights described offer a guide for the novice or a reference for the veteran—in software design or any design profession.

Marian Petre is Professor of Computing at the Open University.
Andrew van der Hoek is Professor of Informatics at the University of California, Irvine. Yen Quach is a freelance illustrator.

An engaging, illustrated collection of insights revealing the practices and principles that expert software designers use to create great software.

October
5 3/8 x 6 1/8, 200 pp.
66 illus.
$19.95T/£14.95 cloth
978-0-262-03518-7
We live in a world where new ideas are plentiful. What most organizations lack is not “one more idea,” but the capability to make sense of an overabundance of novel opportunities. Yet the standard text on innovation advises would-be innovators to conduct creative brainstorming sessions and seek input from outsiders—users or communities. This kind of innovating can be effective at improving products but not at capturing bigger opportunities in the marketplace. In this book Roberto Verganti offers a new approach—one that does not set out to solve existing problems but to find breakthrough meaningful experiences. There is no brainstorming—which produces too many ideas, unfiltered—but a vision, subject to criticism. It does not come from outsiders but from one person’s unique interpretation.

The alternate path to innovation mapped by Verganti aims to discover not how things work but why we need things. It gives customers something more meaningful—something they can love. Verganti describes the work of companies, including Nest Labs, Apple, Yankee Candle, and Philips Healthcare, that have created successful businesses by doing just this. Nest Labs, for example, didn’t create a more advanced programmable thermostat, because people don’t love to program their home appliances. Nest’s thermostat learns the habits of the household and sets the temperature accordingly.

Verganti discusses principles and practices, methods and implementation. The process begins with a vision and proceeds through developmental criticism, first from a sparring partner and then from a circle of radical thinkers, then from external experts and interpreters, and only then from users.

Innovation driven by meaning is the way to create value in our current world, where ideas are abundant, but novel visions are rare. If something is meaningful for both the people who create it and the people who consume it, business value follows.

Roberto Verganti is Professor of Leadership and Innovation at Politecnico di Milano. He is the author of Design-Driven Innovation, named by Business Week as one of the best design and innovation books of 2009.
Whole Earth Field Guide
edited by Caroline Maniaque-Benton
with Meredith Gaglio

The Whole Earth Catalog was a cultural touchstone of the 1960s and 1970s. The iconic cover image of the Earth viewed from space made it one of the most recognizable books on bookstore shelves. Between 1968 and 1971, almost two million copies of its various editions were sold, and not just to commune-dwellers and hippies. Millions of mainstream readers turned to the Whole Earth Catalog for practical advice and intellectual stimulation, finding everything from a review of Buckminster Fuller to recommendations for juicers. This book offers selections from eighty texts from the nearly 1,000 items of “suggested reading” in the Last Whole Earth Catalog.

After an introduction that provides background information on the catalog and its founder, Stewart Brand (interesting fact: Brand got his organizational skills from a stint in the Army), the book presents the texts arranged in nine sections that echo the sections of the Whole Earth Catalog itself. Enlightening juxtapositions abound. For example, “Understanding Whole Systems” maps the holistic terrain with writings by authors from Aldo Leopold to Herbert Simon; “Land Use” features selections from Thoreau’s Walden and a report from the United Nations on new energy sources; “Craft” offers excerpts from The Book of Tea and The Illustrated Hassle-Free Make Your Own Clothes Book; “Community” includes Margaret Mead and James Baldwin’s odd-couple collaboration, A Rap on Race.

Together, these texts offer a sourcebook for the Whole Earth culture of the 1960s and 1970s in all its infinite variety.

Maintenance Architecture

Hilary Sample

Maintenance plays a crucial role in the production and endurance of architecture, yet architects for the most part treat maintenance with indifference. The discipline of architecture values the image of the new over the lived-in, the photogenic empty and stark building over a messy and labored one. But the fact is: homes need to be cleaned and buildings and cities need to be maintained, and architecture no matter its form cannot escape from such realities. In Maintenance Architecture, Hilary Sample offers an inventive examination of the architectural significance of maintenance through a series of short texts and images about specific buildings, materials, and projects. Although architects have seldom choose to represent maintenance—imagining their work only from conception to realization—artists have long explored subjects of endurance and permanence in iconic architecture. Sample explores a range of art projects—by artists including Gordon Matta-Clark, Jeff Wall, and Mierle Laderman Ukeles—to recast the problem of maintenance for architecture. How might architectural design and discourse change as a building cycle expands to include “post-occupancy”?

Sample looks particularly at the private home, exhibition pavilion, and high-rise urban building, giving special attention to buildings constructed with novel and developing materials, technologies, and precise detailing in relation to endurance. These include Buckminster Fuller’s Dymaxion House (1929), the Lever House (1952), the U.S. Steel Building (1971), and the O-14 (2010). She considers the iconography of skyscrapers; maintenance workforces, both public and private; labor-saving technology and devices; and contemporary architectural projects and preservation techniques that encompass the afterlife of buildings. A selection of artworks make the usually invisible aspects of maintenance visible, from Martha Rosler’s Cleaning the Drapes to Inigo Manglano-Ovalle’s The Kiss.

Hilary Sample is an internationally recognized and award-winning architect and cofounder of MOS based in New York City. She is the author of MOS Everything All at Once and Selected Works.
Living Zen Remindfully
Retraining Subconscious Awareness

James H. Austin, M.D.

This is a book for readers who want to probe more deeply into mindfulness. It goes beyond the casual, once-in-a-while meditation in popular culture, grounding mindfulness in daily practice, Zen teachings, and recent research in neuroscience. In *Living Zen Remindfully*, James Austin, author of the groundbreaking *Zen and the Brain*, describes authentic Zen training—the commitment to a process of regular, ongoing daily life practice. This training process enables us to unlearn unfruitful habits, develop more wholesome ones, and lead a more genuinely creative life.

Austin shows that mindfulness can mean more than our being conscious of the immediate “now.” It can extend into the subconscious, where most of our brain’s activities take place, invisibly. Austin suggests ways that long-term meditative training helps cultivate the hidden, affirmative resource of our unconscious memory. *Remindfulness*, as Austin terms it, can help us to adapt more effectively and to live more authentic lives.

Austin discusses different types of meditation, meditation and problem-solving, and the meaning of enlightenment. He addresses egocentrism (self-centeredness) and allocentrism (other-centeredness), and the blending of focal and global attention. He explains the remarkable processes that encode, store, and retrieve our memories, focusing on the covert, helpful *remindful* processes incubating at subconscious levels.

And he considers the illuminating confluence of Zen, clinical neurology, and neuroscience. Finally, he describes an everyday life of “living Zen,” drawing on the poetry of Basho, the seventeenth-century haiku master.

James H. Austin, M.D., a clinical neurologist, researcher, and Zen practitioner for more than three decades, is Professor Emeritus of Neurology at the University of Colorado Health Sciences Center and Courtesy Professor of Neurology at the University of Florida College of Medicine. He is the author of *Zen and the Brain; Chase, Chance, and Creativity; Zen-Brain Reflections; Selfless Insight, Meditating Selflessly; and Zen-Brain Horizons*, all published by the MIT Press.

A seasoned Zen practitioner and neurologist looks more deeply at mindfulness, connecting it to our subconscious and to memory and creativity.

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5 3/8 x 8, 272 pp.
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Also available

*Zen and the Brain*
James H. Austin, M.D.
1999, 978-0-262-51109-4
$46.95T/£34.95 paper

*Zen-Brain Horizons*
James H. Austin, M.D.
2016, 978-0-262-52883-2
$20.95T/£15.95 paper
Fantasies of the Library
edited by Anna-Sophie Springer and Etienne Turpin

Fantasies of the Library lets readers experience the library anew. The book imagines, and enacts, the library as both keeper of books and curator of ideas—as a platform of the future. One essay occupies the right-hand page of a two-page spread while interviews scroll independently on the left. Bibliophilic artworks intersect both throughout the book-as-exhibition. A photo essay, “Reading Rooms Reading Machines” further interrupts the book in order to display images of libraries (old and new, real and imagined), and readers (human and machine). It features work by artists including Kader Atta, Wafaa Bilal, Mark Dion, Rodney Graham, Katie Paterson, Veronika Spierenburg, and others.

The book includes an essay on the institutional ordering principles of book collections; a conversation with the proprietors of the Prelinger Library in San Francisco; reflections on the role of cultural memory and the archive; and a dialogue with a new media theorist about experiments at the intersection of curatorial practice and open source ebooks. The reader emerges from this book-as-exhibition with the growing conviction that the library is not only a curatorial space but a bibliological imaginary, ripe for the exploration of consequential paginated affairs. The physicality of the book—and this book—“resists the digital,” argues coeditor Etienne Turpin, “but not in a nostalgic way.”

Anna-Sophie Springer, a curator and writer, is the codirector (with Charles Stankieweuch) of K. Verlag, an independent publishing imprint and curatorial-editorial platform (Berlin and Toronto). Etienne Turpin is the founding director of anexact office, a design-research practice based in Jakarta. Both are members of the SYNAPSE International Curators’ Network at the Haus der Kulturen der Welt.

Contributors
Erin Kissane, Hammad Nasar, Megan Shaw Prelinger, Rick Prelinger, Anna-Sophie Springer, Charles Stankiewech, Katharina Tauer, Etienne Turpin, Andrew Norman Wilson, Joanna Zylinska

A book that acts both as library and exhibition space, selecting, arranging, and housing texts and images, aligning itself with printed matter in the process.

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5 1/8 x 8 1/4, 160 pp.
30 color illus., 15 black and white illus.
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Public Servants
Art and the Crisis of the Common Good
edited by Johanna Burton, Shannon Jackson, and Dominic Willsdon

How should we understand the purpose of publicly engaged art in the twenty-first century, when the very term “public art” is largely insufficient to describe such practices?

Concepts such as “new genre public art,” “social practice,” or “socially engaged art” may imply a synergy between the role of art and the role of government in providing social services. Yet the arts and social services differ crucially in terms of their methods and metrics. Socially engaged artists need not be aligned (and may often be opposed) to the public sector and to institutionalized systems. In many countries, structures of democratic governance and public responsibility are shifting, eroding, and being remade in profound ways—driven by radical economic, political, and global forces. According to what terms and through what means can art engage with these changes?

This volume gathers essays, dialogues, and art projects—some previously published and some newly commissioned—to illuminate the ways the arts shape and reshape a rapidly changing social and governmental landscape. An artist portfolio section presents original statements and projects by some of the key figures grappling with these ideas.

Johanna Burton is Keith Haring Director and Curator of Education and Public Engagement at the New Museum in New York and the series editor for the Critical Anthologies in Art and Culture. Her publications include the October Files collection Cindy Sherman (MIT Press). Shannon Jackson is Associate Vice Chancellor of the Arts and Design and the Cyrus and Michelle Hadidi Professor at the University of California, Berkeley. Her publications include Social Works: Performing Art, Supporting Publics. Dominic Willsdon is Leanne and George Roberts Curator of Education and Public Practice at the San Francisco Museum of Modern Art. His publications include Public Intimacy: Art and Other Ordinary Acts in South Africa.

Also in this series

Critical Anthologies in Art and Culture
Copublished with the New Museum, New York

Essays, dialogues, and art projects that illuminate the changing role of art as it responds to radical economic, political, and global shifts.

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Men, Machines, and Modern Times
50th Anniversary Edition

Elting E. Morison
foreword by Rosalind Williams
with remarks by Leo Marx

People have had trouble adapting to new technology ever since (perhaps) the inventor of the wheel had to explain that a wheelbarrow could carry more than a person. This little book by a celebrated MIT professor—the fiftieth anniversary edition of a classic—describes how we learn to live and work with innovation. Elting Morison considers, among other things, the three stages of users’ resistance to change: ignoring it; rational rebuttal; and name-calling. He recounts the illustrative anecdote of the World War II artillerymen who stood still to hold the horses despite the fact that the guns were now hitched to trucks—reassuring those of us who have trouble with a new interface or a software upgrade that we are not the first to encounter such problems.

Morison offers an entertaining series of historical accounts to highlight his major theme: the nature of technological change and society’s reaction to that change. He begins with resistance to innovation in the U.S. Navy following an officer’s discovery of a more accurate way to fire a gun at sea; continues with thoughts about bureaucracy, paperwork, and card files; touches on rumble seats, the ghost in Hamlet, and computers; tells the strange history of a new model steamship in the 1860s; and describes the development of the Bessemer steel process. Each instance teaches a lesson about the more profound and current problem of how to organize and manage systems of ideas, energies, and machinery so that they will conform to the human dimension.

Elting E. Morison (1909–1995) was an American historian of technology, biographer, author, and essayist. A professor at MIT for many years, he founded MIT’s program in Science, Technology, and Society. Rosalind Williams is Bern Dibner Professor of the History of Science and Technology. Leo Marx is Senior Lecturer and Kenan Professor of American Cultural History, Emeritus, at MIT.

“It is the most brilliant, original, and absorbing book in American history I have read for some time.”

— Arthur Schlesinger, Jr.
Missed Information
Better Information for Building a Wealthier, More Sustainable Future

David Sarokin and Jay Schulkin

Information is power. It drives commerce, protects nations, and forms the backbone of systems that range from health care to high finance. Yet despite the avalanche of data available in today’s information age, neither institutions nor individuals get the information they truly need to make well-informed decisions. Faulty information and sub-optimal decision-making create an imbalance of power that is exaggerated as governments and corporations amass enormous databases on each of us. Who has more power: the government, in possession of uncounted terabytes of data (some of it obtained by cybersnooping), or the ordinary citizen, trying to get in touch with a government agency? In Missed Information, David Sarokin and Jay Schulkin explore information—not information technology, but information itself—as a central part of our lives and institutions. They show that providing better information and better access to it improves the quality of our decisions and makes for a more vibrant participatory society.

Sarokin and Schulkin argue that freely flowing information helps systems run more efficiently and that incomplete information does just the opposite. It’s easier to comparison shop for microwave ovens than for doctors or hospitals because of information gaps that hinder the entire health-care system. Better information about such social ills as child labor and pollution can help consumers support more sustainable products. The authors examine the opacity of corporate annual reports, the impenetrability of government secrets, and emerging techniques of “information foraging.” The information imbalance of power can be re-configured, they argue, with greater and more meaningful transparency from government and corporations.

David Sarokin is an environmental scientist with the Environmental Protection Agency. Jay Schulkin is Research Professor in the Department of Neuroscience at Georgetown University, where he is also a member of the Center for the Brain Basis of Cognition.
Robots

John Jordan

Robots are entering the mainstream. Technologies have advanced to the point of mass commercialization—Roomba, for example—and adoption by governments—most notably, their use of drones. Meanwhile, these devices are being received by a public whose main sources of information about robots are the fantasies of popular culture. We know a lot about C-3PO and Robocop but not much about Atlas, Motoman, Kiva, or Beam—real-life robots that are reinventing warfare, the industrial workplace, and collaboration. In this book, technology analyst John Jordan offers an accessible and engaging introduction to robots and robotics, covering state-of-the-art applications, economic implications, and cultural context.

Jordan chronicles the prehistory of robots and the treatment of robots in science fiction, movies, and television—from the outsized influence of Mary Shelley’s Frankenstein to Isaac Asimov’s I, Robot (in which Asimov coined the term “robotics”). He offers a guided tour of robotics today, describing the components of robots, the complicating factors that make robotics so challenging, and such applications as driverless cars, unmanned warfare, and robots on the assembly line.

Roboticists draw on such technical fields as power management, materials science, and artificial intelligence. Jordan points out, however, that robotics design decisions also embody such nontechnical elements as value judgments, professional aspirations, and ethical assumptions, and raise questions that involve law, belief, economics, education, public safety, and human identity. Robots will be neither our slaves nor our overlords; instead, they are rapidly becoming our close companions, working in partnership with us—whether in a factory, on a highway, or as a prosthetic device. Given these profound changes to human work and life, Jordan argues that robotics is too important to be left solely to roboticists.

John Jordan is a technology analyst and Clinical Professor of Supply Chain and Information Systems in Smeal College of Business at Penn State University.
Neuroplasticity
Moheb Costandi

Fifty years ago, neuroscientists thought that a mature brain was fixed like a fly in amber, unable to change. Today, we know that our brains and nervous systems change throughout our lifetimes. This concept of neuroplasticity has captured the imagination of a public eager for self-improvement—and has inspired countless Internet entrepreneurs who peddle dubious “brain training” games and apps. In this book, Moheb Costandi offers a concise and engaging overview of neuroplasticity for the general reader, describing how our brains change continuously in response to our actions and experiences.

Costandi discusses key experimental findings, and describes how our thinking about the brain has evolved over time. He explains how the brain changes during development, and the “synaptic pruning” that takes place before brain maturity. He shows that adult brains can grow new cells (citing, among many other studies, research showing that sexually mature male canaries learn a new song every year). He describes the kind of brain training that can bring about improvement in brain function. It’s not gadgets and games that promise to “rewire your brain” but such sustained cognitive tasks as learning a musical instrument or a new language. (Costandi also notes that London cabbies increase their gray matter after rigorous training in their city’s complicated streets.) He tells how brains compensate after stroke or injury; describes addiction and pain as maladaptive forms of neuroplasticity; and considers brain changes that accompany childhood, adolescence, parenthood, and aging. Each of our brains is custom-built. Neuroplasticity is at the heart of what makes us human.

Moheb Costandi writes the Neurophilosophy blog for The Guardian and is the author of 50 Human Brain Ideas You Really Need to Know.
Machine Learning

Ethem Alpaydin

Today, machine learning underlies a range of applications we use every day, from product recommendations to voice recognition—as well as some we don’t yet use everyday, including driverless cars. It is the basis of the new approach in computing where we do not write programs but collect data; the idea is to learn the algorithms for the tasks automatically from data. As computing devices grow more ubiquitous, a larger part of our lives and work is recorded digitally, and as “Big Data” has gotten bigger, the theory of machine learning—the foundation of efforts to process that data into knowledge—has also advanced. In this book, machine learning expert Ethem Alpaydin offers a concise overview of the subject for the general reader, describing its evolution, explaining important learning algorithms, and presenting example applications.

Alpaydin offers an account of how digital technology advanced from number-crunching mainframes to mobile devices, putting today’s machine learning boom in context. He describes the basics of machine learning and some applications; the use of machine learning algorithms for pattern recognition; artificial neural networks inspired by the human brain; algorithms that learn associations between instances, with such applications as customer segmentation and learning recommendations; and reinforcement learning, when an autonomous agent learns to act so as to maximize reward and minimize penalty. Alpaydin then considers some future directions for machine learning and the new field of “data science,” and discusses the ethical and legal implications for data privacy and security.

Ethem Alpaydin is Professor in the Department of Computer Engineering at Bogaziçi University, Istanbul. He is the author of the widely used textbook Introduction to Machine Learning, now in its third edition (MIT Press).
The Mind–Body Problem

Jonathan Westphal

Philosophers from Descartes to Kripke have struggled with the glittering prize of modern and contemporary philosophy: the mind-body problem. The brain is physical. If the mind is physical, we cannot see how. If we cannot see how the mind is physical, we cannot see how it can interact with the body. And if the mind is not physical, it cannot interact with the body. Or so it seems.

In this book the philosopher Jonathan Westphal examines the mind-body problem in detail, laying out the reasoning behind the solutions that have been offered in the past and presenting his own proposal. The sharp focus on the mind-body problem, a problem that is not about the self, or consciousness, or the soul, or anything other than the mind and the body, helps clarify both problem and solutions.

Westphal outlines the history of the mind-body problem, beginning with Descartes. He describes mind-body dualism, which claims that the mind and the body are two different and separate things, nonphysical and physical, and he also examines physicalist theories of mind; antimaterialism, which proposes limits to physicalism and introduces the idea of qualia; and scientific theories of consciousness.

Finally, Westphal examines the largely forgotten neutral monist theories of mind and body, held by Ernst Mach, William James, and Bertrand Russell, which attempt neither to extract mind from matter nor to dissolve matter into mind. Westphal proposes his own version of neutral monism. This version is unique among neutral monist theories in offering an account of mind-body interaction.

Jonathan Westphal is Permanent Member of the Senior Common Room at University College, Oxford. He has taught at the University of Hawaii and been an Alexander von Humbolt Fellow at the University of Munich. He is the author of Colour: A Philosophical Introduction.
The “Public” Life of Photographs
edited by Thierry Gervais
foreword by Paul Roth

Do we understand a photograph differently if we encounter it in a newspaper rather than a book? In a photo album as opposed to framed on a museum wall? The “Public” Life of Photographs explores how the various ways that photographs have been made available to the public have influenced their reception. The reproducibility of photography has been the necessary tool in the creation of a mass visual culture. This generously illustrated book explores historical instances of the “public” life of photographic images—tracing the steps from the creation of photographs to their reception.

The contributors—international curators and scholars from a range of disciplines—examine the emergence of photography as mass culture: through studios and public spaces; by the press; through editorial strategies promoting popular and vernacular photography; and through the dissemination of photographic images in the art world. The contributing authors discuss such topics as how photographic images became objects of appropriation and collection; the faith in photographic truthfulness; Life magazine’s traveling exhibitions and their effect on the magazine’s “media hegemony”; and the curatorial challenges of making vernacular photographs accessible in an artistic environment.

Thierry Gervais is Assistant Professor at Ryerson University and Head of Research at the Ryerson Image Centre (RIC), Toronto. Paul Roth is Director of the Ryerson Image Centre.

Contributors
Geoffrey Batchen, Nathalie Boulouch, Heather Diack, André Gunthert, Sophie Hackett, Vincent Lavoie, Olivier Lugon, Mary Panzer, Joel Snyder

An exploration of the relationship between how photographs are made available to the public and how they are received and understood.

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7 x 9, 300 pp.
45 color illus., 45 black & white illus.
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Working Conditions
The Writings of Hans Haacke

Hans Haacke
edited by Alexander Alberro

Hans Haacke’s art articulates the interdependence of multiple elements. An artwork is not merely an object but is also its context—the economic, social, and political conditions of the art world and the world at large. Among his best-known works are *MoMA-Poll* (1970), which polled museumgoers on their opinions about Nelson Rockefeller and the Nixon administration’s Indochina policy; *Gallery-Goers’ Birthplace and Residence Profile* (1969), which canvassed visitors to the Howard Wise Gallery in Manhattan; and the famously canceled 1971 solo exhibition at the Guggenheim Museum, which was meant to display, among other things, works on two New York real estate empires.

This volume collects writings by Haacke that explain and document his practice. The texts, some of which have never before been published, run from straightforward descriptions to wide-ranging reflections and full-throated polemics. They include correspondence with MoMA and the Guggenheim and a letter refusing to represent the United States at the 1969 São Paulo Biennial; the title piece, “Working Conditions,” which discusses corporate influence on the art world; Haacke’s thinking about “real-time social systems”; and texts written for museum catalogs on various artworks, including *Germania*, in the German pavilion of the Venice Biennial (1993); *Der Bevölkerung* (To the Population) at the Berlin Reichstag (2000); *Mixed Messages*, an exhibition of objects from the Victoria and Albert Museum (2001); and *Gift Horse*, unveiled on the fourth plinth in Trafalgar Square (2015).

Hans Haacke is a German-born artist who lives and works in New York. From 1967 to 2002, he taught at The Cooper Union. Alexander Alberro is Virginia Bloedel ’51 Associate Professor of Art History at Barnard College. He is the author of *Conceptual Art and the Politics of Publicity* and the coeditor of *Conceptual Art: A Critical Anthology*, both published by the MIT Press.
Every intellectual endeavor relies upon an existing body of knowledge, proven and primed for reuse. Historically, this appropriation has been regulated through quotation. Academics trade epigraphs and footnotes while designers refer to precedents and manifestos. These citations—written or spoken, drawn or built—rely on their antecedent, and carry the stamp of authority.

In the field of architecture, appropriation is faster, easier, and more conspicuous than ever, but also less regulated. These displacements are no longer self-referential games. Instead, buildings are copied before construction is completed. Digital scripts are downloaded, altered, and re-uploaded—transposing the algorithm, not the object itself. Design bloggers “curate” texts and images—copying and pasting, copying and pasting. In the sea of memes and GIFs, tweets and retweets, quotes are both innumerable and viral, giving voice to anyone with access to these channels.

Traditionally, the practice of quotation has inoculated the author against accusations of plagiarism. Today, the quicksilver nature of contemporary communications obscures chains of reference. Must we jettison conventions of authorship or will we establish new codes of citation?

This issue of *Perspecta*—the oldest and most distinguished student-edited architectural journal in America—explores the uneasy lines between quotation, appropriation, and plagiarism, proposing a constructive reevaluation of contemporary means of architectural production and reproduction. Although architecture is a discipline that prizes originality and easily ascribed authorship, it is important to recognize that quotation and associated operations are ubiquitous, intentional, and vital, not just palliatives to the anxiety of influence. These are perhaps the most potent tools of cultural production, yet also the most contested. *Perspecta 49* welcomes the contest.

*AJ Artemel, Russell LeStourgeon, and Violette de la Selle* are graduates of the Yale School of Architecture.
Mary Kelly
edited by Mignon Nixon

When Mary Kelly’s best-known work, *Post-Partum Document* (1973–1979), was shown at the Institute of Contemporary Art in London in 1977, it caused a sensation—an unexpected response to an intellectually demanding and aesthetically restrained installation of conceptual art. The reception signaled cultural resistance to the themes of the work: feminism and the cultural mythologizing of motherhood. This volume of essays and interviews begins with this foundational work, offering an early statement by the artist, a subsequent interview, and an essay situating the work within a broader feminist discourse that includes Martha Rosler and Judy Chicago. The collection examines such themes in Kelly’s work as labor, war trauma, and the politics of care, while emphasizing the artist’s sustained engagement with multiple feminisms, multiple histories of feminism, and multiple generations of feminists.

The contributions also examine Kelly’s *Interim* (1984–1989), the subject of a special issue of *October*, *Gloria Patri* (1992), an installation conceived in response to the first Gulf War; *The Ballad of Kastriot Rexhepi* (2001), part of an extensive cycle of work executed in the medium of compressed lint pieced together like sheets of a scroll; and two recent works on feminist histories, *Love Songs*, which explores the role of memory in feminist politics, and *Mimus*, a triptych that addresses the House Un-American Activities Committee’s 1962 investigation of the pacifist group, Women Strike for Peace.

Mignon Nixon is an editor of *October* magazine and the author of *Fantastic Reality: Louise Bourgeois and a Story of Modern Art* (MIT Press). She is also the editor of a previous *October Files* volume, *Eva Hesse* (MIT Press).

**Essays and Interviews by**
Parveen Adams, Emily Apter, Rosalyn Deutsche, Hal Foster, Margaret Iversen, Mary Kelly, Helen Molesworth, Laura Mulvey, Mignon Nixon, Griselda Pollock, Paul Smith
Animals
edited by Filipa Ramos

Animals have become the focus of much recent art, informing numerous works and projects featured at major exhibitions including documenta 13 (2012), the 10th Shanghai Biennale (2014), and the 56th Venice Biennale (2015). Contemporary art has emerged as a privileged terrain for exploring interspecies relationships, providing the conditions for diverse disciplines and theoretical positions to engage with animal behavior and consciousness.

This interest in animal nature reflects a number of current issues. Observations of empathy among nonhumans prompt reconsiderations of the human. The nonverbal communication of animals has been compared with poetic expansion of the boundaries of language. And the freedom of animal life in the wild from capitalist subordination is seen as a potential model for reconfiguring society and our relationship to the wider environment. Artists’ engagement with animals also opens up new perspectives on the dynamics of dominance, oppression, and exclusion, with parallels in human society. Animal nature is at the heart of debates on the Anthropocene era and the ecological concerns of scientists, thinkers, and artists alike. Centered on contemporary artworks, this anthology attests to the transdisciplinary nature of this subject, with art as one of the principal points of convergence.

Filipa Ramos is editor-in-chief of art-agenda and a Lecturer in Experimental Film at Kingston University and Moving Image at Central Saint Martins, London. She is the author of Lost and Found: Crisis of Memory in Contemporary Art (2009).

Artists include
Allora & Calzadilla, Francis Alÿs, Julieta Aranda, Brandon Ballengée, Joseph Beuys, Marcel Broodthaers, Lygia Clark, Marcus Coates, Jimmie Durham, Marcel Dzama, Simone Forti, Pierre Huyghe, Natalie Jeremijenko, Joan Jonas, Eduardo Kac, Mike Kelley, Henri Michaux, Robert Morris, Henrik Olesen, Lea Porsager, Julia Reodica, Apichatpong Weerasethakul, Haegue Yang, Adam Zaretsky

Writers include

The emergence of contemporary art, engaging widely with other disciplines, as a platform for exploring animal nature.

September
5 3/4 x 8 1/4, 240 pp.
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Documents of Contemporary Art series
Copublished with Whitechapel Gallery, London
Not for sale in the UK and Europe

Also available in this series
The Magazine
edited by Gwen Allen
2016, 978-0-262-52866-5
$24.95T/£16.95 paper
Information
edited by Sarah Cook

This anthology provides the first art-historical reassessment of information-based art in relation to data structures and exhibition curation. It examines such landmark exhibitions as Information at The Museum of Modern Art, New York, in 1970, and the equally influential Les Immatériaux, initiated by the philosopher Jean-François Lyotard at the Centre Pompidou, Paris, in 1984. It reexamines work by artists of the 1960s to early 1980s, from Les Levine and N. E. Thing Co. to General Idea and Jenny Holzer, whose prescient grasp of information’s significance resonates today. It also reinscribes into the narrative of art history technologically critical artworks that for years have circulated within new media festivals rather than in galleries.

While information science draws distinctions between “information,” signals, and data, artists from the 1960s to the present have questioned the validity and value of such boundaries. Artists have investigated information’s materiality, in signs, records, and traces; its immateriality, in hidden codes, structures, and flows; its embodiment, in instructions, social interaction, and political agency; its overload, or uncontrollable excess, challenging utopian notions of networked society; its potential for misinformation and disinformation, subliminally altering our perceptions; and its post-digital unruliness, unsettling fixed notions of history and place.

Sarah Cook is a curator and researcher working at the intersection of art, digital and electronic media, and science. She is the coauthor (with Beryl Graham) of Rethinking Curating: Art After New Media (MIT Press), and in 2004 cocurated the touring exhibition, “Database Imaginary.” She is Dundee Fellow at Duncan of Jordanstone College of Art and Design, University of Dundee.

Artists include

Writers include
Academic Diary
Or Why Higher Education Still Matters

Les Back

Is a university education still relevant? What are the forces that threaten it? Should academics ever be allowed near Twitter? In Academic Diary, Les Back has chronicled three decades of his academic career, turning his sharp and often satirical eye to the everyday aspects of life on campus and the larger forces that are reshaping it. Presented as a collection of entries from a single academic year, the diary moves from the local to the global, from PowerPoint to the halls of power. With entries like “Ivory Towers” and “The Library Angel,” these smart, humorous, and sometimes absurd campus tales not only demystify the opaque rituals of scholarship but also offer a personal perspective on the far-reaching issues of university life.

Commenting on topics that range from the impact of commercialization and fee increases to measurement and auditing research, the diary offers a critical analysis of higher education today. At the same time, it is a passionate argument for the life of the mind, the importance of collaborative thinking, and the reasons that scholarship and writing are still vital for making sense of our troubled and divided world.

Les Back is Professor of Sociology at Goldsmiths, University of London.

“Les Back’s Academic Diary is a profoundly humanistic account of the unexpected and often fleeting day-to-day pleasures of working in a contemporary university.”
—Laurie Taylor, Broadcaster

“A beautifully written book, full of reflection and reverie, decency, and front-line documentation.”
—Sukhdev Sandhu, New York University

“All academics should make sure that they have a copy to hand.”
—David Beer, University of York

“When discussions of higher education in England are dominated by loans and questions of finance, it’s all too easy to forget about the lived, transformative experience of education. Episodes in Academic Diary serve as healthy reminders of what ought to be central to universities and colleges: learning. More than that, Les Back’s generosity and collegiality forge the politics of this book into something distinct. Walter Benjamin wrote in his commentaries on Bertolt Brecht: ‘Whoever wants to make the hard thing give way should miss no opportunity for friendliness.’ In a similar spirit, Academic Diary tempers sentiment with critical aims.”
—Andrew McGettigan, author of The Great University Gamble: Money, Markets and the Future of Higher Education

Sharp and witty observations of academic life that range from the local to the global, from PowerPoint to the halls of power.

Available
5 x 8, 272 pp.
$14.95T/£9.95 paper
978-1-906-89758-1

Distributed for Goldsmiths Press
Foams
Spheres III
Plural Spherology

Peter Sloterdijk
translated by Wieland Hoban

“So the One Orb has imploded—now the foams are alive.”
—from Foams

Foams completes Peter Sloterdijk’s celebrated Spheres trilogy: his 2,500-page “grand narrative” retelling of the history of humanity, as related through the anthropological concept of the “Sphere.” For Sloterdijk, life is a matter of form, and in life, sphere formation and thought are two different labels for the same thing. The trilogy also offers his corrective answer to Martin Heidegger’s Being and Time, reformulating it into a lengthy meditation on Being and Space—a shifting of the question of who we are to a more fundamental question of where we are.

In this final volume, Sloterdijk’s “plural spherology” moves from the historical perspective on humanity of the preceding two volumes to a philosophical theory of our contemporary era, offering a view of life through a multifocal lens. If Bubbles was Sloterdijk’s phenomenology of intimacy, and Globes his phenomenology of globalization, Foams could be described as his phenomenology of spatial plurality: how the bubbles that we form in our duality bind together to form what sociological tradition calls “society.” Foams is an exploration of capsules, islands, and hothouses that leads to the discovery of the foam city.

The Spheres trilogy ultimately presents a theology without a God—a spatial theology that requires no God, and whose death therefore need not be of concern.

Peter Sloterdijk, born in 1947, is one of the best known and widely read German intellectuals writing today. His 1983 publication of Critique of Cynical Reason (published in English in 1988) became the best-selling German book of philosophy since World War II.
“I loved Michel as Michel, not as a father. Never did I feel the slightest jealousy or the slightest embitterment or exasperation when it came to him. It was something that no one has a right to expect from the best son or the best lover.”

—from Learning What Love Means

Mathieu Lindon’s father Jérôme Lindon was the founder of Éditions de Minuit, the legendary French publishing company that not only gave the world the nouveau roman but also nurtured two Nobel Prize winners, Samuel Beckett and Michel Simon. Mathieu Lindon rebelled against his father with the full battery of a “disastrous adolescence.” From the beginning, he had realized that he would not perpetuate the dynasty his father had created. For one thing, Mathieu Lindon is gay: he wouldn’t create any progeny, and the line of descent would stop with him.

As this turbulent memoir reveals, it would take another literary giant—Michel Foucault—to reconcile Mathieu Lindon to his father’s love. Over an intense six-year period, Lindon and Foucault enjoyed a passionate, productive friendship. Their social circle included other figures of the Parisian gay, literary, and art scenes (including Hervé Guibert and Daniel Defert), creating a satisfying, self-invented, pleasure-oriented surrogate family that eventually produced an alchemical miracle: Lindon reevaluated and accepted his father’s love. Foucault’s humanity and inventiveness gave Lindon the clarity and the magnanimity to accept the gifts his father had always offered.

This book won the prestigious Prix Médicis in 2011 when it was published in French.

Mathieu Lindon, born in 1955, is a French writer and a journalist at Libération. He won the Prix Médicis in 2011 for the publication of Ce qu’aimer veut dire (Learning What Love Means).
The Ordinary Man of Cinema

Jean Louis Schefer

introduction by Max Cavitch
translated by Max Cavitch, Noura Wedell, and Paul Grant

When it was first published in French in 1980, The Ordinary Man of Cinema signaled a shift from the French film criticism of the 1960s to a new breed of film philosophy that disregarded the semiotics and post-structuralism of the preceding decades. Schefer describes the schizophrenic subjectivity the cinema offers us: the film as a work projected without memory, viewed by (and thereby lived by) a subject scarred and shaped by memory. The Ordinary Man of Cinema delineates the phenomenology of movie-going and the fleeting, impalpable zone in which an individual’s personal memory confronts the cinema’s ideological images to create a new way of thinking.

It is also a book replete with mummies and vampires, tyrants and prostitutes, murderers and freaks—figures that are fundamental to Schefer’s conception of the cinema, because the worlds that cinema traverses (our worlds, interior and exterior) are worlds of pain, unconscious desire, decay, repressed violence, and the endless mystery of the body. Fear and pleasure breed monsters, and such are what Schefer’s emblematic “ordinary man” seeks and encounters when engaging in the disordering of the ordinary that the movie theater offers him. Among other things, Schefer considers “The Gods” in 31 brief essays on film stills and “The Criminal Life” with reflections on spectatorship and autobiography.

While Schefer’s book has long been standard reading in French film scholarship, until now it has been something of a missing link to the field (and more broadly, French theory) in English. It is one of the building blocks of more widely known and read translations of Gilles Deleuze (who cited this book as an influence on his own cinema books) and Jacques Rancière.

Jean Louis Schefer (born in 1938) is a prolific and influential scholar of art history, theology, philosophy, music, and linguistics, as well as an author of fiction.

The first English translation of a foundational work in cinema studies and the philosophy of film.

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6 x 9, 248 pp.
34 illus.
$17.95T/£13.95 paper
978-1-58435-185-6

Foreign Agents series
Distributed for Semiotext(e)

Also available from Semiotext(e)
The Complete Madame Realism and Other Stories

Lynne Tillman
introduction by M. G. Lord
afterword by Andrew Durbin

The Complete Madame Realism and Other Stories gathers together Lynne Tillman’s groundbreaking fiction/essays on culture and places, monuments, artworks, iconic TV shows, and received ideas, written in the third person to record the subtle, ironic, and wry observations of the playful but stern “Madame Realism.”

Through her use of a fictional character, Tillman devised a new genre of writing that melded fiction, theory, sensation, and critical thought, disseminating her third-person art writer's observations in such magazines as Art in America and in a variety of art exhibition catalogs and artist books. Two decades after the original publication of these texts, her approach to investigation through embodied thought has been wholly absorbed by a new generation of artists and writers. Provocative and wholly pleasurable, Tillman’s stories/essays dissect the mundane with alarming precision. As Lydia Davis wrote of her work, “Our assumptions shift. The every day becomes strange, paradox is embraced, and the unexpected is always around the corner.”

This new collection also includes the complete stories of Tillman’s other persona, the quixotic author Paige Turner (whose investigation of the language of love overshoots any actual experience of it), and additional stories and essays that address figures such as the “Translation Artist” and Cindy Sherman.

Lynne Tillman is the author of five novels, three collections of short stories, one collection of essays, and two other nonfiction books. She collaborates often with artists and writes regularly on culture, and her fiction is anthologized widely. She is the fiction editor at Fence Magazine, Professor and Writer-in-Residence in the Department of English at the University at Albany, and a recent recipient of a Guggenheim Fellowship.

Also available from Semiotext(e)
Portfolio Society
On the Capitalist Mode of Prediction

Ivan Ascher

As financial markets expand and continue to refashion the world in their own image, the wealth of capitalist societies no longer presents itself, as it did to Karl Marx in the nineteenth century, as a “monstrous collection of commodities.” Instead, it appears as an equally monstrous collection of financial securities, and the critique of political economy must proceed accordingly. But what would it mean to write Capital in the twenty-first century? Are we really to believe that risk, rather than labor, is now regarded as the true fount of economic value? Can it truly be the case that the credit relation—at least in the global North—has replaced the wage relation as the key site of exploitation and political struggle? And finally, if precarity is indeed the name of today’s proletarian condition, what possible future does it actually portend, what analysis does it require?

Through a series of creative substitutions, in Portfolio Society Ivan Ascher extends Marx’s critical project in bold and unexpected ways. Ascher not only explains some of the often mystifying processes of contemporary finance, he also invites us to consider what becomes of capitalism itself in those places where the relation of capital to its own future is now mediated by financial markets. In the end, we may find that much has changed and much has not; relations of domination endure, and mystifications abound, but the devil is in the details, and that is where Ascher directs our attention. At once a critique of modern finance and of the societies under its spell, Portfolio Society succeeds in revealing the potential limits of Capital, while reveling still in its limitless potential.

Ivan Ascher is Assistant Professor of Political Science at the University of Wisconsin, Milwaukee.

A bold extension of Marx’s Capital for the twenty-first century: at once a critique of modern finance and of the societies under its spell.

October
6 x 8, 192 pp.
$25.95T/£19.95 cloth
978-1-935408-74-1

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Agnes Martin

Night Sea

Suzanne Hudson

Agnes Martin’s Night Sea (1963) is a large canvas of rectangular grids painted in luminous blue and gold. In this illustrated study, Suzanne Hudson presents the painting as the work of an artist who was also a thinker, poet, and writer for whom self-presentation was a necessary part of making her works public. With Night Sea, Hudson argues, Martin (1912–2004) created a shimmering realization of control and loss that stands alone within her suite of classic grid paintings as an exemplary and exceptional achievement.

Hudson offers a close examination of Night Sea and its position within Martin’s long and prolific career, during which the artist destroyed many works as she sought forms of perfection within self-imposed restrictions of color and line. For Hudson, Night Sea stands as the last of Martin’s process-based works before she turned from oil to acrylic and sought to express emotions of lightness and purity unburdened by evidence of human struggle.

Drawing from a range of archival records, Hudson attempts to bring together the facts surrounding the work, which were at times obfuscated by the artist’s desire for privacy. Critical responses of the time give a sense of the impact of the work and that which followed it. Texts by peers including Lenore Tawney, Donald Judd, and Lucy Lippard are presented alongside interviews with a number of Martin’s friends and keepers of estates, such as the publisher Ronald Feldman and Kathleen Mangan of the Lenore Tawney archive.

Suzanne Hudson is Associate Professor of Art History and Fine Art at the University of Southern California. She is the author of Robert Ryman: Used Paint (MIT Press) and Painting Now.
Climate change affects not just the planet but the people who live on it. In this book, physician Alan Lockwood describes how global warming will be bad for our health. Drawing on peer-reviewed scientific and medical research, Lockwood meticulously details the symptoms of climate change and their medical side effects.

Our global ecosystems create webs of interdependence that support life on the planet. Lockwood shows how climate change is affecting these ecosystems and describes the resulting impact on health. For example, rising temperatures create long-duration heat waves during which people sicken and die. Climate change increases the risk for certain infectious diseases, including malaria, dengue fever, West Nile virus, Zika, and Lyme disease. Extreme weather and poor soil conditions cause agricultural shortfalls, leading to undernutrition and famine. There is even evidence that violence increases in warmer weather—including a study showing that pitchers throw “beanballs” (balls thrown with the intention of hitting the batter) significantly more often in hot weather.

Climate change is real and it is happening now. We must use what we know to adapt to a warmer world and minimize adverse health effects: make city buildings cooler with air conditioning and “cool roofs,” for example, and mobilize resources for predicted outbreaks of disease. But, Lockwood points out, we also need prevention. The ultimate preventive medicine is reducing greenhouse gas emissions and replacing energy sources that depend on fossil fuels with those that do not.

Alan H. Lockwood, M.D., is Emeritus Professor of Neurology and Nuclear Medicine in the Jacobs School of Medicine and Biomedical Sciences at the University at Buffalo and a Senior Scientist at Physicians for Social Responsibility. He is the author of The Silent Epidemic: Coal and the Hidden Threat to Health (MIT Press).

Also available

$32.00S/£23.95 cloth
978-0-262-03487-6
Big Data Is Not a Monolith
edited by Cassidy R. Sugimoto, Hamid R. Ekbia, and Michael Mattioli

Big data is ubiquitous but heterogeneous. Big data can be used to tally clicks and traffic on web pages, find patterns in stock trades, track consumer preferences, identify linguistic correlations in large corpuses of texts. This book examines big data not as an undifferentiated whole but contextually, investigating the varied challenges posed by big data for health, science, law, commerce, and politics. Taken together, the chapters reveal a complex set of problems, practices, and policies.

The advent of big data methodologies has challenged the theory-driven approach to scientific knowledge in favor of a data-driven one. Social media platforms and self-tracking tools change the way we see ourselves and others. The collection of data by corporations and government threatens privacy while promoting transparency. Meanwhile, politicians, policy makers, and ethicists are ill-prepared to deal with big data's ramifications. The contributors look at big data’s effect on individuals as it exerts social control through monitoring, mining, and manipulation; big data and society, examining both its empowering and its constraining effects; big data and science, considering issues of data governance, provenance, reuse, and trust; and big data and organizations, discussing data responsibility, “data harm,” and decision making.

Cassidy R. Sugimoto is Associate Professor in the School of Informatics and Computing at Indiana University Bloomington and the coeditor of Beyond Bibliometrics (MIT Press). Hamid R. Ekbia is Associate Professor in the Schools of Informatics and Computing, Cognitive Science, and International Studies at Indiana University Bloomington. Michael Mattioli is Associate Professor at the Indiana University Maurer School of Law.

Contributors

Perspectives on the varied challenges posed by big data for health, science, law, commerce, and politics.

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7 illus.

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Information Policy series
Rebel Genius
Warren S. McCulloch’s Transdisciplinary Life in Science
Tara H. Abraham

Warren S. McCulloch (1898–1969) adopted many identities in his scientific life—among them philosopher, poet, neurologist, neurophysiologist, neuropsychiatrist, collaborator, theorist, cybernetician, mentor, engineer. He was, writes Tara Abraham in this account of McCulloch’s life and work, “an intellectual showman,” and performed this part throughout his career. While McCulloch claimed a common thread in his work was the problem of mind and its relationship to the brain, there was much more to him than that. In Rebel Genius, Abraham uses McCulloch’s life as a window to a past scientific age, showing the complex transformations that took place in American brain and mind science in the twentieth century—particularly those surrounding the cybernetics movement.

Abraham describes McCulloch’s early work in neuropsychiatry, and his emerging identity as a neurophysiologist. She explores his transformative years at the Illinois Neuropsychiatric Institute and his work with Walter Pitts—often seen as the first iteration of “artificial intelligence” but here described as stemming from the new tradition of mathematical treatments of biological problems. Abraham argues that McCulloch’s dual identities as neuropsychiatrist and cybernetician are inseparable. He used the authority he gained in traditional disciplines as a basis for posing big questions about the brain and mind as a cybernetician. When McCulloch moved to the Research Laboratory of Electronics at MIT, new practices for studying the brain, grounded in mathematics, philosophy, and theoretical modeling, expanded the relevance and ramifications of his work. McCulloch’s transdisciplinary legacies anticipated today’s multidisciplinary field of cognitive science.

Tara H. Abraham is Associate Professor in the Department of History at the University of Guelph, Ontario.

Embodiments of Mind
Writings by a thinker—a psychiatrist, a philosopher, a cybernetician, and a poet—whose ideas about mind and brain were far ahead of his time.

November | 6 x 9, 464 pp. | 75 illus.
$45.00S/£34.95 paper
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**Experimental Politics**

*Work, Welfare, and Creativity in the Neoliberal Age*

**Maurizio Lazzarato**

translated by Arianna Bove, Jeremy Gilbert, Andrew Goffey, Mark Hayward, Jason Read, and Albert Toscano

eeded by Jeremy Gilbert

In *Experimental Politics*, Maurizio Lazzarato examines the conditions of work, employment, and unemployment in neoliberalism’s flexible and precarious labor market. This is the first book of Lazzarato’s in English that fully exemplifies the unique synthesis of sociology, activist research, and theoretical innovation that has generated his best-known concepts, such as “immaterial labor.” The book (published in France in 2009) is also groundbreaking in the way it brings Foucault, Deleuze, and Guattari to bear on the analysis of concrete political situations and real social struggles, while making a significant theoretical contribution in its own right.

Lazzarato draws on the experiences of casual workers in the French entertainment industry during a dispute over the reorganization (“reform”) of their unemployment insurance in 2004 and 2005. He sees this conflict as the first testing ground of a political program of social reconstruction. The payment of unemployment insurance would become the principal instrument for control over the mobility and behavior of the workers. The flexible and precarious workforce of the entertainment industry prefigured what the entire workforce in contemporary societies is in the process of becoming: in Foucault’s words, a “floating population” in “security societies.” Lazzarato argues further that parallel to economic impoverishment, neoliberalism has produced an impoverishment of subjectivity—a reduction in existential intensity. A substantial introduction by Jeremy Gilbert situates Lazzarato’s analysis in a broader context.

**Maurizio Lazzarato** is a sociologist and philosopher in Paris. He is the author of *The Making of the Indebted Man: An Essay on the Neoliberal Condition* and *Signs and Machines: Capitalism and the Production of Subjectivity*, both published by Semiotext(e) and distributed by the MIT Press.
How are we to understand works of art that are realized with the physical involvement of the viewer? A relationship between a work of art and its audience that is rooted in an experience that is both aesthetic and physical? Today, these works often use digital technologies, but artists have created participatory works since the 1950s. In this book, critics, writers, and artists offer diverse perspectives on this kind of “practicable” art that bridges contemplation and use, discussing and documenting a wide variety of works from the last several decades. The contributors consider both works that are technologically mediated and those that are not, as long as they are characterized by a process of reciprocal exchange.

The book offers a historical frame for practicable works, discussing, among other things, the emergence and influence of cybernetics. It examines art movements and tendencies that incorporate participatory strategies; draws on the perspectives of the humanities and sciences; and investigates performance and exhibition. Finally, it presents case studies of key works by artists including Lygia Clark, Robert Morris, Marina Abramović, Krzysztof Wodiczko, Piotr Kowalski, Janet Cardiff, and David Rokeby, and offers interviews with such leading artists and theoreticians as Thomas Hirschhorn, Matt Adams of Blast Theory, and Bruno Latour. Numerous illustrations of artists and their works accompany the text.

Samuel Bianchini, an artist and researcher, is Associate Professor at the École Nationale Supérieure des Arts Décoratifs, Paris, where he is the head of the “Reflective Interaction” Research Group of EnsadLab, the school’s laboratory. Erik Verhagen, an independent curator and an art critic, is Associate Professor of Contemporary Art History at Université de Valenciennes.

Contributors

Critical analyses, case studies, and artist interviews examine works of art that are realized with the physical involvement of the viewer.

November
7 x 9, 864 pp.
164 illus.
$50.00S/£37.95 cloth
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A Leonardo Book
The Rationality Quotient (RQ)
Toward a Test of Rational Thinking
Keith E. Stanovich, Richard F. West, and Maggie E. Toplak

Why are we surprised when smart people act foolishly? Smart people do foolish things all the time. Misjudgments and bad decisions by highly educated bankers and money managers, for example, brought us the financial crisis of 2008. Smart people do foolish things because intelligence is not the same as the capacity for rational thinking. The Rationality Quotient explains that these two traits, often (and incorrectly) thought of as one, refer to different cognitive functions. The standard IQ test, the authors argue, doesn’t measure any of the broad components of rationality—adaptive responding, good judgment, and good decision making.

The authors show that rational thinking, like intelligence, is a measurable cognitive competence. Drawing on theoretical work and empirical research from the last two decades, they present the first prototype for an assessment of rational thinking analogous to the IQ test: the CART (Comprehensive Assessment of Rational Thinking).

The authors describe the theoretical underpinnings of the CART, distinguishing the algorithmic mind from the reflective mind. They discuss the logic of the tasks used to measure cognitive biases, and they develop a unique typology of thinking errors. The Rationality Quotient explains the components of rational thought assessed by the CART, including probabilistic and scientific reasoning; the avoidance of “miserly” information processing; and the knowledge structures needed for rational thinking. Finally, the authors discuss studies of the CART and the social and practical implications of such a test. An appendix offers sample items from the test.

Keith E. Stanovich is Professor Emeritus of Applied Psychology and Human Development at the University of Toronto and the author of What Intelligence Tests Miss, awarded the 2010 Graewmeyer Award in Education. Richard F. West is Professor Emeritus in the Department of Graduate Psychology at James Madison University. Maggie E. Toplak is Associate Professor of Psychology at York University.
Internet memes—digital snippets that can make a joke, make a point, or make a connection—are now a lingua franca of online life. They are collectively created, circulated, and transformed by countless users across vast networks. Most of us have seen the cat playing the piano, Kanye interrupting, Kanye interrupting the cat playing the piano. In *The World Made Meme*, Ryan Milner argues that memes, and the memetic process, are shaping public conversation. It’s hard to imagine a major pop cultural or political moment that doesn’t generate a constellation of memetic texts. Memetic media, Milner writes, offer participation by reappropriation, balancing the familiar and the foreign as new iterations intertwine with established ideas. New commentary is crafted by the mediated circulation and transformation of old ideas. Through memetic media, small strands weave together big conversations.

Milner considers the formal and social dimensions of memetic media, and outlines five basic logics that structure them: multimodality, reappropriation, resonance, collectivism, and spread. He examines how memetic media both empower and exclude during public conversations, exploring the potential for public voice despite everyday antagonisms. Milner argues that memetic media enable the participation of many voices even in the midst of persistent inequality. This new kind of participatory conversation, he contends, complicates the traditional culture industries. When age-old gatekeepers intertwine with new ways of sharing information, the relationship between collective participation and individual expression becomes ambivalent.

For better or worse—and Milner offers examples of both—memetic media have changed the nature of public conversations.

Ryan M. Milner is Assistant Professor in the Department of Communication at the College of Charleston.
Designing Publics
Christopher A. Le Dantec

Contemporary computing technologies have thoroughly embedded themselves in every aspect of modern life—conducting commerce, maintaining and extending our networks of friends, and mobilizing political movements all occur through a growing collection of devices and services designed to keep and hold our attention. Yet what happens when our attention needs to be more local, collective, and focused on our immediate communities? Perhaps more important, how can we imagine and create new technologies with local communities? In Designing Publics, Christopher Le Dantec explores these questions by designing technologies with the urban homeless. Drawing on a case study of the design of a computational infrastructure in a shelter for homeless women and their children, Le Dantec theorizes an alternate vision of design in community contexts.

Focusing on collective action through design, Le Dantec investigates the way design can draw people together on social issues and create and sustain a public. By “designing publics” he refers both to the way publics arise out of design intervention and to the generative action publics take—how they “do design” as they mobilize and act in the world. This double lens offers a new view of how design and a diverse set of design practices circulate in sites of collective action rather than commercial production.

Christopher A. Le Dantec is Assistant Professor of Digital Media in the School of Literature, Media, and Communication at Georgia Institute of Technology.

An exploration of design considerations in the design of technologies that support local collective action.

October
6 x 9, 168 pp.
2 illus.
$32.00S/£23.95 cloth
978-0-262-03516-3
Design Thinking, Design Theory series
A system can describe what we see (the solar system), operate a computer (Windows 10), or be made on a page (the fourteen engineered lines of a sonnet). In this book, Clifford Siskin shows that system is best understood as a genre—a form that works physically in the world to mediate our efforts to understand it. Indeed, many Enlightenment authors published works they called “system” to compete with the essay and the treatise. Drawing on the history of system from Galileo’s “message from the stars” and Newton’s “system of the world” to today’s “computational universe,” Siskin illuminates the role that the genre of system has played in the shaping and reshaping of modern knowledge.

Previous engagements with systems have involved making them, using them, or imagining better ones. Siskin offers an innovative perspective by investigating system itself. He considers the past and present, moving from the “system of the world” to “a world full of systems.” He traces the turn to system in the seventeenth and eighteenth centuries’ scientific studies, and describes this primary form of Enlightenment as a mediator of political, cultural, and social modernity—pointing to the moment when people began to “blame the system” for working both well (“you can’t beat the system”) and not well enough (it always seems to “break down”). Throughout, his touchstones are: what system is and how it has changed; how it has mediated knowledge; and how it has worked in the world.

Clifford Siskin is Henry W. and Alfred A. Berg Professor of English and American Literature at New York University, and Director of the Re:Enlightenment Project.
The Systemic Image
A New Theory of Interactive Real-Time Simulations
Inge Hinterwaldner

Computer simulations conceive objects and situations dynamically, in their changes and progressions. In *The Systemic Image*, Inge Hinterwaldner considers not only the technical components of dynamic computer simulations but also the sensory aspects of the realization. Examining the optic, the acoustic, the tactile, and the sensorimotor impressions that interactive real-time simulations provide, she finds that iconicity plays a dominant yet unexpected role. Based on this, and close readings of a series of example works, Hinterwaldner offers a new conceptualization of the relationship between systemic configuration and the iconic aspects in these calculated complexes.

Hinterwaldner discusses specifications of sensorialization, necessary to make the simulation dynamic perceivable. Interweaving iconicity with simulation, she explores the expressive possibilities that can be achieved under the condition of continuously calculated explicit changes. She distinguishes among four levels of forming: the systems perspective, as a process and schema that establishes the most general framework of simulations; the mathematical model, which marks off the boundaries of the simulation’s actualization; the iconization and its orientation toward the user; and interaction design, necessary for the full unfolding of the simulation. The user makes manifest what is initially latent. Viewing the simulation as an interface, Hinterwaldner argues that not only does the sensorially designed aspect of the simulation seduce the user but the user also makes an impact on the simulation—on the dynamic and perhaps on the iconization, although not on the perspectivation. The influence is reciprocal.

Inge Hinterwaldner is Lecturer in Modern and Contemporary Art History at the University of Basel and Research Fellow of the Swiss National Science Foundations.

January | 7 x 9, 432 pp. | 223 illus.

$72.00S/£53.95 cloth
978-0-262-03504-0

Machine Art in the Twentieth Century
Andreas Broeckmann

“Machine art” is neither a movement nor a genre, but encompasses diverse ways in which artists engage with technical systems. In this book, Andreas Broeckmann examines a variety of twentieth- and early twenty-first-century artworks that articulate people’s relationships with machines. In the course of his investigation, Broeckmann traces historical lineages that connect art of different periods, looking for continuities that link works from the end of the century to developments in the 1950s and 1960s and to works by avant-garde artists in the 1910s and 1920s. An art historical perspective, he argues, might change our views of recent works that seem to be driven by new media technologies but that in fact continue a century-old artistic exploration.

Broeckmann investigates critical aspects of machine aesthetics that characterized machine art until the 1960s and then turns to specific domains of artistic engagement with technology: algorithms and machine autonomy, looking in particular at the work of the Canadian artist David Rokeby; vision and image, and the advent of technical imaging; and the human body, using the work of the Australian artist Stelarc as an entry point to art that couples the machine to the body, mechanically or cybernetically. Finally, Broeckmann argues that systems thinking and ecology have brought about a fundamental shift in the meaning of technology, which has brought with it a rethinking of human subjectivity. He examines a range of artworks, including those by the Japanese artist Seiko Mikami, whose work exemplifies the shift.

Andreas Broeckmann, an art historian and curator, directs the Leuphana Arts Program at Leuphana University Lüneburg, Germany.

January | 7 x 9, 408 pp. | 16 color plates, 74 black & white illus.

$45.00S/£34.95 cloth
978-0-262-03506-4

A Leonardo Book
The Profitability Test
Does Your Strategy Make Sense?
Harborne W. Stuart Jr.

This book teaches readers to understand profitability in a systematic way, equipping them to provide logically coherent answers to questions about whether a new venture will be profitable, if changes in business strategy will generate an increase in profits, or if “staying the course” will result in continued profitability. Unlike books by business gurus that offer one-size-fits-all advice, this book starts from the premise that you, the reader, are in the best position to make difficult judgments about your business. It shows how to turn these judgments into coherent analysis, presenting state-of-the-art theory for understanding business strategy from an economic perspective. The basic building block is the value that is created when the buyer and seller make a deal. In simple terms, if a company is to be profitable, it must make a favorable deal with each and every customer.

After setting out key principles and applying them to market situations, the book teaches readers to apply the analysis to their own businesses—in other words, to create their own business game, the main ingredients of which are people and the value that they can create. It addresses how to integrate strategic moves into the book’s theory of value creation and competition in order to address the sustainability of a company’s profits, the effectiveness of the “invisible hand,” and restrictions to competition. Optional appendixes explain the relevant mathematics.

Harborne W. Stuart Jr., currently Adjunct Professor at Columbia Business School and School of Engineering and Applied Sciences, has held positions at New York University Stern School of Business, MIT Sloan School of Management, and Harvard Business School.

September | 7 x 9, 224 pp. | 99 illus.
$40.00X/£29.95 paper
978-0-262-52940-2

Modeling and Simulating Software Architectures
The Palladio Approach
Ralf H. Reussner, Steffen Becker, Jens Happe, Anne Koziolek, Heiko Koziollek, Klaus Krogmann, Max Kramer, and Robert Heinrich

Too often, software designers lack an understanding of the effect of design decisions on such quality attributes as performance and reliability. This necessitates costly trial-and-error testing cycles, delaying or complicating rollout. This book presents a new, quantitative architecture simulation approach to software design, which allows software engineers to model quality of service in early design stages. It presents the first simulator for software architectures, Palladio, and shows students and professionals how to model reusable, parametrized components and configured, deployed systems in order to analyze service attributes.

The text details the key concepts of Palladio’s domain-specific modeling language for software architecture quality and presents the corresponding development stage. It describes how quality information can be used to calibrate architecture models from which detailed simulation models are automatically derived for quality predictions. Readers will learn how to approach systematically questions about scalability, hardware resources, and efficiency. The text features a running example to illustrate tasks and methods as well as three case studies from industry. Each chapter ends with exercises, suggestions for further reading, and “takeaways” that summarize the key points of the chapter.

The simulator can be downloaded from a companion website, which offers additional material. The book can be used in graduate courses on software architecture, quality engineering, or performance engineering. It will also be an essential resource for software architects and software engineers and for practitioners who want to apply Palladio in industrial settings.

Ralf H. Reussner, Steffen Becker, Jens Happe, Anne Koziolek, Heiko Koziollek, Klaus Krogmann, Max Kramer, and Robert Heinrich are developers of the Palladio simulator for software architectures.

November | 7 x 9, 408 pp. | 98 illus.
$59.00X/£43.95 cloth
978-0-262-03476-0
This book introduces students with little or no prior programming experience to the art of computational problem solving using Python and various Python libraries, including PyLab. It provides students with skills that will enable them to make productive use of computational techniques, including some of the tools and techniques of data science for using computation to model and interpret data. The book is based on an MIT course (which became the most popular course offered through MIT’s OpenCourseWare) and was developed for use not only in a conventional classroom but in a massive open online course (MOOC).

This new edition has been updated for Python 3, reorganized to make it easier to use for courses that cover only a subset of the material, and offers additional material including five new chapters.

Students are introduced to Python and the basics of programming in the context of such computational concepts and techniques as exhaustive enumeration, bisection search, and efficient approximation algorithms. Although it covers such traditional topics as computational complexity and simple algorithms, the book focuses on a wide range of topics not found in most introductory texts, including information visualization, simulations to model randomness, computational techniques to understand data, and statistical techniques that inform (and misinform) as well as two related but relatively advanced topics: optimization problems and dynamic programming. This edition offers expanded material on statistics and machine learning and new chapters on Frequentist and Bayesian statistics.

John V. Guttag is the Dugald C. Jackson Professor of Computer Science and Electrical Engineering at MIT.
Photo Forensics

Hany Farid

Photographs have been doctored since photography was invented. Dictators have erased people from photographs and from history. Politicians have manipulated photos for short-term political gain. Altering photographs in the predigital era required time-consuming darkroom work. Today, powerful and low-cost digital technology makes it relatively easy to alter digital images, and the resulting fakes are difficult to detect. The field of photo forensics—pioneered in Hany Farid’s lab at Dartmouth College—restores some trust to photography. In this book, Farid describes techniques that can be used to authenticate photos. He provides the intuition and background as well as the mathematical and algorithmic details needed to understand, implement, and utilize a variety of photo forensic techniques.

Farid traces the entire imaging pipeline. He begins with the physics and geometry of the interaction of light with the physical world, proceeds through the way light passes through a camera lens, the conversion of light to pixel values in the electronic sensor, the packaging of the pixel values into a digital image file, and the pixel-level artifacts introduced by photo-editing software. Modeling the path of light during image creation reveals physical, geometric, and statistical regularities that are disrupted during the creation of a fake. Various forensic techniques exploit these irregularities to detect traces of tampering. A chapter of case studies examines the authenticity of viral videos and famously questionable photographs including “Golden Eagle Snatches Kid” and the Lee Harvey Oswald backyard photo.

Hany Farid is Professor of Computer Science at Dartmouth College and Cofounder and Chief Technology Officer for Fourandsix Technologies.

Complexity and Evolution

Toward a New Synthesis for Economics

edited by David S. Wilson and Alan Kirman

Two widely heralded yet contested approaches to economics have emerged in recent years: one emphasizes evolutionary theory in terms of individuals and institutions; the other views economics as complex adaptive systems. In this book, leading scholars examine these two bodies of theory, exploring their possible impact on economics. Relevant concepts from evolutionary theory drawn on by the contributors include the distinction between proximate and ultimate causation, multilevel selection, cultural change as an evolutionary process, and human psychology as a product of gene-culture coevolution. Applicable ideas from complexity theory include self-organization, fractals, chaos theory, sensitive dependence, basins of attraction, and path dependence.

The contributors discuss a synthesis of complexity and evolutionary approaches and the challenges that emerge. Focusing on evolutionary behavioral economics, and the evolution of institutions, they offer practical applications and point to avenues for future research.

David S. Wilson is SUNY Distinguished Professor of Biology and Anthropology at Binghamton University and President of the Evolution Institute. Alan Kirman is Emeritus Professor of Economics at Aix Marseille University and Director of Studies at the École des Hautes Études en Sciences Sociales, Aix-en-Provence.

Contributors


September | 6 x 9, 376 pp. | 19 illus.

$50.00X/£37.95 cloth
978-0-262-03538-5

Strüngmann Forum Reports
A Primer in Econometric Theory
John Stachurski

This book offers a cogent and concise treatment of econometric theory and methods along with the underlying ideas from statistics, probability theory, and linear algebra. It emphasizes foundations and general principles, but also features many solved exercises, worked examples, and code listings. After mastering the material presented, readers will be ready to take on more advanced work in different areas of quantitative economics and to understand papers from the econometrics literature. The book can be used in graduate-level courses on foundational aspects of econometrics or on fundamental statistical principles. It will also be a valuable reference for independent study.

One distinctive aspect of the text is its integration of traditional topics from statistics and econometrics with modern ideas from data science and machine learning; readers will encounter ideas that are driving the current development of statistics and increasingly filtering into econometric methodology. The text treats programming not only as a way to work with data but also as a technique for building intuition via simulation. Many proofs are followed by a simulation that shows the theory in action. As a primer, the book offers readers an entry point into the field, allowing them to see econometrics as a whole rather than as a profusion of apparently unrelated ideas.

John Stachurski is Professor of Economics at Australian University and the author of Economic Dynamics: Theory and Computation (MIT Press).

The Guidance of an Enterprise Economy
Martin Shubik and Eric Smith

This book offers a rigorous study of control, guidance, and coordination problems of an enterprise economy, with attention to the roles of money and financial institutions. The approach is distinctive in drawing on game theory, methods of physics and experimental gaming, and, more generally, a broader evolutionary perspective from the biological and behavioral sciences. The proposed theory unites Walrasian general equilibrium with macroeconomic dynamics and Schumpeterian innovation utilizing strategic market games. Problems concerning the meaning of rational economic behavior and the concept of solution are noted.

The authors argue that process models of the economy can be built that are consistent with the general equilibrium system but become progressively more complex as new functions are added. Explicit embedding of the economy within the framework of government and society provides a natural, both formal and informal, control system.

The authors describe how to build and analyze multistate models with simple assumptions about behavior, and develop a general modeling methodology for the construction of models as playable games.

Martin Shubik is Seymour Knox Professor of Mathematical Institutional Economics (Emeritus) at Yale University’s Cowles Foundation and School of Management. He is the author of the three-volume work The Theory of Money and Financial Institutions (MIT Press) and other books. Eric Smith is Professor and Principal Investigator at the Earth-Life Science Institute in Tokyo and Research Professor at George Mason University’s Krasnow Institute for Advanced Study. He is the coauthor of Symmetry and Collective Fluctuations in Evolutionary Games and The Origin and Nature of Life on Earth. Both Shubik and Smith are External Faculty of the Santa Fe Institute.
Financial aspects of launching and operating a high-tech company, including risk analysis, business models, U.S. securities law, financial accounting, tax issues, and stock options, explained accessibly.

This book offers an accessible guide to the financial aspects of launching and operating a high-tech business in such areas as engineering, computing, and science. It explains a range of subjects—from risk analysis to stock incentive programs for founders and key employees—for students and aspiring entrepreneurs who have no prior training in finance or accounting.

The book begins with the rigorous analysis any prospective entrepreneur should undertake before launching a business, covering risks associated with a new venture, the reasons startup companies fail, and the stages of financing. It goes on to discuss business models and their components, business plans, and exit planning; forms of business organization, and factors to consider in choosing one; equity allocation to founders and employees; applicable U.S. securities law; and sources of equity capital. The book describes principles of financial accounting, the four basic financial statements, and financial ratios useful in assessing management performance. It also explains financial planning and the use of budgets; profit planning; stock options and other option-type awards; methodologies for valuing a private company; economic assessment of a potential investment project; and the real options approach to risk and managerial flexibility. Appendixes offer case studies of Uber and of the valuation of Tentex.

Frank J. Fabozzi is Professor of Finance at EDHEC Business School in France and has held positions at Yale School of Management, Princeton University, and MIT Sloan School of Management. He is the author of Capital Markets: Institutions, Instruments, and Risk Management (fifth edition, MIT Press) and other books.
Macroeconomics in Times of Liquidity Crises
Searching for Economic Essentials
Guillermo A. Calvo

Since the subprime mortgage crisis that began in 2007, developed market economies (DMs) have felt a nagging sense of insecurity. After years of enjoying macroeconomic stability while a series of crises hit emerging market economies (EMs), DMs now recognize the financial sector’s dysfunctionality. Financial crises are systemic, occurring simultaneously in different economies.

In this book, Guillermo Calvo focuses on liquidity factors as a commonality in financial crises. Specifically, he examines the role of “liquidity crunch” in triggering crises. He also identifies a fundamental (but overlooked) idea in Keynes’s General Theory, termed by Calvo the price theory of money, to rationalize the resiliency of the U.S. dollar when other dollar-backed assets suffered a devastating liquidity crunch.

Calvo shows that a sharp focus on liquidity reveals some characteristics of liquid assets that are easy to miss otherwise. He considers the role of liquidity and argues for liquidity’s centrality, presenting what he calls the “liquidity approach.” He shows that simple extensions of standard monetary models help rationalize the implications of the liquidity crunch, and then examines slightly more technical models that highlight liquidity issues. He explores the empirical effects of liquidity crunch by studying systemic system stops (of capital inflows), presuming that they are triggered by liquidity crunch-type phenomena.

Guillermo A. Calvo is Professor of International and Public Affairs at Columbia University’s School for International and Public Affairs. He is the author of Money, Exchange Rates, and Output: Emerging Capital Markets in Turmoil (both published by the MIT Press); and other books.

The World Trade System
Trends and Challenges
edited by Jagdish N. Bhagwati, Pravin Krishna, and Arvind Panagariya

When the General Agreement on Tariffs and Trade (GATT) metamorphosed into the World Trade Organization (WTO) in 1994, it seemed that the third pillar of the international economic superstructure was finally in place. And yet with the failure of member countries to close the Doha Round of trade negotiations and the emergence of bilateral and plurilateral preferential trade arrangements (PTAs) such as the Trans-Pacific Partnership (TPP), the future of the multilateral WTO seems uncertain. In this volume, leading economists examine issues in trade policy that have arisen during this shift.

The contributors discuss such topics as the effect of trade on poverty and inequality, PTAs and litigation between trading partners, the WTO Trade Facilitation Agreement, and the relationship of food security and trade liberalization. They also offer regional perspectives on the TPP and trans-Atlantic free trade.

Jagdish N. Bhagwati is University Professor of Economics, Law, and International Relations at Columbia University and Director of the Deepak and Neera Raj Center on Indian Economic Policies. He is the author (with Arvind Panagariya) of Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries. Pravin Krishna is Chung Ju Yung Distinguished Professor of International Economics at Johns Hopkins University. Arvind Panagariya is Jagdish N. Bhagwati Professor of Indian Political Economy at Columbia University.

Contributors
Jagdish Bhagwati, Steve Charnovitz, Gabriel Felbermayr, Dimitar Gueorguiev, Bernard Hoekman, Jonas Kasteng, Pravin Krishna, Mary Lovely, Petros Mavroidis, Devashish Mitra, Arvind Panagariya, Tom Prusa, Andre Sapir, Stefan Tangermann

October | 5 3/8 x 8, 192 pp. | 15 illus.
$35.00S/£24.95 cloth
978-0-262-03541-5
Ohlin Lectures series
The Economics and Political Economy of Energy Subsidies

**edited by Jon Strand**

Government subsidies to energy are widespread and represent a heavy burden on public budgets in many countries. Both producers and consumers may be subsidized; the most common subsidies are for motor fuel consumption and electricity production and consumption. The subsidies to consumers often prove particularly harmful because they result in increased energy consumption, increased carbon emissions, and distortionary effects on consumer behavior. This book fills a void in the literature by providing a first, broad and diverse, analysis of several aspects of the economic and political economy aspects of government energy subsidies. The contributors take both theoretical and empirical approaches, with most of the focus on subsidies to fuel and electricity in non-OECD countries.

The chapters cover such topics as energy pricing, reelection incentives for politicians that may encourage excessive subsidies; political corruption and “bribing equilibria,” the “resource curse” in developing countries when the gains from natural resource windfalls are largely wasted, the “entitlement” of energy subsidies in autocracies, and distributional issues when subsidies targeted to the poor are removed in high-income countries. One chapter discusses nonharmful subsidies: the potential economic effects of subsidizing the manufacturing and deployment of renewable energy.

**Jon Strand** is a Senior Economist at the World Bank Development Research Group’s Environment and Energy Team in Washington, DC, and Professor of Economics at the University of Oslo.

**Contributors**
Carolyn Fischer, Mads Greaker, Mohammad Habibpour, Michelle Harding, Christina Kolerus, Christos Kotsogiannis, Jim Krane, Alber Touna Mama, Raffaele Miniaci, Marco Pani, Ian Parry, Carlo Perroni, Leonzio Rizzo, Knut Einar Rosendahl, Carlo Scarpa, Neda Seiban, Suphi Sen, Jon Strand, Paola Valbonesi, Herman Vollebergh

September | 6 x 9, 296 pp. | 46 illus.

$32.00X/£23.95 cloth
978-0-262-03464-7

CESifo Seminar series

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The Economics of Language Policy

**edited by Michele Gazzola and Bengt-Arne Wickström**

In an era of globalization, issues of language diversity have economic and political implications. Transnational labor mobility, trade, social inclusion of migrants, democracy in multilingual countries, and companies’ international competitiveness all have a linguistic dimension; yet economists in general do not include language as a variable in their research. This volume demonstrates that the application of rigorous economic theories and research methods to issues of language policy yields valuable insights.

The contributors offer both theoretical and empirical analyses of such topics as the impact of language diversity on economic outcomes, the distributive effects of policy regarding official languages, the individual welfare consequences of bilingualism, and the link between language and national identity. Their research is based on data from countries including Canada, India, Kazakhstan, and Indonesia and from the regions of Central America, Europe, and Sub-Saharan Africa. Theoretical models are explained intuitively for the nonspecialist. The relationships among linguistic variables, inequality, and the economy are approached from different perspectives, including economics, sociolinguistics, and political science. For this reason, the book offers a substantive contribution to interdisciplinary work on languages in society and language policy, proposing a common framework for a shared research area.

**Michele Gazzola** is a Research Fellow at Humboldt-Universität zu Berlin. **Bengt-Arne Wickström** was until his retirement Director of the Institute for Public Economics at Humboldt-Universität zu Berlin and is now Herder Professor at Andrásy-Universität Budapest.

September | 6 x 9, 512 pp. | 30 illus.

$36.00X/£26.95 cloth
978-0-262-03470-8

CESifo Seminar series
Experimental Conversations
Perspectives on Randomized Trials in Economic Development

edited by Timothy N. Ogden

The practice of development economics has undergone something of a revolution as many economists have adopted new methods to answer perennial questions about the effectiveness of anti-poverty programs. In this book, prominent development economists discuss the use and impact of one of the most significant of these new methods, randomized control trials (RCTs) and field experiments. In extended interviews conducted over a period of several years, they explain their work and their thinking and consider the broader issues of how we learn about the world and how we can change it for the better.

These conversations offer specialists and nonspecialists alike a unique opportunity to hear economists speak in their own words, free of the confines of a particular study or econometric esoterica. The economists describe how they apply research findings in the way they think about the world, revealing their ideas about the power of theory, external validity, gaps in knowledge, and what issues matter. Also included are interviews with RCT observers, critics, sponsors, consumers, and others. Each interview provides a brief biography of the interviewee and a selected bibliography. Thorough annotations offer background and explanations for key ideas and studies referred to in the conversations.

Timothy N. Ogden is Managing Director of the Financial Access Initiative at New York University’s Wagner School of Public Service.

Contributors

January | 6 x 9, 392 pp. | 1 illus.
$45.00S/£34.95 cloth
978-0-262-03510-1

Reclaiming the Atmospheric Commons
The Regional Greenhouse Gas Initiative and a New Model of Emissions Trading

Leigh Raymond

In 2008, a group of states in the northeast United States launched an emissions trading program, the Regional Greenhouse Gas Initiative (RGGI). With RGGI, these states—Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont—achieved what had been considered politically impossible: they forced polluters to pay for their emissions. The states accomplished this by conducting auctions of emissions “allowances”; by 2014, they had raised more than $2.2 billion in revenues. In this first in-depth examination of RGGI, Leigh Raymond describes this revolutionary and influential policy model and explains the practical and theoretical implications for climate policy.

Other cap-and-trade schemes had been criticized for providing private profits rather than public benefits, allowing private firms to make money by buying and selling valuable “rights to pollute.” RGGI, by contrast, directed virtually all emissions auction revenues to programs benefiting the public at large. By reframing the issue in terms of public benefits, environmental advocates emphasized the public ownership of the atmospheric commons and private corporations’ responsibility to pay for their use of it.

Raymond argues that this kind of “normative reframing” is significant not only for environmental policy making but also for theories of the policy process, helping to explain and predict sudden policy change.

Leigh Raymond is Professor of Political Science at Purdue University and the coauthor of Buying Nature (MIT Press).

September | 6 x 9, 256 pp. | 8 illus.
$35.00S/£24.95 paper
978-0-262-52930-3
$70.00X/£51.95 cloth
978-0-262-03474-6

American and Comparative Environmental Policy series
Heredity Explored
Between Public Domain and Experimental Science, 1850–1930
edited by Staffan Müller-Wille and Christina Brandt

This book examines the wide range of scientific and social arenas in which the concept of inheritance gained relevance in the late nineteenth and early twentieth centuries. Although genetics emerged as a scientific discipline during this period, the idea of inheritance also played a role in a variety of medical, agricultural, industrial, and political contexts.

The book, which follows an earlier collection, *Heredity Produced* (covering the period 1500 to 1870), addresses heredity in national debates over identity, kinship, and reproduction; biopolitical conceptions of heredity, degeneration, and gender; agro-industrial contexts for newly emerging genetic rationality; heredity and medical research; and the genealogical constructs and experimental systems of genetics that turned heredity into a representable and manipulable object. Taken together, the essays in *Heredity Explored* show that a history of heredity includes much more than the history of genetics, and that knowledge of heredity was always more than the knowledge formulated as Mendelism. It was the broader public discourse of heredity in all its contexts that made modern genetics possible.

Staffan Müller-Wille is Associate Professor in History and Philosophy of the Life Sciences at the University of Exeter, U.K., and the coeditor of *Heredity Produced* (MIT Press). Christina Brandt is Professor of the History of Life Sciences and Philosophical Anthropology at the University of Bochum, Germany.

The Age of Electroacoustics
Transforming Science and Sound
Roland Wittje

At the end of the nineteenth century, acoustics was a science of musical sounds; the musically trained ear was the ultimate reference. Just a few decades into the twentieth century, acoustics had undergone a transformation from a scientific field based on the understanding of classical music to one guided by electrical engineering, with industrial and military applications. In this book, Roland Wittje traces this transition, from the late nineteenth-century work of Hermann Helmholtz to the militarized research of World War I and media technology in the 1930s.

Wittje shows that physics in the early twentieth century was not only about relativity and atomic structure but encompassed a range of experimental, applied, and industrial research fields. The emergence of technical acoustics and electroacoustics illustrates a scientific field at the intersection of science and technology. Wittje starts with Helmholtz’s and Rayleigh’s work and its intersection with telegraphy and early wireless, and continues with the industrialization of acoustics during World War I, when sound measurement was automated and electrical engineering and radio took over the concept of noise. Researchers no longer appealed to the musically trained ear to understand sound but to the thinking and practices of electrical engineering. Finally, Wittje covers the demilitarization of acoustics during the Weimar Republic and its remilitarization at the beginning of the Third Reich. He shows how technical acoustics fit well with the Nazi dismissal of pure science, representing everything that “German Physics” under National Socialism should be: experimental, applied, and relevant to the military.

Roland Wittje is Associate Professor in the Department of Humanities and Social Sciences at the Indian Institute of Technology Madras.
Sharing Knowledge, Shaping Europe
U.S. Technological Collaboration and Nonproliferation
John Krige

In the 1950s and the 1960s, U.S. administrations were determined to prevent Western European countries from developing independent national nuclear weapons programs. To do so, the United States attempted to use its technological pre-eminence as a tool of “soft power” to steer Western European technological choices toward the peaceful uses of the atom and of space, encouraging options that fostered collaboration, promoted nonproliferation, and defused challenges to U.S. technological superiority. In Sharing Knowledge, Shaping Europe, John Krige describes these efforts and the varying degrees of success they achieved.

Krige explains that the pursuit of scientific and technological leadership, galvanized by America’s Cold War competition with the Soviet Union, was also used for techno-political collaboration with major allies. He examines a series of multinational arrangements involving shared technological platforms and aimed at curbing nuclear proliferation, and he describes the roles of the Department of State, the Atomic Energy Commission, and NASA. To their dismay, these agencies discovered that the use of technology as an instrument of soft power was seriously circumscribed, by internal divisions within successive administrations and by external opposition from European countries. It was successful, Krige argues, only when technological leadership was embedded in a web of supportive “harder” power structures.

John Krige is Kranzberg Professor in the School of History, Technology, and Sociology at the Georgia Institute of Technology. He is the author of American Hegemony and the Postwar Reconstruction of Science in Europe and the coeditor of Science and Technology in the Global Cold War, both published by the MIT Press.

Bibliometrics and Research Evaluation
Uses and Abuses
Yves Gingras

The research evaluation market is booming. “Ranking,” “metrics,” “h-index,” and “impact factors” are reigning buzzwords. Government and research administrators want to evaluate everything—teachers, professors, training programs, universities—using quantitative indicators. Among the tools used to measure “research excellence,” bibliometrics—aggregate data on publications and citations—has become dominant. Bibliometrics is hailed as an “objective” measure of research quality, a quantitative measure more useful than “subjective” and intuitive evaluation methods such as peer review. In this book, Yves Gingras offers a spirited argument against an unquestioning reliance on bibliometrics as an indicator of research quality. Gingras shows that bibliometric rankings have no real scientific validity, rarely measuring what they pretend to.

Although the study of publication and citation patterns, at the proper scales, can yield insights on the global dynamics of science over time, ill-defined quantitative indicators often generate perverse and unintended effects on the direction of research. Moreover, abuse of bibliometrics occurs when data is manipulated to boost rankings. Gingras looks at the politics of evaluation and argues that using numbers can be a way to control scientists and diminish their autonomy in the evaluation process. Proposing precise criteria for establishing the validity of indicators at a given scale of analysis, Gingras questions why universities are so eager to let invalid indicators influence their research strategy.

Yves Gingras is Professor and Canada Research Chair in History and Sociology of Science, Department of History, at Université du Québec à Montréal.

Transformations: Studies in the History of Science and Technology
Framing Internet Safety
The Governance of Youth Online
Nathan W. Fisk

Since the beginning of the Internet era, it has become almost impossible to discuss youth and technology without mentioning online danger—pornography that is just a click away, lurking sexual predators, and inescapable cyberbullies. In this book, Nathan Fisk takes an innovative approach to the subject, examining youth Internet safety as a technology of governance—for information technologies and, by extension, for the forms of sociality and society they make possible. He argues that it is through the mobilization of various discourses of online risk that the everyday lives of youth are increasingly monitored and policed and the governing potentials of information technologies are explored.

Fisk relates particular panics over youth Internet safety to patterns of technological adoption by young people, focusing on the policy response at the federal level aimed at producing future cybercitizens. He describes pedagogies of surveillance, which position parents as agents of surveillance; the evolution of the youth Internet safety curricula, as seen through materials on cyberbullying and online reputation management; and, drawing on survey results and focus groups, parent and child everyday practice. Finally, Fisk offers recommendations for a “cybersafety of everyday life,” connecting youth Internet safety to trends in national infrastructure protection and corporate information assurance.

Nathan W. Fisk is Assistant Professor of Cybersecurity Education at the University of South Florida and faculty affiliate of the Florida Center for Cybersecurity. He is among the first cohort of Fulbright Cybersecurity Scholars.

December | 6 x 9, 240 pp.
$35.00S/£24.95 cloth
978-0-262-03515-6

The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning

Voice Leading
The Science behind the Musical Art
David Huron

Voice leading is the musical art of combining sounds over time. In this book, David Huron offers an accessible account of the cognitive and perceptual foundations for this practice. Drawing on decades of scientific research, including his own award-winning work, Huron offers explanations for many practices and phenomena, including the perceptual dominance of the highest voice, chordal-tone doubling, direct octaves, embellishing tones, and the musical feeling of sounds “leading” somewhere. Huron shows how traditional rules of voice leading align almost perfectly with modern scientific accounts of auditory perception. He also reviews pertinent research establishing the role of learning and enculturation in auditory and musical perception.

Voice leading has long been taught with reference to Baroque chorale-style part-writing, yet there exist many more musical styles and practices. The traditional emphasis on Baroque part-writing understandably leaves many musicians wondering why they are taught such an archaic and narrow practice in an age of stylistic diversity. Huron explains how and why Baroque voice leading continues to warrant its central pedagogical status. Expanding beyond choral-style writing, Huron shows how established perceptual principles can be used to compose, analyze, and critically understand any kind of acoustical texture from tune-and-accompaniment songs and symphonic orchestration to jazz combo arranging and abstract electroacoustic music. Finally, he offers a psychological explanation for why certain kinds of musical textures are more likely to be experienced by listeners as pleasing.

David Huron is Distinguished Professor in the School of Music and in the Center for Cognitive and Brain Sciences at the Ohio State University; he is author of Sweet Anticipation: Music and the Psychology of Expectation (MIT Press).

September | 6 x 9, 272 pp. | 52 illus.
$38.00X/£28.95 cloth
978-0-262-03485-2
Connected Gaming
What Making Video Games Can Teach Us about Learning and Literacy
Yasmin B. Kafai and Quinn Burke
foreword by Constance Steinkuehler

Over the last decade, video games designed to teach academic content have multiplied. Students can learn about Newtonian physics from a game, or prep for entry into the army. An emphasis on the instructionist approach to gaming, however, has overshadowed the constructionist approach, in which students learn by designing their own games themselves. In this book, Yasmin Kafai and Quinn Burke discuss the educational benefits of constructionist gaming—coding, collaboration, and creativity—and the move from “computational thinking” toward “computational participation.”

Kafai and Burke point to recent developments that support a shift to game making from game playing, including the game industry’s acceptance, and even promotion, of “modding” and the growth of a DIY culture. Kafai and Burke show that student-designed games teach not only such technical skills as programming but also academic subjects. Making games also teaches collaboration, as students frequently work in teams to produce content and then share their games in class or with others online. Yet Kafai and Burke don’t advocate abandoning instructionist for constructionist approaches. Rather, they argue for a more comprehensive, inclusive idea of connected gaming in which both making and gaming play a part.

Yasmin B. Kafai is Professor of Learning Sciences at the University of Pennsylvania. She is the coeditor of Beyond Barbie and Mortal Kombat: New Perspectives on Gender and Gaming and coauthor of Connected Play: Tweens in a Virtual World (both published by the MIT Press). Quinn Burke is Assistant Professor in the Department of Teacher Education at the College of Charleston. Kafai and Quinn are also coauthors of Connected Code: Why Children Need to Learn Programming (MIT Press).
Computational Models of Referring
A Study in Cognitive Science

Kees van Deemter

To communicate, speakers need to make it clear what they are talking about. The act of referring, which anchors words to things, is a fundamental aspect of language. In this book, Kees van Deemter shows that computational models of reference offer attractive tools for capturing the complexity of referring. Indeed, the models van Deemter presents cover many issues beyond the basic idea of referring to an object, including reference to sets, approximate descriptions, descriptions produced under uncertainty concerning the hearer’s knowledge, and descriptions that aim to inform or influence the hearer.

The book, which can be read as a case study in cognitive science, draws on perspectives from across the cognitive sciences, including philosophy, experimental psychology, formal logic, and computer science. Van Deemter advocates a combination of computational modeling and careful experimentation as the preferred method for expanding these insights. He then shows this method in action, covering a range of algorithms and a variety of methods for testing them. He shows that the method allows us to model logically complicated referring expressions, and demonstrates how we can gain an understanding of reference in situations where the speaker’s knowledge is difficult to assess or where the referent resists exact definition. Finally, he proposes a program of research that addresses the open questions that remain in this area, arguing that this program can significantly enhance our understanding of human communication.

Kees van Deemter is Professor and Chair in Computing Science at the University of Aberdeen and the author of Not Exactly: In Praise of Vagueness.

Available | 7 x 9, 350 pp. | 30 illus.
$34.00X/£24.95 cloth
978-0-262-03455-5

Building and Interpreting Possession Sentences

Neil Myler

A major question for linguistic theory concerns how the structure of sentences relates to their meaning. There is broad agreement in the field that there is some regularity in the way that lexical semantics and syntax are related, so that thematic roles (the different participant roles in an event: agent, theme, goal, etc.) are predictably associated with particular syntactic positions. In this book, Neil Myler examines the syntax and semantics of possession sentences, which are infamous for appearing to diverge dramatically from this broadly regular pattern.

On the one hand, Myler points out, possession sentences have too many meanings; in any given language, the construction used to express archetypal possessive meanings (such as personal ownership) is also often used to express other apparently unrelated notions (body parts, kinship relations, and many others). On the other hand, possession sentences have too many surface structures; languages differ markedly in the argument structures used to convey the same possessive meanings. Myler argues that recent work on the syntax-semantics interface in the generative tradition has developed the tools needed to solve these puzzles.

Examining and synthesizing ideas from the literature and drawing on data from many languages (including some understudied Quechua dialects), Myler presents a novel way to understand the apparent irregularity of possession sentences while preserving explanations of general cross-linguistic regularities, offering a unified approach to the syntax and semantics of possession sentences that can also be integrated into a general theory of argument structure.

Neil Myler is Assistant Professor of Linguistics at Boston University.

September | 7 x 9, 504 pp.
$45.00X/£34.95 cloth
978-0-262-03491-3
The Price of Linguistic Productivity

How Children Learn to Break the Rules of Language

Charles Yang

All languages have exceptions alongside overarching rules and regularities. How does a young child tease them apart within just a few years of language acquisition? In this book, drawing an economic analogy, Charles Yang argues that just as the price of goods is determined by the balance between supply and demand, the price of linguistic productivity arises from the quantitative considerations of rules and exceptions. The learner postulates a productive rule only if it results in a more efficient organization of language, with the number of exceptions falling below a critical threshold.

Supported by a wide range of cases with corpus evidence, Yang’s Tolerance Principle gives a unified account of many long-standing puzzles in linguistics and psychology, including why children effortlessly acquire rules of language that perplex otherwise capable adults. His focus on computational efficiency provides novel insight on how language interacts with the other components of cognition and how the ability for language might have emerged during the course of human evolution.

Charles Yang teaches Linguistics and Computer Science and directs the Program in Cognitive Science at the University of Pennsylvania. He is the author of Knowledge and Learning in Natural Language and The Infinite Gift, and is currently writing a book on language change.

Impossible Persons

Daniel Harbour

Impossible Persons, Daniel Harbour’s comprehensive and groundbreaking formal theory of grammatical person, upends understanding of a universal and ubiquitous grammatical category. Breaking with much past work, Harbour establishes three core theses, one empirical, one theoretical, and one metatheoretical. Together, these redefine the data subsumed under the rubric of “person,” simplify the feature inventory that a theory of person must posit, and restructure the metatheory in which feature theory as a whole resides.

At its heart, Impossible Persons poses a simple question of the possible versus the actual: in how many ways could languages configure their person systems, in how many do they configure them, and what explains the size and shape of the shortfall? Harbour’s empirical thesis—that the primary object of study for persons are partitions, not syncretisms—transforms a sea of data into a categorical problem of the attested and the absent. Positioning, innovatively, that features denote actions, not predicates, he shows that two features alone generate all and only the attested systems. This apparently poor inventory yields rich explanatory dividends, covering the morphological composition of person, its interaction with number, its connection to space, and properties of its semantics and linearization. Moreover, the core properties of this approach are shared with Harbour’s earlier work on number features. Jointly, these results establish an important metatheoretical corollary concerning the balance between richness of feature semantics and restrictiveness of feature inventories. This corollary holds deep implications for how linguists should approach feature theory in the future.

Daniel Harbour is Reader in the Cognitive Science of Language at Queen Mary University of London.

Linguistic Inquiry Monographs series
Neural Control of Speech

Frank H. Guenther

In this book, Frank Guenther offers a comprehensive, unified account of the neural computations underlying speech production, with an emphasis on speech motor control rather than linguistic content. Guenther focuses on the brain mechanisms responsible for commanding the musculature of the vocal tract to produce articulations that result in an acoustic signal conveying a desired string of syllables. Guenther provides neuroanatomical and neurophysiological descriptions of the primary brain structures involved in speech production, looking particularly at the cerebral cortex and its interactions with the cerebellum and basal ganglia, using basic concepts of control theory (accompanied by nontechnical explanations) to explore the computations performed by these brain regions.

Guenther offers a detailed theoretical framework to account for a broad range of both behavioral and neurological data on the production of speech. He discusses such topics as the goals of the neural controller of speech; neural mechanisms involved in producing both short and long utterances; and disorders of the speech system, including apraxia of speech and stuttering. Offering a bridge between the neurological and behavioral literatures on speech production, the book will be a valuable resource for researchers in both fields.

Tomaso A. Poggio and Fabio Anselmi

The ventral visual stream is believed to underlie object recognition in primates. Over the past fifty years, researchers have developed a series of quantitative models that are increasingly faithful to the biological architecture. Recently, deep learning convolution networks—which do not reflect several important features of the ventral stream architecture and physiology—have been trained with extremely large datasets, resulting in model neurons that mimic object recognition but do not explain the nature of the computations carried out in the ventral stream. This book develops a mathematical framework that describes learning of invariant representations of the ventral stream and is particularly relevant to deep convolutional learning networks.

The authors propose a theory based on the hypothesis that the main computational goal of the ventral stream is to compute neural representations of images that are invariant to transformations commonly encountered in the visual environment and are learned from unsupervised experience. They describe a general theoretical framework of a computational theory of invariance (with details and proofs offered in appendixes) and then review the application of the theory to the feedforward path of the ventral stream in the primate visual cortex.

Tomaso A. Poggio is Eugene McDermott Professor in the Department of Brain and Cognitive Sciences at MIT, where he is also Director of the Center for Brains, Minds, and Machines and Codirector of the Center for Biological and Computational Learning. He is coeditor of Perceptual Learning (MIT Press). Fabio Anselmi is a Postdoctoral Fellow in the Istituto Italiano di Tecnologia Laboratory for Computational and Statistical Learning at MIT and part of the Center for Brains, Minds, and Machines.
Case Studies in Neural Data Analysis

A Guide for the Practicing Neuroscientist

Mark A. Kramer and Uri T. Eden

As neural data becomes increasingly complex, neuroscientists now require skills in computer programming, statistics, and data analysis. This book teaches practical neural data analysis techniques by presenting example datasets and developing techniques and tools for analyzing them. Each chapter begins with a specific example of neural data, which motivates mathematical and statistical analysis methods that are then applied to the data. This practical, hands-on approach is unique among data analysis textbooks and guides, and equips the reader with the tools necessary for real-world neural data analysis.

The book begins with an introduction to MATLAB, the most common programming platform in neuroscience, which is used in the book. (Readers familiar with MATLAB can skip this chapter and might decide to focus on data type or method type.) The book goes on to cover neural field data and spike train data, spectral analysis, generalized linear models, coherence, and cross-frequency coupling. Each chapter offers a stand-alone case study that can be used separately as part of a targeted investigation. The book includes some mathematical discussion but does not focus on mathematical or statistical theory, emphasizing the practical instead. References are included for readers who want to explore the theoretical more deeply. The data and accompanying MATLAB code are freely available on the authors’ website. The book can be used for upper-level undergraduate or graduate courses or as a professional reference.

Mark A. Kramer and Uri T. Eden are Associate Professors in the Department of Mathematics and Statistics at Boston University.

Computational Psychiatry

New Perspectives on Mental Illness

edited by A. David Redish and Joshua A. Gordon

Modern psychiatry is at a crossroads, as it attempts to balance neurological analysis with psychological assessment. Computational neuroscience offers a new lens through which to view such thorny issues as diagnosis, treatment, and integration with neurobiology. In this volume, psychiatrists and theoretical and computational neuroscientists consider the potential of computational approaches to psychiatric issues.

This unique collaboration yields surprising results, innovative synergies, and novel open questions. The contributors consider mechanisms of psychiatric disorders, the use of computation and imaging to model psychiatric disorders, ways that computation can inform psychiatric nosology, and specific applications of the computational approach.

A. David Redish is Distinguished McKnight University Professor of Neuroscience at the University of Minnesota and the author of Beyond the Cognitive Map (MIT Press). Joshua A. Gordon is Associate Professor of Psychiatry at Columbia University and Associate Director of Residency Training for Neuroscience at the New York State Psychiatric Institute.

Contributors

November | 6 x 9, 384 pp. | 19 color illus., 21 black & white illus.
$45.00X/£34.95 cloth
978-0-262-03542-2

Strüngmann Forum Reports
From Neuron to Cognition via Computational Neuroscience
edited by Michael A. Arbib and James J. Bonaiuto

This textbook presents a wide range of subjects in neuroscience from a computational perspective. It offers a comprehensive, integrated introduction to core topics, using computational tools to trace a path from neurons and circuits to behavior and cognition. Moreover, the chapters show how computational neuroscience—methods for modeling the causal interactions underlying neural systems—complements empirical research in advancing the understanding of brain and behavior.

The chapters—all by leaders in the field, and carefully integrated by the editors—cover such subjects as action and motor control; neuroplasticity, neuromodulation, and reinforcement learning; vision; and language—the core of human cognition.

The book can be used for advanced undergraduate or graduate level courses. It presents all necessary background in neuroscience beyond basic facts about neurons and synapses and general ideas about the structure and function of the human brain. Students should be familiar with differential equations and probability theory, and be able to pick up the basics of programming in MATLAB and/or Python. Slides, exercises, and other ancillary materials are freely available online, and many of the models described in the chapters are documented in the brain operation database, BODB (which is also described in a book chapter).

Michael A. Arbib is Professor of Computer Sciences, Biomedical Engineering, Electrical Engineering, Neuroscience, and Psychology, and Director of the ABLE Project at the University of Southern California. His many books include The Handbook of Brain Theory and Neural Networks (MIT Press) and How the Brain Got Language.

James J. Bonaiuto is a Postdoctoral Researcher at the Sobell Department of Motor Neuroscience and Movement Disorders at University College London.

Contributors
Social Media Archeology and Poetics
edited by Judy Malloy

Focusing on early social media in the arts and humanities and on the core role of creative computer scientists, artists, and scholars in shaping the pre-Web social media landscape, *Social Media Archeology and Poetics* documents social media lineage, beginning in the 1970s with collaborative ARPANET research, Community Memory, PLATO, Minitel, and ARTEX and continuing into the 1980s and beyond with the Electronic Café, Art Com Electronic Network, Arts Wire, The THING, and many more.

With first person accounts from pioneers in the field, as well as papers by artists, scholars, and curators, *Social Media Archeology and Poetics* documents how these platforms were vital components of early social networking and important in the development of new media and electronic literature. It describes platforms that allowed artists and musicians to share and publish their work, community networking diversity, and the creation of footholds for the arts and humanities online.

And it invites comparisons of social media in the past and present, asking: What can we learn from early social media that will inspire us to envision a greater cultural presence on contemporary social media?

Judy Malloy, an electronic literature pioneer and early social media poet and arts writer, is the editor of *Women, Art, and Technology* (MIT Press).

Contributors

September | 7 x 9, 472 pp. | 23 illus.
$45.00S/£34.95 cloth
978-0-262-03465-4

A Leonardo Book

Archive Everything
Mapping the Everyday
Gabriella Giannachi

In *Archive Everything*, Gabriella Giannachi traces the evolution of the archive into the apparatus through which we map the everyday. The archive, traditionally a body of documents or a site for the preservation of documents, changed over the centuries to encompass, often concurrently, a broad but interrelated number of practices not traditionally considered as archival. Archives now consist of not only documents and sites but also artworks, installations, museums, social media platforms, and mediated and mixed reality environments. Giannachi tracks the evolution of these diverse archival practices across the centuries.

Archives today offer a multiplicity of viewing platforms to replay the past, capture the present, and map our presence. Giannachi uses archaeological practices to explore all the layers of the archive, analyzing Lynn Hershman Leeson’s *!Women Art Revolution* project, a digital archive of feminist artists. She considers the archive as a memory laboratory, with case studies that include visitors’ encounters with archival materials in the Jewish Museum in Berlin. She discusses the importance of participatory archiving, examining the “multimedia roadshow” *Digital Diaspora Family Reunion* as an example. She explores the use of the archive in works that express the relationship between ourselves and our environment, citing Andy Warhol and Ant Farm, among others. And she looks at the transmission of the archive through the body in performance, bioart, and database artworks, closing with a detailed analysis of Lynn Hershman Leeson’s *Infinity Engine*.

Gabriella Giannachi is Professor of Performance and New Media and Director of the Centre for Intermedia at the University of Exeter. She is the coauthor (with Steve Benford) of *Performing Mixed Reality* (MIT Press).

November | 7 x 9, 248 pp. | 56 illus.
$42.00S/£31.95 cloth
978-0-262-03529-3
Rogue Archives
Digital Cultural Memory and Media Fandom
Abigail De Kosnik

The task of archiving was once entrusted only to museums, libraries, and other institutions that acted as repositories of culture in material form. But with the rise of digital networked media, a multitude of self-designated archivists—fans, pirates, hackers—have become practitioners of cultural preservation on the Internet. These nonprofessional archivists have democratized cultural memory, building freely accessible online archives of whatever content they consider suitable for digital preservation. In Rogue Archives, Abigail De Kosnik examines the practice of archiving in the transition from print to digital media, looking in particular at Internet fan fiction archives.

De Kosnik explains that media users today regard all of mass culture as an archive, from which they can redeploy content for their own creations. Hence, “remix culture” and fan fiction are core genres of digital cultural production. De Kosnik explores, among other things, the anticanonical archiving styles of Internet preservationists; the volunteer labor of online archiving; how fan archives serve women and queer users as cultural resources; archivists’ efforts to attract racially and sexually diverse content; and how digital archives adhere to the logics of performance more than the logics of print. She also considers the similarities and differences among free culture, free software, and fan communities, and uses digital humanities tools to quantify and visualize the size, user base, and rate of growth of several online fan archives.

Abigail De Kosnik is Associate Professor at the University of California, Berkeley, with a joint appointment in the Berkeley Center for New Media and the Department of Theater, Dance, and Performance Studies.

September | 6 x 9, 424 pp. | 38 illus.
$45.00S/£34.95 cloth
978-0-262-03466-1

Argument and Inference
An Introduction to Inductive Logic
Gregory Johnson

This textbook offers a thorough and practical introduction to inductive logic. The book covers a range of different types of inferences with an emphasis throughout on representing them as arguments. This allows the reader to see that, although the rules and guidelines for making each type of inference differ, the purpose is always to generate a probable conclusion.

A thorough and practical introduction to inductive logic with a focus on arguments and the rules used for making inductive inferences.

After explaining the basic features of an argument and the different standards for evaluating arguments, the book covers inferences that do not require precise probabilities or the probability calculus: the induction by confirmation, inference to the best explanation, and Mill’s methods. The second half of the book presents arguments that do require the probability calculus, first explaining the rules of probability, and then the proportional syllogism, inductive generalization, and Bayes’ rule. Each chapter ends with practice problems and their solutions. Appendixes offer additional material on deductive logic, odds, expected value, and (very briefly) the foundations of probability.

Argument and Inference can be used in critical thinking courses. It provides these courses with a coherent theme while covering the type of reasoning that is most often used in day-to-day life and in the natural, social, and medical sciences. Argument and Inference is also suitable for inductive logic and informal logic courses, as well as philosophy of sciences courses that need an introductory text on scientific and inductive methods.

Gregory Johnson is Instructor of Philosophy in the Department of Philosophy and Religion at Mississippi State University.

January | 6 x 9, 296 pp. | 42 illus.
$40.00X/£29.95 cloth
978-0-262-03525-5
The Embodied Mind
Cognitive Science and Human Experience

Francisco J. Varela, Evan Thompson, and Eleanor Rosch
Revised Edition

This classic book, first published in 1991, was one of the first to propose the “embodied cognition” approach in cognitive science. It pioneered the connections between phenomenology and science and between Buddhist practices and science—claims that have since become highly influential. Through this cross-fertilization of disparate fields of study, The Embodied Mind introduced a new form of cognitive science called “enaction,” in which both the environment and first person experience are aspects of embodiment. However, enactive embodiment is not the grasping of an independent, outside world by a brain, a mind, or a self; rather it is the bringing forth of an interdependent world in and through embodied action. Although enacted cognition lacks an absolute foundation, the book showed how that does not lead to either experiential or philosophical nihilism. Above all, the book’s arguments were powered by the conviction that the sciences of mind must encompass lived human experience and the possibilities for transformation inherent in human experience.

This revised edition includes substantive introductions by Evan Thompson and Eleanor Rosch that clarify central arguments of the work and discuss and evaluate subsequent research that has expanded on the themes of the book, including the renewed theoretical and practical interest in Buddhism and mindfulness. A preface by Jon Kabat-Zinn, the originator of the mindfulness-based stress reduction program, contextualizes the book and describes its influence on his life and work.

Francisco J. Varela (1946–2001) was Director of the Centre National de Recherche Scientifique, Professor of Cognitive Science and Epistemology, CREA, at the Ecole Polytechnique, Paris, and Cofounder of the Mind and Life Institute. Evan Thompson is Professor of Philosophy at the University of British Columbia and author of Waking, Dreaming, Being. Eleanor Rosch is Professor of Psychology at the University of California, Berkeley.

Praise for the first edition
“An important book with wide-ranging implications for the construction of subjectivity in the Western tradition. Moreover, it is engagingly written, presenting difficult ideas and complex research programs with grace, lucidity, and style.”
—N. Katherine Hayles, American Book Review

A new edition of a classic work that originated the “embodied cognition” movement and was one of the first to link science and Buddhist practices.

FROM THE FOREWORD BY JON KABAT-ZINN

In the annals recording the remarkable and improbable confluence of dharma, philosophy, and science in this era, if such are ever written, The Embodied Mind will be found to have played a seminal and historic role.

I was elated and in many ways, awed when I first discovered it shortly after it was published by MIT Press in 1991. Not that I understood it all, or even most of it, since I am neither a cognitive scientist nor a philosopher by training. But I nonetheless was able to recognize its breadth and depth, the rigor, edginess, and bravery of its scholarly lines of argument, well beyond the thought lines of academic cognitive science, and sensed that its publication by MIT Press was a landmark and momentous signature of something new and profound emerging at the interface of science and dharma.
What Is the Argument?
An Introduction to Philosophical Argument and Analysis
Maralee Harrell

The best way to introduce students to philosophy and philosophical discourse is to have them read and wrestle with original sources. This textbook explores philosophy through detailed argument analyses of texts by philosophers from Plato to Strawson. It presents a novel and transparent method of analysis that will teach students not only how to understand and evaluate philosophers’ arguments but also how to construct such arguments themselves. Students will learn to read a text and discover what the philosopher thinks, why the philosopher thinks it, and whether the supporting argument is good.

Students learn argument analysis through argument diagrams, with color-coding of the argument’s various elements—conclusion, claims, and “indicator phrases.” (An online “mini-course” in argument diagramming and argument diagramming software are both freely available online.) The original text and the analysis appear side by side, so the student can easily follow the analysis of the argument. Each chapter ends with exercises and reading questions.

After a general introduction to philosophy and logic and an explanation of argument analysis, the book presents selections from primary sources, arranged by topics that correspond to contemporary debates, with detailed analysis and evaluation. These topics include philosophy of religion, epistemology, theory of mind, free will and determinism, and ethics; authors include Aristotle, Aquinas, Descartes, Hume, Kant, Ryle, Fodor, Dennett, Searle, and others. What Is the Argument? not only introduces students to great philosophical thinkers, it also teaches them the essential skill of critical thinking.

Maralee Harrell is Associate Teaching Professor of Philosophy at Carnegie Mellon University.

November | 8 x 9, 336 pp. | 360 illus.
$58.00X/£42.95 paper
978-0-262-52927-3

The Life of Reason or The Phases of Human Progress
Reason in Science
Volume VII, Book Five
Critical Edition
George Santayana
coedited by Marianne S. Wokeck and Martin A. Coleman
introduction by James Gouinlock

Santayana’s Life of Reason, published in five books from 1905 to 1906, ranks as one of the greatest works in modern philosophical naturalism. Acknowledging the natural material bases of human life, Santayana traces the development of the human capacity for appreciating and cultivating ideals. It is a capacity he exhibits as he articulates a continuity running through animal impulse, practical intelligence, and ideal harmony in reason, society, art, religion, and science. The work is an exquisitely rendered vision of human life lived sanely.

In this fifth book, Santayana concludes his monumental work with a defense of science and a critique of major rivals to the cognitive ascendancy of science. Indeed, Santayana writes that science crowns the “whole life of Reason.” He finds two kinds of science, physics and dialectic; considers the role of history; examines the mechanisms of nature; defends scientific psychology; discusses pre-rational morality, rational ethics, and post-rational morality; and argues that science contains all trustworthy knowledge.

This Critical Edition, volume VII of The Works of George Santayana, includes notes, textual commentary, lists of variants and emendations, an index, and other tools useful to Santayana scholars. The other four books of the volume are Reason in Common Sense, Reason in Society, Reason in Religion, and Reason in Art.

George Santayana (1863–1952) was a philosopher, poet, critic, and novelist. He is the author of The Last Puritan (MIT Press) and many other works. The MIT Press has published The Letters of George Santayana in eight books and the five books of The Life of Reason.

November | 6 x 9, 368 pp.
$68.00X/£50.95 cloth
978-0-262-03528-6

The Works of George Santayana
Actual Causality

Joseph Y. Halpern

Causality plays a central role in the way people structure the world; we constantly seek causal explanations for our observations. But what does it even mean that an event C “actually caused” event E? The problem of defining actual causation goes beyond mere philosophical speculation. For example, in many legal arguments, it is precisely what needs to be established in order to determine responsibility. The philosophy literature has been struggling with the problem of defining causality since Hume.

In this book, Joseph Halpern explores actual causality, and such related notions as degree of responsibility, degree of blame, and causal explanation. The goal is to arrive at a definition of causality that matches our natural language usage and is helpful, for example, to a jury deciding a legal case, a programmer looking for the line of code that causes some software to fail, or an economist trying to determine whether austerity caused a subsequent depression.

Halpern applies and expands an approach to causality that he and Judea Pearl developed, based on structural equations. He carefully formulates a definition of causality, and building on this, defines degree of responsibility, degree of blame, and causal explanation. He concludes by discussing how these ideas can be applied to such practical problems as accountability and program verification. Technical details are generally confined to the final section of each chapter and can be skipped by non-mathematical readers.

Joseph Y. Halpern is Professor in the Computer Science Department at Cornell University. He is the coauthor of Reasoning about Knowledge and the author of Reasoning about Uncertainty (both published by the MIT Press).

October | 7 x 9, 240 pp.
$50.00S/£37.95 cloth
978-0-262-03502-6

Statistical Approaches to Gene x Environment Interactions for Complex Phenotypes

edited by Michael Windle

Findings from the Human Genome Project and from Genome-Wide Association (GWA) studies indicate that many diseases and traits manifest a more complex genomic pattern than previously assumed. These findings, and advances in high-throughput sequencing, suggest that there are many sources of influence—genetic, epigenetic, and environmental. This volume investigates the role of the interactions of genes and environment (G × E) in diseases and traits (referred to by the contributors as complex phenotypes) including depression, diabetes, obesity, and substance use.

The contributors first present different statistical approaches or strategies to address G × E and G × G interactions with high-throughput sequenced data, including two-stage procedures to identify G × E and G × G interactions, marker-set approaches to assessing interactions at the gene level, and the use of a partial-least square (PLS) approach. The contributors then turn to specific complex phenotypes, research designs, or combined methods that may advance the study of G × E interactions, considering such topics as randomized clinical trials in obesity research, longitudinal research designs and statistical models, and the development of polygenic scores to investigate G × E interactions.

Michael Windle is Professor of Public Health in the Department of Behavioral Sciences and Health Education at Emory University.

Contributors
Fatima Umber Ahmed, Yin-Hsiu Chen, James Y. Dai, Caroline Y. Doyle, Zhihui He, Li Hsu, Shuo Jiao, Erin Loraine Kinnally, Yi-An Ko, Charles Kooperberg, Seunggeun Lee, Arnab Maiti, Jeannie M. McCaffery, Bhramar Mukherjee, Sung Kyun Park, Duncan C. Thomas, Alexandre Todorov, Jung-Ying Tzeng, Tao Wang, Michael Windle, Min Zhang

September | 6 x 9, 304 pp. | 43 illus.
$50.00S/£37.95 cloth
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Vaccination Ethics and Policy
An Introduction with Readings
edited by Jason L. Schwartz and Arthur L. Caplan

Vaccination has long been a familiar, highly effective form of medicine and a triumph of public health. Because vaccination is both an individual medical intervention and a central component of public health efforts, it raises a distinct set of legal and ethical issues—from debates over their risks and benefits to the use of government vaccination requirements—and makes vaccine policymaking uniquely challenging. This volume examines the full range of ethical and policy issues related to the development and use of vaccines in the United States and around the world. Forty essays, articles, and reports by experts in the field look at all aspects of the vaccine life cycle. After an overview of vaccine history, they consider research and development, regulation and safety, vaccination promotion and requirements, pandemics and bioterrorism, and the frontier of vaccination.

The texts cover such topics as vaccine safety controversies; the ethics of vaccine trials; vaccine injury compensation; vaccine refusal and the risks of vaccine-preventable diseases; equitable access to vaccines in emergencies; lessons from the eradication of smallpox; and possible future vaccines against cancer, malaria, and Ebola.

The volume intentionally includes texts that take opposing viewpoints, offering readers a range of arguments. The book will be an essential reference for professionals, scholars, and students.

Jason L. Schwartz is Assistant Professor of Public Health (Health Policy) and in the History of Medicine at Yale University. Arthur L. Caplan is Director of the Division of Medical Ethics in the Department of Population Health at New York University’s Langone Medical Center.

Giving a Damn
Essays in Dialogue with John Haugeland
edited by Zed Adams and Jacob Browning

In his work, the philosopher John Haugeland (1945–2010) proposed a radical expansion of philosophy’s conceptual toolkit, calling for a wider range of resources for understanding the mind, the world, and how they relate. Haugeland claimed that “giving a damn” is essential for having a mind—suggesting that traditional approaches to cognitive science mistakenly overlook the relevance of caring to the understanding of mind-edness. Haugeland’s determination to expand philosophy’s array of concepts led him to write on a wide variety of subjects that may seem unrelated—from topics in cognitive science and philosophy of mind to examinations of such figures as Martin Heidegger and Thomas Kuhn. Haugeland’s two books with the MIT Press, Artificial Intelligence and Mind Design, show the range of his interests.

This book offers a collection of essays in conversation with Haugeland’s work. The essays, by prominent scholars, extend Haugeland’s work on a range of topics in philosophy of mind—from questions about intentionality to issues concerning objectivity and truth to the work of Heidegger. Giving a Damn also includes a previously unpublished paper by Haugeland, “Two Dogmas of Rationalism” as well as critical responses to it. Finally, an appendix offers Haugeland’s “Outline of Kant’s Transcendental Deduction.”

Zed Adams is Associate Professor of Philosophy at the New School for Social Research. Jacob Browning is a PhD student at the New School for Social Research.

Contributors
Zed Adams, William Blattner, Jacob Browning, Steven Crowell, John Haugeland, Bennett W. Helm, Rebecca Kukla, John Kulvicki, Mark Lance, Danielle MacBeth, Chauncey Maher, John McDowell, Joseph Rouse

January | 6 x 9, 392 pp. | 3 illus.
$50.00S/£37.95 cloth
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Ebola’s Message
Public Health and Medicine in the Twenty-First Century
edited by Nicholas G. Evans, Tara C. Smith, and Maimuna S. Majumder

The 2013–2016 outbreak of the Ebola virus disease (EVD) was a public health disaster: 28,575 infections and 11,313 deaths (as of October 2015), devastating the countries of Guinea, Liberia, and Sierra Leone; a slow and mismanaged international response; and sensationalistic media coverage, seized upon by politicians to justify wrongheaded policy. And yet there were also promising developments that may improve future responses to infectious disease epidemics: the UN Security Council’s first involvement in a public health event; a series of promising clinical treatments and vaccines for EVD; and recognition of the need for a global public health system to deal with epidemics that cross national borders. This volume offers a range of perspectives on these and other lessons learned, with essays on the science, politics, and ethics of the Ebola outbreak.

The contributors discuss topics including the virology and management of EVD in both rich and poor nations; the spread of the disease (with an essay by a leader of Médecins Sans Frontières); racist perceptions of West Africa; mainstream and social media responses to Ebola; and the ethical issue of whether to run clinical trials of experimental treatments during an outbreak.

Nicholas G. Evans is a Postdoctoral Fellow in the Department of Medial Ethics at the University of Pennsylvania’s Perelman School of Medicine. Tara C. Smith is Associate Professor in the Department of Biostatistics, Environmental Health Sciences, and Epidemiology at Kent State University College of Public Health. Maimuna S. Majumder is a PhD student in the Engineering Systems Division at MIT and a Research Fellow at the HealthMap Computational Epidemiology Group at Boston Children’s Hospital.

October | 6 x 9, 272 pp. | 7 illus.
$45.00X/£34.95 cloth
978-0-262-03507-1

Basic Bioethics series
The Expressive Moment
How Interaction (with Music) Shapes Human Empowerment
Marc Leman

The expressive moment is that point in time when we grasp a situation and respond quickly, even before we are aware of it. In this book, Marc Leman argues that expression drives this kind of interaction, and he proposes a general framework for understanding expressive interactions. He focuses on the dynamic, fast, and pre-reflective processes underlying our interactions with music—whether we are playing an instrument, dancing, listening, or using new interactive technologies. Music offers a well-established domain for studying these fast and interactive processes, and Leman argues that understanding the power of expressive interaction through music may help us understand cognitive processing in other domains, including language, human action coordination, human-animal interaction, and human-machine interaction.

Leman regards expressive interactions with music as energizing and empowering. He argues that music is based on patterns that intervene with a reinforcing loop in the human brain, strengthening learning, motivation, and reward. He argues further that the reinforcing effect is influenced by the interaction flow, by fast processes that handle expressive qualities on the fly.

Leman sets out the framework in which expressive interaction is situated, describing, among other things, a pragmatic model of communication in which the fundamental components are enactment and dynamics. He looks in more detail at the cognitive-motivational architecture, discussing sensorimotor and motivational schemes. Finally, he discusses applications for the concepts behind expressive motivation in such fields as sports, entertainment, rehabilitation, multimedia art, and music education.

Marc Leman is Methusalem Research Professor in Systematic Musicology at Ghent University and the author of Embodied Music Cognition and Mediation Technology (MIT Press).

The Making of Grand Paris
Metropolitan Urbanism in the Twenty-First Century
Theresa Enright

In 2007 the French government announced the “Grand Paris” initiative. This ambitious project reimagined the Paris region as integrated, balanced, global, sustainable, and prosperous. Metropolitan solidarity would unite divided populations; a new transportation system, the Grand Paris Express, would connect the affluent city proper with the low-income suburbs; streamlined institutions would replace fragmented governance structures. Grand Paris is more than a redevelopment plan; it is a new paradigm for urbanism. In this first English-language examination of Grand Paris, Theresa Enright offers a critical analysis of the early stages of the project, considering whether it can achieve its twin goals of economic competitiveness and equality.

Enright argues that by orienting the city around growth and marketization, Grand Paris reproduces the social and spatial hierarchies it sets out to address. For example, large expenditures for the Grand Paris Express are made not for the public good but to increase the attractiveness of the region to private investors, setting off a real estate boom, encouraging gentrification, and leaving many residents still unable to get from here to there.

Enright describes Grand Paris as an example of what she calls “grand urbanism,” large-scale planning that relies on infrastructural megaprojects to reconfigure urban regions in pursuit of speculative redevelopment. Democracy and equality suffer under processes of grand urbanism. Given the logic of commodification on which Grand Paris is based, these are likely to suffer as the project moves forward.

Theresa Enright is Assistant Professor in the Department of Political Science at the University of Toronto.
Entanglements

Conversations on the Human Traces of Science, Technology, and Sound

Simone Tosoni with Trevor Pinch

Science and technology studies (STS) is a relatively young but influential field. Scholars from disciplines as diverse as urban studies, mobility studies, media studies, and body culture studies are engaging in a systematic dialogue with STS, seeking to enrich their own investigations. Within STS, the Social Construction of Technology (SCOT) theory has proved to be one of the most influential in its neighboring fields. Yet the literature has grown so large so quickly, it is difficult to get an overview of SCOT. In this book, conversations with Trevor Pinch, a founder of SCOT, offer an introduction and genealogy for the field.

Pinch was there at the creation—as coauthor of the groundbreaking 1984 article that launched SCOT—and has remained active through subsequent developments. Engaging and conversational, Pinch charts SCOT’s important milestones. The book describes how Pinch and Wiebe Bijker adapted the “empirical program of relativism,” developed by the Bath School to study the social construction of scientific facts, to apply to the social construction of artifacts. *Entanglements* addresses five issues in depth: relevant social groups, and SCOT’s focus on groups of users; the intertwining of social representation and practices; the importance of tacit knowledge in SCOT’s approach to the nonrepresentational; the controversy over nonhuman agency; and the political implications of SCOT.

Simone Tosoni is a Researcher at Catholic University of the Sacred Heart, Milan. Trevor Pinch is Goldwin Smith Professor of Science and Technology Studies at Cornell University and coeditor of *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology* (anniversary edition, MIT Press).

Undone Science

Social Movements, Mobilized Publics, and Industrial Transitions

David J. Hess

As the fields of social movement studies (SMS) and science and technology studies (STS) have diversified in topical focus, they have moved closer to each other. SMS has turned toward the study of nonstate targets and institutionalized repertoires of action, just as STS has turned to expertise and publics. In *Undone Science*, David Hess argues that a theoretical integration of core concepts in the two fields is now possible, and he presents just such a synthesis. Hess focuses on industrial transition movements—mobilized counterpublics of activists, advocates, entrepreneurs, and other agents of change—and examines several areas of common ground between the two fields relevant to these movements. His account reveals the problem of “undone science”—areas of research potentially valuable to the goals of industrial transition movements that have been systematically ignored.

Each chapter begins with a problem in SMS, discusses the relevant STS literature, describes new concepts and findings that have emerged, and offers applications to examples that range from nanotechnology and climate science denialism to conflicts based on race, class, and gender. Topics include the epistemic dimension of the political opportunity structure, networks of counterpublic knowledge, and regime resistance in industrial transition.

David J. Hess is Professor in the Sociology Department, James Thornton Fant Chair in Sustainability Studies, and Associate Director of the Vanderbilt Institute for Energy and the Environment at Vanderbilt University. He is the author of *Alternative Pathways in Science and Industry*, *Localist Movements in a Global Economy*, and *Good Green Jobs in a Global Economy*, all published by the MIT Press.

Simone Tosoni with Trevor Pinch

Conversations on the Human Traces of Science, Technology, and Sound

December | 5 3/8 x 8, 320 pp.

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Fascist Pigs
Technoscientific Organisms and the History of Fascism
Tiago Saraiva

In the fascist regimes of Mussolini’s Italy, Salazar’s Portugal, and Hitler’s Germany, the first mass mobilizations involved wheat engineered to take advantage of chemical fertilizers, potatoes resistant to late blight, and pigs that thrived on national produce. Food independence was an early goal of fascism; indeed, as Tiago Saraiva writes in *Fascist Pigs*, fascists were obsessed with projects to feed the national body from the national soil. Saraiva shows how such technoscientific organisms as specially bred wheat and pigs became important elements in the institutionalization and expansion of fascist regimes. The pigs, the potatoes, and the wheat embodied fascism. In Nazi Germany, only plants and animals conforming to the new national standards would be allowed to reproduce. Pigs that didn’t efficiently convert German-grown potatoes into pork and lard were eliminated.

Saraiva describes national campaigns that intertwined the work of geneticists with new state bureaucracies; discusses fascist empires, considering forced labor on coffee, rubber, and cotton in Ethiopia, Mozambique, and Eastern Europe; and explores fascist genocides, following Karakul sheep from a laboratory in Germany to Eastern Europe, Libya, Ethiopia, and Angola.

Saraiva’s highly original account—the first systematic study of the relation between science and fascism—argues that the “back to the land” aspect of fascism should be understood as a modernist experiment involving geneticists and their organisms, mass propaganda, overgrown bureaucracy, and violent colonialism.

*Tiago Saraiva* is Assistant Professor in the Department of History at Drexel University and Associated Researcher at the Institute of Social Sciences of the University of Lisbon.
The Outer Limits of Reason
What Science, Mathematics, and Logic Cannot Tell Us
Noson S. Yanofsky

Many books explain what is known about the universe. This book investigates what cannot be known. Noson Yanofsky discusses the limitations of computers, physics, logic, and our own thought processes. He considers what cannot be predicted, described, or understood.

Moving from the concrete to the abstract, from problems of everyday language to straightforward philosophical questions to the formalities of physics and mathematics, Yanofsky demonstrates a myriad of unsolvable problems and paradoxes. Exploring the various limitations of our knowledge, he shows that many of these limitations have a similar pattern and that by investigating these patterns, we can better understand the structure and limitations of reason itself. Yanofsky even attempts to look beyond the borders of reason to see what, if anything, is out there.

Noson S. Yanofsky is Professor in the Department of Computer and Information Science at Brooklyn College and The Graduate Center of the City University of New York. He is a coauthor of Quantum Computing for Computer Scientists.

“A fascinating resource for anyone who seeks a better understanding of the world through the strangeness of its own limitations . . .”
—Publishers Weekly (starred review)

“A cornucopia of mind-bending ideas.”
—Raymond S. Nickerson, PsycCRITIQUES

“The Outer Limits of Reason is for truth-seekers, whether they are scientists, philosophers, or just curious individuals . . . . all readers will learn something new and stimulating.”
—Thomas Colin, Leonardo Reviews

“Has the potential to be a classic.”
—Prakash Panangaden, School of Computer Science, McGill University

Winner, 2013 American Publishers Award for Professional and Scholarly Excellence (PROSE Award) in Popular Science & Popular Mathematics

An exploration of the scientific limits of knowledge that challenges our deep-seated beliefs about our universe, our rationality, and ourselves.

November
6 x 9, 424 pp.
118 illus.
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978-0-262-01935-4
Obfuscation
A User’s Guide for Privacy and Protest
Finn Brunton and Helen Nissenbaum

With Obfuscation, Finn Brunton and Helen Nissenbaum mean to start a revolution. They are calling us not to the barricades but to our computers, offering us ways to fight today’s pervasive digital surveillance. To the toolkit of privacy-protecting techniques and projects, they propose adding obfuscation: the deliberate use of ambiguous, confusing, or misleading information to interfere with surveillance and data-collection projects.

Brunton and Nissenbaum provide tools and a rationale for evasion, noncompliance, refusal, even sabotage—especially for average users, those of us not in a position to opt out or exert control over data about ourselves. Obfuscation will teach users to push back, software developers to keep their user data safe, and policy makers to avoid misusing the data they gather.

Finn Brunton is Assistant Professor of Media, Culture, and Communication at New York University and the author of Spam: A Shadow History of the Internet (MIT Press). Helen Nissenbaum is Professor of Media, Culture, and Communication and Computer Science at New York University and the author of Privacy in Context. She is one of the developers of the TrackMeNot software.

“Packs utility, charm and conviction into its tightly-composed 100-page core. . . . The lucid, authoritative, accessible and thought-provoking text that results is a pleasure to read.”
—Julia Powles, The Guardian

“It is a shame that obfuscation to this degree has become necessary. But at least we are now armed with the necessary knowledge, thanks to this book.”
—Marianne Franklin, Times Higher Education

—Regine Debatty, We Make Money Not Art

“Essential for anyone trying to understand why people resist and challenge tech norms, including policymakers, engineers, and users of technology.”
—danah boyd, author of It’s Complicated: The Social Lives of Networked Teens
Immigration and the American Backlash

John Tirman

Illegal immigration continues to roil American politics. State and local governments have passed more than 300 laws that attempt to restrict undocumented immigrants’ access to hospitals, schools, food stamps, and driver’s licenses. And yet polls show that a majority of Americans support some kind of path to citizenship for those here illegally. What is going on?

In this book, John Tirman shows how the resistance to immigration in America is more cultural than political. Although cloaked in language about jobs and secure borders, the cultural resistance to immigration expresses a fear that immigrants are changing the dominant white, Protestant, “real American” culture. Tirman describes the “raid mentality” of the response to immigration, which seeks violent solutions for a social phenomenon. The current “round them up, deport them, militarize the border” approach, Tirman shows, solves nothing.

John Tirman is the author of The Deaths of Others: The Fate of Civilians in America’s Wars, 100 Ways America Is Screwing Up the World, and other books. He is Executive Director of MIT’s Center for International Studies, where he is also Principal Research Scientist.

“Anyone struggling to come to grips with immigration reform will gain insight from this thoughtful book, which sheds light on the nuances about immigration that hide behind the headlines.”
—Los Angeles Daily Journal

“Bravely wades into the complexities of this mosaic to offer a tessellated, theoretical understanding informed by social science research.”
—Times Higher Education

“I will build a great, great wall on our southern border, and I will make Mexico pay for that wall. Mark my words.”
—Donald J. Trump

How the immigration battle plays out in America, from curriculum disputes to federal raids to the civil rights activism of young “Dreamers.”

August
6 x 9, 216 pp.
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originally published in cloth as
Dream Chasers: Immigration and the American Backlash, 2015
978-0-262-02892-9
A Prehistory of the Cloud
Tung-Hui Hu

We may imagine the digital cloud as placeless, mute, ethereal, and unmediated. Yet the reality of the cloud is embodied in thousands of massive data centers, any one of which can use as much electricity as a midsized town. In this book, Tung-Hui Hu examines the gap between the real and the virtual in our understanding of the cloud.

Hu shows that the cloud grew out of such older networks as railroad tracks, sewer lines, and television circuits. Countering the popular perception of a new “cloudlike” political power that is dispersed and immaterial, he argues that the cloud grafts digital technologies onto older ways of exerting power over a population. Moving between the materiality of the technology itself and its cultural rhetoric, Hu’s account offers a set of new tools for rethinking the contemporary digital environment.

Tung-Hui Hu, a former network engineer, is Assistant Professor of English at the University of Michigan and the recipient of a 2015 NEA literature fellowship.

“[Hu’s] approach is eclectic and unpredictable, full of unexpected riffs on Victorian sewage systems, the history of television, counterculture seekers, and the chilling final scene of Francis Ford Coppola’s paranoid classic ‘The Conversation.’”
—Hua Hsu, The New Yorker

“The realm of the cloud does not countenance loss, but when we touch it, we corrupt it. The word for such a system—a memory that preserves, encrypts and mystifies a lost love-object—is indeed melancholy. Hu’s is a deeply melancholy book and for that reason, a valuable one.”
—New Scientist
Why Are We Waiting?
The Logic, Urgency, and Promise of Tackling Climate Change
Nicholas Stern

The risks of climate change are potentially immense. The benefits of taking action are also clear: we can see that economic development, reduced emissions, and creative adaptation go hand in hand. Why, then, are we waiting?

In this book, Nicholas Stern explains why, notwithstanding the great attractions of a new path, it has been so difficult to tackle climate change effectively. He argues that the risks and costs of climate change are worse than estimated in the landmark Stern Review in 2006—and far worse than implied by standard economic models. Stern reminds us that we have a choice. We can rely on past technologies, methods, and institutions—or we can embrace change, innovation, and international collaboration. The first might bring us some short-term growth but would lead eventually to chaos, conflict, and destruction. The second could bring about better lives for all and growth that is sustainable over the long term, and help win the battle against worldwide poverty.

Lord Stern is I. G. Patel Professor of Economics and Government at the London School of Economics, President of the British Academy, Chair of the Grantham Research Institute on Climate Change, and former Chief Economist at the World Bank. He was the lead author of the influential Stern Review on the Economics of Climate Change, the findings of which he adapted in his book for general readers, The Global Deal: Climate Change and the Creation of a New Era of Progress and Prosperity (also known as A Blueprint for a Safer Planet).

“A thoughtful and passionate case for why addressing climate change is urgent. A path for the way forward.”
—Joseph E. Stiglitz

“So many books about climate change offer a diagnosis without providing a course of treatment. Stern takes out his prescription pad.”
—Geographical

“Stern is a decent man struggling, like all of us, to cope with the immensity of this change and the challenge it poses to his world-view. I’m glad he is on our side.”
—George Marshall, New Statesman

An urgent case for climate change action that forcefully sets out, in economic, ethical, and political terms, the dangers of delay and the benefits of action.

August
6 x 9, 448 pp.
21 illus.
$19.95T/£14.95 paper
978-0-262-52998-3

The Lionel Robbins Lectures series
Reading the Comments
Likers, Haters, and Manipulators at the Bottom of the Web
Joseph M. Reagle, Jr.

Online comment can be informative or misleading, entertaining or maddening. In this book, Joseph Reagle urges us to read the comments. Conversations “on the bottom half of the Internet,” he argues, can tell us much about human nature and social behavior.

Reagle visits communities of Amazon reviewers, fan fiction authors, online learners, scammers, freethinkers, and mean kids. He shows how comment can inform us (through reviews), improve us (through feedback), manipulate us (through fakery), alienate us (through hate), shape us (through social comparison), and perplex us. He finds pre-Internet historical antecedents of online comment in Michelin stars, professional criticism, and the wisdom of crowds. He considers the way comment—a nonstop stream of social quantification and ranking—affects our self-esteem and well-being. And he examines how comment is puzzling, prompting readers to comment in turn, “WTF?!?”

Joseph M. Reagle, Jr. is Assistant Professor in the Department of Communication Studies at Northeastern University and the author of Good Faith Collaboration: The Culture of Wikipedia (MIT Press).

“An especially virtuous endeavor given that so many of us are now continually engaged in our own fitful projects of online content creation.”
—Mark O’Connell, The New Yorker

“Reagle has done an outstanding job documenting the relationship between online comments and events that are occurring in contemporary society.”
—W. E. Mihalo, Computing Reviews

“Amply spiced with jokes and comics, and anchored with just enough theory to structure the discussion, Reagle’s book should be read by anyone with an interest in ‘the bottom half of the web.’”
—Frank Pasquale, The Chronicle of Higher Education
Becoming Fluent
How Cognitive Science Can Help Adults Learn a Foreign Language

Richard Roberts and Roger Kreuz

Adults who want to learn a foreign language are often discouraged because they believe they cannot acquire a language as easily as children. In this book, Richard Roberts and Roger Kreuz draw on insights from psychology and cognitive science to show that adults can master a foreign language if they bring to bear the skills and knowledge they have honed over a lifetime.

Roberts and Kreuz report evidence that adults can learn new languages even more easily than children. Children appear to have only two advantages over adults in learning a language: they acquire a native accent more easily, and they do not suffer from self-defeating anxiety about learning a language. Adults, on the other hand, have the greater advantages—gained from experience—of an understanding of their own mental processes and knowing how to use language to do things. Roberts and Kreuz show how to leverage this metalinguistic ability in learning a new language.

Richard Roberts, currently a Foreign Service Officer in the US Department of State, taught psychology in Europe and Asia with the University of Maryland University College. Roger Kreuz is Professor of Psychology and Associate Dean of the College of Arts and Sciences at the University of Memphis.

“Helpful for the adult language student but also full of useful information that we can use in other learning situations. . . . Highly readable, drawing on the authors’ personal experiences as well as experimental discoveries.”

—Cosmos

“How adult learners can draw upon skills and knowledge honed over a lifetime to master a foreign language.

September
5 3/8 x 8, 248 pp.
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How adult learners can draw upon skills and knowledge honed over a lifetime to master a foreign language.

—Foreword

“A Becoming Fluent is an engaging read, full of fascinating facts and numerous examples touching on a wide range of disciplines. . . . I would definitely recommend this book to any adult language learner for its perspective and its highly-applicable tips.”

—African Language and Literature

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—African Language and Literature
In 1968, Marshall Nirenberg, an unassuming government scientist working at the National Institutes of Health, shared the Nobel Prize for cracking the genetic code. He was the least likely man to make such an earth-shaking discovery, and yet he had gotten there before such members of the scientific elite as James Watson and Francis Crick. How did Nirenberg do it, and why is he so little known?

In The Least Likely Man, Franklin Portugal tells the fascinating life story of a famous scientist that most of us have never heard of. Drawing on Nirenberg’s “lab diaries,” Portugal offers an engaging and accessible account of Nirenberg’s experimental approach, describes counterclaims by Crick, Watson, and Sidney Brenner, and traces Nirenberg’s later switch to an entirely new, even more challenging field. Having won the Nobel for his work on the genetic code, Nirenberg moved on to the next frontier of biological research: how the brain works.

Franklin H. Portugal served on the scientific staff of the National Institutes of Health and was a professor at the University of Maryland University College. He is currently Clinical Associate Professor of Biology and Director of the M.S. in Biotechnology Program at The Catholic University of America in Washington, D.C. His 1979 book, A Century of DNA (MIT Press), coauthored with Jack S. Cohen, remains in print today. He worked in Nirenberg’s lab from 1967 to 1970.

“Franklin Portugal’s biography reminds us that Nirenberg sits in the Nobel pantheon alongside Francis Crick, James Watson and Sydney Brenner.”
— Nature

“I was... completely swept away by [Portugal’s] account of Nirenberg’s personality... I could not put this book down.”
— Charalambos Kyriacou, Times Higher Education

“Nirenberg’s brilliant contribution deserves to be more widely known. Portugal’s fascinating book can only help.”
— Matthew Cobb, New Scientist
This Is Why We Can’t Have Nice Things

Mapping the Relationship between Online Trolling and Mainstream Culture

Whitney Phillips

Internet trolls live to upset as many people as possible, using all the technical and psychological tools at their disposal. To quote a famous Internet meme, trolling is why we can’t have nice things online. Or at least that’s what we have been led to believe.

In this provocative book, Whitney Phillips argues that trolling, widely condemned as obscene and deviant, actually fits comfortably within the contemporary media landscape. Trolling may be obscene, but, Phillips argues, it isn’t all that deviant. Trolls’ actions are born of and fueled by culturally sanctioned impulses—which are just as damaging as the trolls’ most disruptive behaviors. Phillips shows how trolls align with social media, and she documents how trolls, in addition to parroting media tropes, also offer a grotesque pantomime of dominant cultural tropes, including gendered notions of dominance and success and an ideology of entitlement. We don’t just have a trolling problem, Phillips argues; we have a culture problem. This Is Why We Can’t Have Nice Things isn’t only about trolls; it’s about a culture in which trolls thrive.

Whitney Phillips is Assistant Professor of Writing at Mercer University.

“In opens up an opportunity for much-needed dialogue about the ethico-political implications of online antagonism.”
—PopMatters

“A terrific introduction to the world of trolling, exploring how trolls put on figurative masks (or literal masks in the case of online anonymity) and generate lulz from those they encounter.”
—Curtis Frye, Technology and Society Book Reviews

Bicycle Design

An Illustrated History

Tony Hadland and Hans-Erhard Lessing

with contributions by Nick Clayton and Gary W. Sanderson

The bicycle ranks as one of the most enduring and most widely used vehicles in the world, with more than a billion produced during almost two hundred years of cycling history. This book offers an authoritative and comprehensive account of the bicycle’s technical and historical evolution, from the earliest velocipedes (invented to fill the need for horseless transport during a shortage of oats) to modern racing bikes, mountain bikes, and recumbents. Written by two leading bicycle historians and generously illustrated with historic drawings, designs, and photographs, Bicycle Design describes the stages in the evolution of the bicycle. Despite the bicycle’s long history and mass appeal, its technological history has been neglected. This volume, with its engaging and wide-ranging coverage, fills that gap. It will be the starting point for all future histories of the bicycle.

Tony Hadland is the author of Raleigh: Past and Presence of an Iconic Brand and other books. Hans-Erhard Lessing, formerly a Professor of Physics at the University of Ulm and a Curator at the Technoseum Mannheim and the ZKM Karlsruhe, has written biographies of Karl Drais and Robert Bosch as well as books on bicycle history.

“A winning tour of bike design.”
—The Wall Street Journal

“Bicycle Design is the authoritative one-volume reference on cycling history and cannot be recommended highly enough.”
—Carlton Reid, BikeBiz

“Destined to become the definitive record of our wonderful wheels.”
—Mike Burrows, Cycle

September | 6 x 9, 256 pp. | 12 illus.
$17.95 / £13.95 paper
978-0-262-52987-7

October | 7 x 9, 584 pp. | 306 illus.
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The Art of Failure
An Essay on the Pain of Playing Video Games
Jesper Juul

We may think of video games as being “fun,” but in *The Art of Failure*, Jesper Juul claims that this is almost entirely mistaken. When we play video games, our facial expressions are rarely those of happiness or bliss. Instead, we frown, grimace, and shout in frustration as we lose, or die, or fail to advance to the next level. So why do we play video games even though they make us unhappy?

Juul examines this paradox. He argues that failure in a game is unique in that when you fail in a game, you (not a character) are in some way inadequate. Yet games also motivate us to play more, in order to escape that inadequacy, and the feeling of escaping failure (often by improving skills) is a central enjoyment of games. Games, writes Juul, are the art of failure: the singular art form that sets us up for failure and allows us to experience it and experiment with it.

Jesper Juul is Associate Professor at the Royal Danish Academy of Fine Arts, School of Design, and Visiting Associate Professor in Comparative Media Studies/Writing at the Massachusetts Institute of Technology. He is the author of *Half-Real: Video Games between Real Rules and Fictional Worlds* and *A Casual Revolution: Reinventing Video Games and Their Players*, both published by the MIT Press.

“Juul’s essay is lean, pleasingly bold, and follows through on an intriguing premise.” — Slate

September | 5 3/8 x 8, 176 pp. | 54 illus.
$16.95T/£12.95 paper
978-0-262-52995-2

Reality Mining
Using Big Data to Engineer a Better World
Nathan Eagle and Kate Greene

Big Data is made up of lots of little data that leaves a digital trail. Although the abuse of Big Data—surveillance, spying, hacking—has made headlines, it shouldn’t overshadow the abundant positive applications of Big Data.

In *Reality Mining*, Nathan Eagle and Kate Greene cut through the hype and the headlines to explore the positive potential of Big Data, showing the ways in which the analysis of Big Data (“Reality Mining”) can be used to improve human systems as varied as political polling and disease tracking, while considering user privacy. They describe Reality Mining at five different levels: the individual, the neighborhood and organization, the city, the nation, and the world. They argue that Big Data, used respectfully and responsibly, can help people live better, healthier, and happier lives.

Nathan Eagle, one of the “50 people who will change the world” on the 2012 *Wired* Smart List, is the cofounder and CEO of Jana, a company that helps global brands reach customers in emerging markets via mobile airtime. He holds faculty positions at Harvard and Northeastern Universities. Kate Greene is an essayist, journalist, poet, and former laser physicist based in San Francisco. Her work has appeared in *Harvard Review, Slate, Discover, The Economist*, and the *New Yorker*, among other publications.

“Very readable, with plenty of guidance on ethical data collection, tools and techniques as well as dealing with privacy issues at each level.” — Tom Sinclair, Mathematical Association of America

Winner, 2014 American Publishers Award for Professional and Scholarly Excellence (PROSE Award) in Computing & Information Science

October | 5 3/8 x 8, 208 pp.
$17.95T/£13.95 paper
978-0-262-52983-9

Playful Thinking series
The Power Brokers
The Struggle to Shape and Control the Electric Power Industry

Jeremiah D. Lambert

For more than a century, the interplay between private, investor-owned electric utilities and government regulators has shaped the electric power industry in the United States. In The Power Brokers, Jeremiah Lambert maps this complex interaction from the late nineteenth century to the present day.

Lambert’s narrative focuses on seven important industry players: Samuel Insull, the principal industry architect and prime mover; David Lilienthal, chairman of the Tennessee Valley Authority (TVA); Don Hodel, who presided over the Bonneville Power Administration (BPA); Paul Joskow, the MIT economics professor who foresaw a restructured and competitive electric power industry; Enron’s Ken Lay, master of political influence and market-rigging; Amory Lovins, a pioneer proponent of sustainable power; and Jim Rogers, head of Duke Energy. Lambert shows how the power industry has sought to use regulatory change to preserve or secure market dominance and how rogue players have gamed imperfectly restructured electricity markets. Integrating regulation and competition in this industry has proven a difficult experiment.


“The best available synthesis of the entire span of electricity politics from the early 20th Century to today.”
—Kennedy Maize, Power Magazine

October | 6 x 9, 400 pp. | 30 illus.
$21.95T/£16.95 paper
978-0-262-52978-5

cloth 2015
978-0-262-02950-6

The Culture of Curating and the Curating of Culture(s)

Paul O’Neill

Once considered a mere caretaker for collections, the curator is now widely viewed as a globally connected auteur. In The Culture of Curating and the Curating of Culture(s), Paul O’Neill examines the emergence of independent curatorship and the discourse that helped to establish it.

O’Neill describes how, by the 1980s, curated group exhibitions—large-scale, temporary projects with artworks cast as illustrative fragments—came to be understood as the creative work of curator-auteurs. O’Neill argues that this change in the understanding of curatorship was shaped by a curator-centered discourse that effectively advocated—and authorized—the new independent curatorial practice. Drawing on the extensive curatorial literature and his own interviews with leading curators, critics, art historians, and artists, O’Neill traces the development of the curator-as-artist model and the ways it has been contested. The Culture of Curating and the Curating of Culture(s) documents the many ways in which our perception of art has been transformed by curating and the discourses surrounding it.

Paul O’Neill is a curator, artist, and writer who has curated or cocurated more than fifty projects. He is currently Director of the Graduate Program at the Center for Curatorial Studies at Bard College.

“A concise and immensely useful review of the key developments and influential figures in the field. . . . an important contribution.”
—Courtney Pedersen, Art & the Public Sphere

“A must-read for anyone interested in the curatorial profession.”
—Ayelet Zohar, Journal of Curatorial Studies

September | 7 x 9, 192 pp. | 31 illus.
$19.95T/£14.95 paper
978-0-262-52974-7

cloth 2012
978-0-262-01772-5
What Have We Learned?
Macroeconomic Policy after the Crisis
edited by George Akerlof, Olivier Blanchard, David Romer, and Joseph Stiglitz

Since 2008, economic policymakers and researchers have occupied a brave new economic world. In April 2013, the International Monetary Fund brought together leading economists and economic policymakers to discuss the slowly emerging contours of the macroeconomic future. This book offers their combined insights.

The editors and contributors—who include Nobel Laureate and bestselling author Joseph Stiglitz, Federal Reserve Chair Janet Yellen, and Vice Chair Stanley Fischer—consider the lessons learned from the crisis and its aftermath. They discuss, among other things, post-crisis questions about the traditional policy focus on inflation; macroprudential tools (which focus on the stability of the entire financial system rather than of individual firms) and their effectiveness; fiscal stimulus, public debt, and fiscal consolidation; and exchange rate arrangements.

George Akerlof, a 2001 Nobel Laureate, is Guest Scholar at the International Monetary Fund and Daniel Koshland, Sr. Distinguished Professor Emeritus of Economics at the University of California, Berkeley. Olivier Blanchard is C. Fred Bergsten Senior Fellow at the Peterson Institute for International Economics, Washington, D.C. David Romer is Herman Royer Professor of Political Economy at the University of California, Berkeley. Joseph Stiglitz, a 2001 Nobel Laureate, is University Professor at Columbia University.

“Offers a bountiful and delicious smorgasbord from which readers can graze according to taste, returning until they are sated.”
—Alan S. Blinder, Foreign Affairs

Collision Course
Endless Growth on a Finite Planet
Kerryn Higgs

The notion of ever-expanding economic growth has been promoted so relentlessly that “growth” is now entrenched as the natural objective of collective human effort. In Collision Course, Kerryn Higgs examines how society’s commitment to growth has marginalized scientific findings on the limits of growth, casting them as bogus predictions of imminent doom.

Higgs tells how in 1972, The Limits to Growth—written by MIT researchers Donella Meadows, Dennis Meadows, Jorgen Randers, and William Behrens III—found that unimpeded economic growth was likely to collide with the realities of a finite planet within a century. Although the book’s arguments received positive responses initially, before long the dominant narrative of growth as panacea took over. Higgs explores the resistance to ideas about limits and shows that more than forty years after The Limits to Growth, the idea that growth is essential continues to hold sway, despite the mounting evidence of its costs—climate destabilization, pollution, intensification of gross global inequalities, and depletion of the resources on which the modern economic edifice depends.

Kerryn Higgs is an Australian writer. She received her PhD in Geography and Environmental Studies from the University of Tasmania, where she is now a University Associate. She is a Fellow of the International Centre of the Club of Rome.

“Should be read and considered as widely as possible.”
—Richard A. Slaughter, Futures

NOW IN PAPERBACK

<table>
<thead>
<tr>
<th>economics</th>
<th>environment</th>
<th>current affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td>What Have We Learned?</td>
<td>Collision Course</td>
<td>Kerryn Higgs</td>
</tr>
</tbody>
</table>
| Macroeconomic Policy after the Crisis | Endless Growth on a Finite Planet | }

September | 6 x 9, 368 pp. | 96 illus.

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September | 6 x 9, 416 pp. | 6 illus.

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Measuring Happiness
The Economics of Well-Being
Joachim Weimann, Andreas Knabe, and Ronnie Schöb
translated by Brian Browne

Can money buy happiness? In this book, three economists explore the happiness-prosperity connection, investigating how economists measure life satisfaction and well-being. Weimann, Knabe, and Schöb examine the evolution of happiness research, considering the famous “Easterlin Paradox,” the finding that people’s average life satisfaction didn’t seem to depend on their income. But they question whether happiness research can measure what needs to be measured. They argue that we should not assess people’s well-being on a “happiness scale,” because that necessarily obscures true social progress. Instead, rising income should be understood as increasing opportunities and alleviating scarcity. Economic growth helps societies to sustain freedom and to finance social welfare programs, and gives individuals the opportunity to live longer and to live well.

Joachim Weimann is Full Professor of Economic Policy at Otto-von-Guericke-Universität Magdeburg, and head of MaXILab, the Magdeburg Laboratory for Experimental Economics. Andreas Knabe is Full Professor and Chair of Public Economics at Otto-von-Guericke-Universität Magdeburg. Ronnie Schöb is Full Professor of International Public Economies at the School of Business and Economics at Freie Universität in Berlin.

“Well worth a read for its excellent coverage of much of the happiness literature from large surveys, as well as the interesting arguments put forth about how we should interpret this evidence.”
—Laura Kudrna, LSE Review of Books

Cheap and Clean
How Americans Think about Energy in the Age of Global Warming
Stephen Ansolabehere and David M. Konisky

How do Americans think about energy? In Cheap and Clean, Stephen Ansolabehere and David Konisky show that Americans are more pragmatic than ideological in their opinions about energy alternatives, more unified than divided about their main concerns, and more local than global in their approach to energy.

Drawing on extensive surveys they designed and conducted over the course of a decade (in conjunction with MIT’s Energy Initiative), Ansolabehere and Konisky report that beliefs about the costs and environmental harms associated with particular fuels drive public opinions about energy. People approach energy choices as consumers, and what is most important to them is simply that energy be cheap and clean. Worries about global warming are less pressing to most than worries about their own city’s smog and toxic waste. With this in mind, Ansolabehere and Konisky argue for policies that target both local pollutants and carbon emissions (the main source of global warming), citing this as a starting point for a new approach to energy and climate change policy.

Stephen Ansolabehere is Professor of Government at Harvard University and coauthor of The End of Inequality and other books. David M. Konisky is Associate Professor of Public Policy at Georgetown University and the coauthor of Superfund’s Future: What Will It Cost?

“An important contribution to the ongoing debate over energy and environmental policy.”
—Publishers Weekly

Winner, 2015 Don K. Price Award given by the American Political Science Association

September | 6 x 9, 224 pp. | 9 illus.
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978-0-262-02844-8

October | 6 x 9, 272 pp. | 21 illus.
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cloth 2014
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The Marketplace of Attention
How Audiences Take Shape in a Digital Age

James G. Webster

Digital media offer an always-accessible, apparently inexhaustible supply of entertainment and information. Although choice seems endless, public attention is not. How do digital media find the audiences they need in an era of infinite choice? In *The Marketplace of Attention*, James Webster explains how audiences take shape in the digital age. He describes the factors that create audiences, including the preferences and habits of media users, the role of social networks, the resources and strategies of media providers, and the growing impact of media measures—from ratings to user recommendations. He incorporates these factors into one comprehensive framework: the marketplace of attention. In doing so, he shows that the marketplace works in ways that belie our greatest hopes and fears about digital media. In the digital era's marketplace of attention, Webster claims, we encounter ideas that cut across our predispositions. In the process, we remake the marketplace of ideas and reshape the twenty-first century public sphere.

James G. Webster is Professor in the School of Communication at Northwestern University.

“Lucid, accessible and thoughtful—and in our fast-moving media market, who can ask for more than that?”
—Times Higher Education

“Essential reading for scholars interested in the ever-changing media landscape.”
—Martin Johnson, The International Journal of Press/Politics

September | 6 x 9, 280 pp. | 17 illus.
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Body Sweats
The Uncensored Writings of Elsa von Freytag-Loringhoven

Elsa von Freytag-Loringhoven
edited by Irene Gammel and Suzanne Zelazo

As a neurasthenic, kleptomaniac, man-chasing proto-punk poet and artist, the Baroness Elsa von Freytag-Loringhoven left in her wake a ripple that is becoming a rip—one hundred years after she exploded onto the New York art scene. Her delirious verse flabbergasted New Yorkers as much as her flamboyant persona. As a poet, she was profane and playfully obscene, imagining a farting God, and transforming her contemporary Marcel Duchamp into M’ars (my arse). With its ragged edges and atonal rhythms, her poetry echoes the noise of the metropolis itself.

Published more than a century after her arrival in New York, *Body Sweats* is the first major collection of Elsa von Freytag-Loringhoven’s poems in English. The Baroness’s biographer Irene Gammel and coeditor Suzanne Zelazo have assembled 150 poems, most of them never before published.

Elsa von Freytag-Loringhoven (1874–1927) was an artist and poet in Berlin, Munich, New York, and Paris. Irene Gammel is Canada Research Chair in Modern Literature and Culture at Ryerson University, Toronto, where she directs the Modern Literature and Culture Research Centre. She is the author of *Baroness Elsa: Gender, Dada, and Everyday Modernity* (MIT Press). Suzanne Zelazo is a postdoctoral fellow at the Modern Literature and Culture Research Centre.

“Essential reading for any student of literary Modernism or of twentieth-century poetry.”
—David Ten Eyck, Circles

“A remarkable achievement, a document of literary history that resurrects FL and argues for a recognition of her role in literary modernism and the Dada movement in particular.”
—Jan Horner, The Winnipeg Review

October | 7 x 9, 440 pp. | 21 color illus., 52 black & white illus.
$26.95T/£19.95 paper
978-0-262-52975-4

cloth 2011
978-0-262-01622-3
Disconnected
Youth, New Media, and the Ethics Gap
Carrie James

In *Disconnected*, Carrie James examines how young people and the adults in their lives think about online dilemmas, describing ethical blind spots and disconnects. Drawing on extensive interviews with young people between the ages of 10 and 25, James describes the nature of their thinking about privacy, property, and participation online. She identifies three ways that young people approach online activities: through self-focused thinking, moral thinking, or ethical thinking. James finds, among other things, that youth are often blind to moral or ethical concerns about privacy. Considering ways to address the digital ethics gap, James offers a vision of conscientious connectivity, which involves ethical thinking skills but, perhaps more important, is marked by sensitivity to the dilemmas posed by online life, a motivation to wrestle with them, and a sense of moral agency that supports socially positive online actions.

Carrie James is a sociologist and Principal Investigator at Project Zero at the Harvard Graduate School of Education. She was codirector (with Howard Gardner) of the Good Play Project, which collected the data that inform *Disconnected*.

“James’s work is relevant for any parent, teacher, graduate student, and professor who has ever wondered, in response to a young person’s ethically questionable decision online, ‘What were they thinking?’”
—Nancy Clare Morgan, *Journal of Digital and Media Literacy*

“An effective vehicle for opening eyes and correcting the blind spots we all possess apropos the subterranean ethical dilemmas of this burgeoning digital age—even for those of us not wholly immersed in on-line life.”
—Susan M. Haack, *Ethics and Medicine*

September | 6 x 9, 200 pp.
$17.95T/£13.95 paper
978-0-262-52941-9

Philosophy of Language
The Classics Explained
Colin McGinn

Many beginning students in philosophy of language find themselves grappling with dense and difficult texts not easily understood by someone new to the field. This book offers an introduction to philosophy of language by explaining ten classic, often anthologized, texts.

Accessible and thorough, written with a unique combination of informality and careful formulation, the book addresses sense and reference, proper names, definite descriptions, indexicals, the definition of truth, truth and meaning, and the nature of speaker meaning, as addressed by Frege, Kripke, Russell, Donnellan, Kaplan, Evans, Putnam, Tarski, Davidson, and Grice. The explanations aim to be as simple as possible without sacrificing accuracy; critical assessments are included with the exposition in order to stimulate further thought and discussion.

Colin McGinn has taught philosophy at institutions of higher learning including University College London, Rutgers University, and Oxford University. He is the author of *The Character of Mind, Consciousness and Its Objects, The Meaning of Disgust, Prehension*, (MIT Press) *Inborn Knowledge* (MIT Press), and other books.

“McGinn has succeeded brilliantly in demonstrating the substantive progress made in philosophy of language, carrying us to the next set of questions, none of which is going to be easy.”
—Rebecca Newberger Goldstein, *The New York Review of Books*

“The philosophy of language is an intimidating field. . . Colin McGinn is a lucid and sure-footed guide through this murky terrain, and this is the book that many of us have been waiting for.”
—Steven Pinker, Johnstone Family Professor of Psychology, Harvard University, and author of *The Language Instinct and The Sense of Style*

September | 6 x 9, 240 pp.
$24.00S/£17.95 paper
978-0-262-52982-2
Minds without Meanings
An Essay on the Content of Concepts
Jerry A. Fodor and Zenon W. Pylyshyn

In cognitive science, conceptual content is frequently understood as the “meaning” of a mental representation. This position raises largely empirical questions about what concepts are, what form they take in mental processes, and how they connect to the world they are about.

In Minds without Meanings, Jerry Fodor and Zenon Pylyshyn review some of the proposals put forward to answer these questions and find that none of them is remotely defensible. They argue instead that there is no conclusive case against the possibility of a theory of concepts that takes reference as their sole semantic property. Such a theory, if correct, would provide for the naturalistic account of content that cognitive science lacks—and badly needs. Fodor and Pylyshyn offer a sketch of how this theory might be developed into an account of perceptual reference that is broadly compatible with empirical findings and with the view that the mental processes effecting perceptual reference are largely preconceptual, modular, and encapsulated.

Jerry A. Fodor is State of New Jersey Professor of Philosophy at Rutgers University. He is the author of The Mind Doesn’t Work That Way: The Scope and Limits of Computational Psychology (MIT Press) and other books. Zenon W. Pylyshyn is Board of Governors Professor of Cognitive Science at Rutgers University. He is the author of Things and Places: How the Mind Connects with the World (MIT Press) and other books.

“The book is vintage Fodor and Pylyshyn—densely argued, funny, infuriating. Great fun and a must-read.”
—Anthony Chemero, Professor of Philosophy and Psychology, University of Cincinnati

September | 5 3/8 x 8, 208 pp. | 13 illus.
$20.00S/£14.95 paper
978-0-262-52981-5

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Big Data, Little Data, No Data
Scholarship in the Networked World
Christine L. Borgman

“Big data” is on the covers of Science, Nature, the Economist, and Wired magazines, on the front pages of the Wall Street Journal and the New York Times. But despite the media hyperbole, as Christine Borgman points out in this examination of data and scholarly research, having the right data is usually better than having more data; little data can be just as valuable as big data.

Borgman, an often-cited authority on scholarly communication, argues that data have no value or meaning in isolation; they exist within a knowledge infrastructure—an ecology of people, practices, technologies, institutions, material objects, and relationships. Borgman offers case studies of data practices in the sciences, the social sciences, and the humanities, and then considers the implications of her findings for scholarly practice and research policy. To manage and exploit data over the long term, Borgman argues, requires massive investment in knowledge infrastructures; at stake is the future of scholarship.

Christine L. Borgman is Professor and Presidential Chair in Information Studies at the University of California, Los Angeles. She is the author of From Gutenberg to the Global Information Infrastructure and Scholarship in the Digital Age (both winners of the “Best Information Science Book” award from ASIS&T), published by the MIT Press.

“With this provocative book, the author does the important work of deeply exploring the characteristics and use of data in various branches of scholarship.”
—A. Wesolek, Choice

Winner, 2015 American Publishers Award for Professional and Scholarly Excellence (PROSE Award) in Computing & Information Sciences

September | 6 x 9, 416 pp. | 7 illus.
$27.00S/£19.95 paper
978-0-262-52991-4

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The Atlas of New Librarianship
R. David Lankes

Libraries have existed for millennia, but today the library field is searching for solid footing in an increasingly fragmented (and increasingly digital) information environment. In The Atlas of New Librarianship, R. David Lankes offers a guide to this new landscape for practitioners. He describes a new librarianship based not on books and artifacts but on knowledge and learning; and he suggests a new mission for librarians: to improve society through facilitating knowledge creation in their communities.

To help librarians navigate this new terrain, Lankes offers a map, a visual representation of the field that can guide explorations of it; more than 140 Agreements, statements about librarianship that range from relevant theories to examples of practice; and Threads, arrangements of Agreements to explain key ideas, covering such topics as conceptual foundations and skills and values. Although it touches on theory as well as practice, the Atlas is meant to be a tool: textbook, conversation guide, platform for social networking, and call to action.

R. David Lankes is Professor and Dean's Scholar for New Librarianship in Syracuse University’s School of Information Studies.

“The Atlas is not a book; it is a manifesto. . . . Read it and be prepared to act.”
—Andrew Dillon, Dean and Louis T. Yule Regents Professor of Information, School of Information, University of Texas at Austin

“The covers such a vast array of pertinent subjects that almost any reader . . . may find a few topics of personal interest.”
—The Futurist

ABC-CLIO/Greenwood Award for the Best Book in Library Literature, 2012

September | 10 x 10, 264 pp. | 242 illus.
$40.00S/£29.95 paper
978-0-262-52992-1

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cloth 2011
978-0-262-01509-7

The Copyright Book
A Practical Guide
Sixth Edition
William S. Strong

Through five editions since 1981, this book has offered the most comprehensive accessible guide available to all aspects of U.S. copyright law. Now, with the sixth edition, The Copyright Book has been thoroughly updated to cover copyright for the Internet age, discussing a range of developments in the law since 2000. The only book written for nonlawyers that covers the entire field of copyright law, it is essential reading for authors, artists, creative people in every medium, the companies that hire them, users of copyrighted material, and anyone with an interest in copyright law from a policy perspective.

New material includes greatly expanded coverage of infringement and fair use, with detailed discussion of recent decisions, including the Grateful Dead, Google, and HathiTrust cases. The new edition considers such topics as open access, the defeat of the Stop Online Piracy Act (SOPA), file sharing, e-reserves, the status of “orphan works,” and the latest developments under the Digital Millennium Copyright Act (DMCA). The sixth edition also brings up to date The Copyright Book’s plain-English explanation of fundamental topics that range from authorship and ownership to tax treatment of copyright.

As copyright issues grow ever more complicated, The Copyright Book becomes ever more indispensable.

William S. Strong is a Partner at Kotin, Crabtree, and Strong, LLP, Boston, and a leading authority on copyright and trademark issues.

“This book offers practical insights about copyright law and sets the stage for many healthy debates from fair use to technological growth.”
—Kenneth D. Crews, attorney and professor based in Los Angeles; author of Copyright Law for Librarians and Educators, Third Edition

September | 5 3/4 x 8, 496 pp.
$25.00S/£18.95 paper
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cloth 2014
978-0-262-02739-7
Confidence Games
Lawyers, Accountants, and the Tax Shelter Industry
Tanina Rostain and Milton C. Regan, Jr.

For ten boom-powered years at the turn of the twenty-first century, some of America’s most prominent law and accounting firms created and marketed products that enabled the very rich—including newly minted dot-com millionaires—to avoid paying their fair share of taxes by claiming benefits not recognized by law. In Confidence Games, Tanina Rostain and Milton Regan describe the rise and fall of the tax shelter industry during this period. They describe a beleaguered IRS preoccupied by attacks from antitax and antigovernment politicians; heightened competition for professional services; the relaxation of tax practitioner norms that discouraged aggressive advice; and the creation of complex financial instruments that made abusive shelters harder to detect. By 2004, the tax shelter boom was over, leaving failed firms, disgraced professionals, and prison sentences in its wake. Rostain and Regan’s cautionary tale remains highly relevant today, as lawyers and accountants continue to face intense competitive pressure and regulators still struggle to keep pace with accelerating financial risk and innovation.

Tanina Rostain is Professor of Law and Research Director of the Center for the Study of the Legal Profession at Georgetown Law School. Milton C. Regan, Jr., is Codirector of the Center for the Study of the Legal Profession and McDevitt Professor of Jurisprudence at Georgetown Law School.

“Lively and deeply informed.”
—David Cay Johnston, Pulitzer Prize-winning tax journalist and Syracuse University Distinguished Visiting Lecturer

Engineering Systems
Meeting Human Needs in a Complex Technological World
Olivier L. de Weck, Daniel Roos, and Christopher L. Magee

Foreword by Charles M. Vest

Engineering, for much of the twentieth century, was mainly about artifacts and inventions. Now, it’s increasingly about complex systems. As scale, scope, and complexity increase, engineers consider technical and social issues together in a highly integrated way as they design flexible, adaptable, robust systems that can be easily modified and reconfigured to satisfy changing requirements and new technological opportunities. Engineering Systems offers a comprehensive examination of such systems and the associated emerging field of study. Through scholarly discussion, concrete examples, and history, the authors consider the engineer’s changing role, new ways to model and analyze these systems, the impacts on engineering education, and the future challenges of meeting human needs through the technologically enabled systems of today and tomorrow.

Olivier L. de Weck is Associate Professor of Aeronautics and Astronautics and Engineering Systems at MIT as well as Associate Director of the Engineering Systems Division. Daniel Roos, Founding Director of Engineering Systems Division, is Japan Steel Industry Professor of Engineering Systems and Civil and Environmental Engineering at MIT. Christopher L. Magee is Professor of the Practice of Mechanical Engineering and Engineering Systems at MIT, where he is also Co-director of the International Design Center of Singapore University of Technology and Design and MIT.

“Will change the way we think about the field of engineering.”
—Richard K. Miller, President, Franklin W. Olin College of Engineering

978-0-262-52977-8
Engineers for Change
Competing Visions of Technology in 1960s America
Matthew Wisnioski

In the late 1960s, an eclectic group of engineers joined the antiwar and civil rights activists of the time in agitating for change. The engineers were fighting to remake their profession, challenging their fellow engineers to embrace a more humane vision of technology. In *Engineers for Change*, Matthew Wisnioski offers an account of this conflict within engineering, linking it to deep-seated assumptions about technology and American life. He shows how American society in the mid-1960s began to view technology in a more negative light, and how a dissident minority of engineers offered critiques of their profession that appropriated concepts from technology’s critics. These dissidents were criticized in turn by conservatives who regarded them as countercultural Luddites. And yet, Wisnioski argues, this radical minority spurred the professional elite to promote a new understanding of technology as a rapidly accelerating force that our institutions are ill-equipped to handle. They helped shape our dominant contemporary understanding of technological change as the driver of history.

Matthew Wisnioski is Associate Professor of Science and Technology in Society and a Senior Fellow at the Institute for Creativity, Arts, and Technology at Virginia Tech.

“A compelling and fascinating account of how engineers navigated new landscapes of technology and its discontents in 1960s America.”
—Carla Nappi, *New Books in Science, Technology, and Society*

“A richly textured, thought-provoking tour as engineers strove to remold their craft and their identity.”
—David Kaiser, Germeshausen Professor of the History of Science, MIT; author of *How the Hippies Saved Physics*

Power Density
A Key to Understanding Energy Sources and Uses
Vaclav Smil

In this book—the first systematic, quantitative appraisal of its subject—Vaclav Smil argues that power density is a key determinant of the nature and dynamics of energy systems. He shows that careful quantification, critical appraisals, and revealing comparisons of power densities make possible a deeper understanding of the ways we harness, convert, and use energies. Conscientious assessment of power densities, he argues, proves particularly revealing when contrasting the fossil fuel–based energy system with renewable energy conversions. Smil concludes that our inevitable (and desirable) move to new energy arrangements involving conversions of lower-density renewable energy sources will require our society—currently dominated by megacities and concentrated industrial production—to undergo a profound spatial restructuring of its energy system.

Vaclav Smil is a Distinguished Professor Emeritus at the University of Manitoba. He is the author of more than thirty books, including *Harvesting the Biosphere: What We Have Taken from Nature* and, most recently, *Made in the USA: The Rise and Retreat of American Manufacturing* both published by the MIT Press. In 2010 he was named by *Foreign Policy* as one of the Top 100 Global Thinkers. In 2013 Bill Gates wrote on his website that “there is no author whose books I look forward to more than Vaclav Smil.”

“Smil is one of my favorite authors. The term “polymath” was made for people like him. . . . I learn more by reading Vaclav Smil than just about anyone else.”
—Bill Gates, *The Gates Notes*

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Unmaking the Bomb
A Fissile Material Approach to Nuclear Disarmament and Nonproliferation
Harold A. Feiveson, Alexander Glaser, Zia Mian, Frank N. von Hippel

Achieving nuclear disarmament, stopping nuclear proliferation, and preventing nuclear terrorism are among the most critical challenges facing the world today. Unmaking the Bomb proposes a new approach to reaching these long-held goals.

Rather than considering them as separate issues, the authors—physicists and experts on nuclear security—argue that all three of these goals can be understood and realized together if we focus on the production, stockpiling, and disposal of plutonium and highly enriched uranium. They describe the history, production, national stockpiles, and current military and civilian uses of plutonium and highly enriched uranium, and propose policies aimed at reducing and eventually eliminating these fissile materials worldwide.

Harold A. Feiveson is Senior Research Policy Scientist at the Woodrow Wilson School of Public and International Affairs at Princeton University. Alexander Glaser is Assistant Professor in the Woodrow Wilson School and in the Department of Mechanical and Aerospace Engineering at Princeton University. Zia Mian is Research Scientist and Director of the Project on Peace and Security in South Asia at the Woodrow Wilson School. Frank N. von Hippel is Senior Research Physicist and Professor of Public and International Affairs Emeritus at the Woodrow Wilson School. They are all members of the Program on Science and Global Security and founders of the International Panel on Fissile Materials.

“A powerful instrument for all who seek a better nuclear future.”
—James E. Doyle, Arms Control Today

Thinking like a Mall
Environmental Philosophy after the End of Nature
Steven Vogel

Environmentalism, in theory and practice, is concerned with protecting nature. But if we have now reached “the end of nature,” as Bill McKibben and other environmental thinkers have declared, what is there left to protect? In Thinking like a Mall, Steven Vogel argues that environmental thinking would be better off if it dropped the concept of “nature” altogether and spoke instead of the “environment”—that is, the world that actually surrounds us, which is always a built world, the only one that we inhabit. He argues provocatively that environmental philosophy, in its ethics, should no longer draw a distinction between the natural and the artificial and, in its politics, should abandon the idea that something beyond human practices (such as “nature”) can serve as a standard determining what those practices ought to be. We need to think not so much like a mountain (as Aldo Leopold urged) as like a mall.

Steven Vogel is Professor of Philosophy at Denison University and the author of Against Nature: The Concept of Nature in Critical Theory.

“Steven Vogel’s brilliant new book, Thinking like a Mall, offers . . . the environmental philosophy for our time.”
—Andrew Feenberg, Canada Research Chair in Philosophy of Technology, Simon Fraser University; author of Between Reason and Experience and The Philosophy of Praxis

“Vogel’s compelling and accessible argument for an environmentalism that is more self-conscious and democratic deserves to be widely read.”
—Andrew Biro, Professor, Department of Politics, Acadia University; author of Denaturalizing Ecological Politics and Critical Ecologies

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Values at Play in Digital Games
Mary Flanagan and Helen Nissenbaum

All games express and embody human values, providing a compelling arena in which we play out beliefs and ideas. In this book, Mary Flanagan and Helen Nissenbaum present Values at Play, a theoretical and practical framework for identifying socially recognized moral and political values in digital games.

Flanagan and Nissenbaum provide detailed examinations of selected games, demonstrating the many ways in which values are embedded in them. They introduce the Values at Play heuristic, a systematic approach for incorporating values into the game design process. Interspersed among the book’s chapters are texts by designers who have put Values at Play into practice by accepting values as a design constraint like any other, offering a real-world perspective on the design challenges involved.

Mary Flanagan is Sherman Fairchild Distinguished Professor in Digital Humanities, Director of the Tiltfactor game research laboratory, and Professor in the Department of Film and Media Studies at Dartmouth College. She is the author of Critical Play: Radical Game Design (MIT Press). Helen Nissenbaum is Professor of Media, Culture, and Communication and Computer Science at New York University, where she is Director of the Information Law Institute. She is the coauthor (with Finn Brunton) of Obfuscation: A User’s Guide for Privacy and Protest (MIT Press).

“Like a work of art, this book will not leave the reader indifferent. At the same time, it will equip readers with a how-to manual for building games.”
—Goran Trajkovski, Computing Reviews

“Pragmatic, flexible, and inspiring.”
—J.A. Saklofske, Choice

Connected Code
Why Children Need to Learn Programming
Yasmin B. Kafai and Quinn Burke
foreword by Mitchel Resnick

Coding, once considered an arcane craft practiced by solitary techies, is now recognized by educators and theorists as a crucial skill, even a new literacy, for all children. In Connected Code, Yasmin Kafai and Quinn Burke argue that although computational thinking represents an excellent starting point, the broader conception of “computational participation” better captures the twenty-first-century reality. Computational participation moves beyond the individual to focus on wider social networks and a DIY culture of digital “making.”

Kafai and Burke describe contemporary examples of computational participation: students who code not for the sake of coding but to create games, stories, and animations to share; the emergence of youth programming communities; the practices and ethical challenges of remixing (rather than starting from scratch); and the move beyond stationary screens to programmable toys, tools, and textiles.

Yasmin B. Kafai is Professor of Learning Sciences at the University of Pennsylvania. She is the coeditor of Beyond Barbie and Mortal Kombat: New Perspectives on Gender and Gaming and coauthor of Connected Play: Tweens in a Virtual World (both published by the MIT Press). Quinn Burke is Assistant Professor in the Department of Teacher Education at the College of Charleston. Kafai and Quinn are also coauthors of Connected Gaming (MIT Press).

“This book is as engaging as its catchy title suggests.”
—Ramon Gonzalez Sanchez, Computing Reviews

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ASME Award for Best Style and Design of a magazine cover, for the September/October 2015 print edition.

“The Man Who Tried to Redeem the World with Logic” was selected for inclusion in The Best American Science and Nature Writing 2016.

Nautilus was chosen as an Honoree in the Web: Best Writing (Editorial) category at the 20th Annual Webby Awards.

“How to Restart an Ecosystem” was chosen as an Honoree in the Online Video—General Film: Science & Education category at the 20th Annual Webby Awards.

National Magazine Award for General Excellence in the category of Literature, Science, and Politics

“America Is Getting the Science of Sun Exposure Wrong” won the American Society of Journalists and Authors’ June Roth Award for an Outstanding Medical Article

The Webby Awards Best General Website: Science
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JoDS is shepherded by a team led by MIT Media Lab Director Joi Ito, and published in partnership with the MIT Press.

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Sven Spieker, executive editor
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ARTMargins publishes scholarly articles and essays about contemporary art, politics, media, architecture, and critical theory. The journal is devoted to art practices and visual culture in the emerging global margins, from North Africa and the Middle East to the Americas, Eastern and Western Europe, Asia and Australasia.

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Nanjing Never Cries
A Novel
Hong Zheng

Set in the city of Nanjing during the time of the Sino-Japanese war (1937–1945), this novel tells the story of four people caught up in the violence and tumult of these years: John Winthrop and his MIT classmate, the brilliant Chinese physicist Calvin Ren (Ren Kewen); Judy, Calvin’s Chinese-American wife; and the beautiful and determined young woman Chen May.

Vivid and disturbing, *Nanjing Never Cries* offers a compelling story of the horror of war and the power of love and friendship.

Hong Zheng began his academic career as an Assistant Professor at MIT in 1965 and became a full Professor at MIT in 1969. He is a member of the Academia Sinica. His work with T.T. Wu on high energy scattering was mentioned on the front page of the *New York Times* in March 1973. He is working on the theory of dark matter.
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Adams, Giving a Damn         83
Age of Electroacoustics, Wittie 68
Agnes Martin, Hudson        49
Akerlof, What Have We Learned? 98
Alpaydín, Machine Learning 35
Animals, Ramos              41
Ansolabehere, Cheap and Clean 99
Apparently Marginal Activities of Marcel Duchamp, Filipovic 5
Arbib, From Neuron to Cognition via Computational Neuroscience 76
Archive Everything, Giannachi 77
Argument and Inference, Johnson 78
Art of Failure, Juul        96
Ascher, Portfolio Society 48
Atlas of New Librarianship, Lankes 103
Austin, Living Zen Remindfully 27
Back, Academic Diary        43
Bad Call, Collins           18
Becoming Fluent, Roberts    93
Bélanger, Ecologies of Power 19
Bergman, The Science of Managing Our Digital Stuff 9
Bhagwati, The World Trade System 65
Bianchini, Practicable      54
Bibliometrics and Research Evaluation, Gingras 69
Bicycle Design, Hadland     95
Big Data Is Not a Monolith, Sugimoto 51
Big Data, Little Data, No Data, Borgman 102
Body Sweats, Freytag-Loringhoven 100
Borgman, Big Data, Little Data, No Data 102
Broeckmann, Machine Art in the Twentieth Century 59
Brunton, Obsfuscation       88
Building and Interpreting Possession Sentences, Myler    72
Building Old Cambridge, Maycock 16
Burton, Public Servants    29
Calvo, Macroeconomics in Times of Liquidity Crises 65
Case Studies in Neural Data Analysis, Kramer 75
Cheap and Clean, Ansolabehere 99
Collins, Bad Call           18
Collision Course, Higgs     98
Complete Madame Realism and Other Stories, Tillman 47
Complexity and Evolution, Wilson 62
Computational Models of Referring, van Deemter 72
Computational Psychiatry, Redish 75
Confidence Games, Rostain    104
Connected Code, Kafai        107
Connected Gaming, Kafai      71

Cook, Information           42
Copyright Book, sixth edition, Strong 103
Costandi, Neuroplasticity    34
Culture of Curating and the Curating of Culture(s), O’Neill 97
Dauvergne, Environmentalism of the Rich 22
De Kosnik, Rogue Archives    78
de Weck, Engineering Systems 104
Designing Publics, Le Dantec 57
Disconnected, James         101
Distracted Mind, Gazzaley    2
Driverless, Lipson           4
Eagle, Reality Mining       96
Ebola’s Message, Evans       83
Ecologies of Power, Bélanger 19
Economics and Political Economy of Energy Subsidies, Strand 66
Economics of Language Policy, Gazzola 66
Embodied Mind, revised edition, Varela 79
Embodiments of Mind, McCulloch 52
End of Ownership, Perzanowski 17
Engineering Systems, de Weck 104
Engineers for Change, Wisnioski 105
Enright, The Making of Grand Paris 84
Entanglements, Tosoni        85
Entrepreneurial Finance and Accounting for High-Tech Companies, Fabozzi 64
Environmentalism of the Rich, Dauvergne 22
Evans, Ebola’s Message       83
Experience, Jones            6
Experimental Conversations, Ogden 67
Experimental Politics, Lazzarato 53
Expressive Moment, Leman     84
Fabozzi, Entrepreneurial Finance and Accounting for High-Tech Companies 64
Fantasies of the Library, Springer 28
Farid, Photo Forensics       62
Fascist Pigs, Saraiva        86
Feiveson, Unmaking the Bomb 106
Filipovic, The Apparently Marginal Activities of Marcel Duchamp 5
Fisk, Framing Internet Safety 70
Flanagan, Values at Play in Digital Games 107
Foams, Sloterdijk            44
Fodor, Minds without Meanings 102
Framing Internet Safety, Fisk 70
Free Innovation, von Hippel  15
Freytag-Loringhoven, Body Sweats 100
From Neuron to Cognition via Computational Neuroscience, Arbib 76
Gazzaley, The Distracted Mind 2
Gazzola, The Economics of Language Policy 66
George, Hate Spin 13
Gervais, The “Public” Life of Photographs 37
Giannachi, Archive Everything 77
Gingras, Bibliometrics and Research Evaluation 69
Giving a Damn, Adams 83
Guenther, Neural Control of Speech 74
Guidance of an Enterprise Economy, Shubik 63
Guttag, Introduction to Computation and Programming Using Python, second edition 61
Haacke, Working Conditions 38
Hadland, Bicycle Design 95
Hale, The Wild and the Wicked 10
Halpern, Actual Causality 81
Harbour, Impossible Persons 73
Harrell, What Is the Argument? 80
Hate Spin, George 13
Heat Advisory, Lockwood 50
Heredity Explored, Müller-Wille 68
Hern, What a City Is For 14
Hess, Undone Science 85
Higgs, Collision Course 98
Hinterwaldner, The Systemic Image 59
Hogue, Thirtyfour Campgrounds 20
Hu, A Prehistory of the Cloud 90
Hudson, Agnes Martin 49
Huron, Voice Leading 70
Immigration and the American Backlash, Tirman 89
Impossible Languages, Moro 12
Impossible Persons, Harbour 73
Information, Cook 42
Innovating, Perez-Breva 11
Introduction to Computation and Programming Using Python, second edition, Guttag 61
James, Disconnected 101
Johnson, Argument and Inference 78
Jones, Experience 6
Jordan, Robots 33
Juul, The Art of Failure 96
Kafai, Connected Code 107
Kafai, Connected Gaming 71
Kramer, Case Studies in Neural Data Analysis 75
Kriegl, Sharing Knowledge, Shaping Europe 69
Lambert, The Power Brokers 97
Lankes, The Atlas of New Librarianship 103
Lazzarato, Experimental Politics 53
Le Dantec, Designing Publics 57
Learning What Love Means, Lindon 45
Least Likely Man, Portugal 94
Leman, The Expressive Moment 84
LeStourgeon, Perspecta 49 39
Life of Reason or The Phases of Human Progress, critical edition, Volume 7, Santayana 80
Lindon, Learning What Love Means 45
Lipson, Driverless 4
Living Zen Remindfully, Austin 27
Lockwood, Heat Advisory 50
Machine Art in the Twentieth Century, Broeckmann 59
Machine Learning, Alpaydin 35
Macroeconomics in Times of Liquidity Crises, Calvo 65
Maintenance Architecture, Sample 26
Making of Grand Paris, Enright 84
Malloy, Social Media Archeology and Poetics 77
Maniaque-Benton, Whole Earth Field Guide 25
Marketplace of Attention, Webster 100
Mary Kelly, Nixon 40
Maycock, Building Old Cambridge 16
McCulloch, Embodiments of Mind 52
McGinn, Philosophy of Language 101
Measuring Happiness, Weimann 99
Men, Machines, and Modern Times, 50th anniversary edition, Morison 30
Milner, The World Made Meme 56
Mind-Body Problem, Westphal 36
Minds without Meanings, Fodor 102
Missed Information, Sarokin 31
Modeling and Simulating Software Architectures, Reussner 60
Morison, Men, Machines, and Modern Times, 50th anniversary edition 30
Moro, Impossible Languages 12
Müller-Wille, Heredity Explored 68
Myler, Building and Interpreting Possession Sentences 72
Neural Control of Speech, Guenther 74
Neuroplasticity, Costandi 34
Nixon, Mary Kelly 40
O’Neill, The Culture of Curating and the Curating of Culture(s) 97
Obfuscation, Brunton 88
Ogden, Experimental Conversations 67
Ordinary Man of Cinema, Schefer 46
Outer Limits of Reason, Yanofsky 87
Overcrowded, Verganti 24
Perez-Breva, Innovating 11
Perspecta 49, LeStourgeon 39
Perzanowski, The End of Ownership 17
Petre, Software Design Decoded 23
Phillips, This Is Why We Can’t Have Nice Things 95
Philosophy of Language, McGinn 101
Photo Forensics, Farid 62
Poggio, Visual Cortex and Deep Networks 74
I Love Dick

Chris Kraus
new foreword by Eileen Myles

“Between 9:30 and 11:30 I tried your number four more times but hung up on your machine. At 1:45 a.m. I tried again, your line was busy. At 2:05 I called again and finally reached you. At first your voice was cold, detached. You said you couldn’t really talk, but then you did, you did... Oh Dick, I want to be an intellectual like you.”
—from I Love Dick

In I Love Dick, published in 1997, Chris Kraus, author of Aliens & Anorexia, Torpor, and Summer of Hate, boldly tore away the veil that separates fiction from reality and privacy from self-expression. It’s no wonder that I Love Dick instantly elicited violent controversies and attracted a host of passionate admirers.

The story is gripping enough: in 1994 a married, failed independent filmmaker, turning forty, falls in love with a well-known theorist and endeavors to seduce him with the help of her husband. But when the theorist refuses to answer her letters, the husband and wife continue the correspondence for each other instead, imagining the fling the wife wishes to have with Dick. What follows is a breathless pursuit that takes the woman across America and away from her husband—and far beyond her original infatuation into a discovery of the transformative power of first person narrative.

I Love Dick is a manifesto for a new kind of feminist who isn’t afraid to burn through her own narcissism in order to assume responsibility for herself and for all the injustice in world—and it’s a book you won’t put down until the author’s final, heroic acts of self-revelation and transformation.

Chris Kraus is a writer and filmmaker. She is the author of the novels Aliens and Anorexia, Torpor, and Summer of Hate as well as Video Green: Los Angeles Art and the Triumph of Nothingness and Where Art Belongs, all published by Semiotext(e).

“An exploration of desire as something other than passivity or inadequacy (“I think desire isn’t lack, it’s surplus energy—a claustrophobia inside your skin”) and relentless romantic pursuit not as self-degradation but a kind of generative, creative act.”
—Leslie Jamison, The New York Times

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