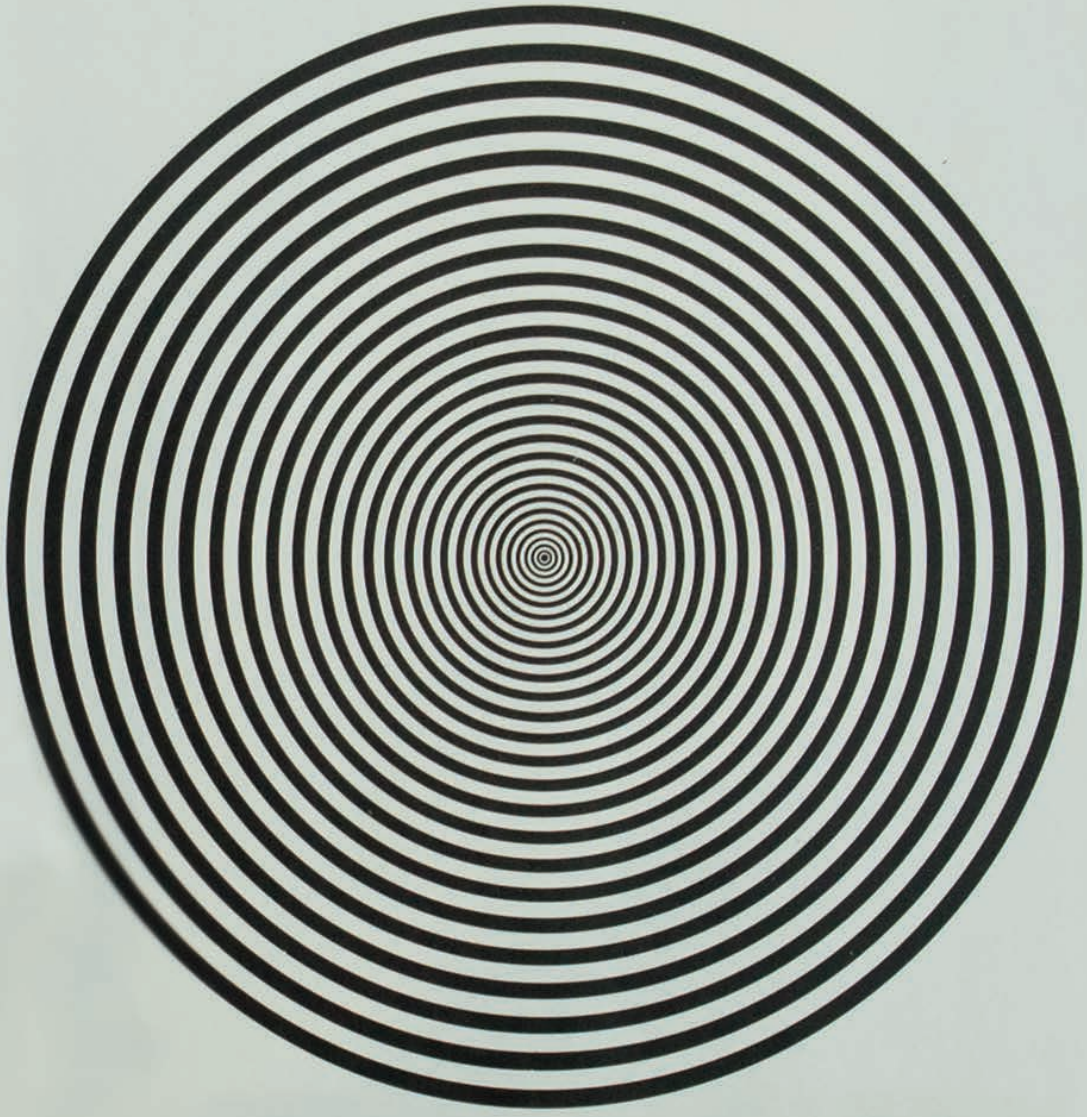

The MIT Press Fall 2017

DEAR FRIENDS AND READERS,

Among the many stellar books on our Fall 2017 list, which spans a wide expanse of fields, I would especially like to draw your attention to our growing focus on the ever-important area of higher education and lifelong learning. Our list this season features Mitchel Resnick's *Lifelong Kindergarten*, Joseph Aoun's *Robot-Proof Education*, John Palfrey's *Safe Spaces, Brave Spaces*, and Stephen Kosslyn's *Minerva and the Future of Higher Education*.

This list will continue to grow at the MIT Press under the auspices of Susan Buckley, our newly appointed editor for education and learning. Her books will help us understand the science of how we learn and how new technologies and media affect the education system and the potential for learning at all ages.

This season we also celebrate fifty years since Muriel Cooper—the Press's first design director and the creator of the famous MIT Press colophon—joined the Press, with the publication of David Reinfurt and Robert Wiesenberger's *Muriel Cooper* and the facsimile edition of the large format Cooper-design *Learning from Las Vegas*.

I invite you to explore these and other gems herein.

Enjoy!
Amy Brand

front cover:
From the cover design for the MIT Press book *Models for the Perception of Speech and Visual Form* edited by Weiant Wathen-Dunn. Courtesy of Morton R. Godine Library, Archive, Massachusetts College of Art and Design. Copyright MIT. From *Muriel Cooper* by David Reinfurt and Robert Wiesenberger.

inside front cover:
Mechanical artwork for the MIT Press colophon, 1962–3.
Muriel R. Cooper Collection. Courtesy of Morton R. Godine Library, Archive, Massachusetts College of Art and Design. Copyright MIT and Estate of Muriel Cooper. From *Muriel Cooper* by David Reinfurt and Robert Wiesenberger.

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history | technology

The Chinese Typewriter

A History

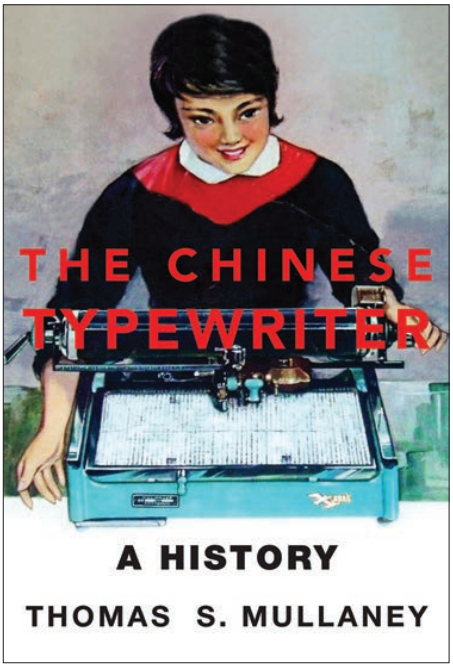
Thomas S. Mullaney

Chinese writing is character based, the one major world script that is neither alphabetic nor syllabic. Through the years, the Chinese written language encountered presumed alphabetic universalism in the form of Morse Code, Braille, stenography, Linotype, punch cards, word processing, and other systems developed with the Latin alphabet in mind. This book is about those encounters—in particular thousands of Chinese characters versus the typewriter and its QWERTY keyboard. Thomas Mullaney describes a fascinating series of experiments, prototypes, failures, and successes in the century-long quest for a workable Chinese typewriter.

The earliest Chinese typewriters, Mullaney tells us, were figments of popular imagination, sensational accounts of twelve-foot keyboards with 5,000 keys. One of the first Chinese typewriters actually constructed was invented by a Christian missionary, who organized characters by common usage (but promoted the less-common characters for "Jesus" to the common usage level). Later came typewriters manufactured for use in Chinese offices, and typewriting schools that turned out trained "typewriter girls" and "typewriter boys." Still later was the "Double Pigeon" typewriter produced by the Shanghai Calculator and Typewriter Factory, the typewriter of choice under Mao. Clerks and secretaries in this era experimented with alternative ways of organizing characters on their tray beds, inventing an input method that was the first instance of "predictive text."

Today, after more than a century of resistance against the alphabetic, not only have Chinese characters prevailed, they form the linguistic substrate of the vibrant world of Chinese information technology. *The Chinese Typewriter*, not just an "object history" but grappling with broad questions of technological change and global communication, shows how this happened.

Thomas S. Mullaney is Associate Professor of History at Stanford University and the author of *Coming to Terms with the Nation: Ethnic Classification in Modern China*.

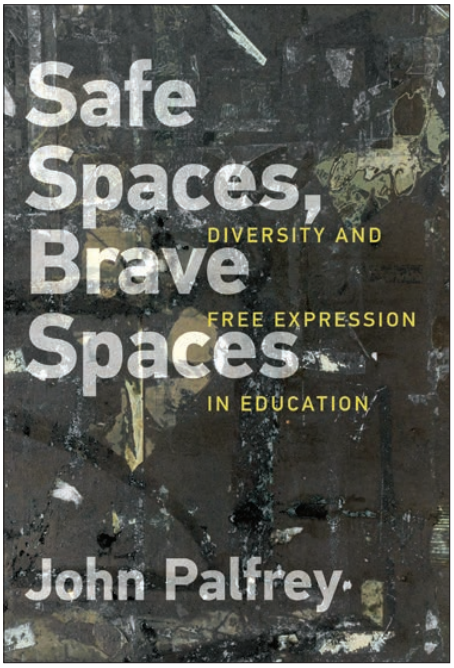


How Chinese characters triumphed over the QWERTY keyboard and laid the foundation for China's information technology successes today.

September
6 x 9, 480 pp.
86 illus.

$34.95T/£27.95 cloth
978-0-262-03636-8

politics | education



How the essential democratic values of diversity and free expression can coexist on campus.

October
5 3/8 x 8, 184 pp.
1 illus.

$19.95T/£14.95 cloth
978-0-262-03714-3

Safe Spaces, Brave Spaces

Diversity and Free Expression in Education

John Palfrey
foreword by Alberto Ibarguen

Safe spaces, trigger warnings, microagressions, the un-invitation of speakers, demands to rename campus landmarks—debate over these issues began in lecture halls and on college quads but ended up on op-ed pages in the *New York Times* and the *Wall Street Journal*, on cable news, and on social media. Some of these critiques had merit, but others took a series of cheap shots at "crybullies" who needed to be coddled and protected from the real world. Few questioned the assumption that colleges must choose between free expression and diversity. In *Safe Spaces, Brave Spaces*, John Palfrey argues that the essential democratic values of diversity and free expression can, and should, coexist on campus.

Palfrey, currently Head of School at Phillips Academy, Andover, and formerly Professor and Vice Dean at Harvard Law School, writes that free expression and diversity are more compatible than opposed. Free expression can serve everyone—even if it has at times been dominated by white, male, Christian, heterosexual, able-bodied citizens. Diversity is about self-expression, learning from one another, and working together across differences; it can encompass academic freedom without condoning hate speech.

Palfrey proposes an innovative way to support both diversity and free expression on campus: creating safe spaces and brave spaces. In safe spaces, students can explore ideas and express themselves without feeling marginalized. In brave spaces—classrooms, lecture halls, public forums—the search for knowledge is paramount, even if some discussions may make certain students uncomfortable. The strength of our democracy, says Palfrey, depends on a commitment to upholding both diversity and free expression, especially when it is hardest to do so.

John Palfrey is Head of School at Phillips Academy, Andover, coauthor of *Born Digital: How Children Grow Up in a Digital Age*, and author of the MIT Press Essential Knowledge volume *Intellectual Property Strategy*.

history | women's studies

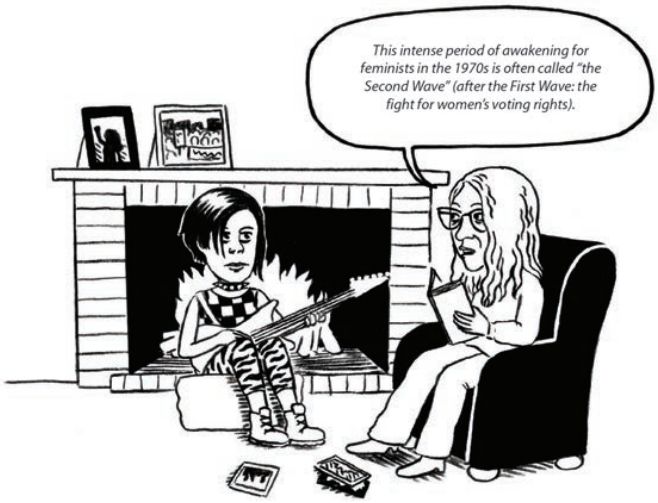
A Brief History of Feminism

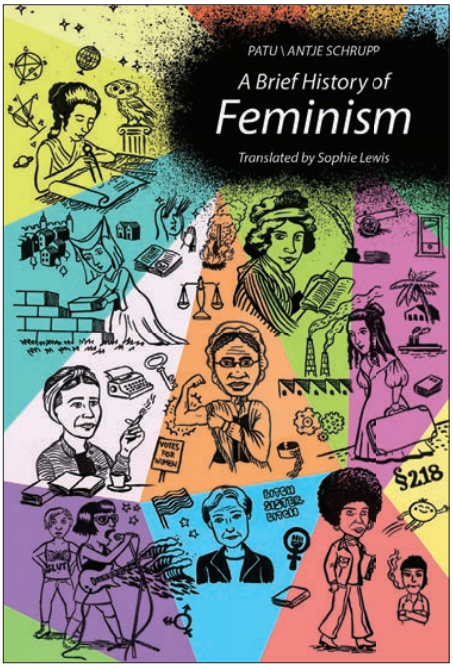
Patu \ Antje Schrupp
translated by Sophie Lewis

The history of feminism? The right to vote, Susan B. Anthony, Gloria Steinem, white pantsuits? Oh, but there's so much more. And we need to know about it, especially now. In pithy text and pithier comics, *A Brief History of Feminism* engages us, educates us, makes us laugh, and makes us angry. It begins with antiquity and the early days of Judeo-Christianity. (Mary Magdalene questions the maleness of Jesus's inner circle: "People will end up getting the notion you don't want women to be priests." Jesus: "Really, Mary, do you always have to be so negative?") It continues through the Middle Ages, the Early Modern period, and the Enlightenment ("Liberty, equality, fraternity!" "But fraternity means brotherhood!"). It covers the beginnings of an organized women's movement in the nineteenth century, second-wave Feminism, queer feminism, and third-wave Feminism.

Along the way, we learn about important figures: Olympe de Gouges, author of the "Declaration of the Rights of Woman and the Female Citizen" (guillotined by Robespierre); Flora Tristan, who linked the oppression of women and the oppression of the proletariat before Marx and Engels set pen to paper; and the poet Audre Lorde, who pointed to the racial obliviousness of mainstream feminism in the 1970s and 1980s. We learn about bourgeois and working-class issues, and the angry racism of some American feminists when black men got the vote before women did. We see God as a long-bearded old man emerging from a cloud (and once, as a woman with her hair in curlers). And we learn the story so far of a history that is still being written.

Patu is an artist and cofounder of the artist collective radical jetset, creators of comic books, murals, and installations. **Antje Schrupp** is a journalist and political scientist living in Frankfurt am Main.



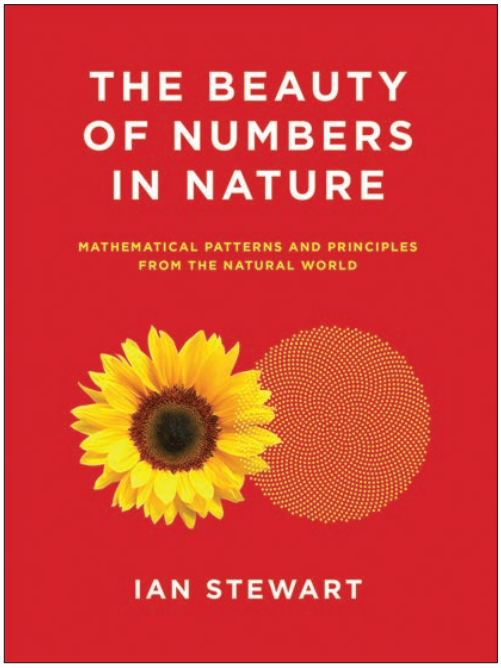


An engaging illustrated history of feminism from antiquity through third-wave feminism, featuring Sappho, Mary Magdalene, Mary Wollstonecraft, Sojourner Truth, Simone de Beauvoir, and many others.

September
6 x 9, 88 pp.
222 illus.

$14.95T/£12.95 cloth
978-0-262-03711-2

science | math



From a zebra's stripes to a spider's web: an engaging examination of patterns in nature and the mathematics that underlie them.

October
6 1/2 x 8 3/4, 224 pp.
200 illus.

$24.95T paper
978-0-262-53428-4

For sale only in North America

The Beauty of Numbers in Nature

Mathematical Patterns and Principles in the Natural World

Ian Stewart

From a zebra's stripes to a spider's web, from sand dunes to snowflakes, nature is full of patterns underlaid by mathematical principles. In *The Beauty of Numbers in Nature*, Ian Stewart shows how life forms from the principles of mathematics. Each chapter in *The Beauty of Numbers in Nature* explores a different kind of patterning system and its mathematical underpinnings. In doing do, the book also uncovers some universal patterns—both in nature and made by humans—from the basic geometry of ancient Greece to the complexities of fractals.

Stewart draws on a wide range of sources to examine the mathematics of patterns: the Pythagoreans' obsession with numbers as the philosophical basis of the universe; a great mathematician who wondered about how a violin makes music; a clerk in a patent office who realized that space and time can get mixed together; a maverick mathematician who questioned why nature spurns such regular geometric shapes as spheres and cylinders in favor of jagged lightning bolts, asymmetrically branching trees, and the uneven terrain of mountainsides.

The book begins with a simple and often-asked question about the shape and individual uniqueness of snowflakes. How can such a strange mixture of regularity and irregularity exist in a tiny bit of frozen water? By the end of the book, readers will have learned that mathematical patterns can come in many guises, some of which don't resemble patterns at all.

Ian Stewart is Emeritus Professor of Mathematics at the University of Warwick, U.K., and a Fellow of the Royal Society. He is the author or coauthor of more than 100 books, including *Does God Play Dice?* and (with Terry Pratchett and Jack Cohen) *The Science of Discworld* series. His app Incredible Numbers won a Digital Book World Award, and he was cowinner of the 2015 Lewis Thomas Prize for Writing about Science.

"Stewart explains complicated ideas brilliantly."
—***New Scientist***

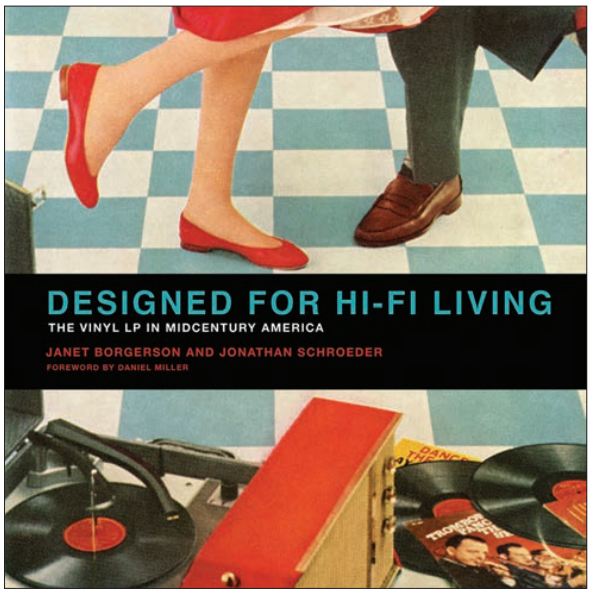
"Stewart is the soul of clarity."
—***Booklist***

music | design

Designed for Hi-Fi Living

The Vinyl LP in Midcentury America

Janet Borgerson and Jonathan Schroeder
foreword by Daniel Miller



The sleek hi-fi console in a well-appointed midcentury American living room might have had a stack of albums by musicians like Frank Sinatra, Elvis Presley, or Patti Page. It was just as likely to have had a selection of LPs from slightly different genres, with such titles as *Cocktail Time*, *Music for a Chinese Dinner at Home*, *The Perfect Background Music for Your Home Movies*, *Honeymoon in Hawaii*, *Strings for a Space Age*, or *Cairo! The Music of Modern Egypt*. The brilliantly hued, full-color cover art might show an ideal listener, an ideal living room, an ideal tourist in an exotic landscape—or even an ideal space traveler. In *Designed for Hi-Fi Living*, Janet Borgerson and Jonathan Schroeder listen to and look at these vinyl LPs, scouring the cover art and the liner notes, and find that these albums offered a guide for aspirational Americans who yearned to be modern in postwar consumer culture.

Borgerson and Schroeder examine the representations of modern life in a selection of midcentury record albums, discussing nearly 150 vintage album covers, reproduced in color—some featuring modern art or the work of famous designers and photographers. Offering a fascinating glimpse into the postwar imagination, the first part, "Home," explores how the American home entered the frontlines of cold war debates and became an entertainment zone—a place to play music, mix drinks, and impress guests with displays of good taste. The second part, "Away," considers albums featuring music, pictures, and tourist information that prepared Americans for the jet age as well as the space race.

Janet Borgerson is a Visiting Fellow at City, University of London. **Jonathan Schroeder** is William A. Kern Professor of Communications at Rochester Institute of Technology. Borgerson and Schroeder are coauthors of *From Chinese Brand Culture to Global Brands: Insights from Aesthetics, Fashion and History*.

How record albums and their covers delivered mood music, lifestyle advice, global sounds, and travel tips to midcentury Americans who longed to be modern.

September
8 x 8, 432 pp.
147 color illus.

$34.95T/£27.95 cloth
978-0-262-03623-8

Left: International Pop Orchestra, *An Exciting Evening at Home*, Cameo SC 4001, cover design by Al Kahn and Miller, Bodden & Rich, Inc. @ABKCO Records.

Right: The Metro Strings, *The Perfect Background Music for Your Home Movies*, MGM PM4, photograph by Bert Owen; 8 mm projector in photograph by Kodak. From *Designed for Hi-Fi Living*.

TRADE

The career of the pioneering designer Muriel Cooper, whose work spanned media from printed book to software interface; generously illustrated in color.

October
10 x 14, 264 pp.
202 color illus., 137 b&w illus.

$60.00T/£49.95 cloth
978-0-262-03650-4

graphic design

Muriel Cooper

David Reinfurt and Robert Wiesenberger
afterword by Nicholas Negroponte

Muriel Cooper (1925–1994) was the pioneering designer who created the iconic MIT Press colophon (or logo)—seven bars that represent the lowercase letters "mitp" as abstracted books on a shelf. She designed a modernist monument, the encyclopedic volume *The Bauhaus* (1969), and the graphically dazzling and controversial first edition of *Learning from Las Vegas* (1972). She used an offset press as an artistic tool, worked with a large-format Polaroid camera, and had an early vision of e-books. Cooper was the first design director of the MIT Press, the cofounder of the Visible Language Workshop at MIT, and the first woman to be granted tenure at MIT's Media Lab, where she developed software interfaces and taught a new generation of designers. She began her four-decade career at MIT by designing vibrant printed flyers for the Office of Publications; her final projects were digital. This lavishly illustrated volume documents Cooper's career in abundant detail, with prints, sketches, book covers, posters, mechanicals, student projects, and photographs, from her work in design, teaching, and research at MIT.

A humanist among scientists, Cooper embraced dynamism, simultaneity, transparency, and expressiveness across all the media she worked in. More than two decades after her career came to a premature end, Muriel Cooper's legacy is still unfolding. This beautiful slip-cased volume, designed by Yasuyo Iguchi, looks back at a body of work that is as contemporary now as it was when Cooper was experimenting with IBM Selectric typewriters. She designed design's future.

David Reinfurt, a graphic designer, is cofounder of Dexter Sinister and The Serving Library, an online and print publishing project, and a Lecturer at Princeton University. His work is in the permanent collections of Cooper Hewitt National Design Museum, the Museum of Modern Art, Walker Art Center, and the Whitney Museum of American Art. **Robert Wiesenberger** is Critic at the Yale School of Art, where he teaches the history of graphic design, and a PhD candidate in art history at Columbia University. As the 2014–2016 Stefan Engelhorn Curatorial Fellow at the Harvard Art Museums, he was responsible for the museums' Bauhaus collections.

Self-portrait with Polaroid SX-70, video imaged and printed at the Visible Language Workshop, c.1982. Muriel R. Cooper Collection. Courtesy of Morton R. Godine Library, Archive, Massachusetts College of Art and Design. Copyright MIT and Estate of Muriel Cooper. From *Muriel Cooper* by David Reinfurt and Robert Wiesenberger.

Summer session pamphlet, "Noise Reduction," 1957. Muriel R. Cooper Collection. Courtesy of Morton R. Godine Library, Archive, Massachusetts College of Art and Design. Copyright MIT and Estate of Muriel Cooper. From *Muriel Cooper* by David Reinfurt and Robert Wiesenberger.

architecture

Learning from Las Vegas

facsimile edition

Robert Venturi, Denise Scott Brown, and Steven Izenour

new preface by Denise Scott Brown

Upon its publication by the MIT Press in 1972, *Learning from Las Vegas* was immediately influential and controversial. The authors made an argument that was revolutionary for its time—that the billboards and casinos of Las Vegas were worthy of architectural attention—and offered a challenge to contemporary architects obsessed with the heroic and monumental. The physical book itself, designed by MIT's design icon Muriel Cooper, was hailed as a masterpiece of modernist design, but the book's image struck the authors as too monumental for a text that praised the ugly and ordinary over the heroic and monumental. The MIT Press published a revised version in 1977—a modest paperback that the authors felt was more in keeping with the argument of the book—and the original Cooper-designed book fell out of print and became a highly sought-after collectors' item; it now sells for thousands of dollars in the rare book market while the author-redesigned paperback has remained continuously in print at a price affordable to students. Now, decades after the original hardcover edition sold out, the MIT Press is publishing a facsimile edition of the original large format edition of *Learning from Las Vegas*, complete with translucent glassine wrap. This edition also features a spirited preface by Denise Scott Brown, looking back on the creation of the book and explaining her and Robert Venturi's reservations about the original design.

Learning from Las Vegas begins with the Las Vegas Strip and proceeds to "Ugly and Ordinary Architecture, or the Decorated Shed," on symbolism in architecture and the iconography of urban sprawl. As Scott Brown says in her preface, the book "upended sacred cows. . . would not bad-mouth bad taste, and redefined architectural research."

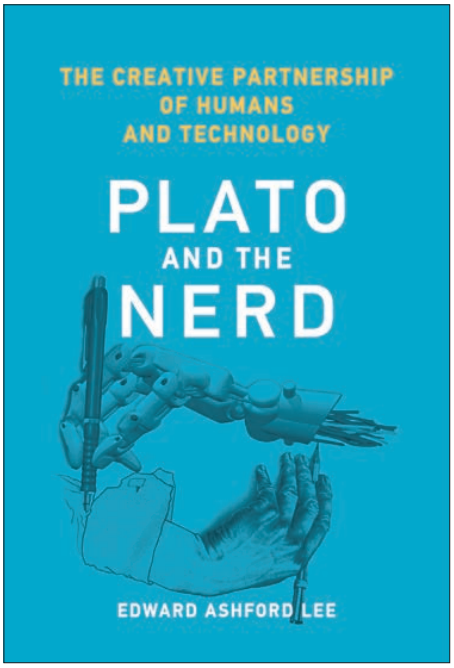
Robert Venturi is an award-winning architect and a writer, teacher, artist, and designer. **Denise Scott Brown** is an architect, writer, and planner. She and Robert Venturi are founding principals of the influential architectural firm Venturi, Scott Brown, and Associates (VSBA), whose work and ideas have influenced generations of architects and planners. **Steven Izenour** (1940–2001) was an architect and Principal in Venturi, Scott Brown, and Associates.

A fascimile edition of the long-out-of-print large-format edition designed by design icon Muriel Cooper.

October
10 1/2 x 14, 208 pp.
100 color illus., 356 b&w illus.

$100.00T/£83.95 cloth
978-0-262-03696-2

science | technology



How humans and technology evolve together in a creative partnership.

September
6 x 9, 296 pp.
60 illus.

$29.95T/£24.95 cloth
978-0-262-03648-1

Plato and the Nerd

The Creative Partnership of Humans and Technology

Edward Ashford Lee

In this book, Edward Ashford Lee makes a bold claim: that the creators of digital technology have an unsurpassed medium for creativity. Technology has advanced to the point where progress seems limited not by physical constraints but the human imagination. Writing for both literate technologists and numerate humanists, Lee makes a case for engineering—creating technology—as a deeply intellectual and fundamentally creative process. Explaining why digital technology has been so transformative and so liberating, Lee argues that the real power of technology stems from its partnership with humans.

Lee explores the ways that engineers use models and abstraction to build inventive artificial worlds and to give us things that we never dreamed of—for example, the ability to carry in our pockets everything humans have ever published. But he also attempts to counter the runaway enthusiasm of some technology boosters who claim everything in the physical world is a computation—that even such complex phenomena as human cognition are software operating on digital data. Lee argues that the evidence for this is weak, and the likelihood that nature has limited itself to processes that conform to today's notion of digital computation is remote.

Lee goes on to argue that artificial intelligence's goal of reproducing human cognitive functions in computers vastly underestimates the potential of computers. In his view, technology is coevolving *with* humans. It augments our cognitive and physical capabilities while we nurture, develop, and propagate the technology itself. Complementarity is more likely than competition.

Edward Ashford Lee is the Robert S. Pepper Distinguished Professor in the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley, and the coauthor (with Sanjit Arunkumar Seshia) of *Introduction to Embedded Systems: A Cyber-Physical Systems Approach*.

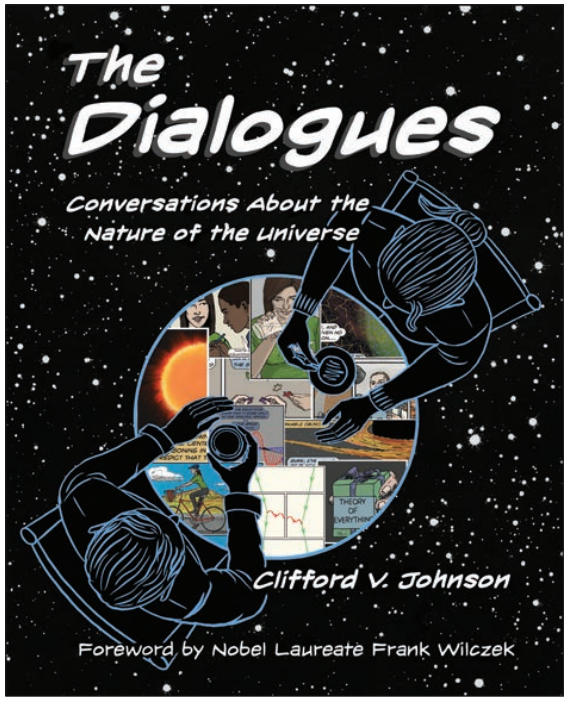
science | graphic novels

The Dialogues

Conversations about the Nature of the Universe

Clifford V. Johnson

foreword by Frank Wilczek, 2004 Nobel Laureate in Physics



Physicist Clifford Johnson thinks that we should have more conversations about science. Science should be on our daily conversation menu, along with topics like politics, books, sports, or the latest prestige cable drama. Conversations about science, he tells us, shouldn't be left to the experts. In *The Dialogues*, Johnson invites us to eavesdrop on a series of nine conversations, in graphic-novel form—written and drawn by Johnson—about "the nature of the universe." The conversations take place all over the world, in museums, on trains, in restaurants, in what may or may not be Freud's favorite coffee house. The conversationalists are men, women, children, experts, and amateur science buffs. The topics of their conversations range from the science of cooking to the multiverse and string theory. The graphic form is especially suited for physics; one drawing can show what it would take many words to explain.

In the first conversation, a couple meets at a costume party; they speculate about a scientist with superhero powers who doesn't use them to fight crime but to do more science, and they discuss what it means to have a "beautiful equation" in science. Their conversation spills into another chapter ("Hold on, you haven't told me about light yet!"), and in a third chapter they exchange phone numbers. Another couple meets on a train and discusses immortality, time, black holes, and religion. A brother and sister experiment with a grain of rice. Two women sit in a sunny courtyard and discuss the multiverse, quantum gravity, and the anthropic principle. Having read these conversations, we are ready to start our own.

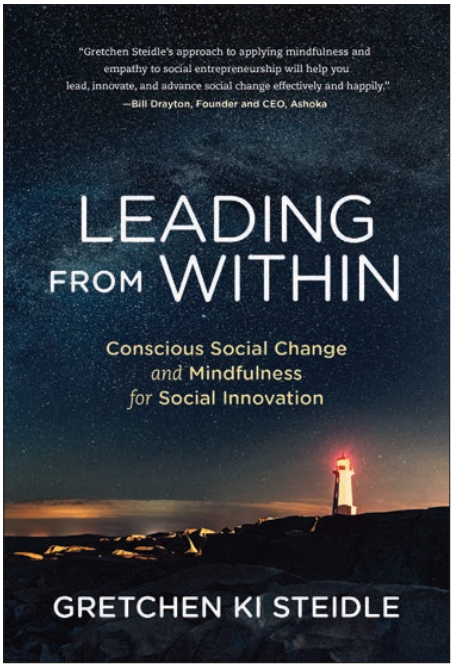
Clifford V. Johnson, Professor of Physics at the University of Southern California, gives many public lectures about his research and appears often in television documentaries as an expert. He has been science advisor for several movies and television series, including Marvel's *Thor: Ragnarok* and the National Geographic Channel's *Genius*.

A series of conversations about science in graphic form, on subjects that range from the science of cooking to the multiverse.

November
8 1/4 x 10 1/4, 248 pp.
248 color illus.

$29.95T/£24.95 cloth
978-0-262-03723-5

management | psychology



Leading from Within

Conscious Social Change and Mindfulness for Social Innovation

Gretchen Ki Steidle

Gretchen Steidle knows first hand the personal transformation that mindfulness practice can bring. But she doesn't believe that transformation stops at personal wellbeing. In *Leading from Within*, Steidle describes the ways that personal investment in self-awareness shapes leaders who are able to inspire change in others, build stronger relationships, and design innovative and more sustainable solutions. Steidle argues that both personal and societal transformation are essential for a just society, and with this book she offers a roadmap for integrating mindfulness into every aspect of social change. Conventional methods attempt to compel people to change through incentives or punitive measures. Conscious social change calls for leading with a deeper human understanding of change and compassion for the needs and perspectives of all stakeholders.

Steidle offers mindfulness practices for individuals and groups, presents the neuroscientific evidence for its benefits, and argues for its relevance to social change. She describes five capacities of conscious social change, devoting a chapter to each. She writes about her own experiences, including her work helping women to found their own grassroots social ventures in post-conflict Africa. She describes the success of a group of rural, uneducated women in Rwanda, for example, who now provide 9,000 villagers with clean water, ending the sexual exploitation of disabled women unable to collect water on their own. Steidle also draws from the work of change agents in the United States to showcase applications of conscious social change to timely issues like immigration, racism, policing, and urban violence. Through personal stories and practical guidance, Steidle delivers both the inspiration and tools of this innovative approach to social transformation.

A roadmap for integrating mindfulness into every aspect of social change: how to lead transformation with compassion for the needs and perspectives of all people.

October
6 x 9, 256 pp.
6 illus.

$29.95T/£24.95 cloth
978-0-262-03719-8

Gretchen Ki Steidle is Founder and President of Global Grassroots, a nonprofit organization that works with women and girls to be leaders of conscious social change in their communities. She gives lectures and workshops worldwide.

"Gretchen Steidle's approach to applying mindfulness and empathy to social entrepreneurship will help you lead, innovate, and advance social change effectively and happily."
—Bill Drayton, Founder and CEO, Ashoka

FIVE CAPACITIES OF CONSCIOUS SOCIAL CHANGE

Cultivating Presence | What is happening?

Becoming Whole | What is true?

Ensuring Balance | What is needed?

Engaging Mindfully | What is helpful?

Leading from Within | What is possible?

science | Buddhism

Beyond the Self

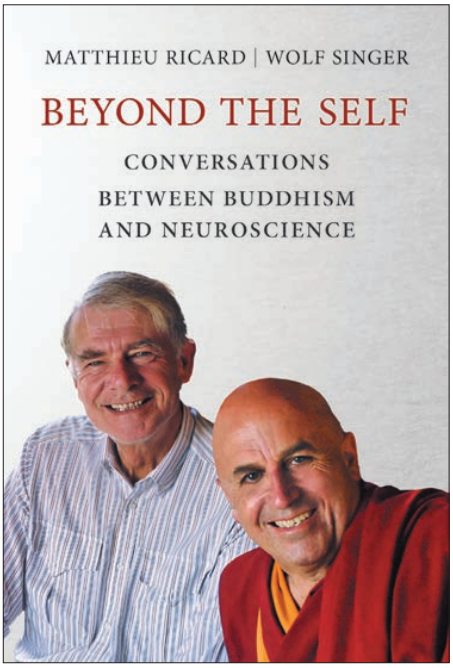
Conversations between Buddhism and Neuroscience

Matthieu Ricard and Wolf Singer

Buddhism shares with science the task of examining the mind empirically; it has pursued, for two millennia, direct investigation of the mind through penetrating introspection. Neuroscience, on the other hand, relies on third-person knowledge in the form of scientific observation. In this book, Matthieu Ricard, a Buddhist monk trained as a molecular biologist, and Wolf Singer, a distinguished neuroscientist—close friends, continuing an ongoing dialogue—offer their perspectives on the mind, the self, consciousness, the unconscious, free will, epistemology, meditation, and neuroplasticity.

Ricard and Singer's wide-ranging conversation stages an enlightening and engaging encounter between Buddhism's wealth of experiential findings and neuroscience's abundance of experimental results. They discuss, among many other things, the difference between rumination and meditation (rumination is the scourge of meditation, but psychotherapy depends on it); the distinction between pure awareness and its contents; the Buddhist idea (or lack of one) of the unconscious and neuroscience's precise criteria for conscious and unconscious processes; and the commonalities between cognitive behavioral therapy and meditation. Their views diverge (Ricard asserts that the third-person approach will never encounter consciousness as a primary experience) and converge (Singer points out that the neuroscientific understanding of perception as reconstruction is very like the Buddhist *all-discriminating* wisdom) but both keep their vision trained on understanding fundamental aspects of human life.

Matthieu Ricard, a Buddhist monk, trained as a molecular biologist before moving to Nepal to study Buddhism. He is the author (with his father, Jean-François Revel) of *The Monk and the Philosopher*, *The Quantum and the Lotus* (with Trinh Thuan), *Happiness, The Art of Meditation*, *Altruism: The Power of Compassion*, and *A Plea for the Animals*. He has published several books of photography, including *Motionless Journey* and *Tibet: An Inner Journey*, and is the French interpreter for the Dalai Lama. **Wolf Singer**, a neuroscientist, is Emeritus Director of the Max Planck Institute for Brain Research and Founding Director of the Frankfurt Institute for Advanced Studies, the Ernst Strüngmann Institute for Neuroscience in cooperation with Max Planck Society, and the Ernst Strüngmann Forum.

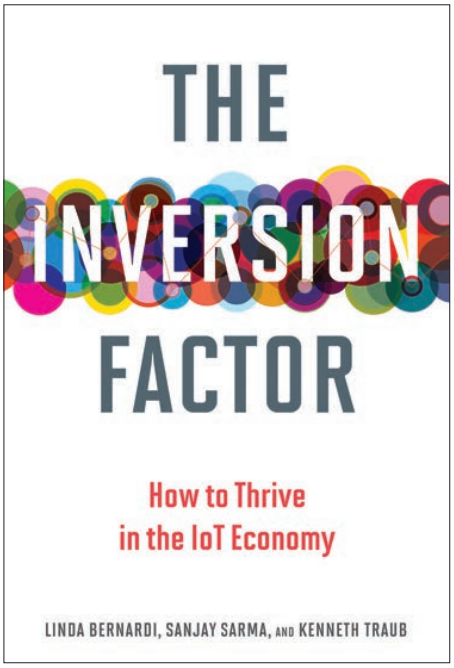


Converging and diverging views on the mind, the self, consciousness, the unconscious, free will, perception, meditation, and other topics.

November
6 x 9, 312 pp.

$29.95T/£24.95 cloth
978-0-262-03694-8

business | technology



Why companies need to move away from a "product first" orientation to pursuing innovation based on customer need.

October
6 x 9 , 192 pp.

$29.95T/£24.95 cloth
978-0-262-03727-3

The Inversion Factor

How to Thrive in the IoT Economy

Linda Bernardi, Sanjay Sarma, and Kenneth Traub

In the past, companies found success with a product-first orientation; they made a thing that did a thing. *The Inversion Factor* explains why the companies of today and tomorrow will have to abandon the product-first orientation. Rather than asking "How do the products we make meet customer needs?" companies should ask "How can technology help us reimagine and fill a need?" Zipcar, for example, instead of developing another vehicle for moving people from point A to point B, reimagined how people interacted with vehicles. Zipcar inverted the traditional car company mission.

The authors explain how the introduction of "smart" objects connected by the Internet of Things signals fundamental changes for business. The IoT, where real and digital coexist, is powering new ways to meet human needs. Companies that know this include giants like Amazon, Airbnb, Uber, Google, Tesla, and Apple, as well as less famous companies like Tile, Visenti, and Augury. *The Inversion Factor* offers a roadmap for businesses who want to follow in their footsteps.

The authors chart the evolution of three IoTs—the Internet of Things (devices connected to the Internet), the Intelligence of Things (devices that host software applications), and the Innovation of Things (devices that become experiences). Finally, they offer a blueprint for businesses making the transition to inversion and interviews with leaders of major companies and game-changing startups.

Linda Bernardi is a serial technology entrepreneur and author. Formerly Chief Innovation Officer for IoT & Cloud at IBM, she runs the technology strategy firm StraTerra Partners. **Sanjay Sarma** is Vice President for Open Learning and Fred Fort Flowers (1941) and Daniel Fort Flowers (1941) Professor of Mechanical Engineering at MIT. The late **Kenneth Traub**, a consultant with thirty years of experience in software engineering, was the cofounder or technical advisor to five high technology startups.

urbanism | technology

Faster, Smarter, Greener

The Future of the Car and Urban Mobility

Venkat Sumantran, Charles Fine, and David Gonsalvez

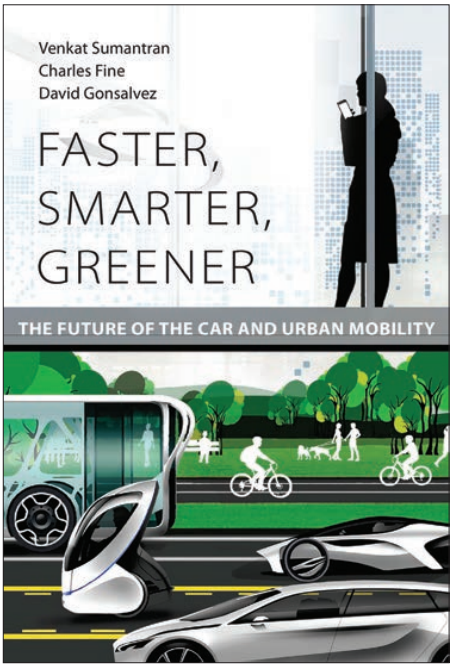
The twentieth century was the century of the automobile; the twenty-first will see mobility dramatically re-envisioned. Automobiles altered cityscapes, boosted economies, and made personal mobility efficient and convenient for many. We had a century-long love affair with the car. But today, people are more attached to their smartphones than their cars. Cars are not always the quickest mode of travel in cities; and emissions from the rapidly growing number of cars threaten the planet. This book, by three experts from industry and academia, envisions a new world of mobility that is *connected*, *heterogeneous*, *intelligent*, and *personalized* (the CHIP architecture).

The authors describe the changes that are coming. City administrators are shifting from designing cities for cars to designing cities for people. Nations and cities will increasingly employ targeted user fees and offer subsidies to nudge consumers toward more sustainable modes. The sharing economy is coaxing many consumers to shift from being owners of assets to being users of services. The auto industry is responding with connected cars that double as virtual travel assistants and by introducing autonomous driving.

The CHIP architecture embodies an integrated, multimode mobility system that builds on ubiquitous connectivity, electrified and autonomous vehicles, and a marketplace open to innovation and entrepreneurship. Consumers will exercise choice on the basis of user experience and efficiency, aided by "intelligent advisors," accessible through their mobile devices.

An innovative mobility architecture reconfigured for this century is a social and economic necessity; this book charts a course for achieving it.

Venkat Sumantran is Chairman of Celeris Technologies, with more than thirty years of experience heading organizations in the auto industry in the United States, Europe, and Asia. **Charles Fine** is Chrysler LGO Professor at MIT Sloan and the Founding President of the Asia School of Business, Kuala Lumpur. **David Gonsalvez** is CEO and Rector at MIT's Malaysia Institute for Supply Chain Innovation.

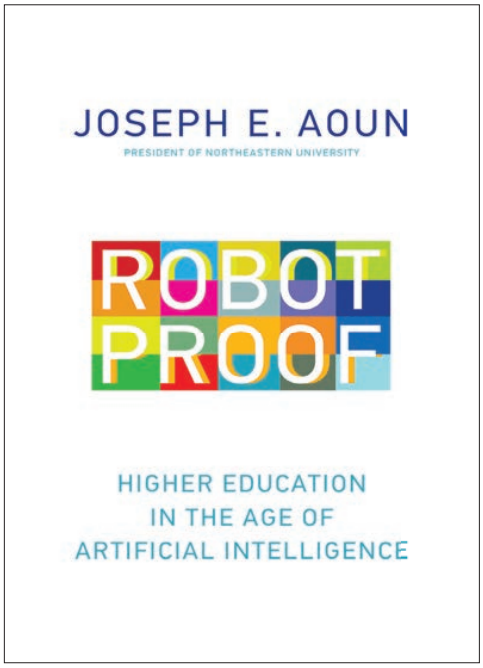


A call to redefine mobility so that it is connected, heterogeneous, intelligent, and personalized, as well as sustainable, adaptable, and city-friendly.

October
6 x 9, 328 pp.
58 illus.

$29.95T/£24.95 cloth
978-0-262-03666-5

higher education



How to educate the next generation of college students to invent, to create, and to discover—filling needs that even the most sophisticated robot cannot.

September
5 3/8 x 8, 152 pp.

$24.95/£19.95 cloth
978-0-262-03728-0

Robot-Proof

Higher Education in the Age of Artificial Intelligence

Joseph E. Aoun

Driverless cars are hitting the road, powered by artificial intelligence. Robots can climb stairs, open doors, win *Jeopardy*, analyze stocks, work in factories, find parking spaces, advise oncologists. In the past, automation was considered a threat to low-skilled labor. Now, many high-skilled functions, including interpreting medical images, doing legal research, and analyzing data, are within the skill sets of machines. How can higher education prepare students for their professional lives when professions themselves are disappearing? In *Robot-Proof*, Northeastern University president Joseph Aoun proposes a way to educate the next generation of college students to invent, to create, and to discover—to fill needs in society that even the most sophisticated artificial intelligence agent cannot.

A "robot-proof" education, Aoun argues, is not concerned solely with topping up students' minds with high-octane facts. Rather, it calibrates them with a creative mindset and the mental elasticity to invent, discover, or create something valuable to society—a scientific proof, a hip-hop recording, a web comic, a cure for cancer. Aoun lays out the framework for a new discipline, *humanics*, which builds on our innate strengths and prepares students to compete in a labor market in which smart machines work alongside human professionals. The new literacies of Aoun's humanics are *data literacy*, *technological literacy*, and *human literacy*. Students will need data literacy to manage the flow of big data, and technological literacy to know how their machines work, but human literacy—the humanities, communication, and design—to function as a human being. Life-long learning opportunities will support their ability to adapt to change.

The only certainty about the future is change. Higher education based on the new literacies of humanics can equip students for living and working through change.

Joseph E. Aoun is President of Northeastern University.

education

Lifelong Kindergarten

Cultivating Creativity through Projects, Passion, Peers, and Play

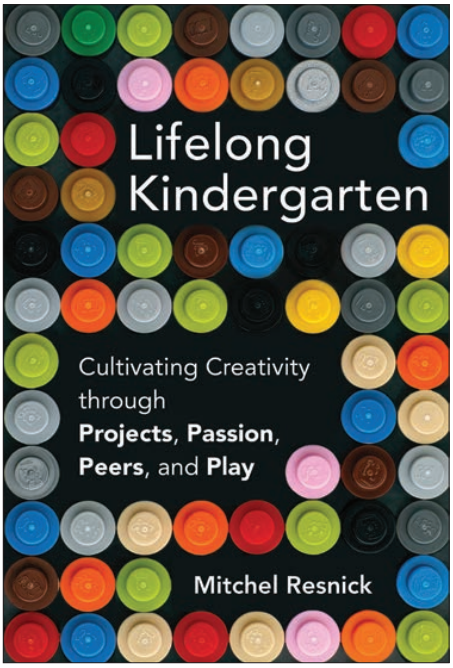
Mitchel Resnick

foreword by Sir Ken Robinson

In kindergartens these days, children spend more time with math worksheets and phonics flashcards than building blocks and finger paint. Kindergarten is becoming more like the rest of school. In *Lifelong Kindergarten*, learning expert Mitchel Resnick argues for the opposite: the rest of school (and even the rest of life) should be more like kindergarten. Most schools focus on teaching children to follow rules and instructions, a remnant of a bygone assembly-line era. To thrive in today's fast-changing world, people of all ages must learn to think and act creatively—and the best way to do that is through a kindergarten-style approach to making, experimenting, and collaborating, just as children do in traditional kindergartens.

Drawing on experiences from more than thirty years at MIT's Media Lab, Resnick discusses new technologies and strategies for engaging young people in creative learning experiences. He tells stories of how children are programming their own games, stories, and inventions (for example, a diary security system, created by a twelve-year-old girl), and collaborating through remixing, crowdsourcing, and large-scale group projects (such as a Halloween-themed game called *Night at Dreary Castle*, produced by more than twenty kids scattered around the world). By providing young people with opportunities to work on projects, based on their passions, in collaboration with peers, in a playful spirit, we can help them prepare for a world where creative thinking is more important than ever before.

Mitchel Resnick, an expert in educational technologies, is Professor of Learning Research at the MIT Media Lab. He has worked closely with the LEGO toy company for thirty years, collaborating with them on such innovative projects as the LEGO Mindstorms robotics kits, and he holds the LEGO endowed chair at MIT. He leads the team developing the Scratch programming software and online community, and he is cofounder of the Computer Clubhouse project, a network of after-school learning centers for youth from low-income communities.



How lessons from kindergarten can help everyone develop the creative thinking skills needed to thrive in today's society.

September
5 3/8 x 8, 192 pp.
7 illus.

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978-0-262-03729-7

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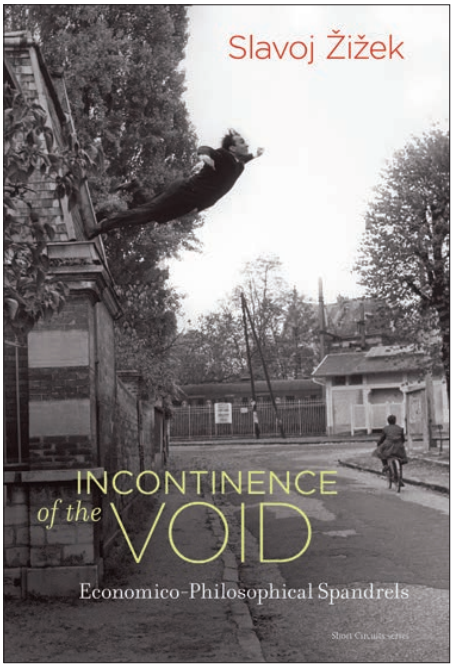
philosophy



Incontinence of the Void

Economico-Philosophical Spandrels

Slavoj Žižek

If the most interesting theoretical interventions emerge today from the interspaces between fields, then the foremost interspaceman is Slavoj Žižek. In *Incontinence of the Void* (the title is inspired by a sentence in Samuel Beckett's late masterpiece *Ill Seen Ill Said*), Žižek explores the empty spaces between philosophy, psychoanalysis, and the critique of political economy. He proceeds from the universal dimension of philosophy to the particular dimension of sexuality to the singular dimension of the critique of political economy. The passage from one dimension to another is immanent: the ontological void is accessible only through the impasses of sexuation and the ongoing prospect of the abolition of sexuality, which is itself opened up by the technoscientific progress of global capitalism, in turn leading to the critique of political economy.

Responding to his colleague and fellow Short Circuits author Alenka Zupančič's *What* Is *Sex*?, Žižek examines the notion of an excessive element in ontology that gives body to radical negativity, which becomes the antagonism of sexual difference. From the economico-philosophical perspective, Žižek extrapolates from ontological excess to Marxian surplus value to Lacan's surplus enjoyment. In true Žižekian fashion, *Incontinence of the Void* focuses on eternal topics while detouring freely into contemporary issues from the Internet of Things to Danish TV series.

Slavoj Žižek, a philosopher and cultural critic, is Senior Researcher in the Department of Philosophy at the University of Ljubljana, Global Distinguished Professor of German at New York University, and International Director of the Birkbeck Institute for the Humanities at the University of London. He is the author of more than thirty books, including *Looking Awry: An Introduction to Jacques Lacan through Popular Culture*, *The Puppet and the Dwarf: The Perverse Core of Christianity*, *The Parallax View*, *The Monstrosity of Christ: Paradox or Dialectic* (with John Milbank), and *Žižek's Jokes (Did you hear the one about Hegel and negation?)*, all published by the MIT Press.

The "formidably brilliant" Žižek considers sexuality, ontology, subjectivity, and Marxian critiques of political economy by way of Lacanian psychoanalysis.

October
6 x 9, 400 pp.
1 illus.

$29.95T/£24.95 cloth
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Short Circuits series

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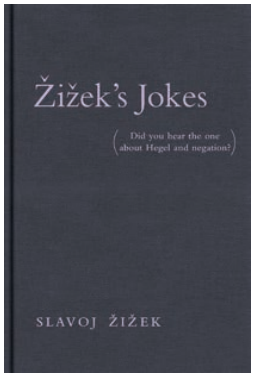


philosophy | psychoanalysis

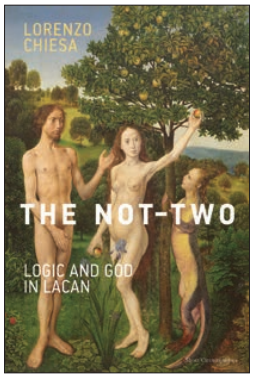
WHAT IS SEX?

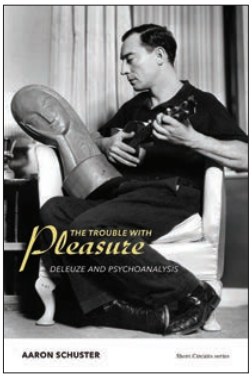
Alenka Zupančič

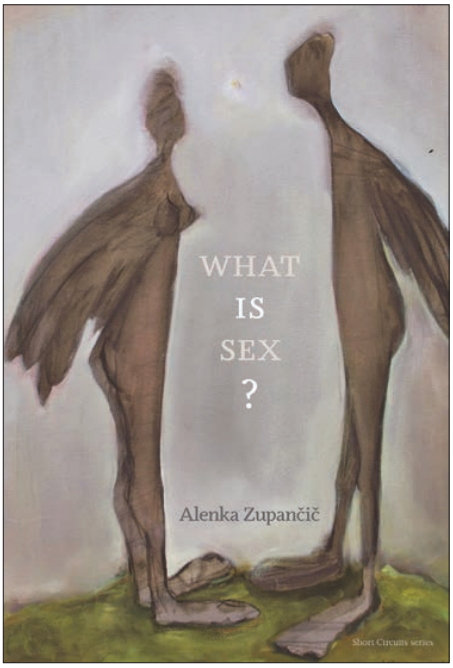
Consider sublimation—conventionally understood as a substitute satisfaction for missing sexual satisfaction. But what if, as Lacan claims, we can get exactly the same satisfaction that we get from sex by talking (or writing, painting, praying, or other activities)? The point is not to explain that the satisfaction we get from talking comes from its sexual origin, but rather to understand that the satisfaction from talking is *itself* sexual. Indeed, the satisfaction afforded by talking contains a key to sexual satisfaction (and not the other way around)—even a key to sexuality itself and its inherent contradictions. The Lacanian perspective would make the answer to the simple-seeming question, "What is sex?" rather more complex. Alenka Zupančič approaches the question from just this perspective, considering sexuality a properly philosophical problem for psychoanalysis; and by psychoanalysis, she means that of Freud and Lacan, not that of the kind of clinician practitioners called by Lacan "orthopedists of the unconscious."

Zupančič argues that sexuality is at the point of a "short circuit" between ontology and epistemology. Sexuality and knowledge are structured around a fundamental negativity, which unites them at the point of the unconscious. The unconscious (as linked to sexuality) is the concept of an inherent link between being and knowledge in their very negativity.

Alenka Zupančič, a Slovenian psychoanalytic theorist and philosopher, teaches at the European Graduate School and is a researcher at the Institute of Philosophy at the Slovenian Academy of Sciences and the Arts. She is the author of *The Shortest Shadow: Nietzsche's Philosophy of the Two* and *The Odd One In: On Comedy,* both in the Short Circuits series, published by the MIT Press.







Why sexuality is at the point of a "short circuit" between ontology and epistemology.

September
6 x 9, 208 pp.
6 illus.

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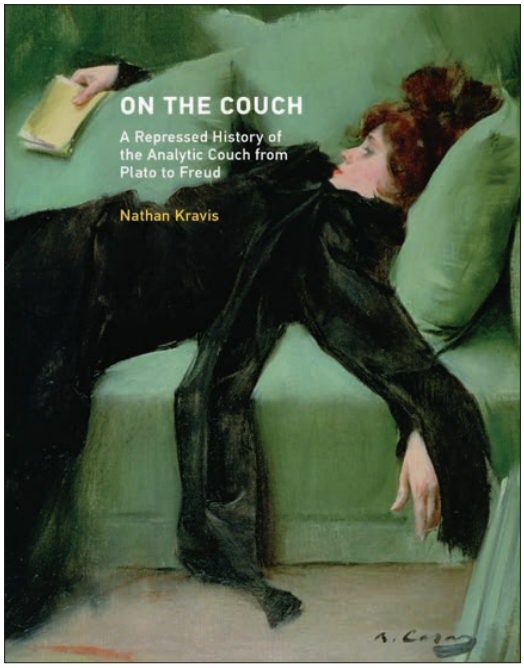
cultural history | psychoanalysis



On the Couch

A Repressed History of the Analytic Couch from Plato to Freud

Nathan Kravis

The peculiar arrangement of the psychoanalyst's office for an analytic session seems inexplicable. The analyst sits in a chair out of sight while the patient lies on a couch facing away. It has been this way since Freud, although, as Nathan Kravis points out in *On the Couch*, this practice is grounded more in the cultural history of reclining posture than in empirical research. Kravis, himself a practicing psychoanalyst, shows that the tradition of recumbent speech wasn't dreamed up by Freud but can be traced back to ancient Greece, where guests reclined on couches at the *symposion* (a gathering for upper-class males to discuss philosophy and drink wine), and to the Roman *convivium* (a banquet at which men and women reclined together). From bed to bench to settee to chaise-longue to sofa: Kravis tells us how the couch became an icon of self-knowledge and self-reflection as well as a site for pleasure, privacy, transgression, and healing.

Kravis draws on sources that range from ancient funerary monuments to furniture history to early photography, as well as histories of medicine, fashion, and interior decoration, and he deploys an astonishing array of images: paintings, monuments, sculpture, photographs, illustrations, *New Yorker* cartoons, and advertisements. Kravis deftly shows that, despite the ambivalence of today's psychoanalysts—some of whom regard it as "infantilizing"—the couch continues to be the emblem of a narrative of self-discovery. Recumbent speech represents the affirmation in the presence of another of having a mind of one's own.

How the couch became an icon of self-knowledge and self-reflection as well as a site for pleasure, transgression, and healing.

September
7 x 9, 224 pp.
124 color illus., 48 b&w illus.

$29.95T/£24.95 cloth
978-0-262-03661-0

Nathan Kravis is Clinical Professor of Psychiatry at Weill Cornell Medical College, where he is also Associate Director of the DeWitt Wallace Institute for the History of Psychiatry, and Training and Supervising Analyst at the Columbia University Center for Psychoanalytic Training and Research.

philosophy | memoir

Bark

Georges Didi-Huberman
translated by Samuel E. Martin

I walked among the birches of Birkenau on a beautiful day in June.
–***Bark***

On a visit to Auschwitz-Birkenau, Georges Didi-Huberman tears three pieces of bark from birch trees on the edge of the site. Looking at these pieces after his return home, he sees them as letters, a flood, a path, time, memory, flesh. The bark serves as a springboard to Didi-Huberman's meditations on his visit, recorded in this spare, poetic, and powerful book. *Bark* is a personal account, drawing not on the theoretical apparatus of scholarship but on Didi-Huberman's own history, memory, and knowledge.

The text proceeds as a series of reflections, accompanied by Didi-Huberman's photographs of the visit. The photographs are not meant to be art—Didi-Huberman confesses that he "practically photographed everything without looking"—but become it nevertheless. Didi-Huberman tells us that his grandparents died at Auschwitz, but his account is more universal than biographical. As he walks from place to place, he observes that in German birches are *birken*; *Birkenau* designates the meadow where the birches grow. Didi-Huberman sees and photographs the "reconstructed" execution wall; the floors of the crematorium, forgotten witnesses to killing; and the birch trees, lovely but also resembling prison bars. Taking his own photographs, he thinks of the famous photographs taken in 1944 by a member at the *Sonderkommando*, the only photographic documentation of the camp before the Germans destroyed it, hoping to hide the evidence of their crimes. Didi-Huberman notices a "bizarre proliferation of white flowers on the exact spot of the cremation pits." The dead are not departed.

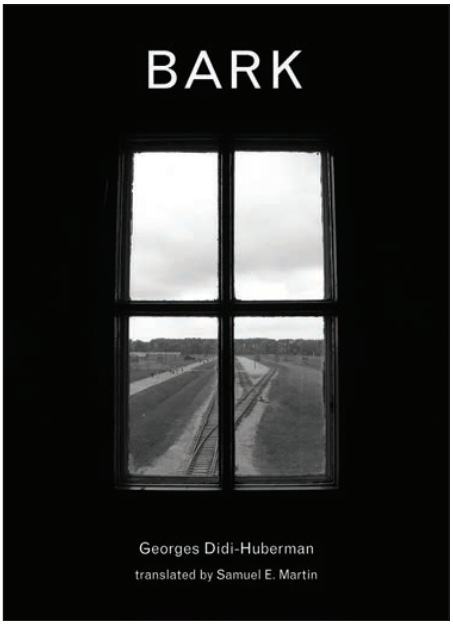
Georges Didi-Huberman, a philosopher and art historian based in Paris, teaches at the École des Hautes Études en Sciences Sociales. Recipient of the 2015 Adorno Prize, he is the author of more than forty books on the history and theory of images, including *Invention of Hysteria: Charcot and the Photographic Iconography of the Salpêtrière* (MIT Press) and *Images in Spite of All: Four Photographs from Auschwitz*, about the *Sonderkommando* photographs.

Praise for the French edition

"This book of a mere 70 pages, which cannot be said to make excessive demands of the reader, opens up vast perspectives, and is overwhelming."
—Florence Trocmé, *Poezibao*

"*Bark* is a slim, poignant, controlled narrative, yet is presented as an irrepressible and unpremeditated stream of writing."
—Guylaine Massoutre, *Le Devoir*

"*Bark* is the exploration of a gaze, and the exploration, through looking, of what is looked at. What is looked at are photographs, as well as a place: Auschwitz-Birkenau."
—Jean-Philippe Cazier, *Mediapart*



A noted French thinker's poignant reflections, in words and photographs, on his visit to Auschwitz-Birkenau.

September
5 x 7, 120 pp.
19 illus.

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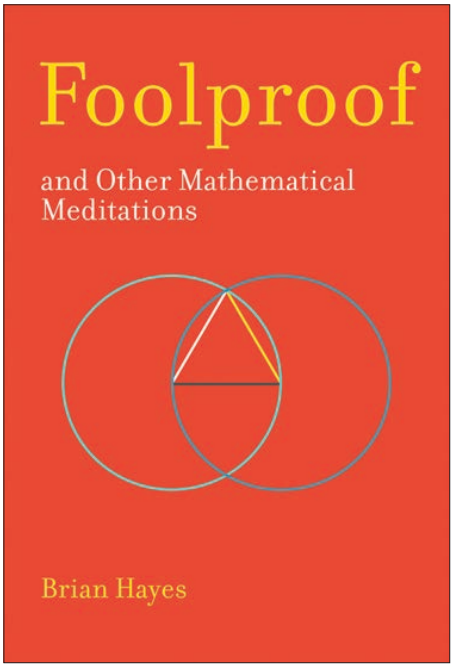
978-0-262-03684-9

mathematics



A non-mathematician explores mathematical terrain, reporting accessibly and engagingly on topics from Sudoku to probability.

October
6 x 9, 240 pp.
69 illus.

$24.95T/£19.95 cloth
978-0-262-03686-3

Foolproof, and Other Mathematical Meditations

Brian Hayes

Brian Hayes wants to convince us that mathematics is too important and too much fun to be left to the mathematicians. *Foolproof, and Other Mathematical Meditations* is his entertaining and accessible exploration of mathematical terrain both far-flung and nearby, bringing readers tidings of mathematical topics from Markov chains to Sudoku. Hayes, a non-mathematician, argues that mathematics is not only an essential tool for understanding the world but also a world unto itself, filled with objects and patterns that transcend earthly reality. In a series of essays, Hayes sets off to explore this exotic terrain, and takes the reader with him.

Math has a bad reputation: dull, difficult, detached from daily life. As a talking Barbie doll opined, "Math class is tough." But Hayes makes math fun. Whether he's tracing the genealogy of a well-worn anecdote about a famous mathematical prodigy, or speculating about what would happen to a lost ball in the nth dimension, or explaining that there are such things as quasirandom numbers, Hayes wants readers to share his enthusiasm. That's why he imagines a cinematic treatment of the discovery of the Riemann zeta function ("The year: 1972. The scene: Afternoon tea in Fuld Hall at the Institute for Advanced Study in Princeton, New Jersey"), explains that there is math in Sudoku after all, and describes better-than-average averages. Even when some of these essays involve a hike up the learning curve, the view from the top is worth it.

Brian Hayes is Senior Contributing Writer at *American Scientist*. His writing has appeared in *Scientific American, The Sciences, Wired,* the *New York Times Book Review*, the *New Republic,* and other publications.

math | computer science

Once Upon an Algorithm

How Stories Explain Computing

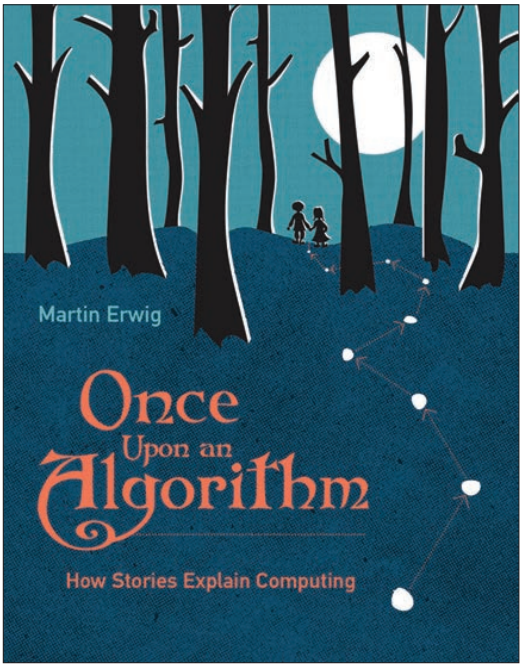
Martin Erwig

Picture a computer scientist, staring at a screen and clicking away frantically on a keyboard, hacking into a system, or perhaps developing an app. Now delete that picture. In *Once Upon an Algorithm*, Martin Erwig explains computation as something that takes place beyond electronic computers, and computer science as the study of systematic problem solving. Erwig points out that many daily activities involve problem solving. Getting up in the morning, for example: You get up, take a shower, get dressed, eat breakfast. This simple daily routine solves a recurring problem through a series of well-defined steps. In computer science, such a routine is called an algorithm.

Erwig illustrates a series of concepts in computing with examples from daily life and familiar stories. Hansel and Gretel, for example, execute an algorithm to get home from the forest. The movie *Groundhog Day* illustrates the problem of unsolvability; Sherlock Holmes manipulates data structures when solving a crime; the magic in Harry Potter's world is understood through types and abstraction; and Indiana Jones demonstrates the complexity of searching. Along the way, Erwig also discusses representations and different ways to organize data; "intractable" problems; language, syntax, and ambiguity; control structures, loops, and the halting problem; different forms of recursion; and rules for finding errors in algorithms.

This engaging book explains computation accessibly and shows its relevance to daily life. Something to think about next time we execute the algorithm of getting up in the morning.

Martin Erwig is Professor of Computer Science in the School of Electrical Engineering and Computer Science at Oregon State University.



How Hansel and Gretel, Sherlock Holmes, the movie *Groundhog Day*, Harry Potter, and other familiar stories illustrate the concepts of computing.

September
7 x 9, 336 pp.
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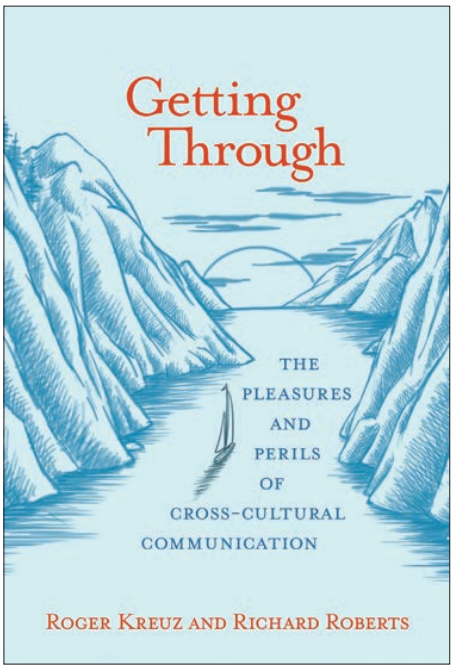
communication | travel



Getting Through

The Pleasures and Perils of Cross-Cultural Communication

Roger Kreuz and Richard Roberts

We can learn to speak other languages, but do we truly understand what we are saying? How much detail should we offer when someone asks how we are? How close should we stand to our conversational partners? Is an invitation genuine or just pro forma? So much of communication depends on culture and context. In *Getting Through*, Roger Kreuz and Richard Roberts offer a guide to understanding and being understood in different cultures. Drawing on research from psychology, linguistics, sociology, and other fields, as well as personal experience, anecdotes, and popular culture, Kreuz and Roberts describe cross-cultural communication in terms of pragmatics—exploring how language is used and not just what words mean.

Sometimes this is easy to figure out. If someone hisses "I'm fine!" though clenched teeth, we can assume that she's not really fine. But sometimes the context, cultural or otherwise, is more nuanced. For example, a visitor from another country might be taken aback when an American offers a complaint ("Cold out today!") as a greeting. And should you apologize the same way in Tokyo as you would in Toledo? Kreuz and Roberts help us navigate such subtleties. It's a fascinating way to think about human interaction, but it's not purely academic: The more we understand one another, the better we can communicate, and the better we can communicate, the more we can avoid conflict.

Understanding how culture affects the ways we communicate—how we tell jokes, greet, ask questions, hedge, apologize, compliment, and so much more.

Roger Kreuz is Associate Dean and Professor of Psychology at the College of Arts and Sciences at the University of Memphis. **Richard Roberts**, a Foreign Service Officer in the US Department of State, taught psychology in Europe and Asia with the University of Maryland University College. Kreuz and Roberts are the authors of *Becoming Fluent: How Cognitive Science Can Help Adults Learn a Foreign Language*.

September
5 3/8 x 8, 304 pp.
17 illus.

$27.95T/£22.95 cloth
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Becoming Fluent
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Richard M. Roberts and Roger J. Kreuz
978-0-262-52980-8
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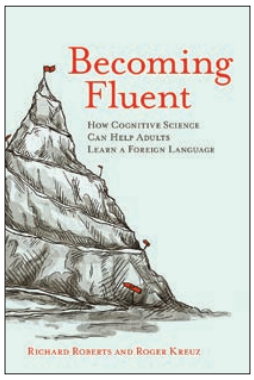


philosophy | cognitive science

Brainstorms

Philosophical Essays on Mind and Psychology

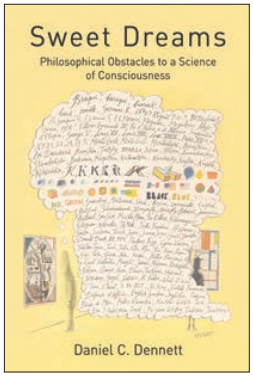
Daniel C. Dennett

Fortieth anniversary edition
with a new introduction by the author

When *Brainstorms* was published in 1978, the interdisciplinary field of cognitive science was just emerging. Daniel Dennett was a young scholar who wanted to get philosophers out of their armchairs—and into conversations with psychologists, linguists, computer scientists. This collection of seventeen essays by Dennett offers a comprehensive theory of mind, encompassing traditional issues of consciousness and free will. Using careful arguments and ingenious thought experiments, the author exposes familiar preconceptions and hobbling intuitions. The essays are grouped into four sections: "Intentional Explanation and Attributions of Mentality"; "The Nature of Theory in Psychology"; "Objects of Consciousness and the Nature of Experience"; and "Free Will and Personhood."

This anniversary edition includes a new introduction by Dennett, "Reflections on *Brainstorms* after Forty Years," in which he recalls the book's original publication by Harry and Betty Stanton of Bradford Books and considers the influence and afterlife of some of the essays. For example, "Mechanism and Responsibility" was Dennett's first articulation of his concept of the intentional stance; "Are Dreams Experiences?" anticipates the major ideas in his 1991 book *Consciousness Explained*; and "Where Am I?" has been variously represented in a BBC documentary, a student's Javanese shadow puppet play, and a feature-length film made in the Netherlands, *Victim of the Brain*.

Daniel C. Dennett is University Professor and Codirector of the Center for Cognitive Studies at Tufts University. He is the author of *Brainchildren: Essays on Designing Minds*; *Sweet Dreams: Philosophical Obstacles to a Science of Consciousness*; *Elbow Room: The Varieties of Free Will Worth Wanting* (all published by the MIT Press), *From Bacteria to Bach and Back: The Evolution of Mind*, and other books.



An anniversary edition of a classic in cognitive science, with a new introduction by the author.

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6 x 9, 424 pp.
10 illus.

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psychology | self-help | photography

Photographs and stories of people who have coped with and overcome depression, anxiety, trauma, and other challenges.

October
9 x 12, 136 pp.

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Portraits of Resilience

Daniel Jackson
foreword by David A. Karp

More than 15 million American adults grapple with depression in a given year. Anxiety disorders affect 40 million Americans over the age of 18. And yet these diseases are often invisible, hidden, unacknowledged. In *Portraits of Resilience*, people coping with depression, anxiety, and other challenges step out of the shadows to meet us face to face. A series of photographic portaits conveys their charisma, strength, and wisdom. In accompanying narratives, they describe their struggles and their insights into their conditions and the societal and cultural forces that shaped them.

We hear from Victor, who once wondered "Why should I be alive?" but now says "My life from now on is a tribute to those people who showed me love." We meet John, a 72-year-old physics professor who says, "The most spiritual I've ever felt was sitting in support groups where people are sharing anonymously," and Rosalind, a media professor who found strength in Judeo-Christian scriptures when recovering from postpartum depression. There is Haley, an overachiever who met one of her closest friends in a mental hospital; Therese, an administrative assistant who grew up with an abusive parent but learned to heal her inner child and create a new life for herself; and Jay, a linguistics professor, who was paralyzed in a fall. All of them experienced emotional or physical calamity but lived to tell the tale. But, as they tell us, they didn't do it entirely by themselves; they were helped by professionals, by friends, and by spiritual practices. No one is immune to depression or anxiety; many of these narrators had achieved professional or academic success in the demanding world of MIT. They tell their stories here to encourage others everywhere.

Daniel Jackson is Professor of Computer Science at MIT. **David A. Karp** is Professor Emeritus of Sociology at Boston College. He is the author of *Is It Me or My Meds? Living with Antidepressants* and other books on depression and mental illness.

philosophy

Understanding Ignorance

The Surprising Impact of What We Don't Know

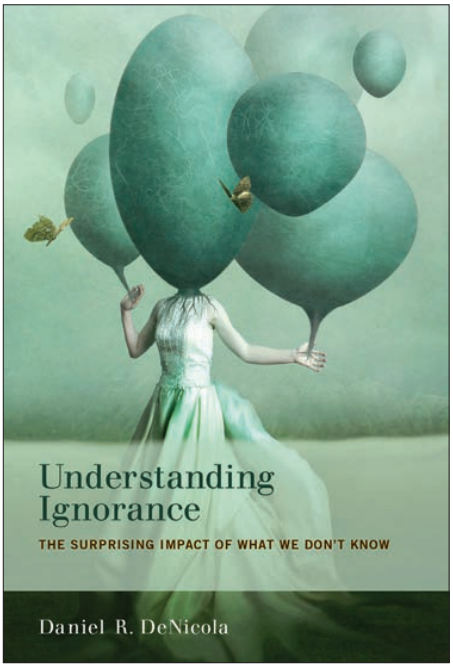
Daniel R. DeNicola

Ignorance is trending. Politicians boast, "I'm not a scientist." Angry citizens object to a proposed state motto because it is in Latin, and "This is America, not Mexico or Latin America." Lack of experience, not expertise, becomes a credential. Fake news and repeated falsehoods are accepted and shape firm belief. Ignorance about American government and history is so alarming that the ideal of an informed citizenry now seems quaint. Conspiracy theories and false knowledge thrive. This may be the Information Age, but we do not seem to be well informed. In this book, philosopher Daniel DeNicola explores ignorance—its abundance, its endurance, and its consequences.

DeNicola aims to understand ignorance, which seems at first paradoxical. How can the unknown become known—and still be unknown? But he argues that ignorance is more than a lack or a void, and that it has dynamic and complex interactions with knowledge. Taking a broadly philosophical approach, DeNicola examines many forms of ignorance, using the metaphors of ignorance as place, boundary, limit, and horizon. He treats willful ignorance and describes the culture in which ignorance becomes an ideological stance. He discusses the ethics of ignorance, including the right not to know, considers the supposed virtues of ignorance, and concludes that there are situations in which ignorance is morally good.

Ignorance is neither pure nor simple. It is both an accusation and a defense ("You are ignorant!" "Yes, but I didn't know!"). Its practical effects range from the inconsequential to the momentous. It is a scourge, but, DeNicola argues daringly, it may also be a refuge, a value, even an accompaniment to virtue.

Daniel R. DeNicola is Chair and Professor of Philosophy at Gettysburg College and the author of *Learning to Flourish: A Philosophical Exploration of Liberal Education*.



An exploration of what we can know about what we don't know: why ignorance is more than simply a lack of knowledge.

September
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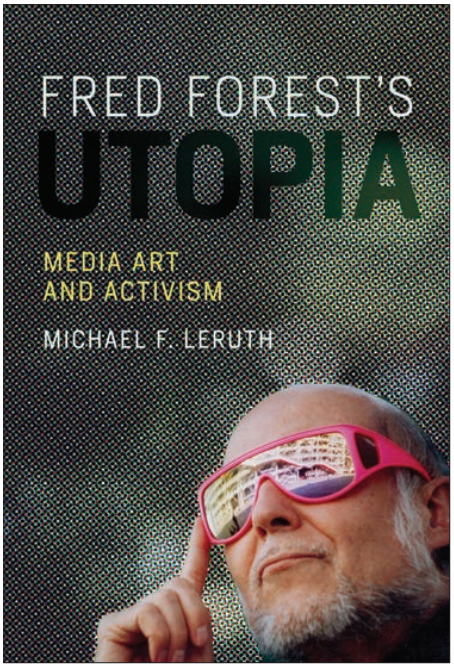

"France's most famous unknown artist," the innovative media provocateur Fred Forest, precursor of Eduardo Kac, Jodi, the Yes Men, RT Mark, and the Guerilla Girls.

September
6 x 9, 248 pp.
50 illus.

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978-0-262-03649-8

A Leonardo Book

Fred Forest's Utopia

Media Art and Activism

Michael F. Leruth

The innovative French media artist and prankster-provocateur Fred Forest first gained notoriety in 1972 when he inserted a small blank space in *Le Monde*, called it *150 cm2 of Newspaper* (*150 cm2 de papier journal*), and invited readers to fill in the space with their own work and mail their efforts to him. In 1977, he satirized speculation in both the art and real estate markets by offering the first parcel of officially registered "artistic square meters" of undeveloped rural land for sale at an art auction. Although praised by leading media theorists—Vilém Flusser lauded Forest as "the artist who pokes holes in media"—Forest's work has been largely ignored by the canon-making authorities. Forest calls himself "France's most famous unknown artist." In this book, Michael Leruth offers the first book-length consideration of this iconoclastic artist, examining Forest's work from the 1960s to the present.

Leruth shows that Forest chooses alternative platforms (newspapers, mock commercial ventures, video-based interactive social interventions, media hacks and hybrids, and, more recently, the Internet) that are outside the exclusive precincts of the art world. A fierce critic of the French contemporary art establishment, Forest famously sued the Centre Pompidou in 1994 over its opaque acquisition practices. After making foundational contributions to Sociological Art in the 1970s and the Aesthetics of Communication in the 1980s, the pioneering Forest saw the Internet as another way for artists to bypass the art establishment in the 1990s. Arguing that there is a strong utopian quality in Forest's work, Leruth sees this utopianism not as naive or conventional but as a reverse utopianism: rather than envisioning an impossible ideal, Forest reenvisions and probes the quasi-utopia of our media-augented everyday reality. The interface is the symbolic threshold to be crossed with an open mind.

Michael F. Leruth is Associate Professor of French and Francophone Studies at the College of William and Mary.

social science | business

The Acceleration of Cultural Change

From Ancestors to Algorithms

R. Alexander Bentley and Michael J. O'Brien

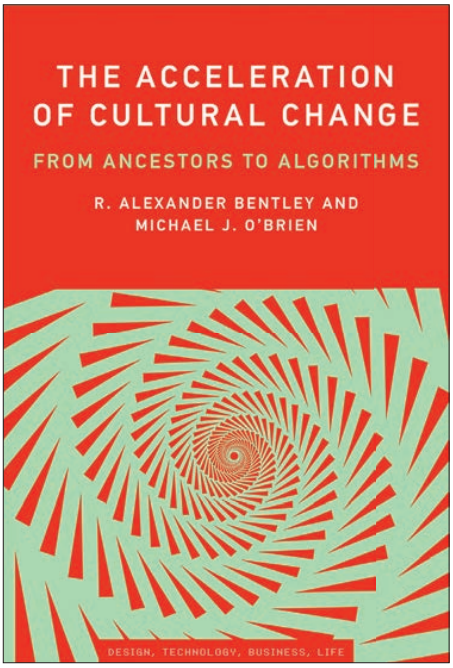
foreword by John Maeda

From our hunter-gatherer days, we humans evolved to be excellent throwers, chewers, and long-distance runners. We are highly social, crave Paleolithic snacks, and display some gendered difference resulting from mate selection. But we now find ourselves binge-viewing, texting while driving, and playing *Minecraft*. Only the collective acceleration of cultural and technological evolution explains this development. The evolutionary psychology of individuals—the drive for "food and sex"—explains some of our current habits, but our evolutionary success, Alex Bentley and Mike O'Brien explain, lies in our ability to learn cultural know-how and to teach it to the next generation. Today, we are following social media bots as much as we are learning from our ancestors. We are radically changing the way culture evolves.

Bentley and O'Brien describe how the transmission of culture has become vast and instantaneous across an Internet of people and devices, after millennia of local ancestral knowledge that evolved slowly. Long-evolved cultural knowledge is aggressively discounted by online algorithms, which prioritize popularity and recency. If children are learning more from *Minecraft* than from tradition, this is a profound shift in cultural evolution.

Bentley and O'Brien examine the broad and shallow model of cultural evolution seen today in the science of networks, prediction markets, and the explosion of digital information. They suggest that in the future, artificial intelligence could be put to work to solve the problem of information overload, learning to integrate concepts over the vast idea space of digitally stored information.

R. Alexander Bentley is Professor of Anthropology and Professor of Public Affairs at the University of Houston. **Mike O'Brien** is provost at Texas A&M–San Antonio. Bentley and O'Brien are coauthors (with Mark Earls) of *I'll Have What She's Having: Mapping Social Behavior* (MIT Press).



How culture evolves through algorithms rather than knowledge inherited from ancestors.

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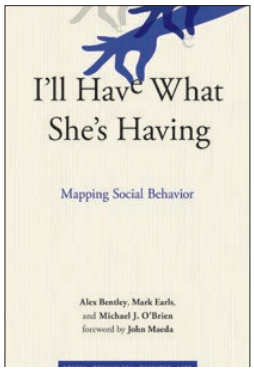
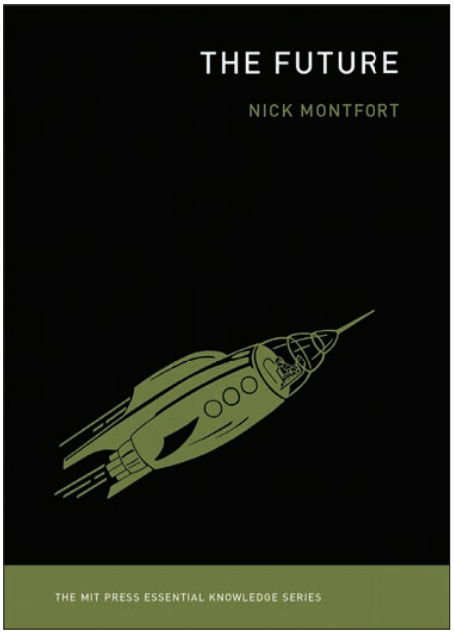


cultural studies | science



How the future has been imagined and made, through the work of writers, artists, inventors, and designers.

November
5 x 7, 144 pp.

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The MIT Press Essential Knowledge series

The Future

Nick Montfort

The future is like an unwritten book. It is not something we see in a crystal ball, or can only hope to predict like the weather. In this volume of the MIT Press's Essential Knowledge series, Nick Montfort argues that the future is something to be made, not predicted. Montfort offers what he considers essential knowledge about the future, as seen in the work of writers, artists, inventors, and designers (mainly in Western culture) who developed and described the core components of the futures they envisioned. Montfort's approach is not that of futurology or scenario planning; instead, he reports on the work of making the future—the thinkers who devoted themselves to writing pages in the unwritten book.

Montfort focuses on how the development of technologies—with an emphasis on digital technologies—has been bound up with ideas about the future. Readers learn about kitchens of the future and the vision behind them; literary utopias, from Plato's *Republic* to Edward Bellamy's *Looking Backward* and Charlotte Perkins Gilman's *Herland*; the Futurama exhibit at the 1939 New York World's Fair; and what led up to Tim Berners-Lee's invention of the World Wide Web. Montfort describes the notebook computer as a human-centered alterative to the idea of the computer as a room-sized "giant brain"; speculative practice in design and science fiction; and, throughout, the best ways to imagine and build the future.

Nick Montfort is Professor of Digital Media at MIT. He is the author of *Exploratory Programming for the Arts and Humanities* and a coauthor of *10 PRINT CHR$(205.5+RND(1)); : GOTO 10,* both published by the MIT Press.

science | technology

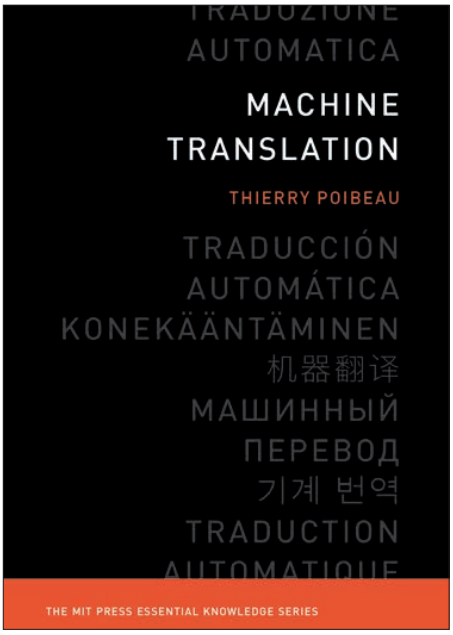
Machine Translation

Thierry Poibeau

The dream of a universal translation device goes back many decades, long before Douglas Adams's fictional Babel fish provided this service in *The Hitchhiker's Guide to the Galaxy*. Since the advent of computers, research has focused on the design of digital machine translation tools—computer programs capable of automatically translating a text from a source language to a target language. This has become one of the most fundamental tasks of artificial intelligence. This volume in the MIT Press Essential Knowledge series offers a concise, nontechnical overview of the development of machine translation, including the different approaches, evaluation issues, and market potential. The main approaches are presented from a largely historical perspective and in an intuitive manner, allowing the reader to understand the main principles without knowing the mathematical details.

The book begins by discussing problems that must be solved during the development of a machine translation system and offering a brief overview of the evolution of the field. It then takes up the history of machine translation in more detail, describing its pre-digital beginnings, rule-based approaches, the 1966 ALPAC (Automatic Language Processing Advisory Committee) report and its consequences, the advent of parallel corpora, the example-based paradigm, the statistical paradigm, the segment-based approach, the introduction of more linguistic knowledge into the systems, and the latest approaches based on deep learning. Finally, it considers evaluation challenges and the commercial status of the field, including activities by such major players as Google and Systran.

Thierry Poibeau is Director of Research at the Centre National de la Recherche Scientifique in Paris, Head of the LATTICE (Langues, Textes, Traitements Informatiques et Cognition) Laboratory, and Affiliated Lecturer in the Department of Theoretical and Applied Linguistics at the University of Cambridge.



A concise, nontechnical overview of the development of machine translation, including the different approaches, evaluation issues, and major players in the industry.

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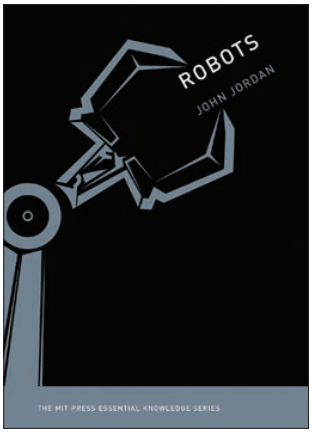
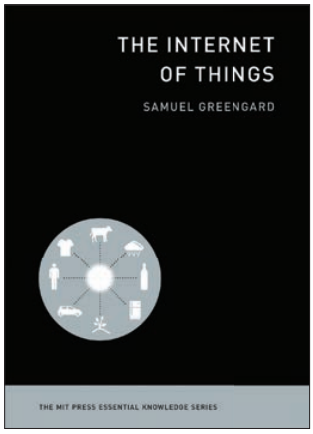
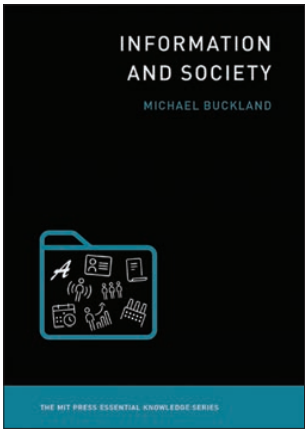
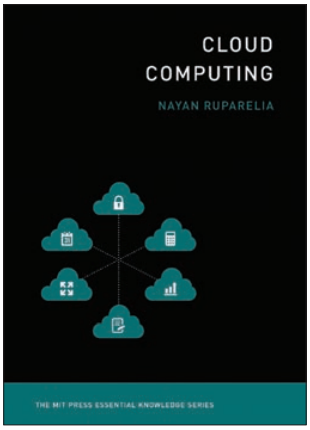
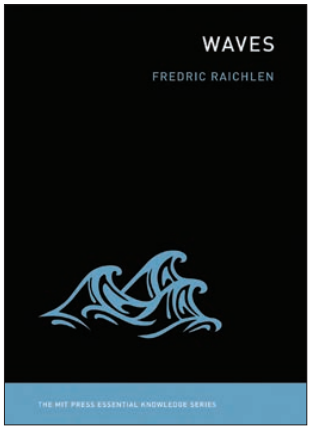
The MIT Press Essential Knowledge series

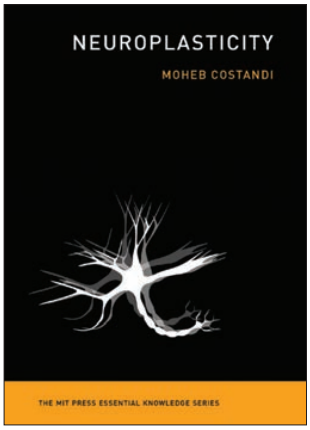


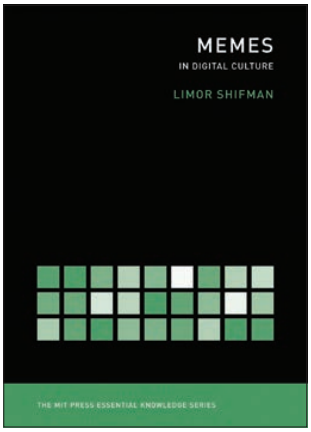


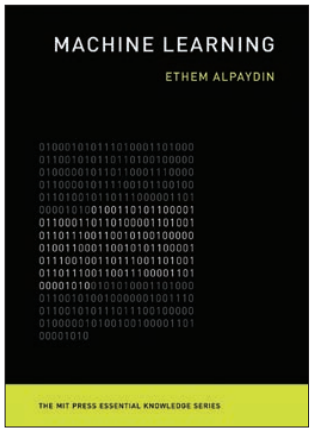


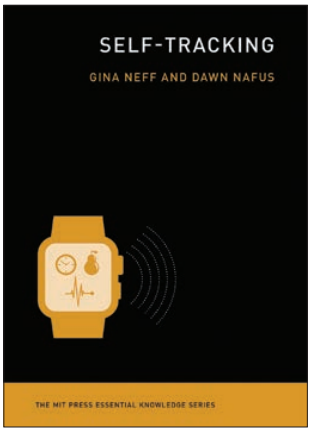












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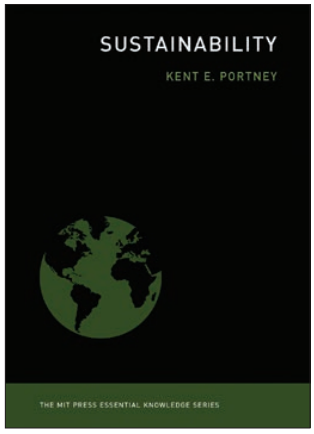

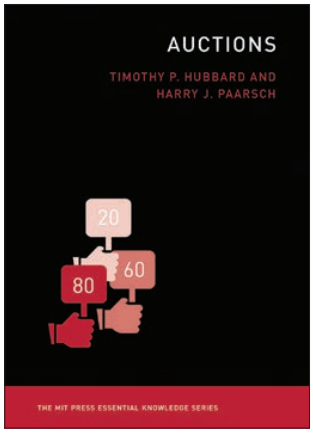

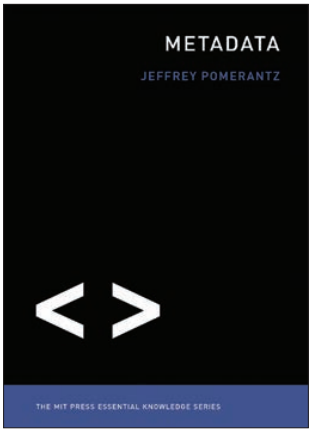

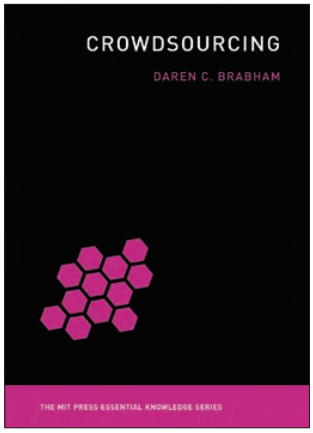

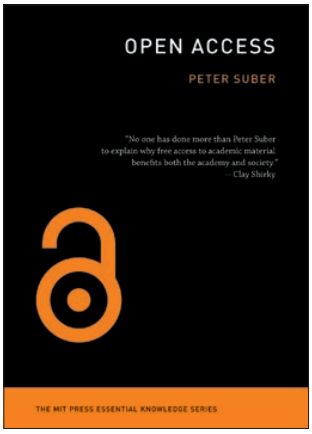

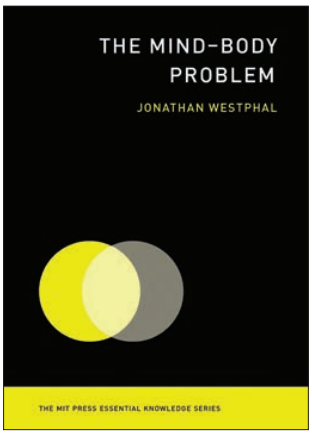

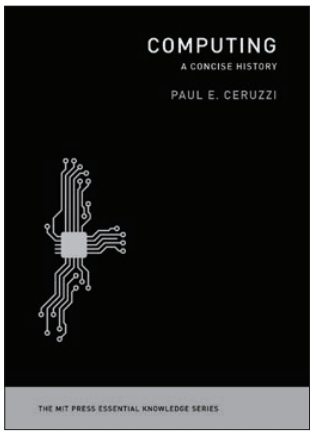

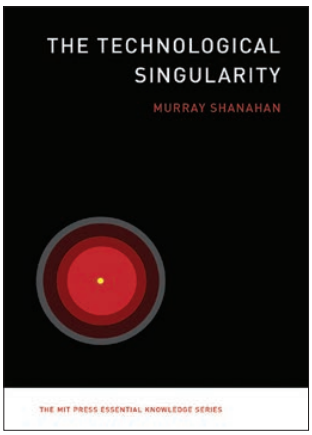

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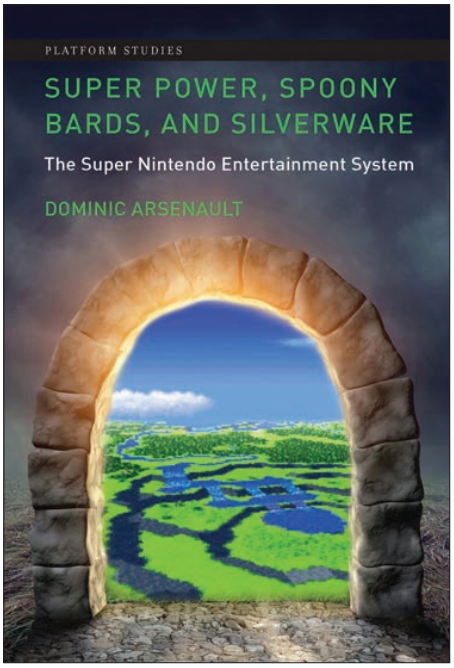

Super Power, Spoony Bards, and Silverware

The Super Nintendo Entertainment System

Dominic Arsenault

This is a book about the Super Nintendo Entertainment System that is not celebratory or self-congratulatory. Most other accounts declare the Super NES the undisputed victor of the "16-bit console wars" of 1989–1995. In this book, Dominic Arsenault reminds us that although the SNES was a strong platform filled with high-quality games, it was also the product of a short-sighted corporate vision focused on maintaining Nintendo's market share and business model. This led the firm to fall from a dominant position during its golden age (dubbed by Arsenault the "ReNESsance") with the NES to the margins of the industry with the Nintendo 64 and GameCube consoles. Arsenault argues that Nintendo's conservative business strategies and resistance to innovation during the SNES years explain its market defeat by Sony's PlayStation.

Extending the notion of "platform" to include the marketing forces that shape and constrain creative work, Arsenault draws not only on game studies and histories but on game magazines, boxes, manuals, and advertisements to identify the technological discourses and business models that formed Nintendo's Super Power. He also describes the cultural changes in video games during the 1990s that slowly eroded the love of gamer enthusiasts for the SNES as the Nintendo generation matured. Finally, he chronicles the many technological changes that occurred through the SNES's lifetime, including full-motion video, CD-ROM storage, and the shift to 3D graphics. Because of the SNES platform's "Silverware" architecture, Arsenault explains, Nintendo resisted these changes and continued to focus on traditional gameplay genres.

Dominic Arsenault is Associate Professor in the Department of Art History and Film Studies at the Université de Montréal.

How the Super Nintendo Entertainment System embodied Nintendo's resistance to innovation and took the company from industry leadership to the margins of videogaming.

September
6 x 9, 240 pp.
21 illus.

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architecture | design

Architectural Intelligence

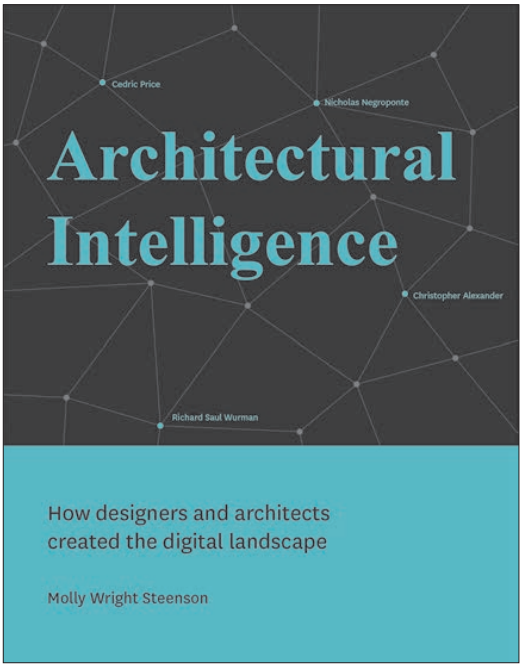
How Designers and Architects Created the Digital Landscape

Molly Wright Steenson

In *Architectural Intelligence*, Molly Wright Steenson explores the work of four architects in the 1960s and 1970s who incorporated elements of interactivity into their work. Christopher Alexander, Richard Saul Wurman, Cedric Price, and Nicholas Negroponte and the MIT Architecture Machine Group all integrated technologies—including cybernetics and artificial intelligence—into their work and influenced digital design practices from the late 1980s to the present day.

Alexander, long before his famous 1977 book *A Pattern Language*, used computation and structure to visualize design problems; Wurman popularized the notion of "information architecture"; Price designed some of the first intelligent buildings; and Negroponte experimented with the ways people experience artificial intelligence, even at architectural scale. Steenson investigates how these architects pushed the boundaries of architecture—and how their technological experiments pushed the boundaries of technology. What did computational, cybernetic, and artificial intelligence researchers have to gain by engaging with architects and architectural problems? And what was this new space that emerged within these collaborations? At times, Steenson writes, the architects in this book characterized themselves as anti-architects and their work as anti-architecture. The projects Steenson examines mostly did not result in constructed buildings, but provided design processes and tools, computer programs, interfaces, digital environments. Alexander, Wurman, Price, and Negroponte laid the foundation for many of our contemporary interactive practices, from information architecture to interaction design, from machine learning to smart cities.

Molly Wright Steenson is Associate Professor in the School of Design and head of the Doctor of Design Program at Carnegie Mellon University.



Architects who engaged with cybernetics, artificial intelligence, and other technologies poured the foundation for digital interactivity.

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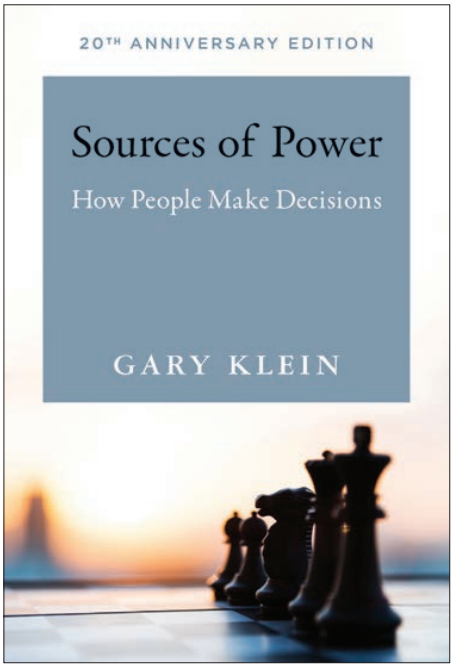

Sources of Power

How People Make Decisions

20TH ANNIVERSARY EDITION

Gary Klein

with a new preface by the author

Since its publication twenty years ago, *Sources of Power* has been enormously influential. The book has sold more than 50,000 copies, has been translated into six languages, has been cited in professional journals that range from *Journal of Marketing Research* to *Journal of Nursing*, and is mentioned by Malcolm Gladwell in *Blink*. Author Gary Klein has collaborated with Nobel laureate Daniel Kahneman and served on a team that redesigned the White House Situation Room to support more effective decision making. The model of decision making Klein proposes in the book has been adopted in fields including law enforcement training and petrochemical plant operation. What is the groundbreaking new way to approach decision making described in this modern classic?

We have all seen images of firefighters rescuing people from burning buildings and paramedics treating bombing victims. How do these individuals make the split-second decisions that save lives? Most studies of decision making, based on artificial tasks assigned in laboratory settings, view people as biased and unskilled. Klein proposes a naturalistic approach to decision making, which views people as gaining experience that enables them to use a combination of intuition and analysis to make decisions. To illustrate this approach, Klein tells stories of people—from pilots to chess masters—acting under such real-life constraints as time pressure, high stakes, personal responsibility, and shifting conditions.

Gary Klein is Senior Scientist at MacroCognition LLC. He is the author of *The Power of Intuition, Seeing What Others Don't, Working Minds: A Practitioner's Guide to Cognitive Task Analysis* (with Beth Crandall and Robert R. Hoffman), and *Streetlights and Shadows: Searching for the Keys to Adaptive Decision Making,* the last two published by the MIT Press.

A modern classic about how people really make decisions: drawing on prior experience, using a combination of intuition and analysis.

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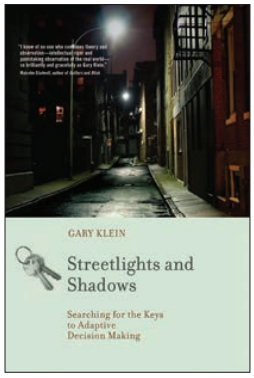

politics | environment

Extraction Empire

Sourcing the Scales, Systems, and States of Canada's Global Resource Empire

edited by Pierre Bélanger

Extraction is the process and practice that defines Canada, at home and abroad. Of the nearly 20,000 mining projects in the world from Africa to Latin America, more than half are Canadian-operated. Not only does the mining economy employ close to 400,000 people in Canada, it contributed $57 billion CAD to Canada's GDP in 2014 alone. Globally, more than 75 percent of the world's mining firms are based in Canada. The scale of these statistics naturally extends the logic of Canada's historical legacy as state, nation, and now as global resource empire. Canada, once a far-flung northern outpost of the British Empire, has become an empire in its own right.

This book examines both the historic and contemporary Canadian culture of extraction, with essays, interviews, archival material, and multimedia visualizations. The essayists and interviewees—who include such prominent figures as Naomi Klein and Michael Ignatieff—come from a range of fields, including geography, art, literature, architecture, science, environment, and business. All consider how Canadian life came to be mediated through mineral extraction. When did this empire emerge? How far does it reach? Who gains, who loses? What alternatives exist? On the 150th anniversary of the creation of Canada by Queen Victoria's Declaration of Confederation, it is time for Canada to reexamine and reimagine its imperial role throughout the world, from coast to coast, from one continent to another.

Pierre Bélanger, a landscape architect and urbanist, is Associate Professor of Landscape Architecture at Harvard University's Graduate School of Design and the coauthor of *Ecologies of Power: Countermapping the Logistical Landscapes and Military Geographies of the U.S. Department of Defense* (MIT Press) and *Landscape as Infrastructure*.

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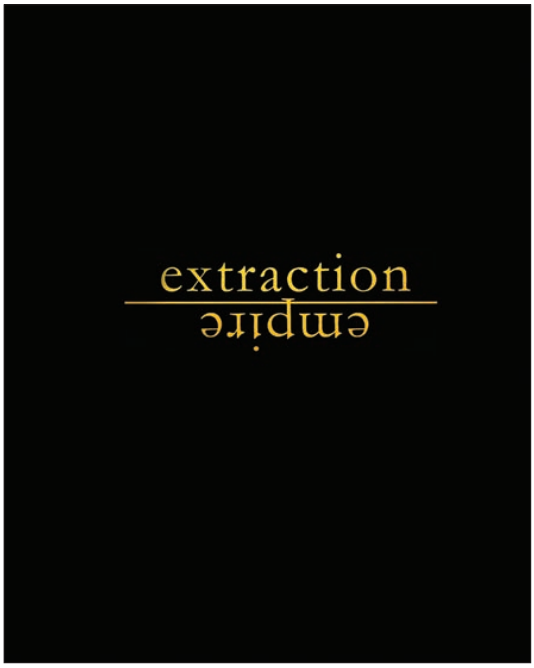

How Canada became an empire in its own right and how Canadian life came to be mediated through mineral extraction.

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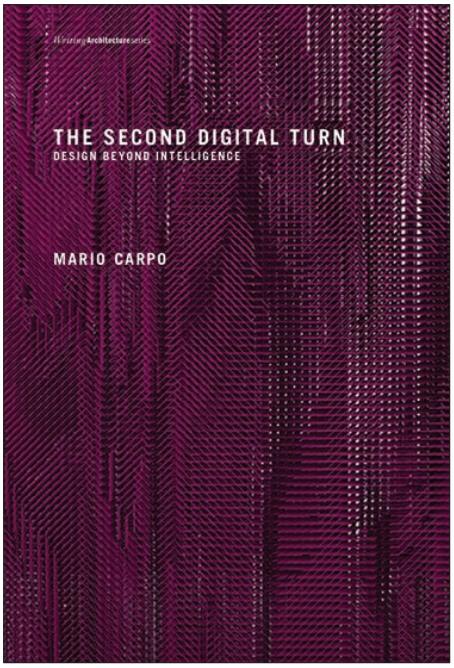

The Second Digital Turn

Design Beyond Intelligence

Mario Carpo

In the early 1990s the design professions were the first to intuit and interpret the new logic of digital design and fabrication. Digital mass-customization (the use of digital tools to mass-produce variations at no extra cost) has already changed the way we produce and consume almost everything. In this book, Mario Carpo suggests that the same technical logic, now applied to all kinds of immaterial objects and to commerce at large, is heralding a new society without scale, where bigger markets will not make anything cheaper.

The early tools for digital design and production spawned a style of smooth and curving lines and surfaces that gave visible form to the first digital age, and marked architectural design for the last twenty years. But today's digitally intelligent architecture no longer looks that way. Carpo explains that this is because the design professions are now coming to terms with a new generation of digital tools they have adopted—no longer tools for making but tools for thinking. Today's computation is so powerful and cheap that many data-compression technologies that humanity has carefully developed, nurtured, and honed over time may soon be abandoned.

This simple technical truism has vast consequences, as it implies a new kind of science where prediction can be based on sheer information retrieval, and form finding by simulation and optimization can replace deduction from mathematical formulas. Designers have been toying with machine thinking and machine learning for some time now, and the apparently unfathomable complexity of the physical shapes they create that way already expresses a new form of artificial intelligence, outside the tradition of modern science and alien to the organic logic of our minds.

How the first digital turn in architecture changed our ways of making; the second changes our ways of thinking.

September
5 3/8 x 8, 232 pp.
39 illus.

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Writing Architecture series

Mario Carpo is Reyner Banham Professor of Architectural History and Theory, the Bartlett, University College London. He is the author of *Architecture in the Age of Printing: Orality, Writing, Typography, and Printed Images in the History of Architectural Theory* and *The Alphabet and the Algorithm* (both published by the MIT Press) and other books.

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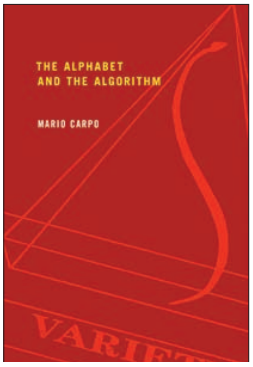


philosophy

All and Nothing

A Digital Apocalypse

Martin Burckhardt and Dirk Höfer
translated by Erik Butler

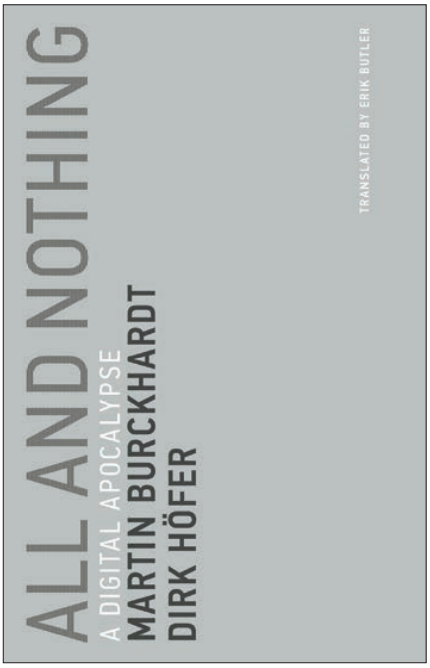
In the beginning was the Zero, and the Zero was with God, and God was the One.
—***All and Nothing***

In 1854, the British mathematician George Boole presented the idea of a universe the elements of which could be understood in terms of the logic of absence and presence: 0 and 1, all and nothing—the foundation of binary code. The Boolean digits 0 and 1 do not designate a quantity. In the Boolean world, x times x always equals x; all and nothing meet in the formula $x = x^n$. As everything becomes digitized, God the clockmaker is replaced by God the programmer. This book—described by its authors as "a theology for the digital world"—explores meaning in a digital age of infinite replication, in a world that has dissolved into information and achieved immortality by turning into a pure sign.

All and Nothing compares information that spreads without restraint to a hydra—the mythological monster that grew two heads for every one that was cut off. Information is thousand-headed and thousand-eyed because Hydra's tracks cannot be deleted. It shows that when we sit in front of a screen, we are actually on the other side, looking at the world as an uncanny reminder of the nondigitized. It compares our personal data to our shadows and our souls, envisioning the subconscious laid out on a digital bier like a corpse.

The digital world, the authors explain, summons forth fantasies of a chiliastic or apocalyptic nature. The goal of removing the representative from mathematics has now been achieved on a greater scale than Boole could have imagined.

Martin Burkhardt is an audio artist, cultural theorist, and playwright based in Berlin. **Dirk Höfer** is an author, translator, game designer, and longtime editor of the cultural journal *Lettre International*.



Why 1 = presence and 0 = absence and the digital world formula is $x = x^n$: an exploration of meaning in a universe of infinite replication.

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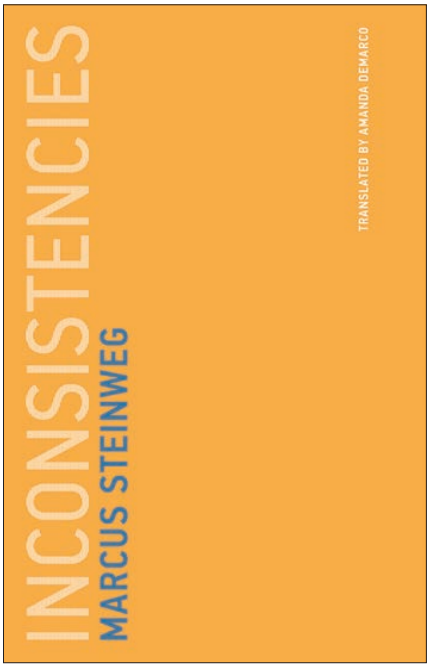

Inconsistencies

Marcus Steinweg
translated by Amanda DeMarco

Those who continue to think never return to their point of departure.
—***Inconsistencies***

These 130 short texts—aphoristic, interlacing, and sometimes perplexing—target a perennial philosophical problem: Our consciousness and our experience of reality are inconsistent, fragmentary, and unstable; God is dead, and our identity as subjects discordant. How can we establish a new mode of thought that does not cling to new gods or the false security of rationality? Marcus Steinweg, as he did in his earlier book *The Terror of Evidence*, constructs a philosophical position from fragments, maxims, meditations, and notes, formulating a philosophy of thought that expresses and enacts the inconsistency of our reality.

Steinweg considers, among other topics, life as a game ("To think is to play because no thought is firmly grounded"); sexuality ("wasteful, contradictory, and contingent"); samurai (Derrida's books are written "with the saber of a samurai"); reality ("overdetermined and excessively complex"); and world ("a non-concept"). He disposes of philosophy in one sentence ("Philosophy is a continual process of its own redefinition.") but spends multiple pages on "A Tear in Immanence," invoking Nietzsche, Heidegger, Sartre, and others. He describes "Wandering with Foucault" ("Thought entails wandering, as well as straying into madness.") and brings together Derrida and Debord. He poses a question: "Why should a cat be more mysterious than a dog?" and later answers one: "Beauty is truth because truth is beauty." By the end, we have accompanied Steinweg on converging trains of thought. "Thinking means continuing to think," he writes, adding "But thinking can only pose questions by answering others." The question of inconsistency? Asked and answered, and asked.

Marcus Steinweg, an author and philosopher based in Berlin, teaches at the Universität der Künste Berlin (UdK) and is the coeditor of the journal *Inaesthetics*. Much of his work treats the intersections of philosophy and art. Steinweg's *The Terror of Evidence* also appeared in the Untimely Meditations series.

Meditations, aphorisms, maxims, notes, and comments construct a philosophy of thought congruent with the inconsistency of our reality.

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Marcus Steinweg
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philosophy

Positive Nihilism

My Confrontation with Heidegger

Hartmut Lange
translated by Adrian Nathan West

There is a beyond of reason and unreason. It is the human psyche.
—***Positive Nihilism***

Like many German intellectuals, Hartmut Lange has long grappled with Heidegger. *Positive Nihilism* is the result of a lifetime of reading *Being and Time* and offers a series of reflections that are aphoristic, poetic, and (appropriately, considering his object of study) difficult. Lange begins with an abyss ("There is an abyss of the finite. It is temporality") and proceeds almost immediately to extremity: "The twentieth century was governed by psychopaths. They collapsed the boundaries of moral reason and refuted Kant's analysis of consciousness." He reflects further: "But who shall punish whom? One man's virtue is another man's crime. Thus Hitler could feel unwaveringly, as he wiped out entire populations, *the starry sky above him and the moral law within him*, as stipulated by Kant." He considers the concept of civilization ("misleading"; "how should one oppose the remedies of civilization to the egomania, the murderous appetites of such outright psychopaths as Stalin or Pol Pot?"), the act of thinking (a fata morgana), the psyche, and Heidegger's Dasein.

Positive Nihilism can be considered a pocket companion to *Being and Time*. "Heidegger's understanding of Being is nihilistic," Lange writes, and then explains his assertion. He draws on Kant, Nietzsche, Kierkegaard, and Shakespeare's *Othello* for supporting arguments and illustrations. "Everyone is possessed of the courage to have angst about death. The question is whether this courage necessarily secures those vital advantages Heidegger alleges"—that "self-understanding [is] the mental anticipation of death." Lange wrestles with Heidegger's position, calling on Tolstoy, Georg Trakl, Herman Bang, and Heinrich von Kleist to argue against it.

Hartmut Lange, born in 1937, is a German writer of prose, essays, and plays. He was the recipient of the 2003 Italo Svevo Prize and the 2004 Prize of the LiteraTour Nord.

A German writer's aphoristic and poetic reflections on Heidegger's *Being and Time*.

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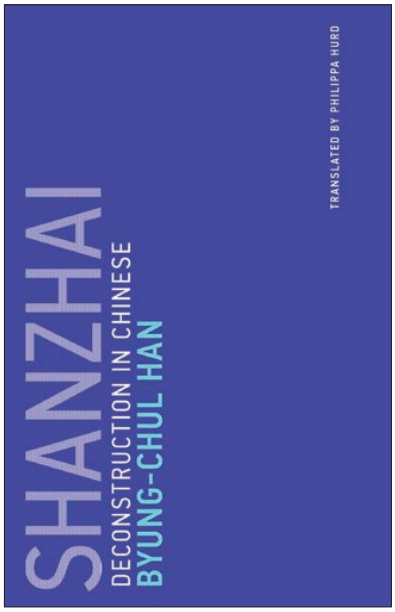

Shanzhai

Deconstruction in Chinese

Byung-Chul Han

Shanzhai is a Chinese neologism that means "fake," originally coined to describe knockoff cell phones marketed under such names as Nokir and Samsing. These cell phones were not crude forgeries but multifunctional, stylish, and as good or better than the originals. Shanzhai has since spread into other parts of Chinese life, with shanzhai books, shanzhai politicians, shanzhai stars. There is a shanzhai Harry Potter: *Harry Potter and the Porcelain Doll*, in which Harry takes on his nemesis Yandomort. In the West, this would be seen as piracy, or even desecration, but in Chinese culture, originals are continually transformed—deconstructed. In this volume in the Untimely Meditations series, Byung-Chul Han traces the thread of deconstruction, or "de-creation," in Chinese thought, from ancient masterpieces that invite inscription and transcription to Maoism—"a kind a shanzhai Marxism," Han writes.

Han discusses the Chinese concepts of *quan*, or law, which literally means the weight that slides back and forth on a scale, radically different from Western notions of absoluteness; *zhen ji*, or original, determined not by an act of creation but by unending process; *xian shan*, or seals of leisure, affixed by collectors and part of the picture's composition; *fuzhi*, or copy, a replica of equal value to the original; and *shanzhai*. The Far East, Han writes, is not familiar with such "pre-constructive" factors as original. Far Eastern thought begins with deconstruction.

Tracing the thread of "de-creation" in Chinese thought, from constantly changing classical masterpieces to fake cell phones that are better than the original.

Byung-Chul Han, born in Seoul, is Professor of Philosophy and Cultural Studies at the Universität der Künste Berlin (UdK). One of the most widely read philosophers in Europe, he is the author of more than twenty books, including *In the Swarm: Digital Prospects* and *The Agony of Eros*, both part of the MIT Press Untimely Meditations series.

October
4 1/2 x 7, 88 pp.
25 color illus., 3 b&w illus.

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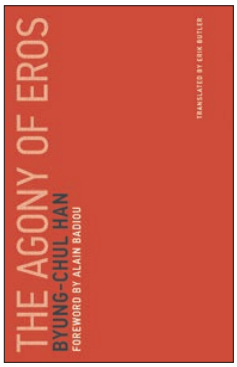


art | curatorial studies

How Institutions Think

Between Contemporary Art and Curatorial Discourse

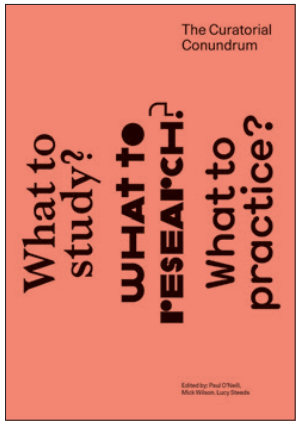
edited by Paul O'Neill, Lucy Steeds, and Mick Wilson

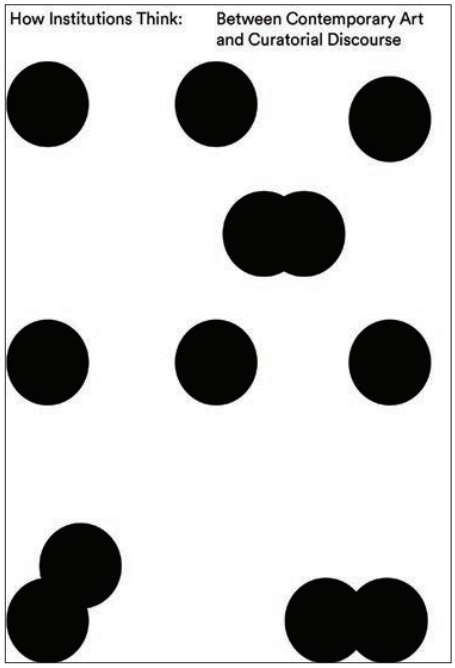
Contemporary art and curatorial work, and the institutions that house them, have often been centers of power, hierarchy, control, value, and discipline. Even the most progressive among them face the dilemma of existing as institutionalized anti-institutions. This anthology—taking its title from Mary Douglas's 1986 book, *How Institutions Think*—reconsiders the practices, habits, models, and rhetoric of the institution and the anti-institution in contemporary art and curatorial practice. Contributors reflect upon how institutions inform art, curatorial, educational, and research practices as much as they shape the world around us. They consider the institution as an object of enquiry across many disciplines, including political theory, organizational science, and sociology.

Bringing together an international and multidisciplinary group of writers, *How Institutions Think* addresses such questions as whether institution-building is still possible, feasible, or desirable; if there are emergent institutional models for progressive art and curatorial research practices; and how we can establish ethical principles and build our institutions accordingly. The first part, "Thinking via Institution," moves from the particular to the general; the second part, "Thinking about Institution," considers broader questions about the nature of institutional frameworks.

Paul O'Neill is an artist, curator, educator, and writer based in New York, and has co-curated more than fifty exhibition projects around the world. The author of *The Culture of Curating and the Curating of Culture* (MIT Press), he is Director of the Graduate Program at the Center for Curatorial Studies at Bard College. **Lucy Steeds** is Pathway Leader in Exhibition Studies at Central Saint Martins, University of the Arts, London, and editor of *Exhibition* (MIT Press/Whitechapel Gallery London). **Mick Wilson** is an artist, educator, and writer based in Sweden and Ireland, and the first Head of the Valand Academy of Art, University of Gothenburg. O'Neill, Steeds, and Wilson are coeditors of *The Curatorial Conundrum: What to Study? What to Research? What to Practice?* (MIT Press).

Contributors include
Nataša Petrešin Bachelez, Dave Beech, Mélanie Bouteloup, Nikita Yingqian Cai, Binna Choi and Annette Kraus, Pip Day, Clémentine Deliss, Keller Easterling and Andrea Phillips, Bassam El Baroni, Charles Esche, Patricia Falguières, Patrick D. Flores, Marina Gržinić, Stefano Harney, Alhena Katsof, Emily Pethick, Sarah Pierce, Zahia Rahmani, Moses Serubiri, Simon Sheikh, Mick Wilson





Reflections on how institutions inform art, curatorial, educational, and research practices while they shape the world around us.

October
6 1/4 x 9 1/2, 320 pp.
100 color illus.

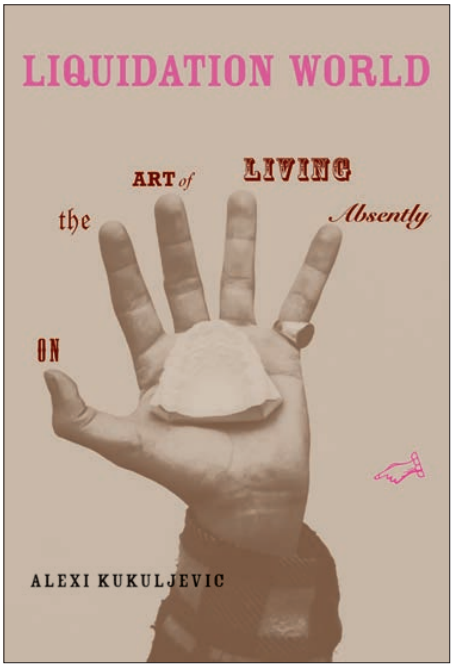
$34.95T/£27.95 paper
978-0-262-53432-1

Copublished with the Center for Curatorial Studies, Bard College/LUMA Foundation

Also available

The Curatorial Conundrum
What to Study? What to Research? What to Practice?
edited by Paul O'Neill, Mick Wilson, and Lucy Steeds
978-0-262-52910-5
$34.95T/£27.95 paper

philosophy | art



An examination of the disoriented subject of modernity: a dissolute figure who makes an object of its absence; from Baudelaire to Broodthaers.

October
6 x 9, 176 pp.
6 illus.

$19.95T/£14.95 paper
978-0-262-53419-2

Short Circuits series, edited by Mladen Dolar, Alenka Zupančič, and Slavoj Žižek

Liquidation World

On the Art of Living Absently

Alexi Kukuljevic

In *Liquidation World*, Alexi Kukuljevic examines a distinctive form of subjectivity animating the avant-garde: that of the darkly humorous and utterly disoriented subject of modernity, a dissolute figure that makes an art of its own vacancy, an object of its absence. Shorn of the truly rotten illusion that the world is a fulfilling and meaningful place, these subjects identify themselves by a paradoxical disidentification—through the objects that take their places. They have mastered the art of living absently, of making something with nothing. Traversing their own morbid obsessions, they substitute the nonsensical for sense, the ridiculous for the meaningful.

Kukuljevic analyzes a series of artistic practices that illuminate this subjectivity, ranging from Marcel Duchamp's *3 Standard Stoppages* to Charles Baudelaire's melancholia. He considers the paradox of Duchamp's apparatus in the Stoppages and the strange comedy of Marcel Broodthaers's relation to the readymade; the comic subject in Jacques Vaché and the ridiculous subject in Alfred Jarry; the nihilist in Paul Valéry's *Monsieur Teste*; Oswald Wiener's interpretation of the dandy; and Baudelaire as a happy melancholic. Along the way, he also touches on the work of Thomas Bernhard, Andy Kaufman, Buster Keaton, and others. Finally, he offers an extended analysis of Danny's escape from his demented father in Stanley Kubrick's *The Shining*.

Each of these subjects is, in Freud's terms, sick—sick in the specific sense that they assume the absence of meaning and the liquidation of value in the world. They concern themselves with art, without assuming its value or meaning. Utterly debased, fundamentally disoriented, they take the void as their medium.

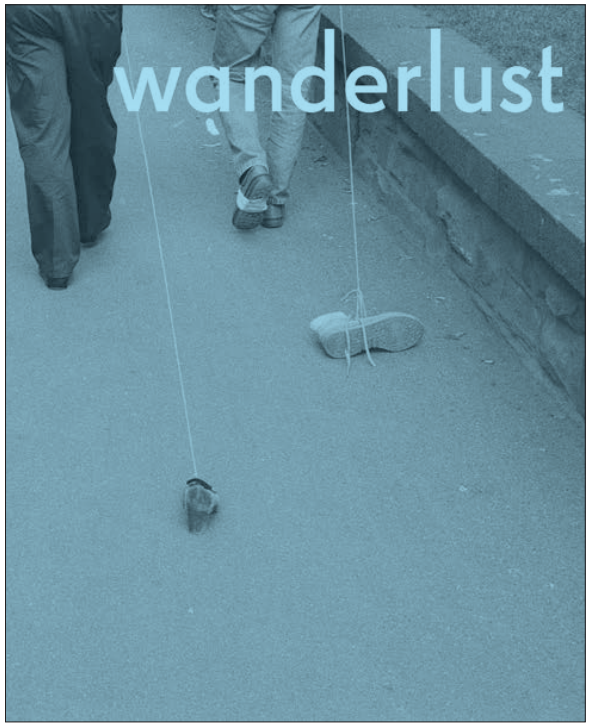
Alexi Kukuljevic is an artist and Lecturer in Art Theory at the University of Applied Arts in Vienna.

art | cultural studies

Wanderlust

Actions, Traces, Journeys 1967–2017

Rachel Adams



Wanderlust highlights artists as voyagers who leave their studios to make art. This book (and the exhibition it accompanies) is the first comprehensive survey of the artist's need to roam and the work that emerges from this need. *Wanderlust* presents the work of under-recognized yet pioneering artists alongside their well-known counterparts, and represents works that vary in process, with some artists working as solitary figures implanting themselves physically on the landscape while others perform and create movements in a collaborative manner or in public.

Many of the earlier works use what were at the time non-traditional methods of art making. In *Trail Markers* (1969), for example, Nancy Holt spent time in the English countryside, where she documented the painted orange trail markers she found dotting the landscape. Vito Acconci explored his body's "occupancy" of public space through the execution of preconceived actions or activities. In *Following Piece* (1969), Acconci followed one randomly chosen stranger through the streets of New York. *A Line Made by Walking* (1967), a black-and-white photograph of Richard Long's imprint of a straight line in a field, was Long's first walking art work, made on a journey to St Martin's from his home in Bristol. Ana Mendieta's influential *Silueta Works in Mexico* (1977) documents performances by the artist during her travel between Iowa and Mexico, in which she imprints her body on the landscape while addressing issues of displacement.

Rachel Adams is Senior Curator for the University at Buffalo Art Galleries.

Artists include
Vito Acconci, Bas Jan Ader, Nevin Aladag, Francis Alÿs, Janine Antoni, John Baldessari, Kim Beck, Roberley Bell, Blue Republic, Sophie Calle, Rosemarie Castoro, Cardiff/Miller, Zoe Crosher, Fallen Fruit, Mona Hatoum, Nancy Holt, Kenneth Josephson, William Lamson, Richard Long, Marie Lorenz, Mary Mattingly, Anthony McCall, Ana Mendieta, Teresa Murak, Wangechi Mutu, Efrat Natan, Gabriel Orozco, Carmen Papalia, John Pfahl, Pope.L, Teri Rueb, Michael X. Ryan, Todd Shalom, Mary Ellen Strom, and Guido van der Werve.

Contributors
Rachel Adams, Lucy Ainsworth, Andrew Barron, Pamela Campanaro, Andy Campbell, Hannah Cattarin, Ian Cofre, Jamie DiSarno, Katherine Finerty, Joshua Fischer, Natalie Fleming, Melanie Flood, Jason Foumberg, Allison Glenn, Kate Green, Ross Stanton Jordan, Anna Kaplan, Jennie Lamensdorf, Toby Lawrence, Jane McFadden, Lynnette Miranda, Conor Moynihan, Liz Munsell , Karen Patterson, Ariel Lauren Pittman, Sean Ripple, Eve Schillo, Holly Shen, Rebecca Solnit, Lexi Lee Sullivan, Whitney Tassie, Charlie Tatum, Zoë Taleporos, Lori Waxman

Artists as voyagers who leave their studios to make art, including Nancy Holt, Vito Acconci, Sophie Calle, and Richard Long.

October
9 x 11 3/4, 256 pp.
125 color illus., 65 b&w illus.

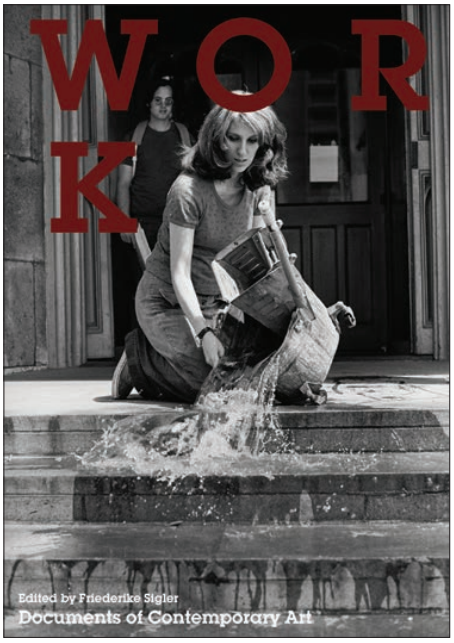
$34.95T/£27.95 cloth
978-0-262-03705-1

Copublished with the University of Buffalo Art Galleries

EXHIBITION

University at Buffalo Art Galleries,
September 7-December 31, 2017

Des Moines Art Center,
February 18-May 13, 2018



Work's meaning both within art and in its wider economic and social context: the complexities of being an art worker in the new economy.

September
5 3/4 x 8 1/4, 240 pp.

$24.95T paper
978-0-262-53433-8

Documents of Contemporary Art series
Copublished with Whitechapel Gallery, London

Work

edited by Friederike Sigler

Warhol's Factory of the 1960s, Minimalism's assembly-line aesthetics, conceptual and feminist concern with workers' conditions in the 1970s—these are among the antecedents of a renewed focus on the work of art: labor as artistic activity, as artistic method and as object of artistic engagement. In 2002, the "Work Ethic" exhibition curated by Helen Molesworth at the Baltimore Museum of Art took its cue from recent art to spotlight this earlier era of artistic practice in which activity became as valid as, and often dispensed with, object-production. Revealed through this prism was "dematerialized" art's close and critical relation to the emergent information age's criteria of management, production and skill.

By 2015, the Venice Biennale reflected artists' wider concern with global economic and social crises, centered on exploitative and precarious worlds of employment. Yet while art increasingly engages with human travail, work's significance in itself is seldom addressed by critics. This anthology explicitly investigates work in relation to contemporary art, surveying artistic strategies that grapple with the complexities of being an art worker in the new economy, a postproducer, a collaborator, a fabricator, a striker, an ethical campaigner, or would-be transformer of labor from oppression to liberation.

Friederike Sigler is a researcher and lecturer at the Hochschule für Bildende Künst, Dresden. She is the author of *Work/Strike* (2017).

Artists surveyed include
Pawel Althamer, Francis Alÿs, Marwa Arsanios, Ana de la Cueva, Alice Creischer, Anne Teresa De Keersmaeker, Chto Delat, Jeremy Deller, Maria Eichhorn, Harun Farocki, Claire Fontaine, Andrea Fraser, Liam Gillick, Melanie Gilligan, Gulf Labour Coalition, Tehching Hsieh, Lamia Joreige, Lee Lozano, Goshka Macuga, Teresa Margolles, Adrian Melis, Annette Messager, Gustav Metzger, Jean-Luc Moulène, Ahmet Ögüt, Philip Rizk, Martha Rosler, Tino Sehgal, Santiago Sierra, Tamas St. Auby, Mladen Stilinovic, W.A.G.E., Artur Zmijewski

Writers include
Claire Bishop, Luc Boltanski, Julia Bryan-Wilson, Sabeth Buchmann, Ève Chiapello, Kodwo Eshun, Silvia Federici, Isabelle Graw, Maurizio Lazzarato, Achille Mbembe, Antonio Negri, Jacques Rancière, Gerald Raunig, Dietmar Rübel, Paolo Virno, Joseph Vogl

Destruction

edited by Sven Spieker

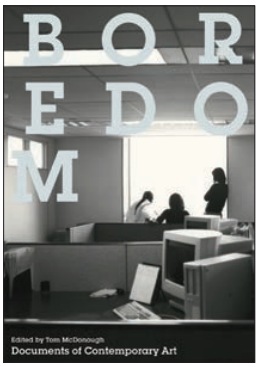
The effects and meanings of destruction are central to the work of many of our most influential artists. Since the early 1960s, artists have employed destruction as a medium. Here destruction changes from a negative state or passive condition to a highly productive category. The destructive subversion of media imagery aims to release us from its controlling effects. The self-destructing artwork extinguishes art's fixity as arrested form and ushers in the ephemeral and contingent "open work."

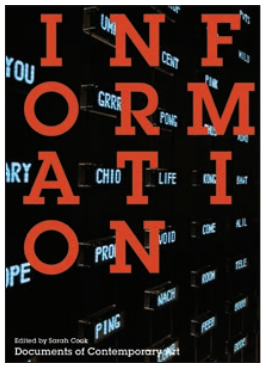
This anthology explores artworks that convey the threat of destruction and how they have disrupted the perceived integrity of built structures and institutions. Artistic acts of iconoclasm or risk to the self have raised consciousness of authoritarian oppression. Other works explore the theme of destruction in armed conflict, media violence, and threats to the environment. This is the first collection to focus systematically on destruction in modern and contemporary art.

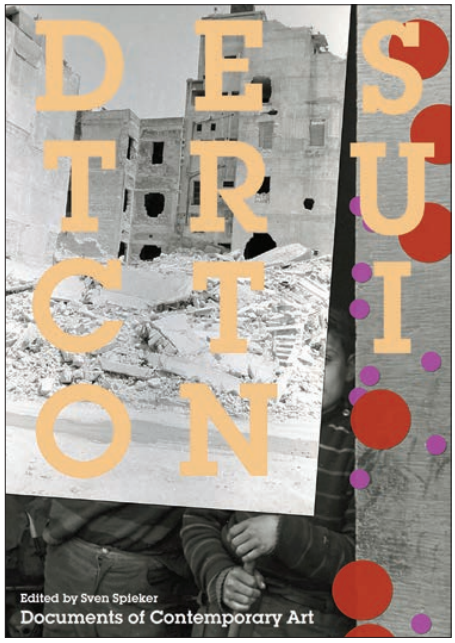
Sven Spieker is Professor of Germanic and Slavic Studies at the University of California, Santa Barbara, and editor of ARTmargins. His books include *The Big Archive: Art from Bureaucracy* (MIT Press).

Artists surveyed include
Ai Weiwei, John Baldessari, Monica Bonvicini, Alexander Brener, Stuart Brisley, Douglas Gordon, Huang Yong Ping, Enrique Jezik, Milan Knizak, Piero Manzoni, Gordon Matta-Clark, Paul McCarthy, Gustav Metzger, Otto Mühl, Yoko Ono, Raphael Montañez Ortiz, Petr Pavlensky, William Pope.L, Walid Raad, Arnulf Rainer, Robert Rauschenberg, Carolee Schneemann, Song Dong, Jean Tinguely, Wolf Vostell

Writers include
Alain Badiou, Walter Benjamin, Horst Bredekamp, Carolyn Christov-Bakargiev, Medina Cuauthémoc, Richard Galpin, Dario Gamboni, Caleb Kelly, Bruno Latour, Sven Lütticken, Antonio Negri, Sophie O'Brien, Kristine Stiles, Jennifer Walden







Essays explore contemporary artists' engagement with destruction, as a creative force.

September
5 3/4 x 8 1/4, 240 pp.

$24.95T paper
978-0-262-53434-5

Documents of Contemporary Art series
Copublished with Whitechapel Gallery, London

Also available in this series

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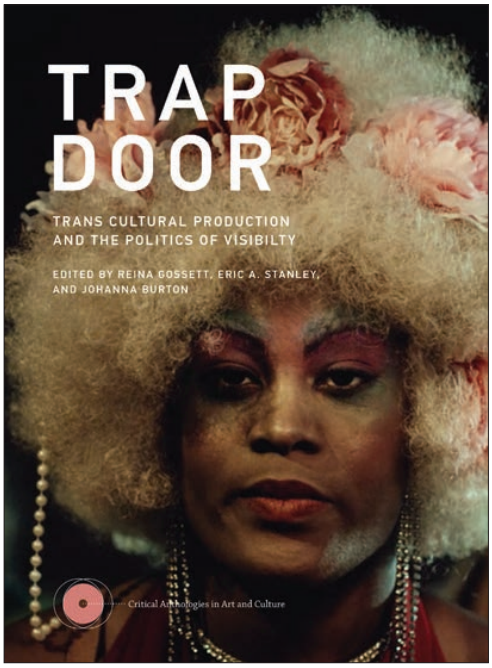
Tom McDonough
$24.95T/£16.95 paper
978-0-262-53344-7

Information
Sarah Cook
$24.95T/£16.95 paper
978-0-262-52934-1

art | gender studies



Trap Door

Trans Cultural Production and the Politics of Visibility

edited by Reina Gossett, Eric A. Stanley, and Johanna Burton

The increasing representation of trans identity throughout art and popular culture in recent years has been nothing if not paradoxical. Trans visibility is touted as a sign of a liberal society, but it has coincided with a political moment marked both by heightened violence against trans people (especially trans women of color) and by the suppression of trans rights under civil law. *Trap Door* grapples with these contradictions.

The essays, conversations, and dossiers gathered here delve into themes as wide-ranging yet interconnected as beauty, performativity, activism, and police brutality. Collectively, they attest to how trans people are frequently offered "doors"—entrances to visibility and recognition—that are actually "traps," accommodating trans bodies and communities only insofar as they cooperate with dominant norms. The volume speculates about a third term, perhaps uniquely suited for our time: the trapdoor, neither entrance nor exit, but a secret passageway leading *elsewhere*. *Trap Door* begins a conversation that extends through and beyond trans culture, showing how these issues have relevance for anyone invested in the ethics of visual culture.

Reina Gossett is an artist, activist, and 2017 Activist in Residence at the Barnard Center for Research on Women. She directed *The Personal Things* (2016) and, with Sasha Wortzel, wrote, directed, and produced *Happy Birthday, Marsha*! (2017), a short film about legendary performer and activist Marsha P. Johnson. **Eric A. Stanley** is Assistant Professor in the Department of Gender and Sexuality Studies at the University of California, Riverside, editor of *Captive Genders: Trans Embodiment and the Prison Industrial Complex*, and, with Chris E. Vargas, director of the films *Homotopia* (2006) and *Criminal Queers* (2016). **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.

Essays, conversations, and archival investigations explore the paradoxes, limitations, and social ramifications of trans representation within contemporary culture.

November
6 3/4 x 9 1/2, 544 pp.
94 color illus., 13 b&w illus.

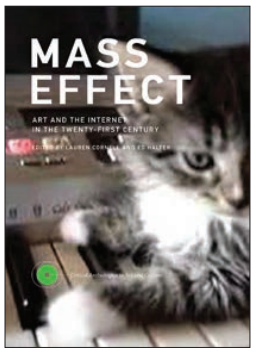
$49.95T/£41.95 cloth
978-0-262-03660-3

Critical Anthologies in Art and Culture
Copublished with the New Museum

Also available in this series

Mass Effect
Art and the Internet in the Twenty-First Century
edited by Lauren Cornell and Ed Halter
2015, 978-0-262-02926-1
$45.95T/£38.95 cloth

Public Servants
Art and the Crisis of the Common Good
edited by Johanna Burton, Shannon Jackson, and Dominic Willsdon
2016, 978-0-262-03481-4
$44.95T/£37.95 cloth



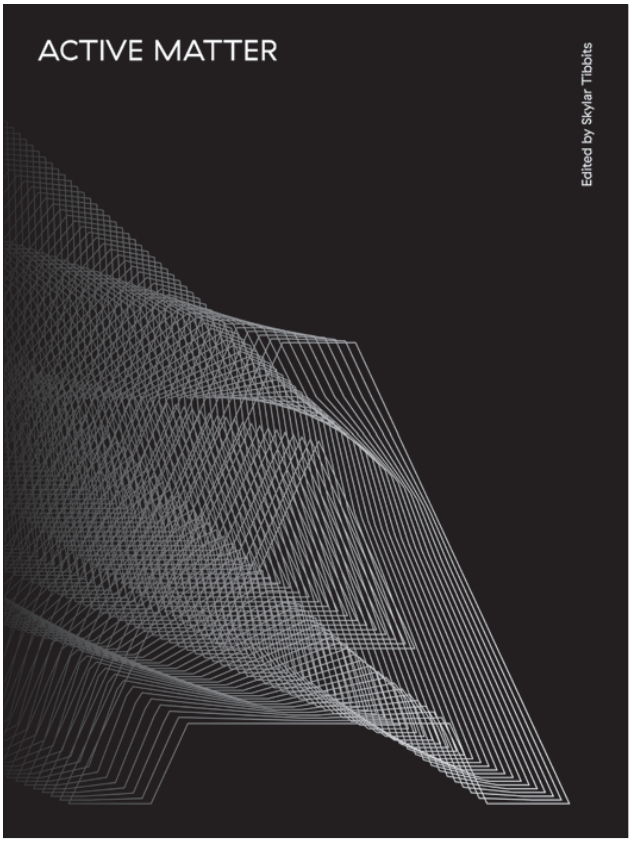
design | materials science

Active Matter

edited by Skylar Tibbits

The past few decades brought a revolution in computer software and hardware; today we are on the cusp of a materials revolution. If yesterday we programmed computers and other machines, today we program matter itself. This has created new capabilities in design, computing, and fabrication, which allow us to program proteins and bacteria, to generate self-transforming wood products and architectural details, and to create clothing from "intelligent textiles" that grow themselves. This book offers essays and sample projects from the front lines of the emerging field of active matter.

Active matter and programmable materials are at the intersection of science, art, design, and engineering, with applications in fields from biology and computer science to architecture and fashion. These essays contextualize current work and explore recent research. Sample projects, generously illustrated in color, show the range of possibilities envisioned by their makers. Contributors explore the design of active material at scales from nano to micro, kilo, and even planetary. They investigate processes of self-assembly at a microscopic level; test new materials that can sense and actuate themselves; and examine the potential of active matter in the built environment and in living and artificial systems. *Active Matter* is an essential guide to a field that could shape the future of design.



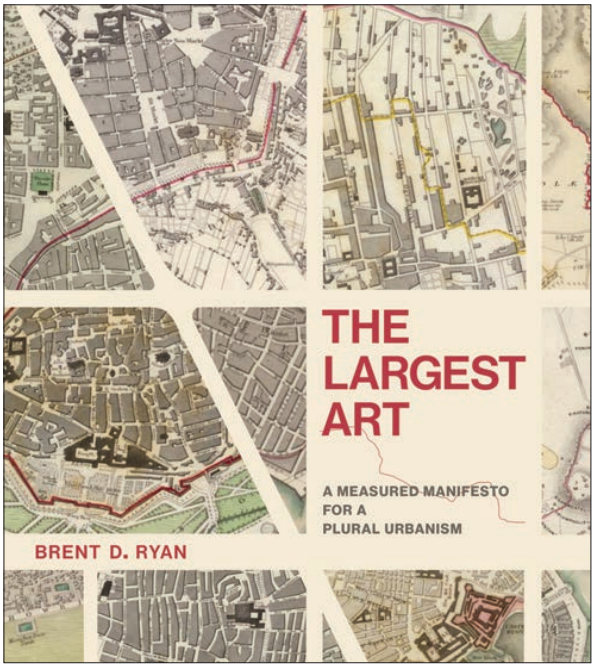
Skylar Tibbits is Assistant Professor of Design Research in the Department of Architecture at MIT and the Founder and Codirector of MIT's Self-Assembly Lab. His work has been exhibited at the Guggenheim in New York, the FRAC Centre, the Beijing Biennale, and the Centre Pompidou.

An essential guide to active matter, an emerging field focused on programming physical materials to assemble themselves, transform autonomously, and react to information.

October
9 x 12, 270 pp.
287 color illus.

$39.95T/32.95 cloth
978-0-262-03680-1

urbanism | architecture



The Largest Art

A Measured Manifesto for a Plural Urbanism

Brent D. Ryan

Urban design in practice is incremental, but architects imagine it as scaled-up architecture—large, ready-to-build pop-up cities. This paradox of urban design is rarely addressed; indeed, urban design as a discipline lacks a theoretical foundation. In *The Largest Art*, Brent Ryan argues that urban design encompasses more than architecture, and he provides a foundational theory of urban design beyond the architectural scale. In a "declaration of independence" for urban design, Ryan describes urban design as the largest of the building arts, with qualities of its own.

Ryan distinguishes urban design from its sister arts by its pluralism: plural scale, ranging from an alleyway to a region; plural time, because it is deeply enmeshed in both history and the present; plural property, with many owners; plural agents, with many makers; and plural form, with a distributed quality that allows it to coexist with diverse elements of the city. Ryan looks at three well-known urban design projects through the lens of pluralism: a Brancusi sculptural ensemble in Romania, a Bronx housing project, and a formally and spatially diverse grouping of projects in Ljubljana, Slovenia. He revisits the thought of three plural urbanists working between 1960 and 1980: David Crane, Edmund Bacon, and Kevin Lynch. And he tells three design stories for the future, imaginary scenarios of plural urbanism in locations around the world.

Ryan concludes his manifesto with three signal considerations urban designers must acknowledge: eternal change, inevitable incompletion, and flexible fidelity. Cities are ceaselessly active, perpetually changing. It is the urban designer's task to make art with aesthetic qualities that can survive perpetual change.

Why urban design is larger than architecture: the foundational qualities, examples and practitioners of plural urbanism, and a manifesto for future practice.

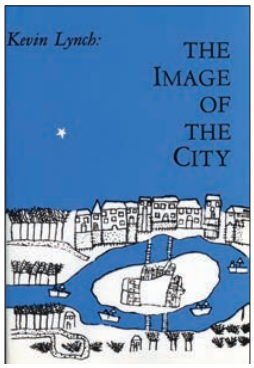
September
8 x 9, 416 pp.
87 color illus., 69 b&w illus.

$44.95T/£37.95 cloth
978-0-262-03667-2

Brent D. Ryan is Head of the City Design and Development Group and Associate Professor of Urban Design and Public Policy in the Department of Urban Studies and Planning at MIT. He is the author of *Design after Decline: How America Rebuilds Shrinking Cities*.

Also available

The Image of the City
Kevin Lynch
978-0-262-62001-7
$27.00S/£21.95 paper



urbanism | architecture

Perspecta 50

Urban Divides

The Yale Architectural Journal

edited by Meghan McAllister and Mahdi Sabbagh

foreword by John Calame

Globalization promised an interconnected world, yet our cities are increasingly divided. In the past decade, for example, thousands of miles of new border walls have been constructed, many in urban contexts. People embrace the idea of walls out of fear, and leaders make promises that only reinforce divisions. Boundaries, of course, are not a new phenomenon. They have historically defined communities for cultural, political, and economic purposes. As urbanization increases and economic inequality reaches record levels, however, urban divides are becoming more pervasive. This volume of *Perspecta*—the oldest and most distinguished student-edited architectural journal in America—investigates divides as a mechanism of urbanism, both spatially and socially complex.

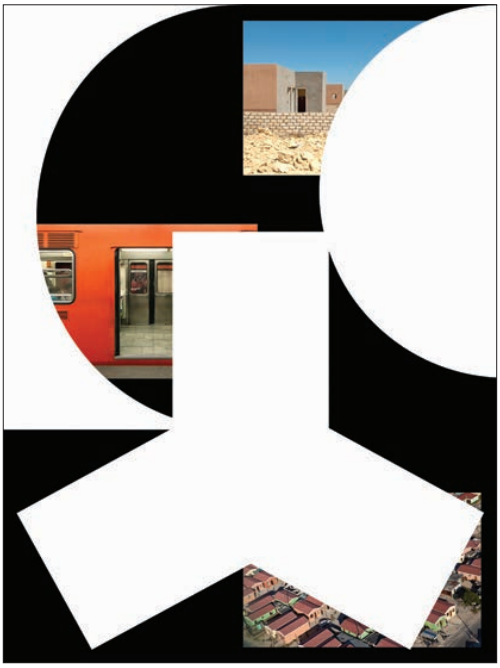
Spatial urban divides are often perceived as binary: separating one entity from the other with walls, fences, and infrastructure—symptoms of conflict or of a failed society. Yet, with intensifying gentrification and ghettoization, urban divides are often not merely walls.

In texts, images, and studio projects, *Perspecta 50* explores broad questions facing urbanism and architecture today, including the effect on urban housing of migration and the blurred boundaries between the formal and informal city. The contributors—architects, urbanists, and academics—identify and critique distinct urban typologies and architectural devices used globally to divide. Among the contributions are Dana Cuff's essay on spatial politics in Los Angeles, Jenny Holzer's reminiscence of guerilla art in the 1970s and 1980s, Gary McDonough's investigation of "soft portals" in global Chinatowns, and Studio Gang's vision of "Polis Station." *Perspecta 50* invites readers to question the inevitability and ubiquity of urban divides.

Meghan McAllister and **Mahdi Sabbagh** are practicing architects and urbanists and graduates of the Yale School of Architecture.

Contributors

Marisa Angell Brown, Jon Calame, City Reparo, Andreea Cojocaru, Dana Cuff, Kian Goh, Jenny Holzer, Jyoti Hosagrahar, Jeffrey Hou, Andrés Jaque, Meghan McAllister, Gary McDonogh, Mitch McEwen, Alishine Osman, Todd Reisz, Mahdi Sabbagh, Anooradha Iyer Siddiqi, Michael Sorkin with Terreform, Studio Gang, Tatiana Bilbao Estudio, Guy Trangoš, Urban-Think Tank, Jesse Vogler, Annabel Jane Wharton, Theresa Williamson

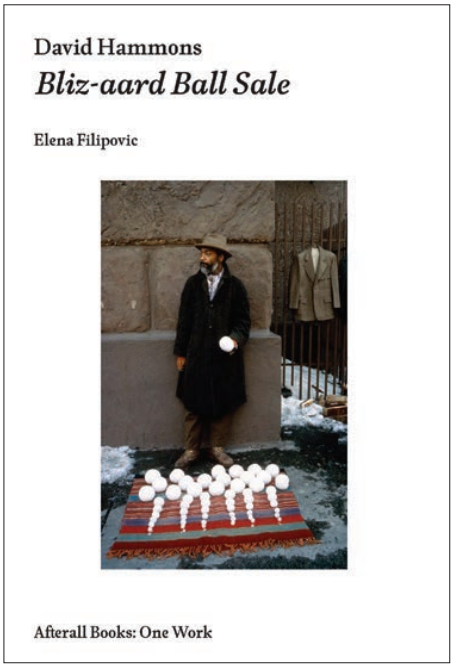


Explorations of spatial, cultural, and social divides in the city.

September
9 x 12, 400 pp.
54 color illus., 288 b&w illus.

$29.95T/£24.95 paper
978-0-262-53427-7

art



Drawing on unpublished documents and oral histories, an illustrated examination of an iconic artwork by an artist who has made a lifework of tactical evasion.

October
6 x 8 1/2, 128 pp.
32 color illus.

$19.95T/£14.95 paper
978-1-84638-186-7

One Work series
Distributed for Afterall Books

David Hammons

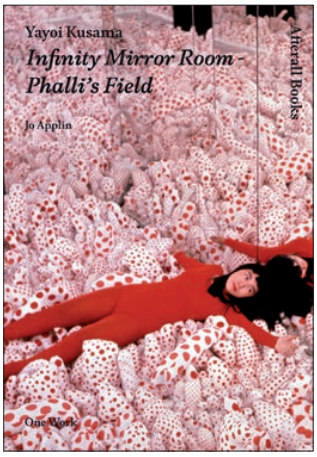
Bliz-aard Ball Sale

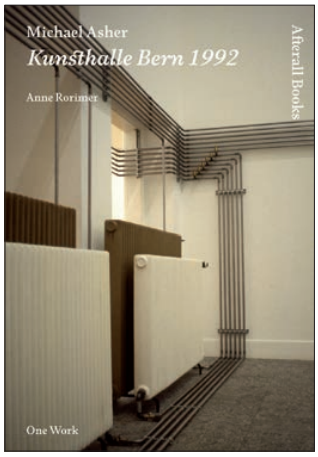
Elena Filipovic

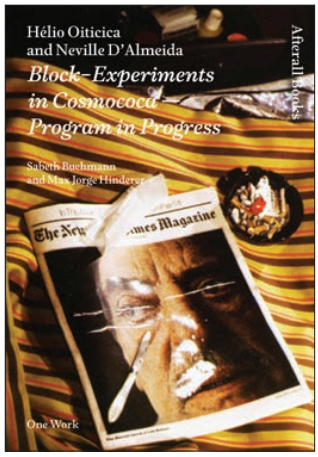
One wintry day in 1983, alongside other street sellers in the East Village, David Hammons peddled snowballs of various sizes. He had neatly laid them out in graduated rows and spent the day acting as obliging salesman. He called the evanescent and unannounced street action *Bliz-aard Ball Sale*, thus inscribing it into a body of work that, from the late 1960s to the present, has used a lexicon of ephemeral actions and self-consciously "black" materials to comment on the nature of the artwork, the art world, and race in America. And although *Bliz-aard Ball Sale* has been frequently cited and is increasingly influential, it has long been known only through a mix of eyewitness rumors and a handful of photographs. Its details were as elusive as the artist himself; even its exact date was unrecorded. Like so much of the artist's work, it was conceived, it seems, to slip between our fingers—to trouble the grasp of the market, as much as of history and knowability.

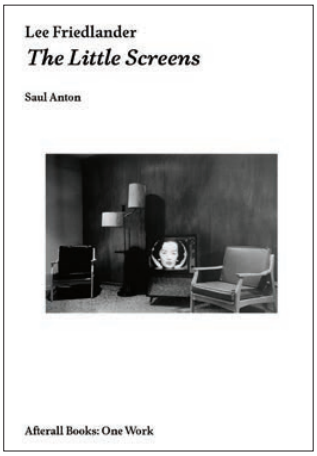
In this engaging study, Elena Filipovic collects a vast oral history of the ephemeral action, uncovering rare images and documents, and giving us singular insight into an artist who made an art of making himself difficult to find. And through it, she reveals *Bliz-aard Ball Sale* to be the backbone of a radical artistic oeuvre that transforms such notions as "art," "commodity," "performance," and even "race" into categories that shift and dissolve, much like slowly melting snowballs.

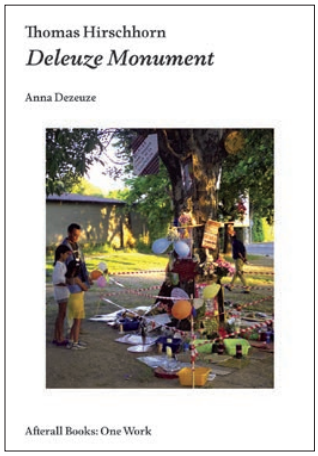
Elena Filipovic, an art historian, is Director and Curator of Kunsthalle Basel. She is the author of *The Apparently Marginal Activities of Marcel Duchamp* (MIT Press).

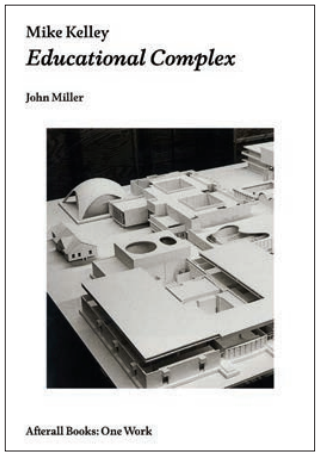


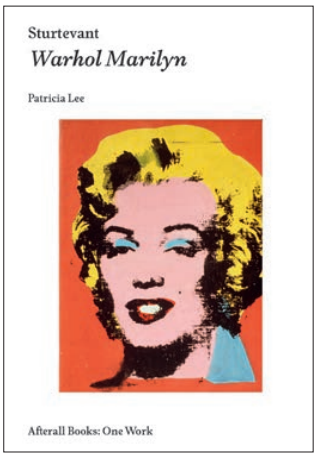












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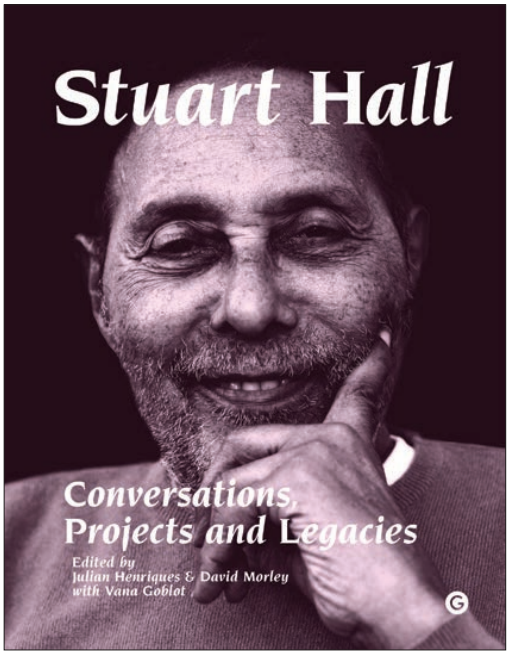

A contemporary look at one of the founding figures in the field of cultural studies.

November
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36 illus.

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Stuart Hall

Conversations, Projects and Legacies

edited by Julian Henriques and David Morley with Vana Goblot

This volume from Goldsmiths, University of London, examines the career of the cultural studies pioneer Stuart Hall, investigating his influence and revealing lesser-known facets of his work. These essays evaluate the legacies of his particular brand of cultural studies and demonstrate how other scholars and activists have utilized his thinking in their own research. Throughout, Hall's colleagues and collaborators assess his theoretical and methodological standpoints, his commitment to the development of a flexible form of revisionist Marxism, and the contributions of his specific mode of analysis to public debates on Thatcherism, neoliberalism, and multiculturalism. In her contribution, Angela Davis argues that the model of politics, ideology, and race initially developed by Hall and his colleagues in England continues to resonate when applied to America's racialized policing. Other essays focus on Hall's contributions to contemporary political debate and questions of race, ethnicity, identity, migrancy, and diaspora, and discuss Hall's continuing involvement in issues of representation and aesthetics in the visual arts, particularly photography and film.

With contributions from Britain, Europe, East Asia, and North and Latin America, the book provides a comprehensive look at how, under Hall's intellectual leadership, British cultural studies transformed itself from a form of "local" knowledge to the international field of study we know today.

Julian Henriques is Professor of Media and Communications at Goldsmiths, University of London. **David Morley** is Professor of Communications at Goldsmiths, University of London.

Contributors
Sara Ahmed, John Akomfrah, Avtar Brah, Charlotte Brunsdon, Iain Chambers, Kuan-Hsing Chen, John Clarke, James Curran, Angela Davis, David Edgar, Lawrence Grossberg, Catherine Hall, Dick Hebdige, Tony Jefferson, Robert Lumley, Mahasiddhi (Roy Peters), Doreen Massey, Angela McRobbie, Caspar Melville, Frank Mort, Michael Rustin, Bill Schwarz, Mark Sealy, Liv Sovik, Lola Young

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literature | biography

After Kathy Acker

Chris Kraus

Acker's life was a fable; and to describe the confusion and love and conflicting agendas behind these memorials would be to sketch an apocryphal allegory of an artistic life in the late twentieth century. It is girls from which stories begin, she wrote in her last notebook. And like other lives, but unlike most fables, it was created through means both within and beyond her control.
—from *After Kathy Acker*

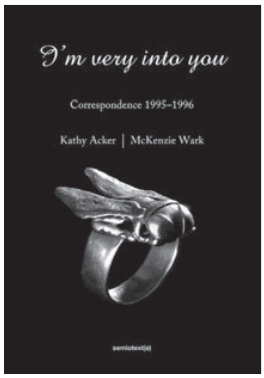
Rich girl, street punk, lost girl and icon. . . scholar, stripper, victim, and media-whore: The late Kathy Acker's legend and writings are wrapped in mythologies, created mostly by Acker herself. Twenty years after her death, Acker's legend has faded, making her writing more legible.

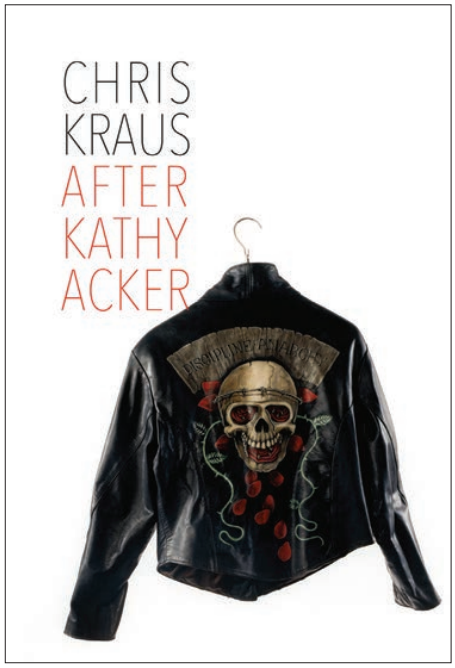
In this first, fully authorized, biography, Chris Kraus approaches Acker both as a writer and as a member of the artistic communities from which she emerged. At once forensic and intimate, *After Kathy Acker* traces the extreme discipline and literary strategies Acker used to develop her work, and the contradictions she longed to embody. Using exhaustive archival research and ongoing conversations with mutual colleagues and friends, Kraus charts Acker's movement through some of the late twentieth century's most significant artistic enterprises.

Beginning in her mid-teens, Acker lived her ideal of the Great Writer as Cultural Hero, and as Kraus argues, she may well have been the only female writer to succeed in assuming this role. She died of untreated cancer at an alternative clinic in Tijuana when she was fifty years old, but the story that *After Kathy Acker* tells indicates that the real pathos of Acker's life may have been in the fact that by then she'd already outlived her ideal.

Chris Kraus is the author of four novels, including *Aliens & Anorexia*, *I Love Dick*, and *Torpor*, and two books of art and cultural criticism, all published by Semiotext(e). She was a 2016 Guggenheim Fellow and teaches writing at European Graduate School.

"This is a gossipy, anti-mythic artist biography that feels like it's being told in one long rush of a monologue over late-night drinks by someone who was there. As such, we learn as much about Kathy Acker as we do about the mores of the artists and writers who surrounded her in the last three decades of the twentieth century. Acker emerges as an unlikely literary hero, but an utterly convincing one."
—Sheila Heti





The first authorized biography of postmodernism's literary hero, Kathy Acker.

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politics | cultural studies

Now

The Invisible Committee

Translated by Robert Hurley

Now is the phantom chapter to the Invisible Committee's previous book, *To Our Friends*: a new critique from the anonymous collective that establishes their opposition to the world of capital and its law of labor, addresses current anti-terrorist rhetoric and the ferocious repression that comes with it, and clarifies the end of social democracy and the growing rumors of the need for a coming "civil war." *Now* emerges at a time when the Invisible Committee's contestation has found echoes throughout the West, with a collapse of trust in the police, an inept weariness on the part of the political system, a growing urgency for opposition, a return of the theme of the Commune, a vanishing distinction between radicals and citizens, and a widespread refusal on the part of the citizen to be governed. As farcical political elections continue to unfold worldwide like a line of tumbling dominoes, and governments increasingly struggle to reclaim a legitimacy that has already slipped out of their grasp, *Now* clarifies the Invisible Committee's attitude toward all such elections and their outcome: one of utter indifference. *Now* proposes a "destituent process" that charts out a different path to be taken, a path of outright refusal that simply ignores elections altogether. It is a path that calls for taking over the world and not taking power, for exploring new forms of life and not a new constitution, and for desertion and silence as alternatives to proclamations and crashes. It is also a call for an unprecedented communism—a communism stronger than nation and country.

The Invisible Committee is a collective and anonymous pen name.

A new political critique from the authors of *The Coming Insurrection*, calling for a "destituent process" of outright refusal and utter indifference to government.

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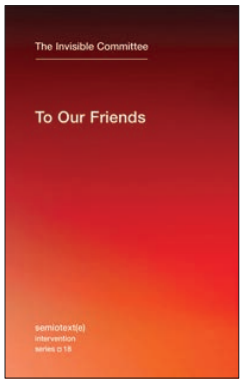
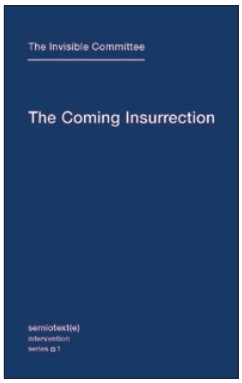




political theory | cultural studies

Whites, Jews, and Us

Toward a Politics of Revolutionary Love

Houria Bouteldja
translated by Rachel Valinsky
foreword by Cornel West

Why am I writing this book? Because I share Gramsci's anxiety: "The old are dying and the new cannot be born; in this interregnum a great variety of morbid symptoms appear." The fascist monster, born in the entrails of Western modernity. Of course, the West is not what it used to be. Hence my question: what can we offer white people in exchange for their decline and for the wars that will ensue? There is only one answer: peace. There is only one way: revolutionary love.
—**from *Whites, Jews, and Us***

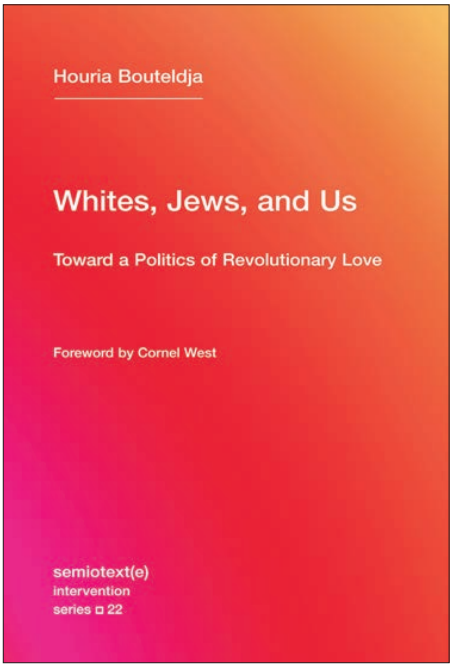
With *Whites, Jews, and Us*, Houria Bouteldja launches a scathing critique of the European Left from an indigenous anti-colonial perspective, reflecting on Frantz Fanon's political legacy, the republican pact, the Shoah, the creation of Israel, feminism, and the fate of postcolonial immigration in the West in the age of rising anti-immigrant populism. Drawing upon such prominent voices as James Baldwin, Malcolm X, and Jean Genet, she issues a polemical call for a militant anti-racism grounded in the concept of revolutionary love.

Such love will not come without significant discomfort for whites, and without necessary provocation. Bouteldja challenges widespread assumptions among the Left in the United States and Europe—that anti-Semitism plays any role in Arab–Israeli conflicts, for example, or that philo-Semitism doesn't in itself embody an oppressive position; that feminism or postcolonialist theory is free of colonialism; that integrationalism is a solution rather than a problem; that humanism can be against racism when its very function is to support the political-ideological apparatus that Bouteldja names the "white immune system."

At this transitional moment in the history of the West—which is to say, at the moment of its decline—Bouteldja offers a call for political unity that demands the recognition that whiteness is not a genetic question: it is a matter of power, and it is high time to dismantle it.

This Semiotext(e)/Intervention series English-language edition includes a foreword by Cornel West.

Houria Bouteldja is a French-Algerian political activist and writer focusing on anti-racism, anti-imperialism, and Islamophobia. She serves as spokesperson for the Parti des Indigènes de la République (Party of the Indigenous of the Republic).



A scathing critique of the Left from an indigenous anti-colonial perspective.

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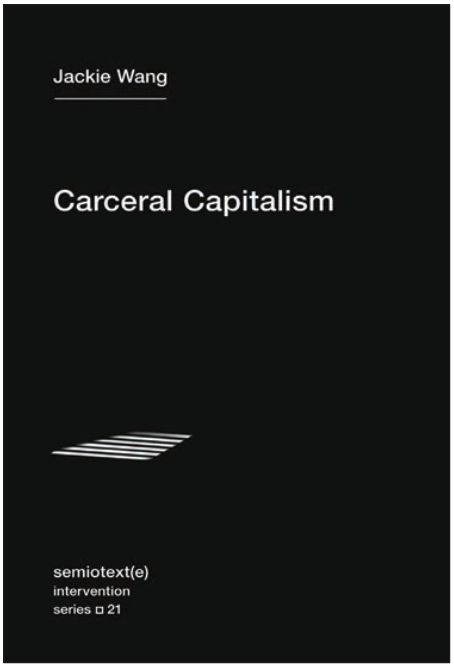

Essays on the contemporary continuum of incarceration: the biopolitics of juvenile delinquency, predatory policing, the political economy of fees and fines, and algorithmic policing.

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Carceral Capitalism

Jackie Wang

What we see happening in Ferguson and other cities around the country is not the creation of livable spaces, but the creation of living hells. When people are trapped in a cycle of debt it also can affect their subjectivity and how they temporally inhabit the world by making it difficult for them to imagine and plan for the future. What psychic toll does this have on residents? How does it feel to be routinely dehumanized and exploited by the police?
—**from *Carceral Capitalism***

In this collection of essays in Semiotext(e)'s Intervention series, Jackie Wang examines the contemporary incarceration techniques that have emerged since the 1990s. The essays illustrate various aspects of the carceral continuum, including the biopolitics of juvenile delinquency, predatory policing, the political economy of fees and fines, cybernetic governance, and algorithmic policing. Included in this volume is Wang's influential critique of liberal anti-racist politics, "Against Innocence," as well as essays on *RoboCop*, techno-policing, and the aesthetic problem of making invisible forms of power legible.

Wang shows that the new racial capitalism begins with parasitic governance and predatory lending that extends credit only to dispossess later. Predatory lending has a decidedly spatial character and exists in many forms, including subprime mortgage loans, student loans for sham for-profit colleges, car loans, rent-to-own scams, payday loans, and bail bond loans. Parasitic governance, Wang argues, operates through five primary techniques: financial states of exception, automation, extraction and looting, confinement, and gratuitous violence. While these techniques of governance often involve physical confinement and the state-sanctioned execution of black Americans, new carceral modes have blurred the distinction between the inside and outside of prison. As technologies of control are perfected, carcerality tends to bleed into society.

Jackie Wang is a student of the dream state, black studies scholar, prison abolitionist, poet, performer, library rat, trauma monster and PhD student at Harvard University. She is the author of a number of punk zines including *On Being Hard Femme*, as well as a collection of dream poems titled *Tiny Spelunker of the Oneiro-Womb*.

philosophy | political theory

Wars and Capital

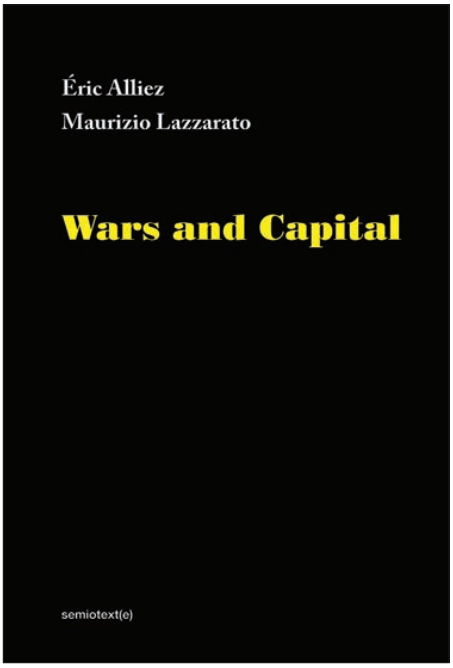
Éric Alliez and Maurizio Lazzarato
translated by Ames Hodges

"We are at war," declared the President of the French Republic on the evening of November 13, 2015. But what is this war, exactly?

In *Wars and Capital*, Éric Alliez and Maurizio Lazzarato propose a counter-history of capitalism to recover the reality of the wars that are inflicted on us and denied to us. We experience not the ideal war of philosophers, but wars of class, race, sex, and gender; wars of civilization and the environment; wars of subjectivity that are raging within populations and that constitute the secret motor of liberal governmentality. By naming the enemy (refugees, migrants, Muslims), the new fascisms establish their hegemony on the processes of political subjectivation by reducing them to racist, sexist, and xenophobic slogans, fanning the flames of war among the poor and maintaining the total war philosophy of neoliberalism.

Because war and fascism are the repressed elements of post-'68 thought, Alliez and Lazzarato not only read the history of capital through war but also read war itself through the strange revolution of '68, which made possible the passage from war in the singular to a plurality of wars—and from wars to the construction of new war machines against contemporary financialization. It is a question of pushing "'68 thought" beyond its own limits and redirecting it towards a new pragmatics of struggle linked to the continuous war of capital. It is especially important for us to prepare ourselves for the battles we will have to fight if we do not want to be always defeated.

Éric Alliez is Professor of Contemporary French Philosophy at the Centre for Research in Modern European Philosophy at Middlesex University. **Maurizio Lazzarato** is a sociologist and philosopher in Paris. He is the author of *Governing by Debt* and *Signs and Machines: Capitalism and the Production of Subjectivity,* both published by Semiotext(e).



A critique of capital through the lens of war, and a critique of war through the lens of the revolution of 1968.

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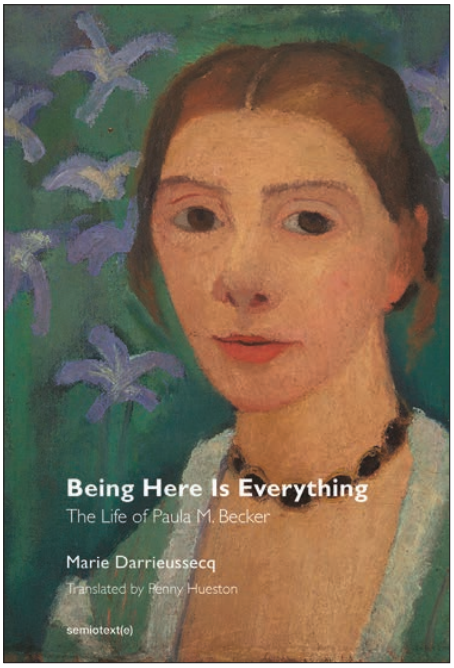

The short, obscure, and prolific life of the German expressionist painter Paula Modersohn-Becker (1876–1907), a significant figure in modernism.

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Being Here Is Everything

The Life of Paula M. Becker

Marie Darrieussecq
translated by Penny Hueston

First published in France in 2016, *Being Here Is So Much* traces the short, obscure, and prolific life of the German expressionist painter Paula Modersohn-Becker (1876–1907). In a brief career, cut short by her death from an embolism at the age of thirty-one, shortly after she gave birth to a child, Modersohn-Becker trained in Germany, traveled often to Paris, developed close friendships with the sculptor Clara Westhoff and the poet Rainer Maria Rilke, and became one of her generation's preeminent artists, helping introduce modernity to the twentieth century alongside such other painters as Picasso and Matisse.

Marie Darrieussecq's triumphant and illuminating biography at once revives Modersohn-Becker's reputation as a significant figure in modernism and sheds light on the extreme difficulty women have faced in attaining recognition and establishing artistic careers.

Marie Darrieussecq published her first novel, *Pig Tales*, in 1996 at the age of twenty-seven, and it became an overnight sensation and bestseller, selling more than 300,000 copies and translated into more than thirty languages. *The New Yorker* described her as France's "best young novelist," and she is recognized as one of the leading voices of French contemporary literature. Her novel *Men* was awarded the Prix Médicis and the Prix des Prix in 2013.

"Marie Darrieussecq reads the testament of Modersohn-Becker—the letters, the diaries, and above all the paintings—with a burning intelligence and a fierce hold on what it meant and means to be a woman and an artist."
—**J.M. Coetzee**

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—***Lire* magazine**

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—***Vogue***

"Between the lines, this very beautiful text is read as a feminist manifesto, which constantly questions the place for women in art."
—***Les Inrockuptibles***

history

1668

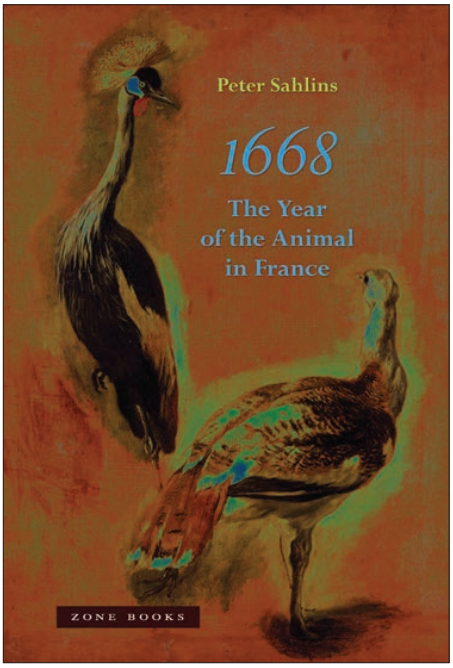
The Year of the Animal in France

Peter Sahlins

The poet Jean de La Fontaine famously dedicated his *Fables* in 1668 to Louis XIV's son, declaring in verse that "animals I choose/to proffer lessons that we all might use." Less well known is that La Fontaine's *Fables* appeared within a peak moment of cultural production about animals, the work of a small, but privileged coterie of writers, artists, philosophers, physicians, and scientists. In this book, Peter Sahlins argues that the animals of 1668 helped to shift an entire way of thinking about the relationship of animals and humans—what Sahlins calls "Renaissance humanimalism"—toward more recognizably modern expressions of classical naturalism. At the same time, Louis XIV used the animals of his newly constructed Versailles menagerie and of the Royal Labyrinth to transform the symbolic language of French absolutism. In the aftermath of 1668, Louis XIV adopted a new model of sovereignty in which the absolute authority of the king is justified by the bestial nature of his human subjects.

1668: The Year of the Animal in France is a unique interdisciplinary study with rich visual documentation and interpretation of the symbolic lives and afterlives of the animal kingdom at Versailles and Paris. Sahlins observes these animals in the animal palace designed by Louis Le Vau, the paintings and tapestries of Charles Le Brun, the garden installations of André Le Nôtre, the writings of Charles Perrault his brother Claude, the poetry of Madeleine de Scudéry, the philosophy of René Descartes, the engravings of Sébastien Leclerc, and the transfusion experiments of Jean Denis and others. Sahlins brings together the nonhuman and human agents of 1668—porcupines and painters, swans and scientists, egrets and engravers, cranes and craftsmen. He uncovers the critical importance of animals in 1668 and transforms the fields of human-animal studies and early modern French history.

Peter Sahlins is Professor of History at the University of California, Berkeley.



When animals and their symbolic representations—in the Royal Menagerie, in art, in medicine, in philosophy—helped transform the French state and culture.

October
6 x 9, 464 pp.
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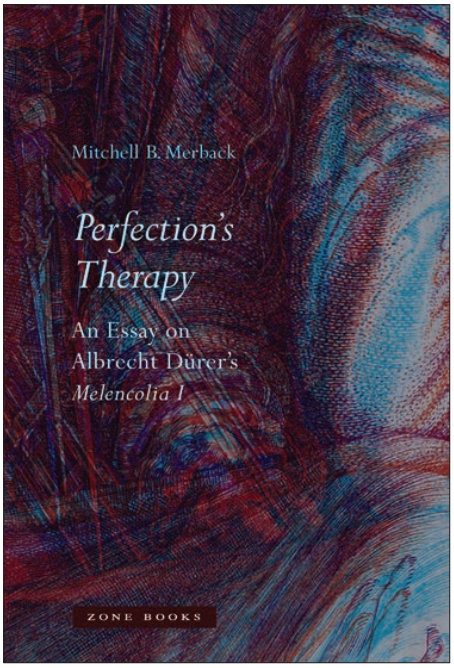

Perfection's Therapy

An Essay on Albrecht Dürer's *Melencolia I*

Mitchell B. Merback

Albrecht Dürer's famous portrayal of creative effort in paralysis, the unsurpassed masterpiece of copperplate engraving titled *Melencolia I*, has stood for centuries as a pictorial summa of knowledge about the melancholic temperament, a dense allegory of the limits of earthbound arts and sciences and the impossibility of attaining perfection. Dubbed the "image of images" for being the most zealously interpreted picture in the Western canon, *Melencolia I* also presides over the origins of modern iconology, art history's own science of meaning. Yet we are left with a clutter of mutually contradictory theories, a historiographic ruin that confirms the mood of its object. In *Perfection's Therapy*, Mitchell Merback reopens the case file and argues for a hidden intentionality in *Melencolia*'s opacity, its structural "chaos," and its resistance to allegorical closure. That intentionality, he argues, points toward a fascinating possibility never before considered: that Dürer's masterpiece is not only an arresting diagnosis of melancholic distress, but an innovative instrument for its undoing.

Merback deftly resituates Dürer's image within the long history of the therapeutic artifact. Placing Dürer's therapeutic project in dialogue with that of humanism's founder, Francesco Petrarch, Merback also unearths Dürer's ambition to act as a physician of the soul. Celebrated as the "Apelles of the black line" in his own day, and ever since as Germany's first Renaissance painter-theorist, the Dürer we encounter here is also the first modern Christian artist, addressing himself to the distress of souls, including his own. *Melencolia* thus emerges as a key reference point in a venture of spiritual-ethical therapy, a work designed to exercise the mind, restore the body's equilibrium, and help in getting on with the undertaking of perfection.

Mitchell B. Merback is Professor of History of Art at Johns Hopkins University.

A deft reinterpretation of the most zealously interpreted picture in the Western canon as a therapeutic artifact.

December
6 x 9, 320 pp.
50 b&w illus.

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978-1-942130-00-0

Distributed for Zone Books

Walled States, Waning Sovereignty

NEW EDITION

Wendy Brown
with a new preface

Why do walls marking national boundaries proliferate amid widespread proclamations of global connectedness and despite anticipation of a world without borders? Why are barricades built of concrete, steel, and barbed wire when threats to the nation today are so often miniaturized, vaporous, clandestine, dispersed, or networked?

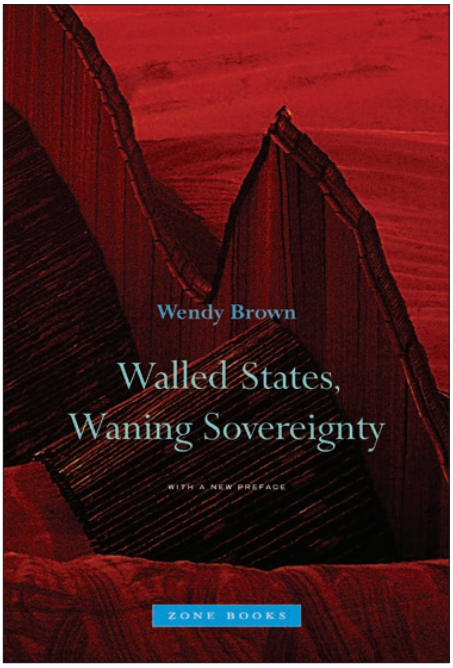
In *Walled States, Waning Sovereignty*, Wendy Brown considers the recent spate of wall building in contrast to the erosion of nation-state sovereignty. Drawing on classical and contemporary political theories of state sovereignty in order to understand how state power and national identity persist amid its decline, Brown considers both the need of the state for legitimacy and the popular desires that incite the contemporary building of walls. The new walls—dividing Texas from Mexico, Israel from Palestine, South Africa from Zimbabwe—consecrate the broken boundaries they would seem to contest and signify the ungovernability of a range of forces unleashed by globalization. Yet these same walls often amount to little more than theatrical props, frequently breached, and blur the distinction between law and lawlessness that they are intended to represent. But if today's walls fail to resolve the conflicts between globalization and national identity, they nonetheless project a stark image of sovereign power. Walls, Brown argues, address human desires for containment and protection in a world increasingly without these provisions. Walls respond to the wish for horizons even as horizons are vanquished.

Wendy Brown is Class of 1936 First Chair of Political Science at the University of California, Berkeley, where she is also affiliated with the Department of Rhetoric and the Critical Theory Program and the author of *Undoing the Demos: Neoliberalism's Stealth Revolution* (Zone Books).

First Edition Awarded the American Political Science Association 2012 David Easton Prize

"An instant classic that foretold the global turn to border walls, this revised edition is required reading for anyone interested in how the world works in the twenty-first century."
—Reece Jones, author of *Violent Borders*

"As Britain withdraws from the European Union and as the theater of sovereignty finds a home in the White House, Brown's thesis about nation-state walling remains as pertinent now as it was when first published."
—Andrew Baldwin, coeditor of *Life Adrift: Climate Change, Migration, Critique*



A prize-winning examination of why nation-states wall themselves off despite widespread proclamations of global connectedness.

September
6 x 9, 184 pp.
10 illus.

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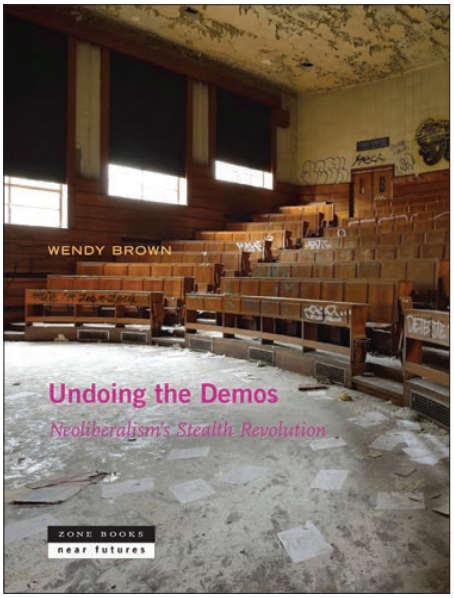
political science | philosophy



Tracing neoliberalism's devastating erosions of democratic principles, practices, and cultures.

September
6 x 8, 296 pp.

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Near Futures series

Distributed for Zone Books

Undoing the Demos

Neoliberalism's Stealth Revolution

Wendy Brown

Neoliberal rationality—ubiquitous today in statecraft and the workplace, in jurisprudence, education, and culture—remakes everything and everyone in the image of *homo oeconomicus*. What happens when this rationality transposes the constituent elements of democracy into an economic register? In *Undoing the Demos*, Wendy Brown explains how democracy itself is imperiled. The demos disintegrates into bits of human capital; concerns with justice bow to the mandates of growth rates, credit ratings, and investment climates; liberty submits to the imperative of human capital appreciation; equality dissolves into market competition; and popular sovereignty grows incoherent. Liberal democratic practices may not survive these transformations. Radical democratic dreams may not either.

In an original and compelling argument, Brown explains how and why neoliberal reason undoes the political form and political imaginary it falsely promises to secure and reinvigorate. Through meticulous analyses of neoliberalized law, political practices, governance, and education, she charts the new common sense. *Undoing the Demos* makes clear that for democracy to have a future, it must become an object of struggle and rethinking.

Wendy Brown is Class of 1936 First Chair of Political Science at the University of California, Berkeley, where she is also affiliated with the Department of Rhetoric and the Critical Theory Program and the author of *Walled States, Waning Sovereignty* (Zone Books).

"Brilliant and incisive."
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"Brown's book is theoretical yet accessible. . . . essential reading not only for academics but for anyone concerned with our collective political future, and with the defense of democratic politics."
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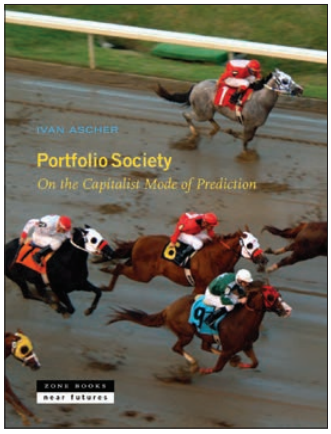

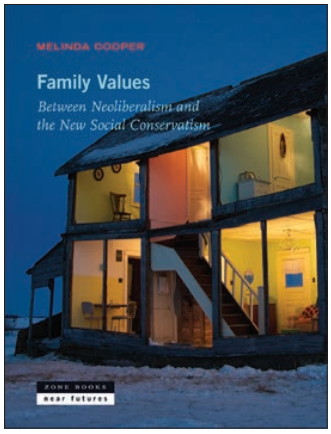

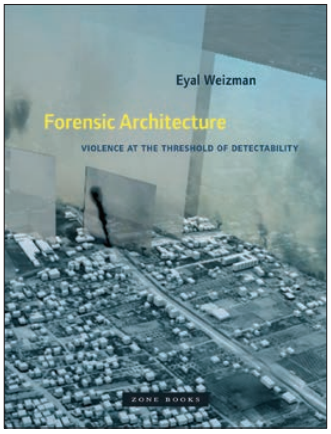

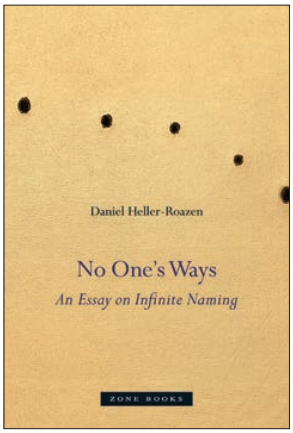

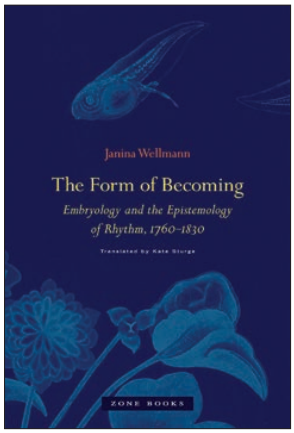

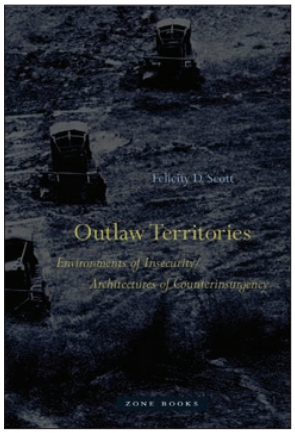

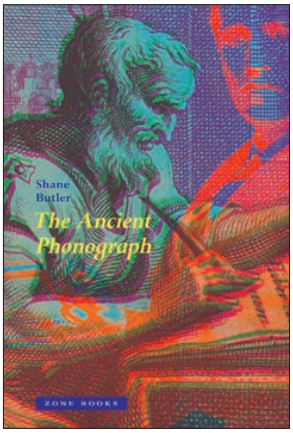

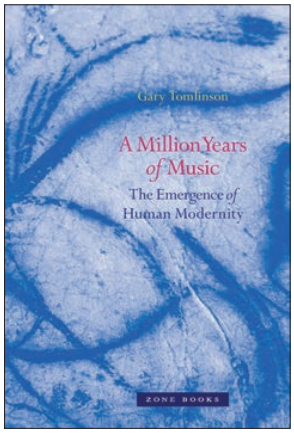

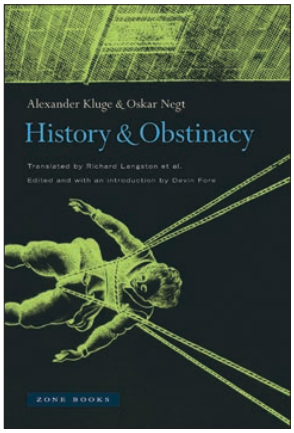

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history | occult

An exhaustive investigation of the case of Gef, a "talking mongoose" or "man-weasel," who appeared to a family living on the Isle of Man.

June
6 x 8 1/2, 456 pp.

$21.95T/£15.99 paper
978-1-907222-48-1

Gef!

The Strange Tale of an Extra-Special Talking Mongoose

Christopher Josiffe

"I am the fifth dimension! I am the eighth wonder of the world!"

During the mid-1930s, British and overseas newspapers were full of incredible stories about Gef, a "talking mongoose" or "man-weasel" who had allegedly appeared in the home of the Irvings, a farming family in a remote district of the Isle of Man. The creature was said to speak in several languages, to sing, to steal objects from nearby farms, and to eavesdrop on local people.

Despite written reports, magazine articles and books, several photographs, fur samples and paw prints, voluminous correspondence, and signed eyewitness statements, there is still no consensus as to what was really happening to the Irving family.

Was it a hoax? An extreme case of *folie à plusieurs*? A poltergeist? The possession of an animal by an evil spirit? Now you can read all the evidence and decide for yourself. Seven years' research and interviews, photographs (many previously unseen), interviews with surviving witnesses, visits to the site—all are presented in this book, the first examination of the case for seventy years.

In the words of its mischievous, enigmatic subject, "If you knew what I know, you'd know a hell of a lot!"

Christopher Josiffe is a regular contributor to *Fortean Times* and has also been published in *Faunus*, *Abraxas*, and *The Pomegranate*. He has given lectures at the Ghost Club, the Society for Psychical Research, Senate House Library and the *Fortean Times* Unconvention.

Celebrating unpopular culture since 2001, Strange Attractor Press is dedicated to publishing books from the outer edge, documenting lost, neglected, emerging, and underground currents from areas including anthropology, psychology, science and magic, natural history, literature, sound and music, film, and the visual arts.

music | history

England's Hidden Reverse

A Secret History of the Esoteric Underground

David Keenan

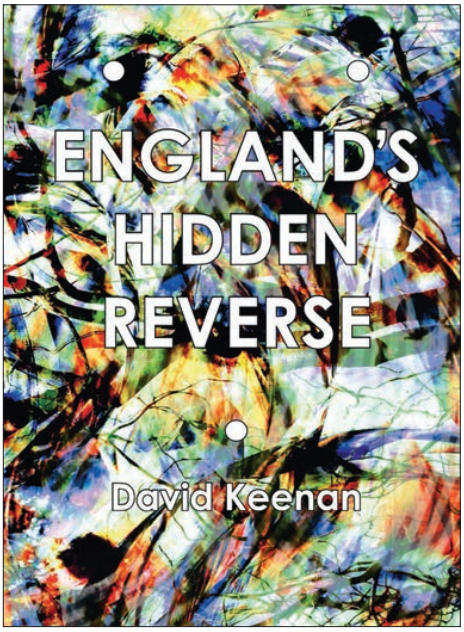
Based on hundreds of hours of interviews with members of the seminal music groups Coil, Current 93, and Nurse With Wound, *England's Hidden Reverse* illuminates a shadowy but deeply influential underground scene. Together these artists and their many associates accented peculiarities of Englishness through the links and affinities they forged with earlier generations of the island's marginals and outsiders, such as playwright Joe Orton, writers like the decadent Eric Count Stenbock, ecstatic mystic novelist Arthur Machen and occult figures like Austin Osman Spare and Aleister Crowley.

While functioning as an obsessively researched biography of the three interrelated groups, David Keenan's book also works to trace their influences, explicating a reverse current that runs counter to the mainstream, drawing upon occult strains of transgressive performance, queer sensuality, and richly textured sound worlds.

This much-anticipated expanded edition of a book first published in 2002 and long out of print comes completely redesigned, with color throughout, with many new and previously unseen photographs and ephemera, including two new chapters: a final summary of how the "Reverse" has shifted gear since the book was first published, and a new essay, "Crime Calls For Night."

David Keenan is an author and critic based in Glasgow, Scotland. He has been a regular contributor to *The Wire* magazine for the past twenty years. His debut novel, *This Is Memorial Device*, was published by Faber in 2017.

"**Strange Attractor** goes precisely where mainstream and academic publishers on both sides of the Atlantic fear to tread—the overlooked but crucial dark corners of popular culture, literature, art, music, and esotericism. They're at the top of my list for one-of-a-kind books displaying intellectual rigor, fine production values, and—most important—playful curiosity."
—Victoria Nelson, author of *Gothicka* and *The Secret Life of Puppets*



An obsessively researched biography of the three seminal music groups Coil, Current 93, and Nurse With Wound that also illuminates the history of the English underground scene.

June
6 1/4 x 8 1/2, 456 pp.
113 color illus., 113 b&w illus.

$33.95T/£25.00 paper
978-1-907222-17-7

DISTRIBUTED BY THE MIT PRESS

STRANGE ATTRACTOR PRESS

biography | music

A memoir from one of Britain's legendary singers, folklorists, and music historians.

November
6 x 8 1/2, 256 pp.

$20.95T/£14.99 paper
978-1-907222-41-2

All In The Downs

Reflections on Life, Landscape and Song

Shirley Collins

A legendary singer, folklorist, and music historian, Shirley Collins has been an integral part of the folk-music revival for more than sixty years. In her new memoir, *All in the Downs*, Collins tells the story of that lifelong relationship with English folksong—a dedication to artistic integrity that has guided her through the triumphs and tragedies of her life.

All in the Downs combines elements of memoir—from her working-class origins in wartime Hastings to the bright lights of the 1950s folk revival in London—alongside reflections on the role traditional music and the English landscape have played in shaping her vision. From formative field recordings made with Alan Lomax in the United States to the "crowning glories" recorded with her sister Dolly on the Sussex Downs, she writes of the obstacles that led to her withdrawal from the spotlight and the redemption of a new artistic flourishing that continues today with her unexpected return to recording in 2016.

Through it all, Shirley Collins has been guided and supported by three vital and inseparable loves: traditional English song, the people and landscape of her native Sussex, and an unwavering sense of artistic integrity. *All in the Downs* pays tribute to these passions, and in doing so, illustrates a way of life as old as England, that has all but vanished from this land.

Generously illustrated with rare archival material.

Shirley Collins is a renowned folk singer. She is the president of the English Folk Dance and Song Society in London. Her critically lauded album *Lodestar*, released in 2016, marked a triumphant return to performance after a thirty-year absence.

art | occult

Lost Envoy

The Tarot Deck of Austin Osman Spare

edited by Jonathan Allen

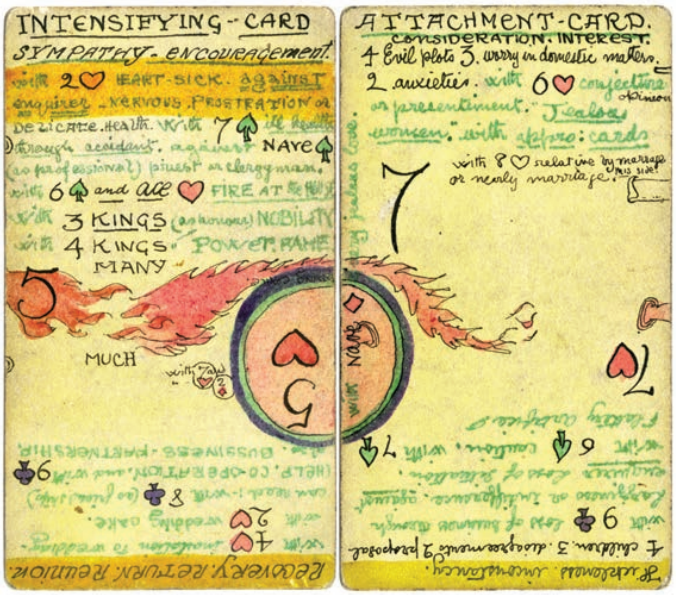
In the spring of 2013, a seventy-nine-card, hand-painted tarot deck created c.1906 by the mystic and artist Austin Osman Spare, was identified within the collections of The Magic Circle Museum in London.

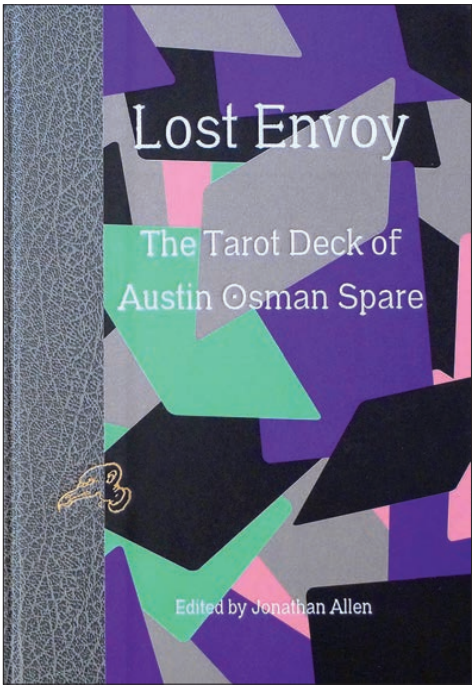
Austin Spare's lifelong interest in cartomancy is well documented, yet very few of his own fortune-telling cards were thought to have survived. This compelling new example of the artist's early work demonstrates his precocious involvement with the currents that shaped the British Occult Revival at the beginning of the twentieth century, and his interactions with some of the period's artistic and political protagonists including Aleister Crowley, Arthur Ivey, Sylvia Pankhurst, and Pamela Colman Smith.

Magic Circle Museum curator and artist Jonathan Allen set about tracing the deck's provenance, its place in the artist's oeuvre, and within the wider histories of cartomancy, potentially rewriting the history of popular Tarot in the early twentieth century.

Lost Envoy reproduces Austin Spare's tarot deck in its entirety for the first time, alongside new written and visual contributions from Jonathan Allen, Phil Baker, Helen Farley, Alan Moore, Kevin O'Neill, Sally O'Reilly, and Gavin Semple.

Jonathan Allen is a London-based artist, writer and educator whose work has been exhibited widely. He is the curator of the Magic Circle Museum in London.





A seventy-nine-card, hand-painted tarot deck created c.1906 by the mystic and artist Austin Osman Spare, reproduced in its entirety, accompanied by contemporary images and texts.

June
7 x 9 1/2, 336 pp.
220 color illus., 24 b&w illus.

$40.95T/£30.00 cloth
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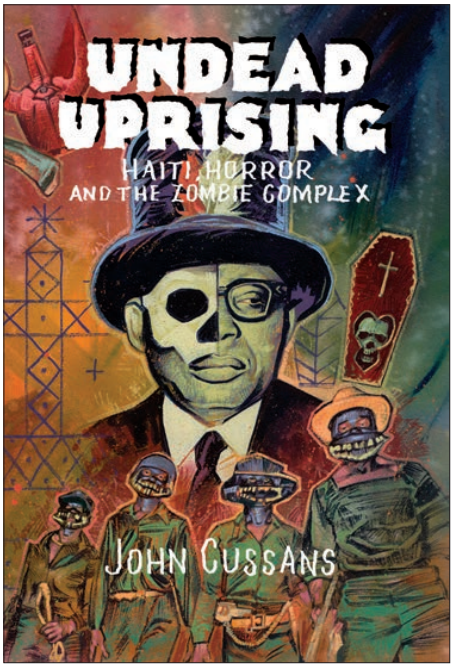
history | sociology



Tracking the zombie from Hollywood back to its origins in the voodoo folklore of Haiti.

June
6 x 9, 404 pp.
8 illus.

$26.95T/£20.00 paper
978-1-907222-47-4

Undead Uprising

Haiti, Horror, and the Zombie Complex

John Cussans

There are zombies among us! From the rotting hordes of TV's *The Walking Dead* to the blockbuster nightmares of *World War Z* and *28 Days Later*, our popular culture is overrun with the ravenous undead.

But where do these strange creatures come from, and what peculiar tales of mesmerism, freemasonry, pig sacrifice, and revolution would they tell if they could talk?

Artist and writer John Cussans tracks the zombie from Hollywood back to its origins in the voodoo folklore of Haiti, a Caribbean island with a history that is a strange composite of fact and fantasy in the long struggle for independence from colonial intrusion.

Turning a keen eye on the way Haiti has provoked mysterious images in the popular culture of the twentieth century, Cussans asks how the sensational imaginings of William Seabrook, Graham Greene, and Wes Craven, among others, have served to inform impressions of the country on the world stage, and in turn, how these representations might have influenced the way that Haiti formulates an image of itself.

Cussans weaves fascinating stories from the most significant moments of the country's past, through the slave uprisings of the Bois Caïman in the eighteenth century to Papa Doc Duvalier's reign of terror in the 1960s and beyond.

At once a visceral analysis of dubious racial myth, pop-cultural history and philosophical provocation, *Undead Uprising* asks how ecstatic ritual, voodoo possession, zombie laborers, and meddling spirits have come to meld Haiti's national identity for better or worse.

John Cussans is an artist, academic, and researcher. Since 2009, he has been involved with the Ghetto Biennale in Port-au-Prince, Haiti, often working with the Haitian video collective Tele Geto. He currently teaches at the Ruskin School of Art.

"Finally an authoritative book on that weird, complex figure of the zombie that delves deep into the dark heart of the matter rather than skating the surface. . . a truly marvelous journey."
—Roger Luckhurst

history | politics

Tales from The Embassy

Communiqués from the Guild Of Transcultural Studies 1976–1991

Dave Tomlin

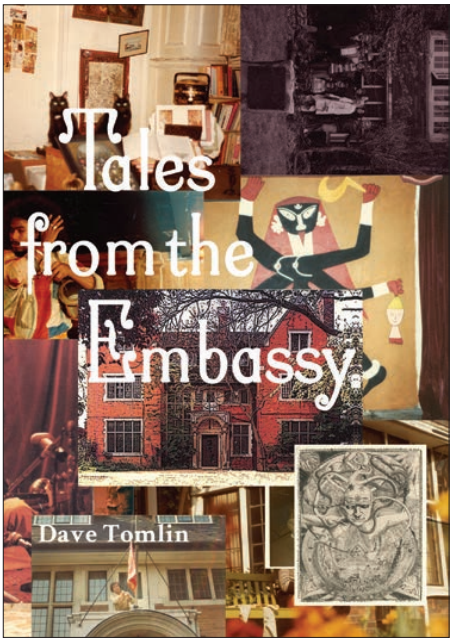
One night in 1976, a group of squatters entered the Cambodian Embassy in London, an opulent building that had remained empty for two years following the bloody revolution of the Khmer Rouge. For the next fifteen years, this peculiar residence would play host to the Guild of Transcultural Studies, an open platform for creative monomaniacs, radical metaphysicians, poets, prophets and exiles.

Dave Tomlin, founder of the Guild, member of the experimental music ensemble Third Ear Band, and contributor to the legendary underground newspaper *International Times*, traces a playful, semi-fictionalized, and highly readable path through this long occupation, illustrating the unfettered nature of its many occupants while providing a vivid portrayal of a more leisured age in which eccentricity could flourish more readily.

These humorous, insightful, and deftly crafted vignettes boast a thinly disguised cast of provocateurs, many of them celebrated in their own right, including pursuer of earth mysteries John Michell, beat poet Harry Fainlight, playwright of *The Warp* Neil Oram, the surrealist playwright and performer Ken Campbell, heretical biologist Rupert Sheldrake, countercultural photographer and journalist John "Hoppy" Hopkins, and Sir Mark Palmer, aristocrat-turned-gypsy-traveller and male-model impresario.

Artist, writer and musician **Dave Tomlin** was a founder-member of the seminal free-form folk group Third Ear Band. A constant presence within the London underground scene, he founded the Guild of Transcultural Studies in 1976 and contributed to the *International Times*.

"The ideas we discussed in the sixties were not just ideals: many people actually put them into practice. These tales are the best account I've ever read of trying to live that life."
—Barry Miles, author of *William S. Burroughs, a Life* and *London Calling: A Countercultural History of London Since 1945*

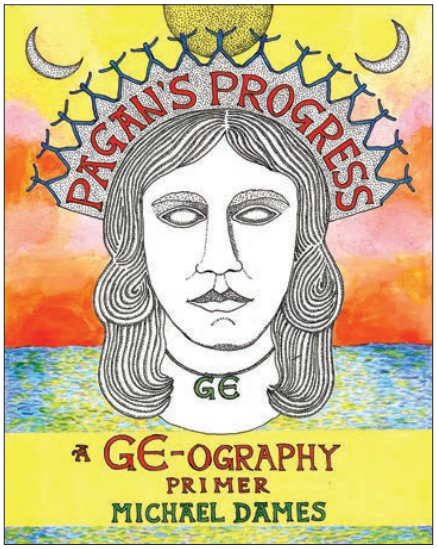


Vignettes of a peculiar occupation: the Guild of Transcultural Studies in the abandoned Cambodian embassy.

July
6 x 8 1/2, 528 pp.

$21.95T/£15.99 paper
978-1-907222-56-6

nature | folklore



A newly ancient vision of the English landscape from one of its most revered mythographers.

August
5 x 6 3/4, 208 pp.

$16.95T/£11.99 paper
978-1-907222-49-8

Pagan's Progress

A Ge-Ography Primer

Michael Dames

In an age of ecological turbulence, our understanding of the hills, rivers and fields we live among is more critical than ever. But what might the academic study of geography fail to teach us, and what relationships to the land might be revealed by reinvestigating the neglected knowledge practices of myth, history, and legend?

Michael Dames sets out to reconnect with the hallowed landscapes of Britain and Ireland, and finds them populated by ancient goddesses, strange rites, and embedded energies. As he voyages beneath the Neolithic immensity of Silbury Hill, past the chalk horses of Uffington, and the ravaged cliffs of Land's End peninsular, Dames meets a wild community of holy cows, industrious bees, Sheila na Gigs, and Salmon women, channeling the peculiar folk tales they have to tell.

Presented as a series of insightful and lyrical vignettes beautifully illustrated by artist Natalie Kay-Thatcher, each chapter of this far-roaming book conducts a pilgrimage along the tracks and byways of dimly remembered lore, renewing connections with customs that underscore our relationship to the lands we inhabit. It offers a pagan's progress towards re-enchanting and deepening our sense of belonging to a landscape both strange and sacred.

Michael Dames is a British geographer and archaeologist. For many years he taught as a senior lecturer in Art History at Birmingham Polytechnic University. His books *The Silbury Treasure* and *The Avebury Cycle* are now considered classics of visionary geography writing.

literature

Of Kings and Things

Strange Tales and Decadent Poems by Count Stanislaus Eric Stenbock

edited by David Tibet

Described by W. B. Yeats as a "scholar, connoisseur, drunkard, poet, pervert, most charming of men," Count Stanislaus Eric Stenbock (1860–1895) is surely the greatest exemplar of the Decadent movement of the late nineteenth century.

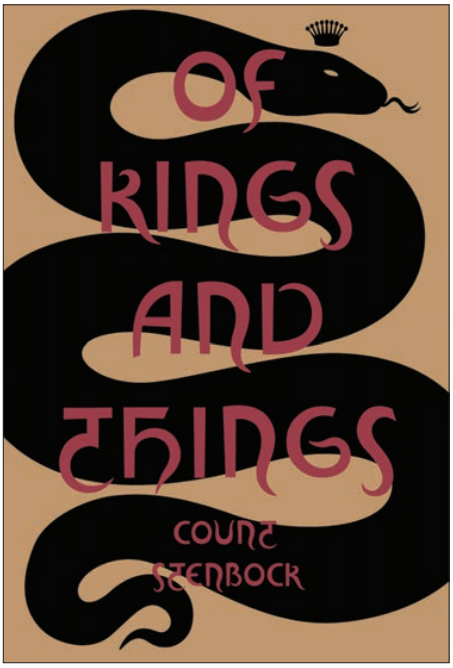
A friend of Aubrey Beardsley, patron of the extraordinary pre-Raphaelite artist Simeon Solomon, and contemporary of Oscar Wilde, Stenbock died at the age of thirty-six as a result of his addiction to opium and his alcoholism, having published just three slim volumes of suicidal poetry and one collection of morbid short stories.

Stenbock was a homosexual convert to Roman Catholicism and owner of a serpent, a toad, and a dachshund called Trixie. It was said that toward the end of his life he was accompanied everywhere by a life-size wooden doll that he believed to be his son. His poems and stories are replete with queer, supernatural, mystical, and Satanic themes; original editions of his books are highly sought by collectors of *recherché* literature.

Of Kings and Things is the first introduction to Stenbock's writing for the general reader, offering fifteen stories, eight poems and one autobiographical essay by this complex figure.

Stanislaus Eric Stenbock was a poet in the Decadent movement. **David Tibet** is a British poet and artist, founder of the music group Current 93.

"For well over a decade, and with almost lunatic independence, **Strange Attractor Press** has shown a sacred devotion to occulted knowledges, centrifugal visionaries, renegade academics, heretical intellects, the fertile fringes. It doesn't produce books so much as altered states of consciousness."
—Sukhdev Sandhu, author of *Night Haunts*



An introduction to the Decadent writer Stanislaus Eric Stenbock for the general reader, offering morbid stories, suicidal poems, and an autobiographical essay.

September
6 x 8 1/2, 256 pp.

$17.95T/£12.99 paper
978-1-907222-57-3

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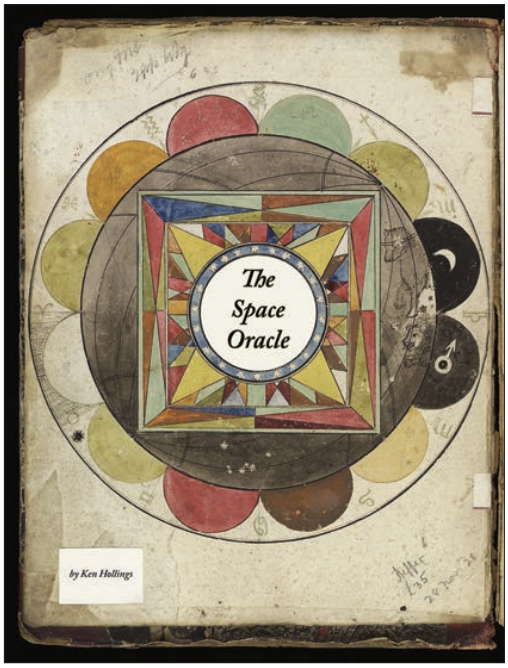
science | astronomy



The Space Oracle

Ken Hollings

Astronomy is another form of cinema. Time is fragmented and extended. Matter becomes light in motion. The camera remains fixed, looking outwards into the darkness, while the earth moves beneath our feet.

A carefully constructed text in sixty numbered sections, *The Space Oracle* reinvents the history of astronomy as a new form of astrological calendar. This radical retelling of our relationship with the cosmos reaches back to places and times when astronomers were treated as artists or priests, to when popes took part in astral rites and the common people feared eclipses and comets as portents of disaster.

Panoramic and encyclopedic in its scope, *The Space Oracle* brings astronauts and spies, engineers and soldiers, goddesses and satellites into alignment with speculative insights and everyday observations. The universe, Hollings argues, is a work in progress—enjoy it.

Ken Hollings is a writer, broadcaster, and cultural theorist based in London. He has given readings, lectures and presentations of his work at the Royal Institution, the Berlin Akademie der Künste, the Venice Biennale, Tate Britain and the Royal College of Art, where he currently teaches. His previous two books, *Welcome to Mars* and *The Bright Labyrinth* are published by Strange Attractor Press.

"Ken Hollings is a master at connecting the dots between avant-garde art history, outré culture and weird science."
—David Pescovitz, *Boing Boing*

A radical retelling of our relationship with the cosmos, reinventing the history of astronomy as a new form of astrological calendar.

September
6 x 8 1/2, 184 pp.

$17.95T/£12.99 paper
978-1-907222-53-5

"After thirteen years in action, **Strange Attractor** has become the English speaking world's most reliably weird and wonderful independent publisher. It has not so much discovered a niche as built one: an elegant network of passageways that link scholarship and the underground, magic and media, the eldritch past, and the peculiar future. Like celestial clockwork, it puts out handsome books that open your mind and get under your skin."
—Erik Davis, author of *Techgnosis* and *Nomad Codes*

fiction

The Good People

Patrick Harpur

It's the summer of 1989, a time of global flux just before the collapse of the Berlin wall and of South Africa's apartheid; a time of signs and portents. . .

Two women see something uncanny in the skies over west London.

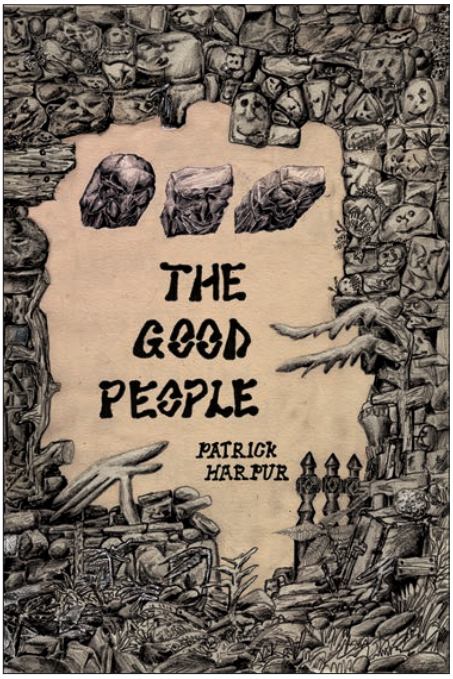
Maeve, the wife of the local vicar, finds she has lost nearly an hour of her life. In search of this lost time, she uncovers the memory of an encounter with aliens and, worse, a mysterious event from her childhood in Ireland, which she finally redeems in the underworld of an IRA-connected pub. . .

Her husband Alistair has his own nightmare: preparations for the visit of an African bishop and his entourage for a Christian conference, whose left-wing agenda is threatened by the attendance of a famous and enigmatic nun. . .

Meanwhile, Heather's sighting comes as a revelation that leads her, like a questing Grail knight, through strange ordeals, from a menacing cult to an alternate reality; from a mental hospital to, finally, an encounter with her own hidden depths.

A companion volume to the author's critically-lauded *Daimonic Reality*, a classic nonfiction study of otherworld journeys, *The Good People* is a modern fairy tale that dramatizes with wit the interweaving of revelation and delusion, the natural and the supernatural, worldliness and sanctity—ultimately suggesting that our humdrum lives are shadowed by the alien dimension of myth.

Patrick Harpur is the author of *Mercurius; or, the Marriage of Heaven and Earth, a Study of Alchemy*; *The Philosophers' Secret Fire: A History of the Imagination*; and *A Complete Guide to the Soul*. He has also published three novels: *The Serpent's Circle*, *The Rapture* and, most recently, *The Savoy Truffle*, a highly autobiographical black comedy.

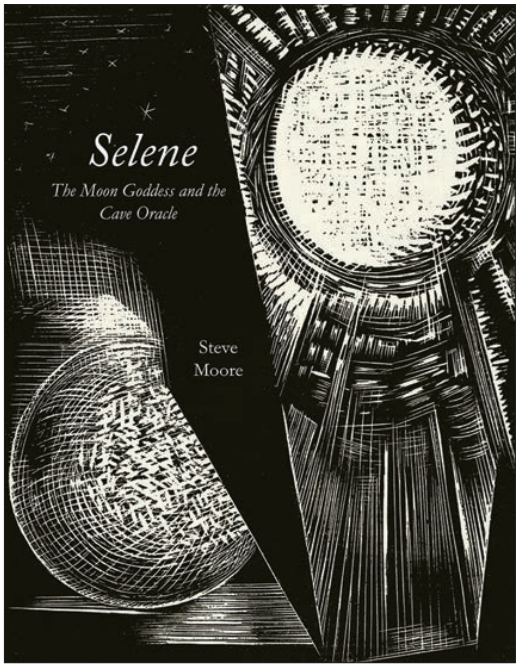


Two women see something uncanny in the skies over west London in the summer of 1989.

May
6 x 8 1/2, 256 pp.

$17.95T/£12.99 paper
978-1-907222-40-5

mythology



An examination of the myths of the Moon goddess and how she appeared to the original creators of those myths in ancient Greece.

November
6 x 8 1/2, 256 pp.

$33.95T/£25.00 cloth
978-1-907222-50-4

Selene

The Moon Goddess and the Cave Oracle

Steve Moore

foreword by Bob Rickard and afterword by Alan Moore

Waxing and waning and reborn with each new month, the Moon has always been the supreme symbol of cyclical change in the western world.

Metaphorical representations of the Moon's goddess also seem to undergo similar changes, each new century reinventing her in its own image. For Hesiod, she was a distant figure in the celestial pantheon, to Keats she was an intimate muse; Selene's recurring role in music, literature, and song is a powerful testament to our continued fascination with her myth.

A deeply erudite and meticulously researched survey, this book explores the perennial curiosity our closest orbital neighbor continues to instill, providing at once an unprecedented body of historical research and a critical armature for the author's lauded prose reverie *Somnium*.

Despite the importance of the Moon to recent developments in esoteric scholarship and mythography, *Selene* doesn't attempt to present a "Moon-Goddess for the twenty-first century," but rather looks at the myths of one specific Moon goddess and how she appeared to the original creators of those myths in the literature of ancient Greece.

In doing so, *Selene* marks the point at which classical scholarship comes closest to a physical embrace with its ethereal subject matter.

Until his death in 2014, **Steve Moore** wrote comic books, novels and non-fiction, including his study of the I-Ching, *The Trigrams of Han*, his critically acclaimed novel, *Somnium*, and the posthumous collection of short fantasy stories, *Tales of Telguuth*. He also had a long-standing editorial connection with *Fortean Studies* and *Fortean Times*, to which he was a frequent contributor from their inception.

"An impeccable and flawlessly researched piece of classical scholarship."
—Alan Moore

fiction

Somnium

revised and expanded edition

Steve Moore

Written in the early years of the twenty-first century, when the author was engaged in dream-explorations and mystical practices centered on the Greek Moon goddess Selene, *Somnium* is an intensely personal fictional tapestry that weaves together numerous historical and stylistic variations on the enduring myth of Selene and Endymion. Ranging through the sixteenth to twenty-first centuries, it combines medieval, Elizabethan, Gothic, and Decadent elements in a fantastic romance of rare imagination.

With its delirious and heartbroken narrative, *Somnium* is an extraordinary odyssey through love, loss, and lunacy, illuminated by the silvery moonlight of its exquisite language.

Alan Moore's afterword details the life of his friend and mentor Steve Moore, and includes the circumstances surrounding the writing of *Somnium*.

This new expanded paperback edition includes *Sketches of Shooter's Hill*, a topographical communiqué from the South London hinterlands that formed the liminal setting for Moore's novel. Originally self-published by the author and distributed only to a handful of friends, this curious travelogue is made available to readers here for the first time.

Until his death in 2014, **Steve Moore** wrote comic books, novels and nonfiction, including his study of the I-Ching, *The Trigrams of Han*, his critically acclaimed novel, *Somnium*, and the posthumous collection of short fantasy stories, *Tales of Telguuth*. He also had a long-standing editorial connection with *Fortean Studies* and *Fortean Times*, to which he was a frequent contributor from their inception.

"A masterpiece."
—Alan Moore

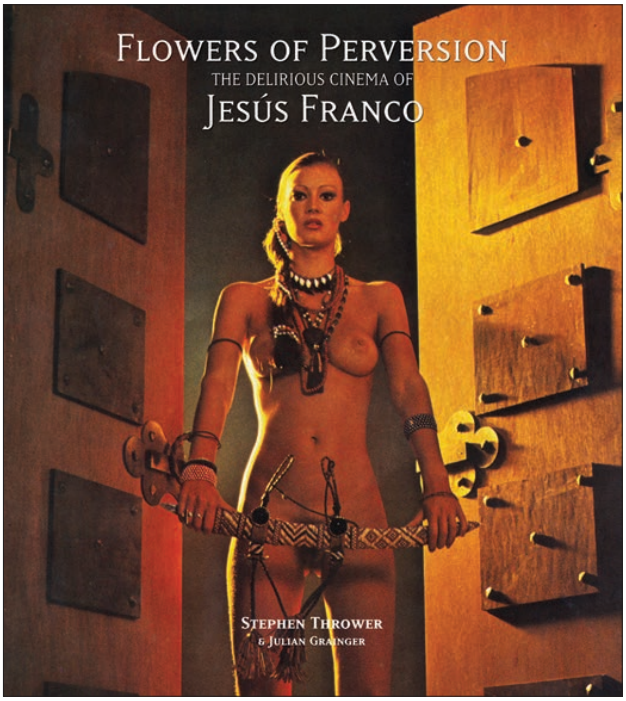
"A unique work by a unique genius. Moore has an understanding of the occult peculiar to a very few and it always gives me the shivers; the shivers which say 'authenticity.' Get this book while you're part of the minority who know about it."
—Michael Moorcock

"A visionary decrypting of one of fringe-London's most potent downriver sites. Steve Moore's voyage through plural strands of time echoes the high craft of his namesake, Alan, and the honourable tradition of Michael Moorcock's *Gloriana*."
—Iain Sinclair

An intensely personal fictional tapestry that weaves together numerous historical and stylistic variations on the enduring myth of Selene and Endymion.

August
6 x 8 1/2, 296 pp.
1 illus.

$33.95T/£25.00 paper
978-1-907222-51-1



Flowers of Perversion

The Delirious Cinema of Jesús Franco

Stephen Thrower with Julian Grainger

Jesús "Jess" Franco is an iconic figure in world cinema. His sexually charged, fearlessly personal style of filmmaking has never been in vogue with mainstream critics, but for lovers of the strange and sado-erotic he is a magician, spinning his unique and disturbing dream worlds from the cheapest of budgets.

In the world of Jess Franco freedom was the key, and he pushed at the boundaries of taste and censorship repeatedly, throughout an astonishingly varied career spanning sixty years. The director of more than 180 films, at his most prolific he worked in a supercharged frenzy that yielded as many as twelve titles per year, making him one of the most generative auteurs of all time.

Franco's taste for the sexy and horrific, his lifelong obsession with the Marquis De Sade, and his roving handheld camera style launched a whole new strain of erotic cinema. Disturbing, exciting, and defiantly avant-garde, films such as *Necronomicon*, *Vampyros Lesbos*, *Virgin Among the Living Dead*, and *Venus in Furs* are among the jewels of European horror, while a plethora of multiple versions, re-edits and echoes of earlier works turn the Franco experience into a dizzying hall of mirrors, further entrancing the viewer who dares enter Franco's domain.

The disturbing, exciting, and defiantly avant-garde films of Jesús "Jess" Franco, director of such films as *Vampyros Lesbos* and *Lilian the Perverted Virgin*.

Stephen Thrower has devoted five years to examining each and every Franco film. This book—the second in a two-volume set—delves into the latter half of Franco's career, covering titles including *Shining Sex*, *Barbed Wire Dolls*, *Swedish Nympho Slaves*, and *Lilian the Perverted Virgin*.

Assisted by the esteemed critic and researcher Julian Grainger, Thrower shines a light into the darkest corners of the Franco filmography and uncovers previously unknown and unsuspected facts about their casts, crews, and production histories.

Unparalleled in scope and ambition, *Flowers of Perversion* brings Franco's career into focus with a landmark study that aims to provide the definitive assessment of Jess Franco's labyrinthine film universe.

December
9 1/2 x 11, 464 pp.
144 color illus., 384 b&w illus.

$54.95T/£40.00 cloth
978-1-907222-60-3

Stephen Thrower is the acclaimed author of *Beyond Terror: The Films of Lucio Fulci* and the groundbreaking *Nightmare USA: The Untold Story of the Exploitation Independents*. He is widely regarded as one of the most authoritative historians of exploitation and underground cinema writing today. **Julian Grainger** has written for *Shock Xpress* and *Sight and Sound*, and is coauthor of *Cannibal Holocaust and the Savage Cinema of Ruggero Deodato*.

We Can't Stop Thinking About The Future

Aleksandra Mir

This book provides a companion to Aleksandra Mir's latest body of work *Space Tapestry: Faraway Missions*, exhibited at Tate Liverpool and Modern Art Oxford.

Inspired by the Bayeux Tapestry and the anonymous artists who depicted Halley's Comet in 1066, the *Space Tapestry* is a large-scale, hand-drawn monochrome wall-hanging that forms an immersive environment. Much like a graphic novel, *Space Tapestry* tells an episodic visual story of space travel.

Over the past three years, Mir has maintained dialogues with professionals in the space industry and academia who have informed and inspired her. The work draws on themes relating to current debates, recorded events, scientific discoveries, technological innovations and predictions of imagined futures that currently affect all our lives.

This book contains both reproductions of the finished work and images from its collaborative creation with twenty-five young artists. It also contains sixteen in-depth new interviews with a wide range of professionals working in the space industries today, providing an intimate and informative insight into the present and future of space exploration.

Born 1967 in Lubin, Poland, a citizen of Sweden and the United States, and based in London, the artist **Aleksandra Mir** has an international practice of twenty-five years, with numerous exhibitions worldwide, including The Space Age, a retrospective at M-Museum, Leuven, 2013, and the 34m mural *Drawing Room* (London, 2014). She has developed many large-scale collaborative projects on space exploration. Her most well-known project, *First Woman on the Moon* (1999), has been touring for seventeen years and is included in the collections of The Solomon R. Guggenheim Museum and the Tate.

Interviewees include
Jan Woerner, Director General of the European Space Agency, Paris
Marek Kukula, Public Astronomer, Royal Observatory Greenwich, London
Clara Sousa-Silva, Quantum Astrochemist, Massachusetts Institute of Technology, Cambridge, USA
Chris Welch, Director of the interdisciplinary MSc in Space Studies, International Space University in Strasbourg
Sanjeev Gupta, Strategic Planner, NASA Mars Rover Mission
Alice Gorman, Space Archeologist, Flinders University, Adelaide

The story of Alexandra Mir's *Space Tapestry: Faraway Missions*, with reproductions of the finished work and images from its collaborative creation with twenty-five young artists.

July
8 x 12, 144 pp.

$18.95T/£13.99 paper
978-1-907222-54-2

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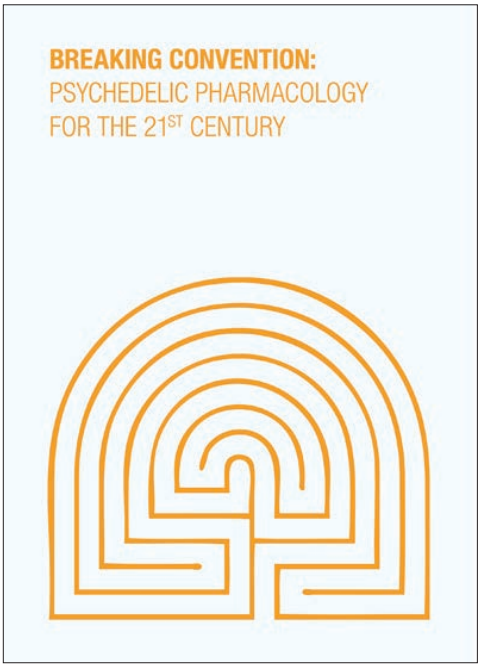
science | medicine



July
6 x 8 1/2, 298 pp.

$21.95T/£15.99 paper
978-1-907222-55-9

Psychedelic Pharmacology for the 21st Century

Breaking Convention Volume III

edited by Ben Sessa

Presenting an interdisciplinary selection of twenty-five essays first delivered at Breaking Convention 2015, the third conference on psychedelic consciousness, culture, and clinical research, held at the University of Greenwich, London.

Breaking Convention is the largest symposium of its kind, featuring more than 120 academic presentations biennially. Widely regarded as one of the foremost global platforms for serious research into psychedelic pharmacology, the conference has been instrumental in altering popular attitudes towards policy reform, with research focusing on the potential benefits that psychedelic therapies might hold in the treatment of depression, post-traumatic stress disorder, and in harm reduction among habitual substance abusers.

Psychedelic Pharmacology for the 21st Century spans the sciences and humanities, from philosophy and neuroscience through chemical models of action to clinical use. This latest volume includes cross-cultural approaches exploring the global drug economy, clinical MDMA trials, histories of psychedelic literature, the enigma of the pineal gland, acid mediumship and psychedelic landscaping.

Ben Sessa, a UK-based psychiatrist and author, is cofounder and chair of the Breaking Convention conference.

Contributors
Allan Badiner, Rick Doblin, Amanda Feilding, Ido Hartogsohn, Jennifer Lyke, Dale Pendell, Iker Puente

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edited by Tobias Fischer and Lara Cory
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Joe Mellen
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Ken Hollings
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Eleanor Morgan
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Sara Hannant, and Simon Costin
$33.95T/£25.00 paper
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edited by Stephen Coates
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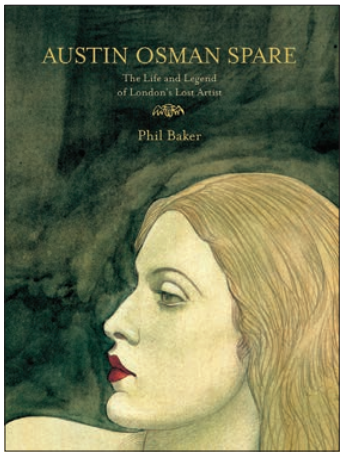
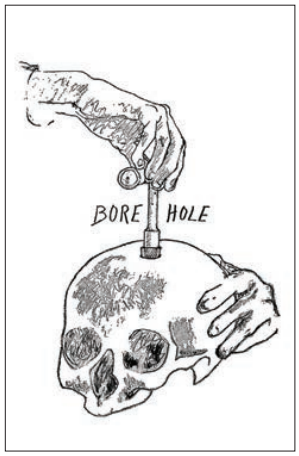
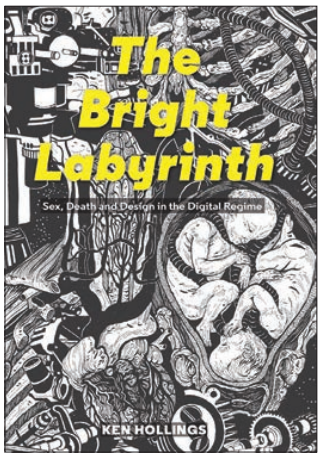
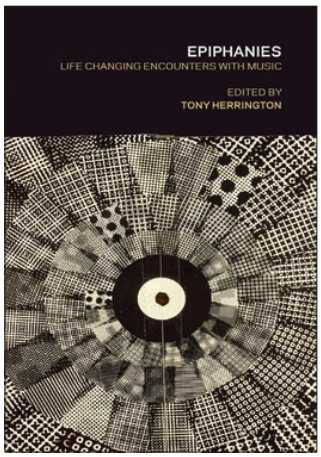
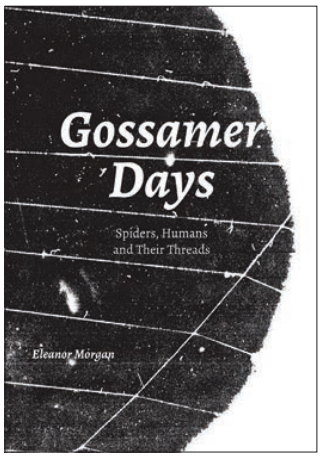


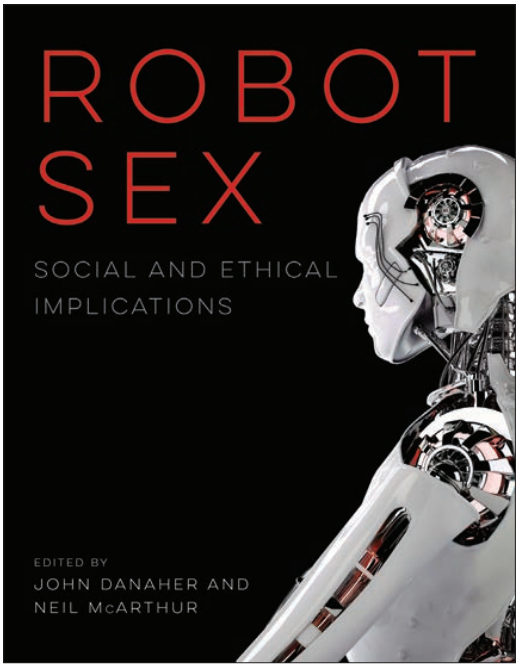








philosophy | computer-human interaction



Perspectives from philosophy, psychology religious studies, economics, and law on the possible future of robot-human sexual relationships.

October
7 x 9, 312 pp.
6 illus.

$40.00S/£32.95 cloth
978-0-262-03668-9

Robot Sex

Social and Ethical Implications

edited by John Danaher and Neil McArthur

Sexbots are coming. Given the pace of technological advances, it is inevitable that realistic robots specifically designed for people's sexual gratification will be developed in the not-too-distant future. Despite popular culture's fascination with the topic, and the emergence of the much-publicized Campaign Against Sex Robots, there has been little academic research on the social, philosophical, moral, and legal implications of robot sex. This book fills the gap, offering perspectives from philosophy, psychology religious studies, economics, and law on the possible future of robot-human sexual relationships.

Contributors discuss what a sex robot is, if they exist, why we should take the issue seriously, and what it means to "have sex" with a robot. They make the case for developing sex robots, arguing for their beneficial nature, and the case against it, on religious and moral grounds; they consider the subject from the robot's perspective, addressing such issues as consent and agency; and they ask whether it is possible for a human to form a mutually satisfying, loving relationship with a robot. Finally, they speculate about the future of human-robot sexual interaction, considering the social acceptability of sex robots and the possible effect on society.

John Danaher is a Lecturer in the Law School at the National University of Ireland, Galway, and the author of the popular blog Philosophical Disquisitions. **Neil McArthur** is Associate Professor of Philosophy and Director of the Centre for Professional and Applied Ethics at the University of Manitoba. He is a regular contributor to VICE and the author of *David Hume's Political Theory*.

Contributors
Marina Adshade, Thomas Arnold, Julie Carpenter, John Danaher, Brian Earp, Lily Eva Frank, Joshua Goldstein, Michael Hauskeller, Noreen Herzfeld, Neil McArthur, Mark Migotti, Sven Nyholm, Ezio di Nucci, Steve Petersen, Anders Sandberg, Matthias Scheutz, Litska Strikwerda, Nicole Wyatt

literary studies | geography

Literature and Cartography

Theories, Histories, Genres

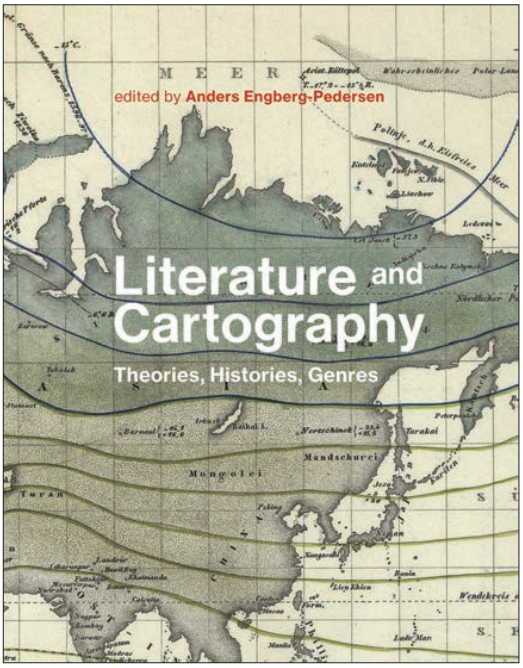
edited by Anders Engberg-Pedersen

Literary authors have frequently called on elements of cartography to ground fictional space, to visualize sites, and to help readers get their bearings in the imaginative world of the text. Today, the convergence of digital mapping and globalization has spurred a cartographic turn in literature. This book gathers leading scholars to consider the relationship of literature and cartography. Generously illustrated with full-color maps and visualizations, it offers the first systematic overview of an emerging approach to the study of literature.

The literary map is not merely an illustrative guide but represents a set of relations and tensions that raise questions about representation, fiction, and space. Is literature even mappable? In exploring the cartographic components of literature, the contributors have not only brought literary theory to bear on the map but have also enriched the vocabulary and perspectives of literary studies with cartographic terms. After establishing the theoretical and methodological terrain, they trace important developments in the history of literary cartography, considering topics that include Homer and Joyce, Goethe and the representation of nature, and African cartographies. Finally, they consider cartographic genres that reveal the broader connections between texts and maps, discussing literary map genres in American literature and the coexistence of image and text in early maps. When cartographic aspirations outstripped factual knowledge, mapmakers turned to textual fictions.

Anders Engberg-Pedersen is Associate Professor of Comparative Literature at the University of Southern Denmark and the author of *Empire of Chance: The Napoleonic Wars and the Disorder of Things*.

Contributors
Jean-Marc Besse, Bruno Bosteels, Patrick M. Bray, Martin Brückner, Tom Conley, Jörg Dünne, Anders Engberg-Pedersen, John K. Noyes, Ricardo Padrón, Barbara Piatti, Simone Pinet, Clara Rowland, Oliver Simons, Robert Stockhammer, Dominic Thomas, Burkhardt Wolf



The relationship of texts and maps, and the mappability of literature, examined from Homer to Houellebecq.

December
7 x 9, 448 pp.
80 color illus., 15 b&w illus.

$35.00S/£27.95 cloth
978-0-262-03674-0

higher education

Minerva and the Future of Higher Education

edited by Stephen M. Kosslyn and Ben Nelson

foreword by Senator Bob Kerrey

How to reinvent higher education for the twenty-first century: building Minerva.

February
6 x 9, 440 pp.
9 illus.

$45.00S/£37.95 cloth
978-0-262-03715-0

Higher education is in crisis. It is too expensive, ineffective, and impractical for many of the world's students. But how would you reinvent it for the twenty-first century—how would you build it from the ground up? Many have speculated about changing higher education, but Minerva has actually created a new kind of university program. Its founders raised the funding, assembled the team, devised the curriculum and pedagogy, recruited the students, hired the faculty, and implemented a bold vision of a new and improved higher education. This book explains that vision and how it is being realized.

The Minerva curriculum focuses on "practical knowledge" (knowledge students can use to adapt to a changing world); its pedagogy is based on scientific research on learning; it uses a novel technology platform to deliver small seminars in real time; and it offers a hybrid residential model where students live together, rotating through seven cities around the world. Minerva equips students with the cognitive tools they need to succeed in the world after graduation, building the core competencies of critical thinking, creative thinking, effective communication, and effective interaction. The book offers readers both the story of this grand and sweeping idea and a blueprint for transforming higher education.

Stephen M. Kosslyn is Founding Dean and Chief Academic Officer of the Minerva Schools at KGI (the Keck Graduate Institute) and John Lindsley Professor of Psychology in Memory of William James, Emeritus, at Harvard University. He is the coauthor of *Cognitive Psychology: Mind And Brain* and the author of *Image and Brain: The Resolution of the Imagery Debate* (MIT Press). **Ben Nelson** is Founder, Chairman, and CEO of Minerva. A visionary with a passion to reinvent higher education, he spent more than ten years at Snapfish, serving five years as CEO.

Contributors

Ari Bader-Natal, Eric Bonabeau, Judith C. Brown, Teri Cannon, Norian Caporale-Berkowitz, Vicki Chandler, Joshua Fost, Megan Gahl, Kara Gardner, James Genone, Robin Goldberg, Richard Holman, Neagheen Homaifar, Jonathan Katzman, Anne Kauth, Bob Kerrey, Stephen M. Kosslyn, Sultanna Krispil, Daniel J. Levitin, John Levitt, Rena Levitt, James Lyda, Ben Nelson, Matt Regan, Kenn Ross, Ayo Seligman, Ian Van Buskirk, Z. Mike Wang

photography | new media

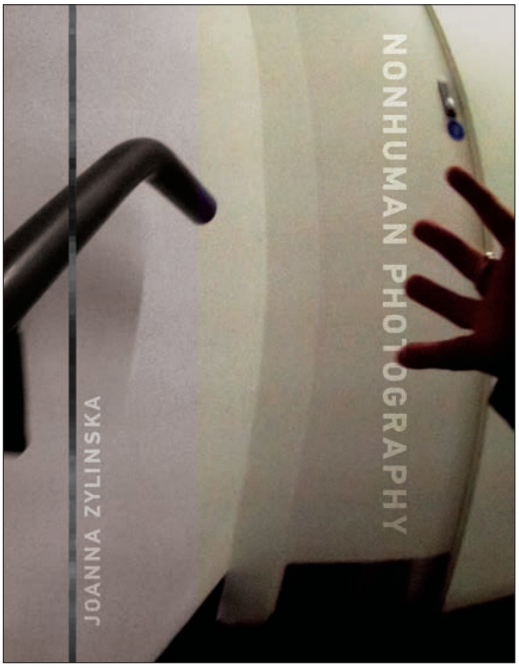
Nonhuman Photography

Joanna Zylinska

Today, in the age of CCTV, drones, medical body scans, and satellite images, photography is increasingly decoupled from human agency and human vision. In *Nonhuman Photography*, Joanna Zylinska offers a new philosophy of photography, going beyond the human-centric view to consider imaging practices from which the human is absent. Zylinska argues further that even those images produced by humans, whether artists or amateurs, entail a nonhuman, mechanical element—that is, they involve the execution of technical and cultural algorithms that shape our image-making devices as well as our viewing practices. At the same time, she notes, photography is increasingly mobilized to document the precariousness of the human habitat and tasked with helping us imagine a better tomorrow. With its conjoined human-nonhuman agency and vision, Zylinska claims, photography functions as both a form of control and a life-shaping force.

Zylinska explores the potential of photography for developing new modes of seeing and imagining, and presents images from her own photographic project, *Active Perceptual Systems*. She also examines the challenges posed by digitization to established notions of art, culture, and the media. In connecting biological extinction and technical obsolescence, and discussing the parallels between photography and fossilization, she proposes to understand photography as a light-induced process of fossilization across media and across time scales.

Joanna Zylinska is Professor of New Media and Communications at Goldsmiths, University of London. She is the author of *Bioethics in the Age of New Media* and the coauthor (with Sarah Kember) of *Life After New Media: Mediation as a Vital Process,* both published by the MIT Press.



A new philosophy of photography that goes beyond humanist concepts to consider imaging practices from which the human is absent.

November
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70 photographs

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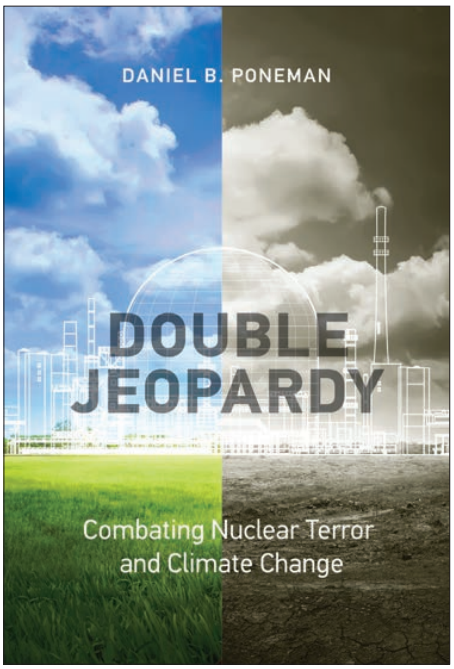
political science | energy | environment



Double Jeopardy

Combating Nuclear Terror and Climate Change

Daniel Poneman

Humanity faces two existential threats: nuclear annihilation and catastrophic climate change. Both have human origins, and both are linked to the use of nuclear energy. Inherent in the use of atomic fission is the risk that the technology and materials can be diverted to terrorists or hostile nations and used to make nuclear weapons. The key question is whether we can use nuclear energy to reduce the threat of climate change without increasing the risk that nuclear weapons will be used.

In *Double Jeopardy*, Daniel Poneman argues that the world needs an "all-of-the-above" energy policy, one that advances the goal of decarbonizing the environment through all available means—including nuclear power. Poneman makes a persuasive case that we can enhance the ability of nuclear power to combat climate change even as we reduce the risks of nuclear terror. Doing so will require well-crafted laws and policies, implemented with an ethos of constant vigilance and embedded in a culture that weaves safety and security goals into the fabric of our nuclear programs. This will enable government and industry to work together to maximize energy and climate benefits while minimizing safety and security risks.

Daniel Poneman is a Senior Fellow with the Belfer Center at the Harvard Kennedy School and the President and Chief Executive Officer of Centrus Energy Corp., which provides enrichment, fuel, and fuel services to utilities that operate nuclear reactors throughout the world. Poneman previously served as Deputy Secretary of the U.S. Department of Energy, Acting Secretary of Energy, and on the National Security Council staff. He is the coauthor of *Going Critical: The First North Korean Nuclear Crisis*.

Making the case that we can use nuclear power to combat climate change even as we reduce the risks of nuclear terror.

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Belfer Center Studies in International Security

music | science

Polyphonic Minds

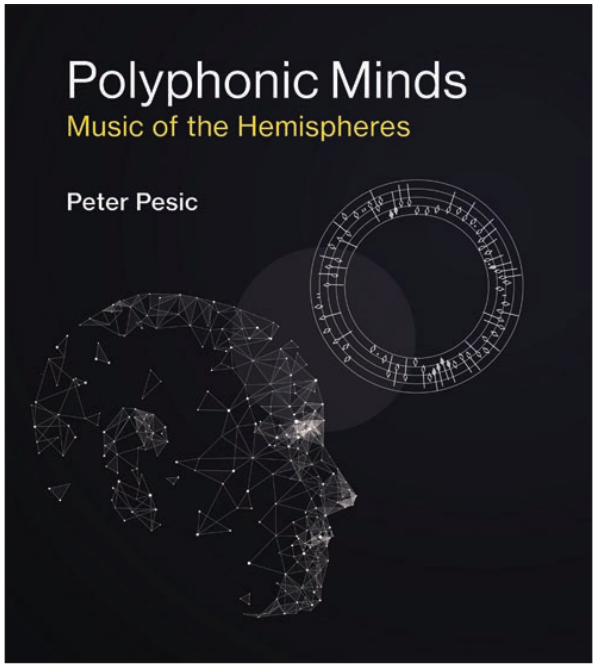
Music of the Hemispheres

Peter Pesic

Polyphony—the interweaving of simultaneous sounds—is a crucial aspect of music that has deep implications for how we understand the mind. In *Polyphonic Minds*, Peter Pesic examines the history and significance of "polyphonicity"—of "many-voicedness"—in human experience. Pesic presents the emergence of Western polyphony, its flowering, its horizons, and the perspective it offers on our own polyphonic brains.

When we listen to polyphonic music, how is it that we can hear several different things at once? How does a single mind experience those things as a unity (a motet, a fugue) rather than an incoherent jumble? Pesic argues that polyphony raises fundamental issues for philosophy, theology, literature, psychology, and neuroscience—all searching for the apparent unity of consciousness in the midst of multiple simultaneous experiences.

After tracing the development of polyphony in Western music from ninth-century church music through the experimental compositions of Glenn Gould and John Cage, Pesic considers the analogous activity within the brain, the polyphonic "music of the hemispheres" that shapes brain states from sleep to awakening. He discusses how neuroscientists draw on concepts from polyphony to describe the "neural orchestra" of the brain. Pesic's story begins with ancient conceptions of God's mind and ends with the polyphonic personhood of the human brain and body. An enhanced e-book edition allows the sound examples to be played by a touch.



Peter Pesic, writer, pianist, and scholar, is Director of the Science Institute and Musician-in-Residence at St. John's College, Santa Fe. He is the author of *Abel's Proof: An Essay on the Sources* and *Meaning of Mathematical Unsolvability*; *Seeing Double: Shared Identities in Physics, Philosophy, and Literature*; *Sky in a Bottle*; and *Music and the Making of Modern Science*, all published by the MIT Press.

An exploration of polyphony and the perspective it offers on our own polyphonic brains.

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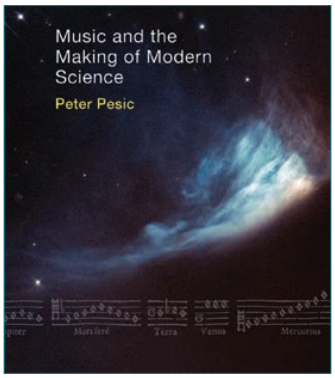
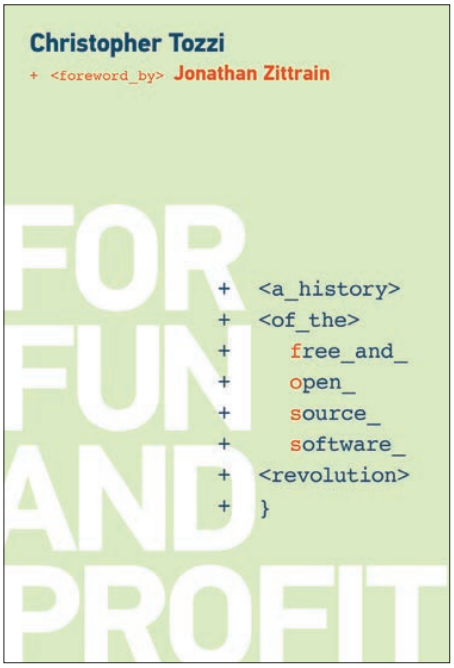


history | computing



For Fun and Profit

A History of the Free and Open Source Software Revolution

Christopher Tozzi

foreword by Jonathan Zittrain

In the 1980s, there was a revolution with far-reaching consequences—a revolution to restore software freedom. In the early 1980s, after decades of making source code available with programs, most programmers ceased sharing code freely. A band of revolutionaries, self-described "hackers," challenged this new norm by building operating systems with source code that could be freely shared. In *For Fun and Profit*, Christopher Tozzi offers an account of the free and open source software (FOSS) revolution, from its origins as an obscure, marginal effort by a small group of programmers to the widespread commercial use of open source software today. Tozzi explains FOSS's historical trajectory, shaped by eccentric personalities—including Richard Stallman and Linus Torvalds—and driven both by ideology and pragmatism, by fun and profit.

Tozzi examines hacker culture and its influence on the Unix operating system, the reaction to Unix's commercialization, and the history of early Linux development. He describes the commercial boom that followed, when companies invested billions of dollars in products using FOSS operating systems; the subsequent tensions within the FOSS movement; and the battles with closed source software companies (especially Microsoft) that saw FOSS as a threat. Finally, Tozzi describes FOSS's current dominance in embedded computing, mobile devices, and the cloud, as well as its cultural and intellectual influence.

Christopher Tozzi is Assistant Professor of History at Howard University and a freelance writer. He is the author of *Nationalizing France's Army: Foreign, Black, and Jewish Troops in the French Military, 1715–1831*.

The free and open source software movement, from its origins in hacker culture, through the development of GNU and Linux, to its commercial use today.

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5 3/8 x 8, 336 pp.

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History of Computing series

psychology

Five Constraints on Predicting Behavior

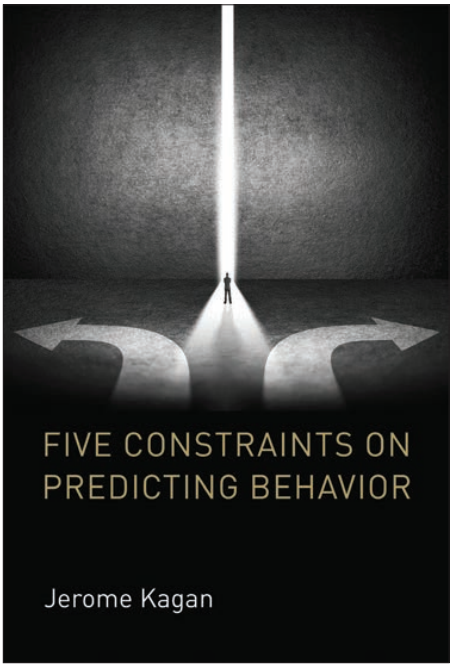
Jerome Kagan

Scientists were unable to study the relation of brain to mind until the invention of technologies that measured the brain activity accompanying psychological processes. Yet even with these new tools, conclusions are tentative or simply wrong. In this book, the distinguished psychologist Jerome Kagan describes five conditions that place serious constraints on the ability to predict mental or behavioral outcomes based on brain data: the setting in which evidence is gathered, the expectations of the subject, the source of the evidence that supports the conclusion, the absence of studies that examine patterns of causes with patterns of measures, and the habit of borrowing terms from psychology.

Kagan describes the importance of context, and how the experimental setting—including the room, the procedure, and the species, age, and sex of both subject and examiner—can influence the conclusions. He explains how subject expectations affect all brain measures; considers why brain and psychological data often yield different conclusions; argues for relations between patterns of causes and outcomes rather than correlating single variables; and criticizes the borrowing of psychological terms to describe brain evidence. Brain sites cannot be in a state of "fear."

A deeper understanding of the brain's contributions to behavior, Kagan argues, requires investigators to acknowledge these five constraints in the design or interpretation of an experiment.

Jerome Kagan is Daniel and Amy Starch Emeritus Professor of Psychology at Harvard University. He is the author of *The Nature of the Child, An Argument for Mind, Psychology's Ghosts, On Being Human,* and other books.



A distinguished psychologist considers five conditions that constrain inferences about the relation between brain activity and psychological processes.

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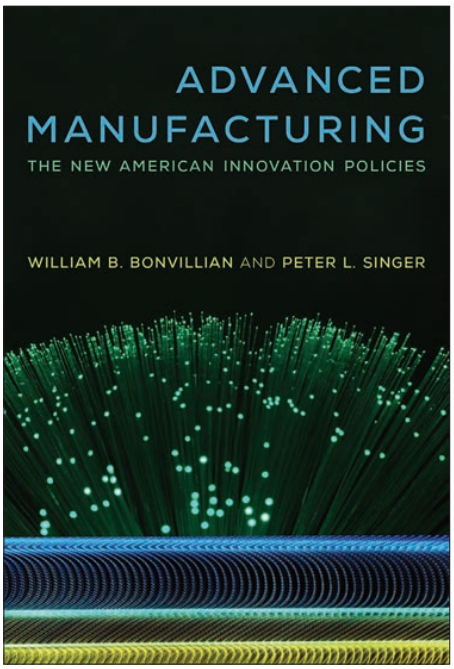

How to rethink innovation and revitalize America's declining manufacturing sector by encouraging advanced manufacturing, bringing innovative technologies into the production process.

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Advanced Manufacturing

The New American Innovation Policies

William B. Bonvillian and Peter L. Singer

The United States lost almost one-third of its manufacturing jobs between 2000 and 2010. As higher-paying manufacturing jobs are replaced by lower-paying service jobs, income inequality has been approaching third world levels. In particular, between 1990 and 2013, the median income of white men without high school diplomas fell by an astonishing 20% between 1990 and 2013, and that of men with high school diplomas or some college fell by a painful 13%. Innovation has been left largely to software and IT startups, which operate on a system of "innovate here/produce there," leaving the manufacturing sector behind. In this book, William Bonvillian and Peter Singer explore how to rethink innovation and revitalize America's declining manufacturing sector. They argue that advanced manufacturing, which employs such innovative technologies as 3-D printing, advanced material, photonics, and robotics in the production process, is the key.

Bonvillian and Singer discuss transformative new production paradigms that could drive up efficiency and drive down costs, describe the new processes and business models that must accompany them, and explore alternative ways manufacturing startups can scale up given the reduced venture capital funding they face. They examine the varied attitudes of mainstream economics toward manufacturing, the post-Great Recession policy focus on advanced manufacturing, and lessons from the new advanced manufacturing institutes. They consider the problem of "startup scaleup," possible new models for training workers, and the role of manufacturing in addressing "secular stagnation" in innovation, growth, the middle classes, productivity rates, and related investment. As recent political turmoil shows, the stakes could not be higher.

William B. Bonvillian is a Lecturer at MIT, former Director of MIT's Washington, D.C., office, and the coauthor of *Structuring an Energy Technology Revolution* (MIT Press). **Peter L. Singer** is a policy advisor to MIT's Washington, D.C., office.

linguistics

A Brief History of the Verb *To Be*

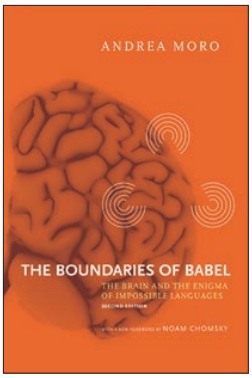
Andrea Moro
translated by Bonnie McClellan-Broussard

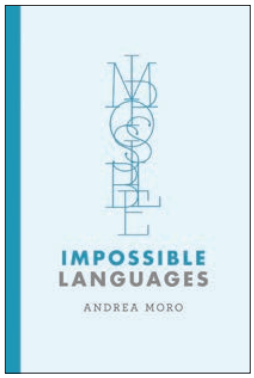
Beginning with the early works of Aristotle, the interpretation of the verb *to be* runs through Western linguistic thought like Ariadne's thread. As it unravels, it becomes intertwined with philosophy, metaphysics, logic, and even with mathematics—so much so that Bertrand Russell showed no hesitation in proclaiming that the verb *to be* was a disgrace to the human race.

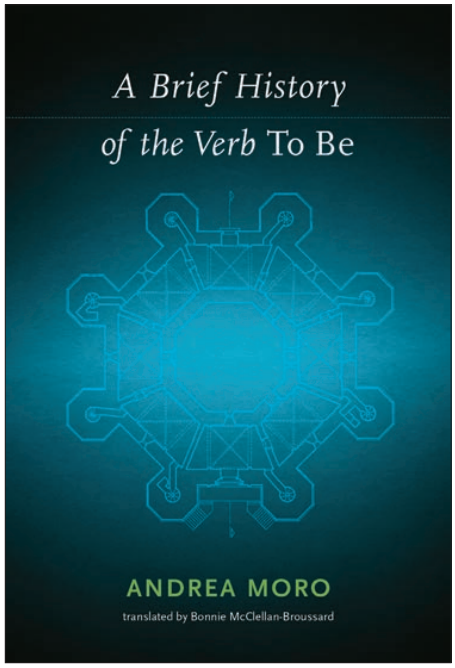
With the conviction that this verb penetrates modern linguistic thinking, creating scandal in its wake and, like a Trojan horse of linguistics, introducing disruptive elements that lead us to rethink radically the most basic structure of human language—the sentence—Andrea Moro reconstructs this history. From classical Greece to the dueling masters of medieval logic through the revolutionary geniuses from the seventeenth century to the Enlightenment, and finally to the twentieth century—when linguistics became a driving force and model for neuroscience—the plot unfolds like a detective story, culminating in the discovery of a formula that solves the problem even as it raises new questions—about language, evolution, and the nature and structure of the human mind.

While Moro never resorts to easy shortcuts, *A Brief History of the Verb To Be* isn't burdened with inaccessible formulas and always refers to the broader picture of mind and language. In this way it serves as an engaging introduction to a new field of cutting-edge research.

Andrea Moro is Professor of General Linguistics at the Institute for Advanced Study (IUSS) in Pavia, Italy. He is the author of *Dynamic Antisymmetry, Impossible Languages*, and *The Boundaries of Babel* (all published by the MIT Press), and other books, including *The Raising of Predicates* and *I Speak, Therefore I Am*.







A journey through linguistic time and space, from Aristotle through the twentieth century's "era of syntax," in search of a dangerous verb and its significance.

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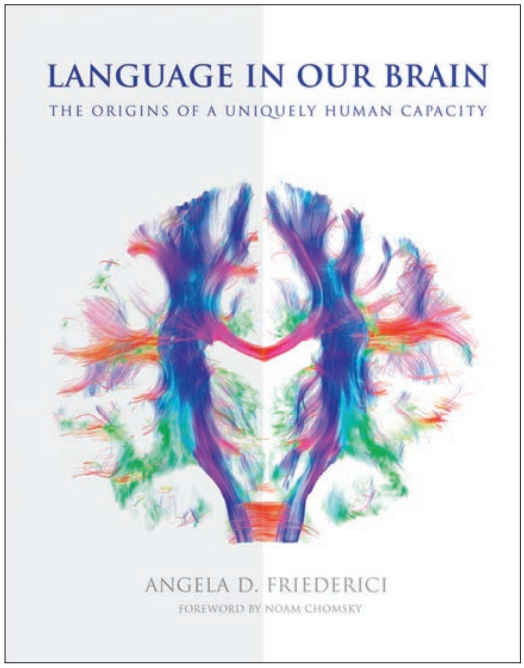

A comprehensive account of the neurobiological basis of language, arguing that species-specific brain differences may be at the root of the human capacity for language.

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Language in Our Brain

The Origins of a Uniquely Human Capacity

Angela D. Friederici
foreword by Noam Chomsky

Language makes us human. It is an intrinsic part of us, although we seldom think about it. Language is also an extremely complex entity with subcomponents responsible for its phonological, syntactic, and semantic aspects. In this landmark work, Angela Friederici offers a comprehensive account of these subcomponents and how they are integrated. Tracing the neurobiological basis of language across brain regions in humans and other primate species, she argues that species-specific brain differences may be at the root of the human capacity for language.

Friederici shows which brain regions support the different language processes and, more important, how these brain regions are connected structurally and functionally to make language processes that take place in milliseconds possible. She finds that one particular brain structure (a white matter dorsal tract), connecting syntax-relevant brain regions, is present only in the mature human brain and only weakly present in other primate brains. Is this the "missing link" that explains humans' capacity for language?

Friederici describes the basic language functions and their brain basis; the language networks connecting different language-related brain regions; the brain basis of language acquisition during early childhood and when learning a second language, proposing a neurocognitive model of the ontogeny of language; and the evolution of language and underlying neural constraints. She finds that it is the information exchange between the relevant brain regions, supported by the white matter tract, that is the crucial factor in both language development and evolution.

Angela D. Friederici is Vice President of the Max Planck Society and Director of the Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig.

art | new media

Making Sense

Cognition, Computing, Art, and Embodiment

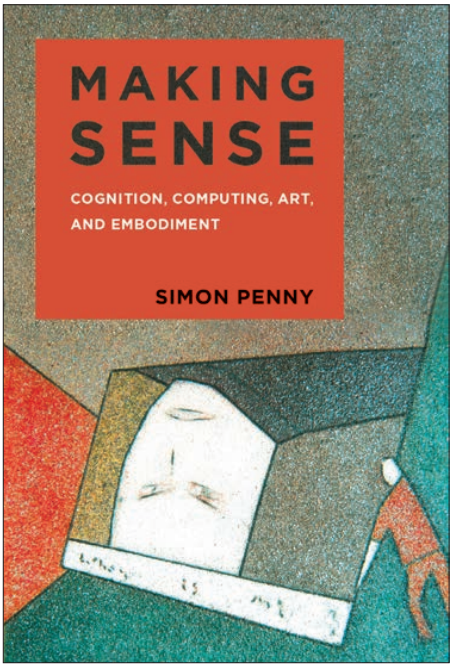
Simon Penny

In *Making Sense*, Simon Penny proposes that internalist conceptions of cognition have minimal purchase on embodied cognitive practices. Much of the cognition involved in arts practices remains invisible under such a paradigm. Penny argues that the mind-body dualism of Western humanist philosophy is inadequate for addressing performative practices. Ideas of cognition as embodied and embedded provide a basis for the development of new ways of speaking about the embodied and situated intelligences of the arts. Penny argues this perspective is particularly relevant to media arts practices.

Penny takes a radically interdisciplinary approach, drawing on philosophy, biology, psychology, cognitive science, neuroscience, cybernetics, artificial intelligence, critical theory, and other fields. He argues that computationalist cognitive rhetoric, with its assumption of mind/body (and software/hardware) dualism, cannot account for the quintessentially performative qualities of arts practices. He reviews post-cognitivist paradigms including situated, distributed, embodied, and enactive, and relates these to discussions of arts and cultural practices in general.

Penny emphasizes the way real time computing facilitates new modalities of dynamical, generative and interactive arts practices. He proposes that conventional aesthetics (of the plastic arts) cannot address these new forms and argues for a new "performative aesthetics." Viewing these practices from embodied, enactive, and situated perspectives allows us to recognize the embodied and performative qualities of the "intelligences of the arts".

Simon Penny is Professor of Art at the Claire Trevor School of the Arts at the University of California, Irvine, teaching mechatronic art, media art history and theory, and interdisciplinary seminars interfacing contemporary cognitive science and philosophy of mind with the arts. Trained as a sculptor, he has spent much of his career building interactive art environments with custom robotic and sensor-based systems.



Why embodied approaches to cognition are better able to address the performative dimensions of art than the dualistic conceptions fundamental to theories of digital computing.

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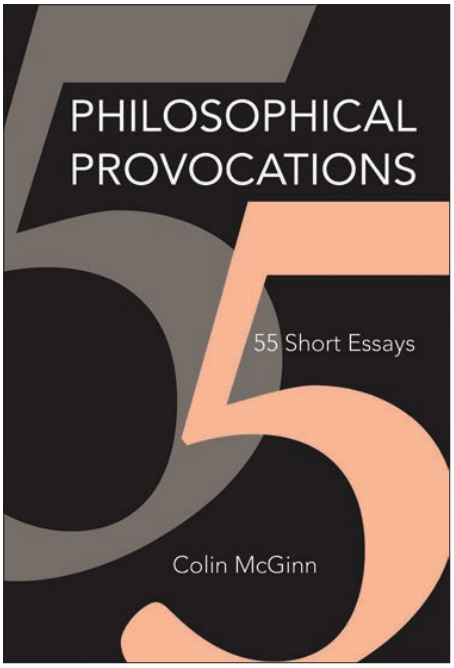

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Philosophical Provocations

55 Short Essays

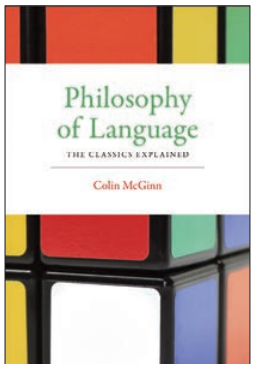
Colin McGinn

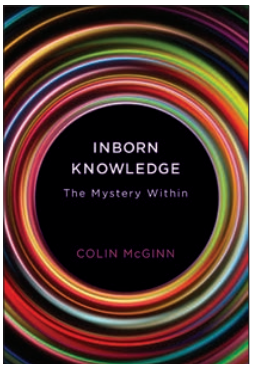
In *Philosophical Provocations*, Colin McGinn offers a series of short, sharp essays that take on philosophical problems ranging from the concept of mind to paradox, altruism, and the relation between God and the Devil. Avoiding the usual scholarly apparatus and embracing a blunt pithiness, McGinn aims to achieve as much as possible in as short a space as possible while covering as many topics as possible. Much academic philosophical writing today is long, leaden, citation heavy, dense with qualifications, and painful to read. The essays in *Philosophical Provocations* are short, direct, and engaging, often challenging philosophical orthodoxy as they consider issues in mind, language, knowledge, metaphysics, biology, ethics, and religion.

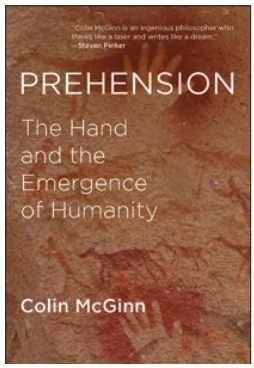
McGinn is looking for new ways to think about old problems. Thus he writes, about consciousness, "I think we have been all wrong," and goes on to suggest that both consciousness and the unconscious are mysteries. Summing up his proposal on altruism, he remarks, "My suggestion can now be stated, somewhat brutally, as follows: human altruism is the result of parasitic manipulation." He takes a moment to reflect: "I really don't know why it is good to be alive, though I am convinced that the standard suggestions don't work." McGinn gets straight to the point and states his position with maximum clarity. These essays offer provocative invitations to think again.

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, Philosophy of Language: The Classics Explained, Inborn Knowledge: The Mystery Within, Prehension: The Hand and the Emergence of Humanity* (the last three published by the MIT Press), and other books.

"Colin McGinn is an ingenious philosopher who thinks like a laser and writes like a dream."
—Steven Pinker







education | media

Good Reception

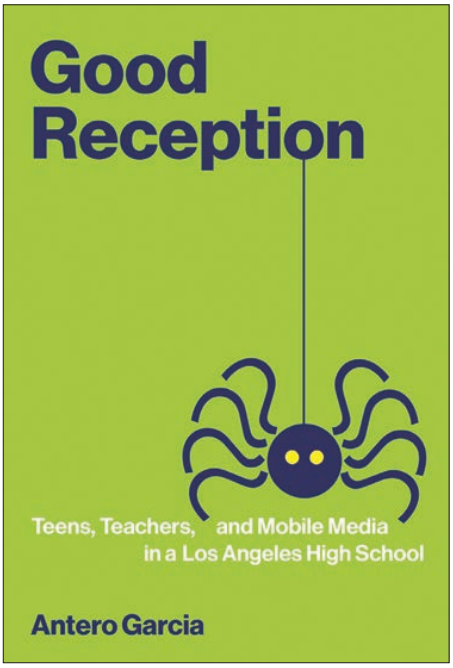
Teens, Teachers, and Mobile Media in a Los Angeles High School

Antero Garcia

Schools and school districts have one approach to innovation: buy more technology. In *Good Reception*, Antero Garcia describes what happens when educators build on the ways students already use technology outside of school to help them learn in the classroom. As a teacher in a public high school in South Central Los Angeles, Garcia watched his students' nearly universal adoption of mobile devices. Whether recent immigrants from Central America or teens who had spent their entire lives in Los Angeles, the majority of his students relied on mobile devices to connect with family and friends and to keep up with complex social networks. Garcia determined to discover how these devices and student predilection for gameplay, combined with an evolving "culture of participation," could be used in the classroom.

Garcia charts a year in the life of his ninth-grade English class, first surveying mobile media use on campus and then documenting a year-long experiment in creating a "wireless critical pedagogy" by incorporating mobile media and games in classroom work. He describes the design and implementation of "Ask Anansi," an alternate reality game that allows students to conduct inquiry-based research around questions that interest them (including "Why is the food at South Central High School so bad?"). Garcia cautions that the transformative effect on education depends not on the glorification of devices but on teacher support and a trusting teacher-student relationship.

Antero Garcia is Assistant Professor in the Graduate School of Education at Stanford University. He taught English at a public high school in South Central Los Angeles for eight years and codesigned the Critical Design and Gaming School.



A year in the life of a ninth-grade English class shows how participatory culture and mobile devices can transform learning in schools.

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bioethics

Specimen Science

Ethics and Policy Implications

edited by Holly Fernandez Lynch, Barbara E. Bierer, I. Glenn Cohen, and Suzanne M. Rivera

Advances in medicine often depend on the effective collection, storage, research use, and sharing of human biological specimens and associated data. But what about the sources of such specimens? When a blood specimen is drawn from a vein in your arm, is that specimen still you? Is it your property, intellectual or otherwise? Should you be allowed not only to consent to its use in research but also to specify under what circumstances it may be used? These and other questions are at the center of a vigorous debate over the use of human biospecimens in research. In this book, experts offer legal, regulatory, and ethical perspectives on balancing social benefit and human autonomy in biospecimen research.

Legal, regulatory, and ethical perspectives on balancing social benefit and human autonomy in research using human biospecimens.

After discussing the background to current debates as well as several influential cases, including that of Henrietta Lacks, the contributors consider the rights, obligations, risks, and privacy of the specimen source; different types of informed consent under consideration (broad, blanket, and specific); implications for special patient and researcher communities; and the governance of biospecimen repositories and the responsibilities of investigators.

Holly Fernandez Lynch is Executive Director at the Petrie-Flom Center for Health Law Policy, Biotechnology, and Bioethics at Harvard Law School and a member of the faculty at Harvard Medical School's Center for Bioethics. **Barbara E. Bierer** is Professor of Medicine at Harvard Medical School and Brigham and Women's Hospital and Faculty Codirector of the Multi-Regional Clinical Trials Center. **I. Glenn Cohen** is Professor at Harvard Law School and Faculty Director at the Petrie-Flom Center. **Suzanne M. Rivera** is Vice President for Research and Technology Management and Assistant Professor of Bioethics and Pediatrics at Case Western Reserve University.

October | 6 x 9, 424 pp. | 2 illus.

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Basic Bioethics series

biology

Landscapes of Collectivity in the Life Sciences

edited by Snait B. Gissis, Ehud Lamm, and Ayelet Shavit

Many researchers and scholars in the life sciences have become increasingly critical of the traditional methodological focus on the individual. This volume counters such methodological individualism by exploring recent and influential work in the life sciences that utilizes notions of collectivity, sociality, rich interactions, and emergent phenomena as essential explanatory tools. The contributors consider case studies of collectivity that range from microorganisms to human consensus, discussing theoretical and empirical challenges and the innovative methods and solutions scientists have devised.

Broad perspective on collectivity in the life sciences, from micro-organisms to human consensus, and the theoretical and empirical opportunities and challenges.

The contributors offer historical, philosophical, and biological perspectives on collectivity, and describe collective phenomena seen in insects, the immune system, communication, and human collectivity, with examples ranging from cooperative transport in the longhorn crazy ant to the evolution of autobiographical memory. They examine ways of explaining collectivity, including case studies and modeling approaches, and explore collectivity's explanatory power. They present a comprehensive look at a specific case of collectivity: the Holobiont notion (the idea of a multi-species collective, a host and diverse microorganisms) and the Hologenome Theory (which posits that the Holobiont and its Hologenome are a unit of adaption). The volume concludes with reflections on the work of the late physicist Eshel Ben-Jacob, pioneer in the study of collective phenomena in living systems.

Snait B. Gissis is a Researcher in the Cohn Institute for the History and Philosophy of Science and Ideas at Tel Aviv University and the coeditor of *Transformations of Lamarckism* (MIT Press). **Ehud Lamm** is Senior Lecturer in the Cohn Institute. **Ayelet Shavit** is Senior Lecturer in the Departments of Interdisciplinary Studies and Environmental Science and Head of the Philosophy Program at Tel-Hai College, Israel.

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Vienna Series in Theoretical Biology

biology | mathematics

Biological Clocks, Rhythms, and Oscillations

The Theory of Biological Timekeeping

Daniel B. Forger

All areas of biology and medicine contain rhythms, and these behaviors are best understood through mathematical tools and techniques. This book offers a survey of mathematical, computational, and analytical techniques used for modeling biological rhythms, gathering these methods for the first time in one volume. Drawing on material from such disciplines as mathematical biology, nonlinear dynamics, physics, statistics, and engineering, it presents practical advice and techniques for studying biological rhythms, with a common language.

An introduction to the mathematical, computational, and analytical techniques used for modeling biological rhythms, presenting tools from many disciplines and example applications.

The chapters proceed with increasing mathematical abstraction. Part I, on models, highlights the implicit assumptions and common pitfalls of modeling, and is accessible to readers with basic knowledge of differential equations and linear algebra. Part II, on behaviors, focuses on simpler models, describing common properties of biological rhythms that range from the firing properties of squid giant axon to human circadian rhythms. Part III, on mathematical techniques, guides readers who have specific models or goals in mind. Sections on "frontiers" present the latest research; "theory" sections present interesting mathematical results using more accessible approaches than can be found elsewhere. Each chapter offers exercises. Commented MATLAB code is provided to help readers get practical experience.

The book, by an expert in the field, can be used as a textbook for undergraduate courses in mathematical biology or graduate courses in modeling biological rhythms and as a reference for researchers.

Daniel B. Forger is Professor in the Department of Mathematics and in the Department of Computational Medicine and Bioinformatics at the University of Michigan.

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business | information science

Knowledge Management in Theory and Practice

Third Edition

Kimiz Dalkir

foreword by Marco Beaulieu

The ability to manage knowledge has become increasingly important in today's knowledge economy. Knowledge is considered a valuable commodity, embedded in products and in the tacit knowledge of highly mobile individual employees. Knowledge management (KM) represents a deliberate and systematic approach to cultivating and sharing an organization's knowledge base. This textbook and professional reference offers a comprehensive overview of the field. Drawing on ideas, tools, and techniques from such disciplines as sociology, cognitive science, organizational behavior, and information science, it describes KM theory and practice at the individual, community, and organizational levels. Chapters cover such topics as tacit and explicit knowledge, theoretical modeling of KM, the KM cycle from knowledge capture to knowledge use, KM tools, KM assessment, and KM professionals.

A new, thoroughly updated edition of a comprehensive overview of knowledge management (KM), covering theoretical foundations, the KM process, tools, and professions.

This third edition has been completely revised and updated to reflect advances in the dynamic and emerging field of KM. The specific changes include extended treatment of tacit knowledge; integration of such newer technologies as social media, visualization, mobile technologies, and crowdsourcing; a new chapter on knowledge continuity, with key criteria for identifying knowledge at risk; material on how to identify, document, validate, share, and implement lessons learned and best practices; the addition of new categories of KM jobs; and a new emphasis on the role of KM in innovation. Supplementary materials for instructors are available online.

Kimiz Dalkir is Associate Professor and Director at McGill University's School of Information Studies. A practitioner in the field for more than twenty years, she advises companies on the design, development, and evaluation of knowledge-based systems.

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cinema studies

Ecstatic Worlds

Media, Utopias, Ecologies

Janine Marchessault

Postwar artists and architects have used photography, film, and other media to imagine and record the world as a wonder of collaborative entanglement—to translate the world for the world. In this book, Janine Marchessault examines a series of utopian media events that opened up and expanded the cosmos, creating ecstatic collective experiences for spectators and participants.

When media translate the world to the world: twentieth-century utopian projects including Edward Steichen's Family of Man, Jacques Cousteau's underwater films, and Buckminster Fuller's geoscope.

Marchessault shows that Edward Steichen's 1955 Family of Man photography exhibition, for example, and Jacques Cousteau's 1956 underwater film *Le Monde du Silence* (*The Silent World*) both gave viewers a sense of the Earth as a shared ecology. The Festival of Britain (1951)—in particular its Telekinema (a combination of 3D film and television) and its Live Architecture exhibition created an awareness of multiple worlds, as did Expo 67's cinema experiments and media city. Toronto's alternative microcinema CineCycle, Agnés Varda's 2000 film *La Glaneuse et Les Glaneurs*, and Buckminster Fuller's World Game (geoscope), representing ecologies of images and resources, encouraged planetary thinking. The transpecies communication platform, the Dolphin Embassy, devised by the Ant Farm architecture collaborative, extends this planetary perspective toward other species; and Finnish artist Erkki Kurenniemi's "Death of the Planet" projects a post-anthropocentric future.

Drawing on sources that range from the Scottish town planner Patrick Geddes to the French phenomenologist Maurice Merleau-Ponty, Marchessault argues that each of these media experiments represents an engagement with connectivity and collectivity through media that will help us imagine a new form of global humanism.

Janine Marchessault is Professor of Cinema and Media Studies in the Department of Cinema and Media Arts at York University in Toronto.

September | 6 x 9, 360 pp. | 51 illus.

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A Leonardo Book

computer science | machine learning

Elements of Causal Inference

Foundations and Learning Algorithms

Jonas Peters, Dominik Janzing, and Bernhard Schölkopf

The mathematization of causality is a relatively recent development, and has become increasingly important in data science and machine learning. This book offers a self-contained and concise introduction to causal models and how to learn them from data.

A concise and self-contained introduction to causal inference, increasingly important in data science and machine learning.

After explaining the need for causal models and discussing some of the principles underlying causal inference, the book teaches readers how to use causal models: how to compute intervention distributions, how to infer causal models from observational and interventional data, and how causal ideas can be exploited for classical machine learning problems. All of these topics are discussed first in terms of two variables and then in the more general multivariate case. The bivariate case turns out to be a particularly hard problem for causal learning because there are no conditional independences as used by classical methods for solving multivariate cases. The authors consider analyzing statistical asymmetries between cause and effect to be highly instructive, and they report on their decade of intensive research into this problem.

The book is accessible to readers with a background in machine learning or statistics, and could be used in graduate courses or as a reference for researchers. The text includes code snippets that can be copied and pasted, exercises, and an appendix with a summary of the most important technical concepts.

Jonas Peters is Associate Professor of Statistics at the University of Copenhagen. **Dominick Janzing** is a Senior Research Scientist at the Max Planck Institute for Intelligent Systems in Tübingen, Germany. **Bernhard Schölkopf** is Director at the Max Planck Institute for Intelligent Systems in Tübingen, Germany.

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Adaptive Computation and Machine Learning series

computer science

Scientific Programming and Computer Architecture

Divakar Viswanath

What makes computer programs fast or slow? To answer this question, we have to go behind the abstractions of programming languages and look at how a computer really works. This book examines and explains a variety of scientific programming models (programming models relevant to scientists) with an emphasis on how programming constructs map to different parts of the computer's architecture. Two themes emerge: program speed and program modularity. Most books on computer programming are written at the same level of abstraction as the programming language they utilize or explain. This book starts from the premise that we have to "get under the hood." The approach is to begin with specific programs and moves up to general principles gradually.

A variety of programming models relevant to scientists explained, with an emphasis on how programming constructs map to parts of the computer.

The book digs into linkers, compilers, operating systems, and computer architecture to understand how the different parts of the computer interact with programs. It begins with a review of C/C++ and explanations of how libraries, linkers, and Makefiles work. Programming models covered include Pthreads, OpenMP, MPI, TCP/IP, and CUDA. The emphasis on how computers work leads the reader into computer architecture and occasionally into the operating system kernel. The operating system studied is Linux, the preferred platform for scientific computing. Linux is also open source, which allows readers to peer into its inner workings. A brief appendix provides a useful table of machines used to time programs.

Divakar Viswanath is Professor of Mathematics at the University of Michigan.

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Scientific and Engineering Computation series

COMPUTER SCIENCE

computer science

Cloud Computing for Science and Engineering

Ian Foster and Dennis B. Gannon

The emergence of powerful, always-on cloud utilities has transformed how consumers interact with information technology, enabling video streaming, intelligent personal assistants, and the sharing of content. Businesses, too, have benefited from the cloud, outsourcing much of their information technology to cloud services. Science, however, has not fully exploited the advantages of the cloud. Could scientific discovery be accelerated if mundane chores were automated and outsourced to the cloud? Leading computer scientists Ian Foster and Dennis Gannon argue that it can, and in this book offer a guide to cloud computing for students, scientists, and engineers, with advice and many hands-on examples.

A guide to cloud computing for students, scientists, and engineers, with advice and many hands-on examples.

The book surveys the technology that underpins the cloud, new approaches to technical problems enabled by the cloud, and the concepts required to integrate cloud services into scientific work. It covers managing data in the cloud, and how to program these services; computing in the cloud, from deploying single virtual machines or containers to supporting basic interactive science experiments to gathering clusters of machines to do data analytics; using the cloud as a platform for automating analysis procedures, machine learning, and analyzing streaming data; building your own cloud with open source software; and cloud security.

The book is accompanied by a website, Cloud4SciEng.org, that provides a variety of supplementary material, including exercises, lecture slides, and other resources helpful to readers and instructors.

Ian Foster is the Arthur Holly Compton Distinguished Service Professor of Computer Science at the University of Chicago and Distinguished Fellow at Argonne National Laboratory. **Dennis B. Gannon** is Emeritus Professor of Computer Science at Indiana University Bloomington.

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computer science

Perceptrons

An Introduction to Computational Geometry

Marvin Minsky and Seymour A. Papert

EXPANDED EDITION
with a new foreword by Léon Bottou

In 1969, ten years after the discovery of the perceptron—which showed that a machine could be taught to perform certain tasks using examples—Marvin Minsky and Seymour Papert published *Perceptrons*, their analysis of the computational capabilities of perceptrons for specific tasks. As Léon Bottou writes in his foreword to this edition, "Their rigorous work and brilliant technique does not make the Perceptron look very good." Perhaps as a result, research turned away from the perceptron. Then the pendulum swung back, and machine learning became the fastest-growing field in computer science. Minsky and Papert's insistence on its theoretical foundations is newly relevant.

The first systematic study of parallelism in computation by two pioneers in the field.

Perceptrons—the first systematic study of parallelism in computation—marked a historic turn in artificial intelligence, returning to the idea that intelligence might emerge from the activity of networks of neuron-like entities. Minsky and Papert provided mathematical analysis that showed the limitations of a class of computing machines that could be considered as models of the brain. Minsky and Papert added a new chapter in 1987 in which they discuss the state of parallel computers, and note a central theoretical challenge: reaching a deeper understanding of how "objects" or "agents" with individuality can emerge in a network. Progress in this area would link connectionism with what the authors have called "society theories of mind."

The late **Marvin L. Minsky** was Donner Professor of Science in MIT's Electrical Engineering and Computer Science Department. The late **Seymour A. Papert** was a Professor in MIT's AI Lab (1960–1980s) and MIT's Media Lab (1985–2000) and the author of *Mindstorms: Children, Computers and Powerful Ideas.*

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computer science | programming

Programming for the Puzzled

Learn to Program While Solving Puzzles

Srini Devadas

This book builds a bridge between the recreational world of algorithmic puzzles (puzzles that can be solved by algorithms) and the pragmatic world of computer programming, teaching readers to program while solving puzzles. Few introductory students want to program for programming's sake. Puzzles are real-world applications that are attention grabbing, intriguing, and easy to describe.

Learning programming with one of "the coolest applications around": algorithmic puzzles ranging from scheduling selfie time to verifying the six degrees of separation hypothesis.

Each lesson starts with the description of a puzzle. After a failed attempt or two at solving the puzzle, the reader arrives at an Aha! moment—a search strategy, data structure, or mathematical fact—and the solution presents itself. The solution to the puzzle becomes the specification of the code to be written. Readers will thus know what the code is supposed to do before seeing the code itself. This represents a pedagogical philosophy that decouples understanding the functionality of the code from understanding programming language syntax and semantics. Python syntax and semantics required to understand the code are explained as needed for each puzzle.

Readers need only the rudimentary grasp of programming concepts that can be obtained from introductory or AP computer science classes in high school. The book includes more than twenty puzzles and more than seventy programming exercises that vary in difficulty. Many of the puzzles are well known and have appeared in publications and on websites in many variations. They range from scheduling selfie time with celebrities to solving Sudoko problems in seconds to verifying the six degrees of separation hypothesis. The code for all puzzle solutions is downloadable from the book's website.

Srini Devadas is Webster Professor of Electrical Engineering and Computer Science and a MacVicar Fellow at MIT.

November | 7 x 9, 216 pp. | 89 illus.

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computer science | robotics

Mobile Microrobotics

Metin Sitti

Progress in micro- and nano-scale science and technology has created a demand for new microsystems for high-impact applications in health care, biotechnology, manufacturing, and mobile sensor networks. The new robotics field of microrobotics has emerged to extend our interactions and explorations to sub-millimeter scales. This is the first textbook on micron-scale mobile robotics, introducing the fundamentals of design, analysis, fabrication, and control, and drawing on case studies of existing approaches.

The first textbook on micron-scale mobile robotics, introducing the fundamentals of design, analysis, fabrication, and control, and drawing on case studies of existing approaches.

The book covers the scaling laws that can be used to determine the dominant forces and effects at the micron scale; models forces acting on microrobots, including surface forces, friction, and viscous drag; and describes such possible microfabrication techniques as photo-lithography, bulk micromachining, and deep reactive ion etching. It presents on-board and remote sensing methods, noting that remote sensors are currently more feasible; studies possible on-board microactuators; discusses self-propulsion methods that use self-generated local gradients and fields or biological cells in liquid environments; and describes remote microrobot actuation methods for use in limited spaces such as inside the human body. It covers possible on-board powering methods, indispensable in future medical and other applications; locomotion methods for robots on surfaces, in liquids, in air, and on fluid-air interfaces; and the challenges of microrobot localization and control, in particular multi-robot control methods for magnetic microrobots. Finally, the book addresses current and future applications, including noninvasive medical diagnosis and treatment, environmental remediation, and scientific tools.

Metin Sitti is Director at the Max Planck Institute for Intelligent Systems, Stuttgart, and Professor of Mechanical Engineering at Carnegie Mellon University.

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Intelligent Robotics and Autonomous Agents series

engineering

Marine Hydrodynamics

40TH ANNIVERSARY EDITION

J. N. Newman

foreword by John Grue

The applications of hydrodynamics to naval architecture and marine engineering expanded dramatically in the 1960s and 1970s. This classic textbook, originally published in 1977, filled the need for a single volume on the applications of hydrodynamics to marine problems. The book is solidly based on fundamentals, but it also guides the student to an understanding of engineering applications through its consideration of realistic configurations. The book takes a balanced approach between theory and empirics, providing the necessary theoretical background for an intelligent evaluation and application of empirical procedures. It also serves as a introduction to more specialized research methods. It unifies the seemingly diverse problems of marine hydrodynamics by examining them not as separate problems but as related applications of the general field of hydrodynamics.

A textbook that offers a unified treatment of the applications of hydrodynamics to marine problems.

The book evolved from a first-year graduate course in MIT's Department of Ocean Engineering. A knowledge of advanced calculus is assumed. Students will find a previous introductory course in fluid dynamics helpful, but the book presents the necessary fundamentals in a self-contained manner.

J. N. Newman is Emeritus Professor of Naval Architecture at MIT.

December | 6 x 9, 440 pp.

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Model Testing
The Motion of a Viscous Fluid
The Motion of an Ideal Fluid
Lifting Surfaces
Waves and Wave Effects
Hydrodynamics of Slender Bodies

computer science

Using OpenMP—The Next Step

Affinity, Accelerators, Tasking, and SIMD

Ruud van der Pas, Eric Stotzer, and Christian Terboven

This book offers an up-to-date, practical tutorial on advanced features in the widely used OpenMP parallel programming model. Building on the previous volume, *Using OpenMP: Portable Shared Memory Parallel Programming* (MIT Press), this book goes beyond the fundamentals to focus on what has been changed and added to OpenMP since the 2.5 specifications. It emphasizes four major and advanced areas: thread affinity (keeping threads close to their data), accelerators (special hardware to speed up certain operations), tasking (to parallelize algorithms with a less regular execution flow), and SIMD (hardware assisted operations on vectors).

A guide to the most recent, advanced features of the widely used OpenMP parallel programming model, with coverage of major features in OpenMP 4.5.

As in the earlier volume, the focus is on practical usage, with major new features primarily introduced by example. Examples are restricted to C and C++, but are straightforward enough to be understood by Fortran programmers. After a brief recap of OpenMP 2.5, the book reviews enhancements introduced since 2.5. It then discusses in detail tasking, a major functionality enhancement; Non-Uniform Memory Access (NUMA) architectures, supported by OpenMP; SIMD, or Single Instruction Multiple Data; heterogeneous systems, a new parallel programming model to offload computation to accelerators; and the expected further development of OpenMP.

Ruud van der Pas is Distinguished Engineer in the SPARC Processor Organization at Oracle and coauthor of *Using Open MP: Portable Shared Memory Parallel Programming*. **Eric Stotzer** is a Distinguished Member Technical Staff at Texas Instruments. **Christian Terboven** is the HPC Group Manager at RWTH Aachen University, Germany. He has been a member of the OpenMP Language Committee since 2006 and serves as the Chair of the Affinity subcommittee.

October | 8 x 9, 296 pp. | 185 illus.

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Scientific and Engineering Computation series

design

Making Design Theory

Johan Redström

Tendencies toward "academization" of traditionally practice-based fields have forced design to articulate itself as an academic discipline, in theoretical terms. In this book, Johan Redström offers a new approach to theory development in design research–one that is driven by practice, experimentation, and making. Redström does not theorize from the outside, but explores the idea that, just as design research engages in the making of many different kinds of things, theory might well be one of those things it is making.

A new approach to theory development for practice-driven research, proposing that theory is something made in and through design.

Redström proposes that we consider theory not as stable and constant but as something unfolding—something acted as much as articulated, inherently fluid and transitional. Redström describes three ways in which theory, in particular formulating basic definitions, is made through design: the use of combinations of fluid terms to articulate issues; the definition of more complex concepts through practice; and combining sets of definitions made through design into "programs." These are the building blocks for creating conceptual structures to support design.

Design seems to thrive on the complexities arising from dichotomies: form and function, freedom and method, art and science. With his idea of transitional theory, Redström departs from the traditional academic imperative to pick a side—theory or practice, art or science. Doing so, he opens up something like a design space for theory development within design research.

Johan Redström is Professor and Rector at Umeå Institute of Design, Sweden.

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Design Thinking, Design Theory series

design | computer-human interaction

Things That Keep Us Busy

The Elements of Interaction

Lars-Erik Janlert and Erik Stolterman

We are surrounded by interactive devices, artifacts, and systems. The general assumption is that interactivity is good—that it is a positive feature associated with being modern, efficient, fast, flexible, and in control. Yet there is no very precise idea of what interaction is and what interactivity means. In this book, Lars-Erik Janlert and Erik Stolterman investigate the elements of interaction and how they can be defined and measured. They focus on interaction with digital artifacts and systems but draw inspiration from the broader, everyday sense of the word.

An investigation of interactivity, interfaces and their design, and the webs of complex interactions that result.

Viewing the topic from a design perspective, Janlert and Stolterman take as their starting point the interface, which is designed to implement the interaction. They explore how the interface has changed over time, from a surface with knobs and dials to clickable symbols to gestures to the absence of anything visible. Janlert and Stolterman examine properties and qualities of designed artifacts and systems, primarily those that are open for manipulation by designers, considering such topics as complexity, clutter, control, and the emergence of an expressive-impressive style of interaction. They argue that only when we understand the basic concepts and terms of interactivity and interaction will we be able to discuss seriously its possible futures.

Lars-Erik Janlert is Professor in the Department of Computing Science at Umeå University. **Erik Stolterman** is Professor in the School of Informatics and Computing at Indiana University Bloomington, and the coauthor of *Thoughtful Interaction Deisgn* and *The Design Way* (second edition), both published by the MIT Press.

September | 6 x 9, 240 pp. | 5 illus.

$35.00S/£27.95 cloth
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DESIGN

design | urban studies

Waste Is Information

Infrastructure Legibility and Governance

Dietmar Offenhuber

foreword by Carlo Ratti

Waste is material information. Landfills are detailed records of everyday consumption and behavior; much of what we know about the distant past we know from discarded objects unearthed by archaeologists and interpreted by historians. And yet the systems and infrastructures that process our waste often remain opaque. In this book, Dietmar Offenhuber examines waste from the perspective of information, considering emerging practices and technologies for making waste systems legible and how the resulting datasets and visualizations shape infrastructure governance. He does so by looking at three waste tracking and participatory sensing projects in Seattle, São Paulo, and Boston.

The relationship between infrastructure governance and the ways we read and represent waste systems, examined through three waste tracking and participatory sensing projects.

Offenhuber expands the notion of urban legibility—the idea that the city can be read like a text—to introduce the concept of infrastructure legibility. He argues that infrastructure governance is enacted through representations of the infrastructural system, and that these representations stem from the different stakeholders' interests, which drive their efforts to make the system legible. The Trash Track project in Seattle used sensor technology to map discarded items through the waste and recycling systems; the Forager project looked at the informal organization processes of waste pickers working for Brazilian recycling cooperatives; and mobile systems designed by the city of Boston allowed residents to report such infrastructure failures as potholes and garbage spills. Through these case studies, Offenhuber outlines an emerging paradigm of infrastructure governance based on a complex negotiation among users, technology, and the city.

Dietmar Offenhuber is Assistant Professor in the Departments of Art + Design and Public Policy at Northeastern University, where he heads the Information Design and Visualization graduate program.

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Infrastructures series

digital culture

The Fabric of Interface

Mobile Media, Design, and Gender

Stephen Monteiro

For many of our interactions with digital media we do not sit at a keyboard but hold a mobile device in our hands. We turn and tilt and stroke and tap, and through these physical interactions with an object we make things: images, links, sites, networks. In *The Fabric of Interface*, Stephen Monteiro argues that our everyday digital practice has taken on traits common to textile and needlecraft culture. Our smart phones and tablets use some of the same skills—manual dexterity, pattern making, and linking—required by the handloom, the needlepoint hoop, and the lap-sized quilting frame. Monteiro goes on to argue that the capacity of textile metaphors to describe computing (weaving code, threaded discussions, zipped files, software patches, switch fabrics) represents deeper connections between digital communication and what has been called "homecraft" or "women's work."

Tracing the genealogy of our physical interaction with mobile devices back to textile and needlecraft culture.

Connecting networked media to practices that seem alien to media technologies, Monteiro identifies handicraft and textile techniques in the production of software and hardware, and cites the punch cards that were read by a loom's rods as a primitive form of computer memory; examines textual and visual discourses that position the digital image as a malleable fabric across its production, access, and use; compares the digital labor of liking, linking, and tagging to such earlier forms of collective production as quilting bees and piecework; and describes how the convergence of intimacy and handiwork at the screen interface, combined with needlecraft aesthetics, genders networked culture and activities in unexpected ways.

Stephen Monteiro is Assistant Professor of Global Communications at the American University of Paris.

November | 6 x 9, 200 pp. | 29 illus.

$30.00S/£24.95 cloth
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digital humanities | new media

Machine Learners

Archaeology of a Data Practice

Adrian Mackenzie

Machine learning—programming computers to learn from data—has spread across scientific disciplines, media, entertainment, and government. It has also become a mundane mechanism deeply embedded in a variety of systems and gadgets. In contexts from the everyday to the esoteric, machine learning is said to transform the nature of knowledge. In this book, Adrian Mackenzie investigates whether machine learning also transforms the practice of critical thinking.

If machine learning transforms the nature of knowledge, does it also transform the practice of critical thought?

Mackenzie focuses on machine learners—either humans and machines or human-machine relations—situated among settings, data, and devices. The settings range from fMRI to Facebook; the data anything from cat images to DNA sequences; the devices include neural networks, support vector machines, and decision trees. He examines specific learning algorithms—writing code and writing about code—and develops an archaeology of operations that, following Foucault, views machine learning as a form of knowledge production and a strategy of power. Exploring layers of abstraction, data infrastructures, coding practices, diagrams, mathematical formalisms, and the social organization of machine learning, Mackenzie traces the mostly invisible architecture of one of the central zones of contemporary technological cultures.

Mackenzie's account of machine learning locates places in which a sense of agency can take root. His archaeology of the operational formation of machine learning does not unearth the footprint of a strategic monolith but reveals the local tributaries of force that feed into the generalization and plurality of the field.

Adrian Mackenzie is Professor of Technological Cultures in the Department of Sociology at Lancaster University and the author of *Wirelessness: Radical Empiricism in Network Cultures* (MIT Press).

October | 7 x 9, 312 pp. | 25 illus.

$40.00S/£32.95 cloth
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economics

Demographic Change and Long-Run Development

Matteo Cervellati and Uwe Sunde

Over the last two hundred years, mortality and fertility levels in the Western world have dropped to unprecedented levels. This demographic transition was accompanied by an economic transition that led to widespread education and economic growth after centuries of near-stagnation. At the same time, other changes have occurred in family structures, culture, and the organization of society. Economists have only recently begun to take into account the demographic transition from high mortality and high fertility when modeling and researching economic development. This volume reviews recent approaches to economic demography, considering such topics as the bio-geographic origins of comparative development differences, the role of health improvements and mortality decline, as well as physiological, familial, cultural, and social aspects.

Recent approaches to economic demography, investigating the effect of the transition to low mortality and low fertility on economic development.

After an overview of the study of demography and economic demography, the chapters cover subjects including the Neolithic era and the period of the formation of states and social institutions; longevity and economic growth; household decision making and fertility; land inequality, education, and marriage in nineteenth century Prussia; and caste systems and technology in pre-modern societies. The book concludes with a call for further investigation of the institutional and social factors that influence demographics and economies, suggesting that unified growth theory offers a potential approach to studying development.

Matteo Cervellati is Professor of Economics at the University of Bologna. **Uwe Sunde** is Professor of Economics at the University of Munich.

Contributors
Matteo Cervellati, Francesco Cinnirella, David de la Croix, Carl-Johann Dalgaard, Matthias Doepke, Elena Esposito, Davide Fiaschi, Tamara Fioroni, Oded Galor, Boris Gershman, Erik Hornung, Fabian Kindermann, Nils-Petter Lagerlöf, Holger Strulik, Uwe Sunde, David N. Weil

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CESifo Seminar series

ECONOMICS

economics

Labor, Credit, and Goods Markets

The Macroeconomics of Search and Unemployment

Nicolas Petrosky-Nadeau and Etienne Wasmer

This book offers an integrated framework to study the theoretical and quantitative properties of economies with frictions in multiple markets. Building on analyses of markets with frictions by 2010 Nobel laureates Peter A. Diamond, Dale T. Mortensen, and Christopher A. Pissarides, which provided a new theoretical approach to search markets, the book applies this new paradigm to labor, finance, and goods markets. It shows, in particular, how frictions in different markets interact with each other.

An integrated framework to study the theoretical and quantitative properties of economies with frictions in labor, financial, and goods markets.

The book first covers the main developments in the analysis of the labor market in the presence of frictions, offering a systematic analysis of the dynamics of this environment and explaining the notion of macroeconomic volatility. Then, building on the generality and simplicity of the search analysis, the book adapts it to other markets, developing the tools and concepts to analyze friction in these markets. The book goes beyond the traditional general equilibrium analysis of markets, which is often frictionless. It begins with the standard analysis of a single market, and then sequentially integrates more markets into the analysis, progressing from labor to financial to goods markets. Along the way, the book provides a number of useful results and insights, including the existence of a direct link between search frictions and the degree of volatility in the economy.

Nicolas Petrosky-Nadeau is Senior Economist at the Federal Reserve Bank of San Francisco. **Etienne Wasmer** is Professor of Economics at Sciences Po, Paris, where he is also Cofounder and Codirector of the Interdisciplinary Research Center for the Evaluation of Public Policies.

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economics

Macroeconomic Essentials

Understanding Economics in the News

FOURTH EDITION

Peter E. Kennedy and Jay Prag

This introductory text offers an alternative to the encyclopedic, technically oriented approach taken by traditional textbooks on macroeconomic principles. Concise and nontechnical but rigorous, its goal is not to teach students to shift curves on diagrams but to help them understand fundamental macroeconomic concepts and their real-world applications. It accomplishes this by providing a clear exposition of introductory macroeconomic theory along with more than 700 one- or two-sentence "news clips," based on economics media coverage, as illustrations or student exercises. Although the writing is accessible, end-of-chapter questions are challenging, requiring a thorough understanding of related macroeconomic concepts, critical-thinking skills, and an ability to make connections to the real world.

The new edition of a concise and nontechnical but rigorous introductory text that emphasizes fundamental concepts and real-world applications, thoroughly revised and updated.

This fourth edition has been thoroughly revised and updated, with new material on such topics as aggregate supply and demand, supply-side models, recent issues faced by the Federal Reserve, the role of government, and "burst bubbles." The more challenging end-of-chapter questions are separated out, and news clip questions have been added that refer to recent events. Optional chapter appendixes offer technical material; other appendixes provide answers to sample exam questions and to even-numbered end-of-chapter questions. Text boxes ("curiosities") offer short expositions of related topics. The book can be used as a text for principles of macroeconomics and applied macroeconomics courses, as a supplementary text for a traditional macro-principles course, or for MBA macroeconomics courses.

The late **Peter E. Kennedy** was Professor Emeritus of Economics at Simon Fraser University. **Jay Prag** is Clinical Associate Professor at the Drucker School of Management at Claremont Graduate University.

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economics

Natural Resources as Capital

Larry Karp

This introduction to natural resource economics treats resources as a type of capital; their management is an investment problem requiring forward-looking behavior within a dynamic setting. Market failures are widespread, often associated with incomplete or nonexistent property rights, complicated by policy failures. The book covers standard resource economics topics, including both the Hotelling model for nonrenewable resources and models for renewable resources. The book also includes some topics in environmental economics that overlap with natural resource economics, including climate change.

An introduction to the concepts and tools of natural resource economics, including dynamic models, market failures, and institutional remedies.

The text emphasizes skills and intuition needed to think about dynamic models and institutional remedies in the presence of both market and policy failures. It presents the nuts and bolts of resource economics as applied to nonrenewable resources, including the two-period model, stock-dependent costs, and resource scarcity. The chapters on renewable resources cover such topics as property rights as an alternative to regulation, the growth function, steady states, and maximum sustainable yield, using fisheries as a concrete setting. Other, less standard, topics covered include microeconomic issues such as arbitrage and the use of discounting; policy problems including the "Green Paradox"; foundations for policy analysis when market failures are important; and taxation. Appendixes offer reviews of the relevant mathematics. The book is suitable for use by upper-level undergraduates or, with the appendixes, masters-level courses.

Larry Karp is Professor in the Department of Agricultural and Resource Economics at the University of California, Berkeley.

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economics

Taming the Tide of Capital Flows

A Policy Guide

Atish R. Ghosh, Jonathan D. Ostry, and Mahvash S. Qureshi

While always episodic in nature, capital flows to emerging market economies have been especially volatile since the global financial crisis. After peaking at $680 billion in 2007, flows to emerging markets turned negative at the onset of crisis in 2008, then rebounded only to recede again during the U.S. sovereign debt downgrade in 2011. Since then, flows have continued to swing wildly, leaving emerging market policy makers wondering whether they can put in place policies during the inflow phase that will soften the blow when flows subsequently recede. This book offers the first comprehensive treatment of policy measures intended to help emerging markets contend with large and volatile capital flows.

A comprehensive examination of policy measures intended to help emerging markets contend with large and volatile capital flows.

The authors, all IMF experts, explain that, in the spirit of liberalization and deregulation in the 1980s and 1990s, many emerging market governments eliminated capital inflow controls along with outflow controls. By 2012, however, capital inflow controls were again acknowledged as legitimate policy tools. Focusing on the macroeconomic and financial-stability risks associated with capital flows, the authors combine theoretical and empirical analysis to consider the interaction between monetary, exchange rate, macroprudential, and capital control policies to mitigate these risks. They examine the effectiveness of various policy tools, discuss the practical considerations and multilateral implications of their use, and provide concrete policy advice for dealing with capital inflows.

Atish R. Ghosh is the Historian of the International Monetary Fund. **Jonathan D. Ostry** is Deputy Director of the Research Department of the International Monetary Fund. **Mahvash S. Qureshi** is Deputy Chief of the Systemic Issues Division in the Research Department of the International Monetary Fund.

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economics

The Theory of Collusion and Competition Policy

Joseph E. Harrington, Jr.

Collusion occurs when firms in a market coordinate their behavior for the purpose of producing a supracompetitive outcome. The literature on the theory of collusion is deep and broad but most of that work does not take account of the possible illegality of collusion. Recently, there has been a growing body of research that explicitly focuses on collusion that runs afoul of competition law and thereby makes firms potentially liable for penalties. This book, by an expert on the subject, reviews the theoretical research on unlawful collusion, with a focus on two issues: the impact of competition law and enforcement on whether, how long, and how much firms collude; and the optimal design of competition law and enforcement.

A review of the theoretical research on unlawful collusion, focusing on the impact and optimal design of competition law and enforcement.

The book begins by discussing general issues that arise when models of collusion take into account competition law and enforcement. It goes on to consider game-theoretic models that encompass the probability of detection and penalties incurred when convicted, and examines how these policy instruments affect the frequency of cartels, cartel duration, cartel participation, and collusive prices. The book then considers the design of competition law and enforcement, examining such topics as the formula for penalties and leniency programs. The book concludes with suggested future lines of inquiry into illegal collusion.

Joseph E. Harrington, Jr., is Patrick T. Harker Professor in the Department of Business Economics and Public Policy at the Wharton School of Business at the University of Pennsylvania.

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economics | energy | environment

Energy Tax and Regulatory Policy in Europe

Reform Priorities

edited by Karen Pittel, Ian Parry, and Herman Vollebergh

The European Union (EU) faces critical challenges in energy policy making, the most pressing of which are how to achieve the deep greenhouse gas reductions promised at the December 2015 UN Conference of the Parties in Paris, and how this effort can be coordinated with already existing policies. Energy policy is primarily a member state responsibility, and policy makers need an overarching view of the main issues in energy policy and their interaction with environmental policies. This volume aims to fill this need, offering concise introductions to some of the major issues as well as practical suggestions for policy making.

Concise introductions to the main issues in energy policy and their interaction with environmental policies in the EU.

The contributors discuss reforms to the EU Emissions Trading System (ETS), the world's largest carbon market; ways to improve the operation and integration of the EU's power grids, in terms of both supply and demand; changes to the EU's Energy Tax Directive, which sets tax floors for fuels outside the ETS; the coordination of climate policies with policies to promote renewables and energy efficiency; research into clean technology; challenges to shale gas development; and transportation policy and the need for action on such externalities as traffic congestion. Finally, contributors consider obstacles to reform, including its potential effects on vulnerable households and energy-intensive industries.

Karen Pittel is Director of the Ifo Center for Energy, Climate, and Exhaustible Resources and Professor of Economics at the University of Munich. **Ian Parry** is Principal Environmental Fiscal Policy Expert in the IMF's Fiscal Affairs Department. **Herman Vollebergh** is Senior Research Fellow at PBL Netherlands Environmental Assessment Agency and Professor in Economics and Environmental Policy at Tilburg University.

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economics | finance

International Currency Exposure

edited by Yin-Wong Cheung and Frank Westermann

The foreign currency denomination of contracts in international transactions can lead to international currency exposure at the country level with important economic and policy implications. When debts are denominated in foreign currency and revenues in domestic currency, exchange rate fluctuations can result in balance sheet effects for countries with either net asset or liability positions. Moreover, currency mismatch between assets and liabilities can be a cause for crises in developing and emerging economies. This book looks at the issues surrounding foreign currency exposure in today's increasingly integrated world economy.

Issues in debates about foreign currency exposure—the denomination of liabilities or assets in foreign currency.

The contributors draw on cross-country as well as country-specific data. They consider international currency risk after the Swiss franc ended its one-sided peg with the euro, for example, and the foreign exchange positions of firms in Turkey and Russia. Other contributors take macroeconomic perspectives, examining the potential effects of exchange rate realignment, the pressure to appreciate on countries with current account surpluses, and the currency exposure in international trade. Finally, contributors consider the issue from finance and political economy perspectives, addressing the phenomenon of the forward premium puzzle and discussing geopolitical aspects of ascending currencies.

Yin-Wong Cheung is Hung Hing Chair Professor of International Economics and Director of the Global Research Unit at City University of Hong Kong. **Frank Westermann** is Professor of Economics and Director of the Institute of Empirical Economic Research at Osnabrueck University, Germany.

Contributors
Fatih Altunok, Huseyin Aytug, Agustín S. Bénétrix, Jörg Breitung, Paul De Grauwe, Eiji Fujii, Juann H. Hung, Signe Krogstrup, Philip R. Lane, Katja Mann, Arif Oduncu, Gunther Schnabl, Maria V. Sokolova, Cédric Tille

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economics | political science

How Reform Worked in China

The Transition from Plan to Market

Yingyi Qian

As China has transformed itself from a centrally planned economy to a market economy, economists have tried to understand and interpret the success of Chinese reform. As the Chinese economist Yingyi Qian explains, there are two schools of thought on Chinese reform: the "School of Universal Principles," which ascribes China's successful reform to the workings of the free market, and the "School of Chinese Characteristics," which holds that China's reform is successful precisely because it did not follow the economics of the market but instead relied on the government. In this book, Qian offers a third perspective, taking certain elements from each school of thought but emphasizing not *why* reform worked but *how* it did. Economics is a science, but economic reform is applied science and engineering. To a practitioner, it is more useful to find a feasible reform path than the theoretically best way.

A noted Chinese economist examines the mechanisms behind China's economic reforms, arguing that universal principles and specific implementations are equally important.

The key to understanding how reform has worked in China, Qian argues, is to consider the way reform designs respond to initial historical conditions and contemporary constraints. Qian examines the role of "transitional institutions"—not "best practice institutions" but "incentive-compatible institutions"—in Chinese reform; the dual-track approach to market liberalization; the ownership of firms, viewed both theoretically and empirically; government decentralization, offering and testing hypotheses about its link to local economic development; and the specific historical conditions of China's regional-based central planning.

Yingyi Qian is Dean and Professor of the School of Economics and Management at Tsinghua University in Beijing. He is a Fellow of the Econometric Society and winner of the 2016 China Economics Prize. He has served on the faculties of economics at Stanford University, the University of Maryland, and the University of California, Berkeley.

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finance | economics

The Economics of Continuous-Time Finance

Bernard Dumas and Elisa Luciano

This book introduces the economic applications of the theory of continuous-time finance, with the goal of enabling the construction of realistic models, particularly those involving incomplete markets. Indeed, most recent applications of continuous-time finance aim to capture the imperfections and dysfunctions of financial markets—characteristics that became especially apparent during the market turmoil that started in 2008.

An introduction to economic applications of the theory of continuous-time finance that strikes a balance between mathematical rigor and economic interpretation of financial market regularities.

The book begins by using discrete time to illustrate the basic mechanisms and introduce such notions as completeness, redundant pricing, and no arbitrage. It develops the continuous-time analog of those mechanisms and introduces the powerful tools of stochastic calculus. Going beyond other textbooks, the book then focuses on the study of markets in which some form of incompleteness, volatility, heterogeneity, friction, or behavioral subtlety arises. After presenting solution methods for control problems and related partial differential equations, the text examines portfolio optimization and equilibrium in incomplete markets, interest rate and fixed-income modeling, and stochastic volatility. Finally, it presents models where investors form different beliefs or suffer frictions, form habits, or have recursive utilities, studying the effects not only on optimal portfolio choices but also on equilibrium, or the price of primitive securities. The book strikes a balance between mathematical rigor and the need for economic interpretation of financial market regularities, although with an emphasis on the latter.

Bernard Dumas is the INSEAD Chaired Professor of Finance, Emeritus, and AXA Chair in Socioeconomic Risks at the University of Torino. **Elisa Luciano** is Professor of Finance at the University of Torino and Collegio Carlo Alberto.

October | 7 x 9, 688 pp. | 34 illus.

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finance | mathematics

Stochastic Methods in Asset Pricing

Andrew Lyasoff

This book presents a self-contained, comprehensive, and yet concise and condensed overview of the theory and methods of probability, integration, stochastic processes, optimal control, and their connections to the principles of asset pricing. The book is broader in scope than other introductory-level graduate texts on the subject, requires fewer prerequisites, and covers the relevant material at greater depth, mainly without rigorous technical proofs. The book brings to an introductory level certain concepts and topics that are usually found in advanced research monographs on stochastic processes and asset pricing, and it attempts to establish greater clarity on the connections between these two fields.

A comprehensive overview of the theory of stochastic processes and its connections to asset pricing, accompanied by some concrete applications.

The book begins with measure-theoretic probability and integration, and then develops the classical tools of stochastic calculus, including stochastic calculus with jumps and Lévy processes. For asset pricing, the book begins with a brief overview of risk preferences and general equilibrium in incomplete finite endowment economies, followed by the classical asset pricing setup in continuous time. The goal is to present a coherent single overview. For example, the text introduces discrete-time martingales as a consequence of market equilibrium considerations and connects them to the stochastic discount factors before offering a general definition. It covers concrete option pricing models (including stochastic volatility, exchange options, and the exercise of American options), Merton's investment–consumption problem, and several other applications. The book includes more than 450 exercises (with detailed hints). Appendixes cover analysis and topology and computer code related to the practical applications discussed in the text.

Andrew Lyasoff is affiliated with the Mathematical Finance Program at Boston University's Questrom School of Business.

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energy | environment

Modernizing America's Electricity Infrastructure

Mason Willrich

America's aging electricity infrastructure is deteriorating rapidly even as the need for highly reliable electric service—driven by the explosion of digital technology—continues to rise. Largely missing from national discussions, however, is a coherent, comprehensive national strategy for modernizing this critical infrastructure. Energy expert Mason Willrich presents just such a strategy in this book, connecting the dots across electric utilities, independent suppliers, government bureaucracies, political jurisdictions, and academic disciplines. He explains the need for a coherent approach, offers a framework for analyzing policy options, and proposes a step-by-step strategy for modernizing electrical infrastructure, end-to-end, in a way that ensures the delivery of affordable, reliable, secure, and environmentally sustainable electricity services.

A comprehensive, coherent strategy for modernizing America's electricity infrastructure while ensuring affordable, reliable, secure, and environmentally sustainable electricity services.

Willrich argues that an effective electrical infrastructure modernization strategy must incorporate flexibility, adaptability, and the capacity to coordinate policies at local, state, and federal levels. He reviews the history of America's electrification, from Edison's demonstration of the incandescent light bulb through the recent expansion of wind, solar, and energy efficiency as carbon-free energy resources. He describes the current ownership and operation of the electric industry and the complicated web of federal and state policies that govern it.

Mason Willrich is an independent energy consultant. During a distinguished career of more than five decades, he has worked as a senior executive in the electric utility industry and the independent power industry as well as in academia and the U.S. government. His books include *Energy and World Politics* and *Non-Proliferation Treaty: Framework for Nuclear Arms Control*.

October | 6 x 9, 304 pp. | 16 illus.

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environment | humanities

The Environmental Humanities

A Critical Introduction

Robert S. Emmett and David E. Nye

The emergence of the environmental humanities as an academic discipline early in the twenty-first century reflects the growing conviction that environmental problems cannot be solved by science and technology alone. This book offers a concise overview of this new multidisciplinary field, presenting concepts, issues, current research, concrete examples, and case studies. Robert Emmett and David Nye show how humanists, by offering constructive knowledge as well as negative critique, can improve our understanding of such environmental problems as global warming, species extinction, and overconsumption of the earth's resources. They trace the genealogy of environmental humanities from European, Australian, and American initiatives, also showing its cross-pollination by postcolonial and feminist theories.

A concise overview of this multidisciplinary field, presenting key concepts, central issues, and current research, along with concrete examples and case studies.

Emmett and Nye consider a concept of place not synonymous with localism, the risks of ecotourism, and the cultivation of wild areas. They discuss the decoupling of energy use and progress, and point to OECD countries for examples of sustainable development. They explain the potential for science to do both good and harm, examine dark visions of planetary collapse, and describe more positive possibilities—alternative practices, including localization and degrowth. Finally, they examine the theoretical impact of new materialism, feminism, postcolonial criticism, animal studies, and queer ecology on the environmental humanities.

Robert S. Emmett is Visiting Assistant Professor of Environmental Studies at Roanoke College and author of *Cultivating Environmental Justice: A Literary History of U.S. Garden Writing*. **David E. Nye** is Professor of American Studies at the University of Southern Denmark and the author of eight books published by the MIT Press, including *America's Assembly Line* and *When the Lights Went Out*.

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ENVIRONMENT

environmental policy | international relations

Winning Together

The Natural Resource Negotiation Playbook

Bruno Verdini Trejo

Transboundary natural resource negotiations, often conducted in an atmosphere of entrenched mistrust, confrontation, and deadlock, can go on for decades. In this book, Bruno Verdini outlines an approach by which government, private sector, and non-governmental stakeholders can overcome grievances, break the status quo, trade across differences, and create mutual gains in high-stakes water, energy, and environmental negotiations.

Strategies for transboundary natural resource management; winner of Harvard Law School's Raiffa Award for best research of the year in negotiation and conflict resolution.

Verdini examines two landmark negotiations between the United States and Mexico. The two cases—one involving conflict over shared hydrocarbon reservoirs in the Gulf of Mexico and the other involving disputes over the shared waters of the Colorado River—resulted in groundbreaking agreements in 2012, after decades of deadlock.

Drawing on his extensive interviews with more than seventy high-ranking negotiators in the U.S. and Mexico—from presidents and ambassadors to general managers, technical experts, and non-governmental advocates—Verdini offers detailed accounts from multiple points of view, on both sides of the border. He unpacks the negotiation, leadership, collaborative decision-making, and political communication strategies that made agreement possible.

Building upon the theoretical and empirical findings, Verdini offers advice for practitioners on effective negotiation and dispute resolution strategies that avoid the presumption that there are not enough resources to go around, and that one side must win and the other must inevitably lose.

Bruno Verdini Trejo is Executive Director of the MIT-Harvard Mexico Negotiation Program, Lecturer in Urban Planning and Negotiation, and Founder of MIT's Concentration in Negotiation and Leadership. He teaches MIT's popular course, The Art and Science of Negotiation, and leads training and consulting work for governments, firms, and international organizations around the world.

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environmental policy | political science

Conceptual Innovation in Environmental Policy

edited by James Meadowcroft and Daniel J. Fiorino

Concepts are thought categories through which we apprehend the world; they enable, but also constrain, reasoning and debate and serve as building blocks for more elaborate arguments. This book traces the links between conceptual innovation in the environmental sphere and the evolution of environmental policy and discourse. It offers both a broad framework for examining the emergence, evolution, and effects of policy concepts and a detailed analysis of eleven influential environmental concepts.

Concepts and their role in the evolution of modern environmental policy, with case studies of eleven influential concepts ranging from "environment" to "sustainable consumption."

In recent decades, conceptual evolution has been particularly notable in environmental governance, as new problems have emerged and as environmental issues have increasingly intersected with other areas. "Biodiversity," for example, was unheard of until the late 1980s; "negative carbon emissions" only came into being over the last few years. After a review of concepts and their use in environmental argument, chapters chart the trajectories of a range of environmental concepts: environment, sustainable development, biodiversity, environmental assessment, critical loads, adaptive management, green economy, environmental risk, environmental security, environmental justice, and sustainable consumption. The book provides a valuable resource for scholars and policy makers and also offers a novel introduction to the environmental policy field through the evolution of its conceptual categories.

James Meadowcroft is Professor in the Department of Political Science and in the School of Public Policy and Administration at Carleton University, Ottawa. **Daniel J. Fiorino** is Director of the Center for Environmental Policy in the School of Public Affairs at American University.

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American and Comparative Environmental Policy series

environmental policy | sustainability

Green Grades

Can Information Save the Earth?

Graham Bullock

Consumers are confronted with a confusing array of environmental ratings on products that range from refrigerators to shampoos. Is the information that these ratings represent trustworthy, accurate, or even relevant to environmental concerns? "Information optimists" believe that these "green grades" can play an important role in saving the planet. "Information pessimists" consider them a distraction from pursuing legislative and regulatory actions. In this book, Graham Bullock offers a comprehensive assessment and analysis of the effectiveness and validity of such environmental ratings as ENERGY STAR, USDA Organic, the Forest Stewardship Council, LEED, and the Toxic 100 Air Polluters Index.

A comprehensive assessment and analysis of the validity, effectiveness, and trustworthiness of such environmental ratings and certification as ENERGY STAR, LEED, and USDA Organic.

Bullock stakes out a position as an "information realist," acknowledging both the contributions and the limitations of these initiatives. Drawing on interviews, case studies, and an original dataset of 245 environmental ratings and certifications, he examines what he calls the information value chain of green grades: organizational associations, content, methods, interfaces, and outcomes. He explores the relevance of the information to the issues; the legitimacy and accountability of sponsoring or cooperating organizations; the reliability of methods used to develop the information; the prominence and intelligibility of its communication to the public; and the effects and effectiveness of the information after it emerges from the value chain. Bullock's analysis offers a realistic appraisal of the role of information-based environmental governance—its benefits and shortcomings—and its relation to other governance strategies.

Graham Bullock is Assistant Professor in the Departments of Political Science and Environmental Studies at Davidson College, Davidson, North Carolina. He is a cofounder of GoodGuide, an online tool that provides environmental, social, and health information about products and companies.

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history of computing | business history

Making IT Work

A History of the Computer Services Industry

Jeffrey R. Yost

The computer services industry has worldwide annual revenues of nearly a trillion dollars and employs millions of workers, but is often overshadowed by the hardware and software products industries. In this book, Jeffrey Yost shows how computer services, from consulting and programming to data analytics and cloud computing, have played a crucial role in shaping information technology—in making IT work. Tracing the evolution of the computer services industry from the 1950s to the present, Yost provides case studies of important companies (including IBM, Hewlett Packard, Andersen/Accenture, EDS, Infosys, and others) and profiles of such influential leaders as John Diebold, Ross Perot, and Virginia Rometty. He offers a fundamental reinterpretation of IBM as a supplier of computer services rather than just a producer of hardware, exploring how IBM bundled services with hardware for many years before becoming service-centered in the 1990s.

The evolution of the multi-billion-dollar computer services industry, from consulting and programming to data analytics and cloud computing, with case studies of important companies.

Yost describes the emergence of companies that offered consulting services, data processing, programming, and systems integration. He examines the development of industry-defining trade associations; facilities management and the firm that invented it, Ross Perot's EDS; time sharing, a precursor of the cloud; IBM's early computer services; and independent contractor brokerages. Finally, he explores developments since the 1980s: the transformations of IBM and Hewlett Packard; the offshoring of enterprises and labor; major Indian IT service providers and the changing geographical deployment of U.S.-based companies; and the paradigm-changing phenomenon of cloud service.

Jeffrey R. Yost is Associate Director of the Charles Babbage Institute at the University of Minnesota, where he is also on the faculty of the Program in the History of Science, Technology, and Medicine.

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History of Computing series

history of science | biology

Vivarium

Experimental, Quantitative, and Theoretical Biology at Vienna's Biologische Versuchsanstalt

edited by Gerd B. Müller

The Biologische Versuchsanstalt was founded in Vienna in 1902 with the explicit goal to foster the quantification, mathematization, and theory formation of the biological sciences. Three biologists from affluent Viennese Jewish families—Hans Przibram, Wilhelm Figdor, and Leopold von Portheim–founded, financed, and nurtured the institute, overseeing its development into one of the most advanced biological research institutes of the time. And yet today its accomplishments are nearly forgotten. In 1938, the founders and other members were denied access to the institute by the Nazis and were forced into exile or deported to concentration camps. The building itself was destroyed by fire in April 1945. This book rescues the legacy of the "Vivarium" (as the Institute was often called), describing both its scientific achievements and its place in history.

The scientific achievements and forgotten legacy of a major Austrian research institute, from its founding in 1902 to its wartime destruction in 1945.

The book covers the Viennese sociocultural context at the time of the Vivarium's founding, and the scientific zeitgeist that shaped its investigations. It discusses the institute's departments and their research topics, and describes two examples that had scientific and international ramifications: the early work of Karl von Frisch, who in 1973 won the Nobel Prize in Physiology or Medicine; and the connection to Cold Spring Harbor Laboratory in New York.

Gerd B. Müller is Professor of Zoology and Head of the Department of Theoretical Biology at the University of Vienna and President of the Konrad Lorenz Institute for Evolution and Cognition Research.

Contributors
Heiner Fangerau, Johannes Feichtinger, Georg Gaugusch, Manfred D. Laubichler, Cheryl A. Logan, Gerd B. Müller, Tania Munz, Kärin Nickelsen, Christian Reiß, Kate E. Sohasky, Heiko Stoff, Klaus Taschwer

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Vienna Series in Theoretical Biology

history of technology | energy

The Grid

Biography of an American Technology

Julie A. Cohn

The North American power grid has been called the world's largest machine. The grid connects nearly every living soul on the continent; Americans rely utterly on the miracle of electrification. In this book, Julie Cohn tells the history of the grid, from early linkages in the 1890s through the grid's maturity as a networked infrastructure in the 1980s. She focuses on the strategies and technologies used to control power on the grid—in fact made up of four major networks of interconnected power systems—paying particular attention to the work of engineers and system operators who handled the everyday operations. To do so, she consulted sources that range from the archives of Consolidated Edison to the papers of her father, Nathan Cohn, who worked in the industry from 1927 to 1989—roughly the period of key power control innovations across North America.

The history of the grid, the world's largest interconnected power machine that is North America's electricity infrastructure.

Cohn investigates major challenges and major breakthroughs but also the hidden aspects of our electricity infrastructure, both technical and human. She describes the origins of the grid and the growth of interconnection; emerging control issues, including difficulties in matching generation and demand on linked systems; collaboration and competition against the backdrop of economic depression and government infrastructure investment; the effects of World War II on electrification; postwar plans for a coast-to-coast grid; the northeast blackout of 1965 and the East-West closure of 1967; and renewed efforts at achieving stability and reliability after those two events.

Julie A. Cohn is Research Historian at the Center for Public History at the University of Houston.

December | 6 x 9, 328 pp. | 60 illus.

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information policy | technology | environment

Open Space

The Global Effort for Open Access to Environmental Satellite Data

Mariel Borowitz

Key to understanding and addressing climate change is continuous and precise monitoring of environmental conditions. Satellites play an important role in collecting climate data, offering comprehensive global coverage that can't be matched by in situ observation. And yet, as Mariel Borowitz shows in this book, much satellite data is not freely available but restricted; this remains true despite the data-sharing advocacy of international organizations and an open data movement. Borowitz examines policies governing the sharing of environmental satellite data, offering a model of data-sharing policy development and applying it in case studies from the United States, Europe, and Japan—countries responsible for nearly half of the unclassified government Earth observation satellites.

An examination of environmental satellite data sharing policies, offering a model of data-sharing policy development and case studies from the United States, Europe, and Japan.

Borowitz develops a model that centers on the government agency as the primary actor while taking into account the roles of such outside actors as other government officials and non-governmental actors, as well as the economic, security, and normative attributes of the data itself. The case studies include the U.S. National Aeronautics and Space Administration (NASA) and the U.S. National Oceanographic and Atmospheric Association (NOAA), and the United States Geological Survey (USGS); the European Space Agency (ESA) and the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT); and the Japanese Aerospace Exploration Agency (JAXA) and the Japanese Meteorological Agency (JMA). Finally, she considers the policy implications of her findings for the future and provides recommendations on how to increase global sharing of satellite data.

Mariel Borowitz is Assistant Professor in the Sam Nunn School of International Affairs at Georgia Tech.

November | 6 x 9, 408 pp. | 9 illus.

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Information Policy series

information science | communication

Decoding the Social World

Data Science and the Unintended Consequences of Communication

Sandra González-Bailón

In *Decoding the Social World*, Sandra González-Bailón shows how algorithms, crowdsourcing, and digital traces offer methods and data that can help us solve the puzzle of unintended consequences—a social paradox that has intrigued thinkers for centuries. Communication has always been the force that makes a collection of people more than the sum of individuals. The digital revolution—which is a continuation of previous technological revolutions—allows us to parse the information we generate by being social in new, imaginative ways. But we must look at that data, González-Bailón argues, through the lens of theories that capture the nature of social life. The technologies we use, in the end, are also a manifestation of the social world we inhabit.

How data science and the analysis of communication networks can be used to solve social paradoxes, including the puzzle of unintended consequences.

González-Bailón discusses how the unpredictability of social life relates to networks, social influence, and the unintended effects that derive from interdependent decisions. She describes how communication generates social dynamics in aggregate (leading to episodes of "collective effervescence") and explains the mechanisms that underlie large-scale diffusion, when information and behavior spread "like wildfire." She explains how network theory can be used to analyze the relationship between individual decisions and collective outcomes, and why communication can rewire the networks that constrain and facilitate social life. By opening the black box of unintended effects, González-Bailón finds a starting point for devising strategies for social intervention. Finally, she explores the policy implications of digital research, considering, among other things, how data science and evidence-based research can enrich critical thinking and decision making.

Sandra González-Bailón is Assistant Professor at the Annenberg School for Communication, University of Pennsylvania, and Research Associate at the Oxford Internet Institute, University of Oxford.

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Information Policy series

labor studies | environment | policy

Blue and Green

The Drive for Justice at America's Port

Scott L. Cummings

In *Blue and Green*, Scott Cummings examines a campaign by the labor and environmental movements to transform trucking at America's largest port in Los Angeles. Tracing the history of struggle in an industry at the epicenter of the global supply chain, Cummings shows how an unprecedented "blue-green" alliance mobilized to improve working conditions for low-income drivers and air quality in nearby communities. The campaign for "clean trucks," Cummings argues, teaches much about how social movements use law to challenge inequality in a global era.

How an alliance of the labor and environmental movements used law as a tool to clean up the trucking industry at the nation's largest port.

Cummings shows how federal deregulation created interrelated economic and environmental problems at the port and how the campaign fought back by mobilizing law at the local level. He documents three critical stages: initial success in passing landmark legislation requiring port trucking companies to convert trucks from dirty to clean and drivers from contractors to employees with full labor rights; campaign decline after industry litigation blocked employee conversion; and campaign resurgence through an innovative legal approach to driver misclassification that realized a central labor movement goal—unionizing port truckers.

Appraising the campaign, Cummings analyzes the tradeoffs of using alternate legal frameworks to promote labor organizing, and explores lessons for building movements to regulate low-wage work in the "gig" economy. He shows how law can bind coalitions together and split them apart, and concludes that the fight for legal reform never ends, but rather takes different turns on the long road to justice.

Scott L. Cummings is Robert Henigson Professor of Legal Ethics at the University of California, Los Angeles, School of Law.

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Urban and Industrial Environments series

linguistics

Linguistics

An Introduction to Language and Communication

SEVENTH EDITION

Adrian Akmajian, Ann K. Farmer, Lee Bickmore, Richard A. Demers, and Robert M. Harnish

This popular introductory linguistics text is unique for its integration of themes. Rather than treat morphology, phonetics, phonology, syntax, and semantics as completely separate fields, the book shows how they interact. The authors provide a sound introduction to linguistic methodology, focusing on a set of linguistic concepts that are among the most fundamental within the field. By studying the topics in detail, students can get a feeling for how work in different areas of linguistics is done.

The latest edition of a popular introductory text, including a section on computational linguistics, new non-English examples, quizzes for each chapter, and additional special topics.

As in the last edition, part I covers the structural and interpretive parts of language—morphology, phonetics, phonology, syntax, semantics, variation, and change. Part II covers use and context of language and includes chapters on pragmatics, psychology of language, language acquisition, and language and the brain. This seventh edition has been extensively revised and updated; new material includes a chapter on computational linguistics, more non-English examples, and a wide range of exercises, quizzes, and special topics. With this edition, *Linguistics* and content formerly included in *A Linguistics Workbook* are available as an interactive online textbook. Purchasers of *Linguistics* will receive a unique access code for the interactive eTextbook.

The late **Adrian Akmajian** was Professor of Linguistics at the University of Arizona. **Ann K. Farmer** is an Information Engineer at Google. **Lee Bickmore** is a linguistic anthropologist and phonologist at University at Albany. **Richard A. Demers** is Professor Emeritus of the Department of Linguistics at the University of Arizona. The late **Robert M. Harnish** was Professor Emeritus of Philosophy and Linguistics at the University of Arizona.

August | 7 x 9, 608 pp. | 79 illus.

$125.00X/£104.95 paper
978-0-262-53326-3

linguistics

The Final-Over-Final Constraint

A Syntactic Universal

Michelle Sheehan, Theresa Biberauer, Ian Roberts, and Anders Holmberg

This book presents evidence for a universal word order constraint, the Final-over-Final Constraint (FOFC), and discusses the theoretical implications of this phenomenon. FOFC is a syntactic condition that disallows structures where a head-initial phrase is contained in a head-final phrase in the same extended projection/domain. The authors argue that FOFC is a linguistic universal, not just a strong tendency, and not a constraint on processing. They discuss the effects of the universal in various domains, including the noun phrase, the adjective phrase, the verb phrase, and the clause. The book draws on data from a wide range of languages, including Hindi, Turkish, Basque, Finnish, Afrikaans, German, Hungarian, French, English, Italian, Romanian, Arabic, Hebrew, Mandarin, Pontic Greek, Bagirmi, Dholuo, and Thai.

An examination of the evidence for and the theoretical implications of a universal word order constraint, with data from a wide range of languages.

FOFC, the authors argue, is important because it is the only known example of a word order asymmetry pertaining to the order of heads. As such, it has significant repercussions for theories connecting the narrow syntax to linear order.

Michelle Sheehan is Senior Lecturer in English Language and Linguistics in the Department of English and Media at Anglia Ruskin University. **Theresa Biberauer** is Principal Research Associate in the Department of Theoretical and Applied Linguistics at the University of Cambridge and Professor in the Department of General Linguistics at Stellenbosch University, South Africa. **Ian Roberts** is Professor of Linguistics and Professorial Fellow at Downing College at the University of Cambridge. **Anders Holmberg** is Professor of Theoretical Linguistics at Newcastle University and Director of Research at the University of Cambridge.

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Linguistic Inquiry Monographs series

linguistics | cognitive science

The Targeting System of Language

Leonard Talmy

In this book, Leonard Talmy proposes that a single linguistic/cognitive system, *targeting*, underlies two domains of linguistic reference, those termed anaphora (for a referent that is an element of the current discourse) and deixis (for a referent outside the discourse and in the spatiotemporal surroundings). Talmy argues that language engages the same cognitive system to single out referents whether they are speech-internal or speech-external.

A proposal that a single linguistic/cognitive system, "targeting," underlies two domains of reference, anaphora (speech-internal) and deixis (speech-external).

Talmy explains the targeting system in this way: as a speaker communicates with a hearer, her attention is on an object to which she wishes to refer; this is her *target*. To get the hearer's attention on it as well, she uses a *trigger*—a word such as *this*, *that*, *here*, *there*, or *now*. The trigger initiates a three-stage process in the hearer: he seeks cues of ten distinct categories; uses these cues to determine the target; and then maps the concept of the target gleaned from the cues back onto the trigger to integrate it into the speaker's sentence, achieving comprehension. The whole interaction, Talmy explains, rests on a coordination of the speaker's and hearer's cognitive processing. The process is the same whether the referent is anaphoric or deictic.

Talmy presents and analyzes the ten categories of cues, and examines sequences in targeting, including the steps by which interaction leads to joint attention. A glossary defines the new terms in the argument.

Leonard Talmy is Professor Emeritus of Linguistics and Director Emeritus of the Center for Cognitive Science at the University at Buffalo, State University of New York. He is the author of *Toward a Cognitive Semantics*, volume 1, *Concept Structuring Systems*, and volume 2, *Typology and Process in Concept Structuring* (MIT Press).

January | 7 x 9, 680 pp.

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978-0-262-03697-9

management | technology

IT Strategy for Non-IT Managers

Becoming an Engaged Contributor to Corporate IT Decisions

Amrit Tiwana

Firms spend more on information technology (IT) than on all other capital assets combined. And yet despite this significant cash outlay, businesses often end up with IT that is uneconomical and strategically feeble. What is missing in many organizations' IT strategy is the business acumen of managers from non-IT departments. This book presents tools for non-IT managers to turn IT from an expensive liability into a cost-effective competitive tool. It equips readers with the concepts and analytical skills necessary to understand IT needs and opportunities from both sides of the business–IT divide.

How non-IT managers can turn IT from an expensive liability into a cost-effective competitive tool.

Each chapter opens with a *jargon decoder*—nontechnical explanations of the key ideas in the chapter—and ends with a checklist summarizing non-IT factors to consider in IT decisions. Chapters cover such topics as infusing competitive firepower into IT strategy; amalgamating software and data for a hard-to-duplicate competitive advantage; making choices that meet today's business needs without handicapping future strategy; establishing who decides what about IT strategies; sourcing IT and its challenges; protecting IT assets against disaster in ways that IT professionals cannot; and recognizing the business potential of emerging technologies. Examples are drawn from large corporations, small businesses, and nonprofits around the world.

The book is suitable for use in the MBA core IT course, and is aimed especially at students in professional or executive MBA programs. It will also be a valuable reference for managers.

Amrit Tiwana is P. George Benson Professor in the Terry College of Business at the University of Georgia. He is the author of *Platform Ecosystems: Aligning Architecture, Governance, and Strategy* and other books.

September | 7 x 9, 272 pp. | 93 illus.

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marketing

Consumer Neuroscience

edited by Moran Cerf and Manuel Garcia-Garcia

Contrary to the assumptions of economists, consumers are not always rational actors who make decisions in their own best interests. The new field of behavioral economics draws on the insights of psychology to study non-rational decision making. The newer field of consumer neuroscience draws on the findings, tools, and techniques of neuroscience to understand how consumers make judgments and decisions. This book is the first comprehensive treatment of consumer neuroscience, suitable for classroom use or as a reference for business and marketing practitioners.

A comprehensive introduction to using the tools and techniques of neuroscience to understand how consumers make decisions about purchasing goods and services.

After an overview of the field, the text offers the background on the brain and physiological systems necessary for understanding how they work in the context of decision making and reviews the sensory and perceptual mechanisms that govern our perception and experience. Chapters by experts in the field investigate tools for studying the brain, including fMRI, EEG, eye-tracking, and biometrics, and their possible use in marketing. The book examines the relation of attention, memory, and emotion to consumer behavior; cognitive factors in decision making; and the brain's reward system. It describes how consumers develop implicit associations with a brand, perceptions of pricing, and how consumer neuroscience can encourage healthy behaviors. Finally, the book considers ethical issues raised by the application of neuroscience tools to marketing.

Moran Cerf is Professor of Neuroscience and Business at the Kellogg School of Management at Northwestern University and Northwestern's neuroscience program. **Manuel Garcia-Garcia** is Senior Vice President for Research and Innovation, Global and Ad Effectiveness at the Advertising Research Foundation and Adjunct Professor of Consumer Neuroscience at New York University.

November | 8 x 9, 369 pp. | 74 illus.

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neuroscience

Broken Movement

The Neurobiology of Motor Recovery after Stroke

John W. Krakauer and S. Thomas Carmichael

Stroke is a leading cause of disability in adults and recovery is often difficult, with existing rehabilitation therapies largely ineffective. In *Broken Movement*, John Krakauer and S. Thomas Carmichael, both experts in the field, provide an account of the neurobiology of motor recovery in the arm and hand after stroke. They cover topics that range from behavior to physiology to cellular and molecular biology. *Broken Movement* is the only accessible single-volume work that covers motor control and motor learning as they apply to stroke recovery and combines them with motor cortical physiology and molecular biology. The authors cast a critical eye at current frameworks and practices, offer new recommendations for promoting recovery, and propose new research directions for the study of brain repair.

An account of the neurobiology of motor recovery in the arm and hand after stroke by two experts in the field.

Krakauer and Carmichael argue for a new approach in which patients are subjected to higher doses and intensities of rehabilitation in a more dynamic and enriching environment early after stroke. Finally they review the potential of four areas to improve motor recovery: video gaming and virtual reality, invasive brain stimulation, re-opening the sensitive period after stroke, and the application of precision medicine.

John W. Krakauer is John C. Malone Professor and Professor of Neurology, Neuroscience, and Physical Medicine and Rehabilitation at the Johns Hopkins University School of Medicine. **S. Thomas Carmichael** is Professor and Chair and Frances Stark Endowed Chair in the Department of Neurology at the David Geffen School of Medicine at the University of California, Los Angeles, and Codirector of UCLA's Broad Stem Cell Center.

November | 7 x 9, 320 pp. | 35 illus.

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978-0-262-03722-8

psychiatry | neuroscience

A New Understanding of Mental Disorders

Computational Models for Dimensional Psychiatry

Andreas Heinz

Even as researchers look for neurobiological correlates of mental disorders, many of these disorders are still classified solely according to the manifestation of clinical symptoms. Neurobiological findings rarely help diagnose a specific disease or predict its outcome. Although current diagnostic categories are questionable (sometimes labeling common states of human suffering as disorders), traditional neuroimaging approaches are not sophisticated enough to capture the neurobiological markers of mental disorder. In this book, Andreas Heinz proposes a computational and dimensional approach to understanding and classifying mental disorders: modeling key learning and decision-making mechanisms across different mental disorders. Such an approach focuses on the malleability and diversity of human behavior and its biological underpinnings.

A new computational and dimensional approach to understanding and classifying mental disorders: modeling key learning and decision-making mechanisms across different mental disorders.

Heinz explains basic learning mechanisms and their effects on human behavior, focusing not on single disorders but on how such mechanisms work in a multitude of mental states. For example, he traces alterations in dopamine-reinforcement learning in psychotic, affective, and addictive disorders. He investigates to what extent these basic dimensions of mental disorders can account for such syndromes as craving and loss of control in addiction, positive and negative mood states in affective disorders, and the altered experience of self and world associated with psychotic states. Finally, Heinz explores the clinical and therapeutic implications of such accounts. He argues that a focus on learning mechanisms, with its emphasis on human creativity and resilience, should help reduce the stigma of mental disorder.

Andreas Heinz is Director and Chair of the Department of Psychiatry and Psychotherapy at the Charité–Universitätsmedizin Berlin.

October | 6 x 9, 224 pp. | 35 illus.

$35.00S/£27.95 cloth
978-0-262-03689-4

new media

Technologies of Vision

The War Between Data and Images

Steve Anderson

If the twentieth century was tyrannized by images, then the twenty-first is ruled by data. In *Technologies of Vision*, Steve Anderson argues that visual culture and the methods developed to study it have much to teach us about today's digital culture; but first we must examine the historically entangled relationship between data and images. Anderson starts from the supposition that there is no great divide separating pre- and post-digital culture. Rather than creating an insular field of new and inaccessible discourse, he argues, it is more productive to imagine that studying "the digital" is coextensive with critical models—especially the politics of seeing and knowing—developed for understanding "the visual."

An investigation of the computational turn in visual culture, centered on the entangled politics and pleasures of data and images.

Anderson's investigation takes on an eclectic array of examples ranging from virtual reality, culture analytics, and software art to technologies for computer vision, face recognition, and photogrammetry. Mixing media archaeology with software studies, Anderson mines the history of technology for insight into both the politics of data and the pleasures of algorithms. He proposes a taxonomy of modes that describe the functional relationship between data and images in the domains of space, surveillance, and data visualization. At stake in all three are tensions between the totalizing logic of data and the unruly chaos of images.

Steve Anderson is Associate Professor of Digital Media at the University of California, Los Angeles.

October | 6 x 9, 304 pp. | 44 photographs

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978-0-262-03701-3

philosophy

True Enough

Catherine Z. Elgin

Philosophy valorizes truth, holding that there can never be epistemically good reasons to accept a known falsehood, or to accept modes of justification that are not truth conducive. How can this stance account for the epistemic standing of science, which unabashedly relies on models, idealizations, and thought experiments that are known not to be true? In *True Enough*, Catherine Elgin argues that we should not assume that the inaccuracy of models and idealizations constitutes an inadequacy. To the contrary, their divergence from truth or representational accuracy fosters their epistemic functioning. When effective, models and idealizations are, Elgin contends, felicitous falsehoods that exemplify features of the phenomena they bear on. Because works of art deploy the same sorts of felicitous falsehoods, she argues, they also advance understanding.

The development of an epistemology that explains how science and art embody and convey understanding.

Elgin develops a holistic epistemology that focuses on the understanding of broad ranges of phenomena rather than knowledge of individual facts. Epistemic acceptability, she maintains, is a matter not of truth-conduciveness, but of what would be reflectively endorsed by the members of an idealized epistemic community—a quasi-Kantian realm of epistemic ends.

Catherine Z. Elgin is Professor of the Philosophy of Education at Harvard Graduate School of Education. She is the author of *Considered Judgment, Between the Absolute and the Arbitrary, With Reference to Reference,* and (with Nelson Goodman) *Reconceptions in Philosophy and Other Arts and Sciences.*

October | 6 x 9, 352 pp.

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philosophy of mind | cognitive science

Experienced Wholeness

Integrating Insights from Gestalt Theory, Cognitive Neuroscience, and Predictive Processing

Wanja Wiese

How can we account for phenomenal unity? That is, how can we characterize and explain our experience of objects and groups of objects, bodily experiences, successions of events, and the attentional structure of consciousness as wholes? In this book, Wanja Wiese develops an interdisciplinary account of phenomenal unity, investigating how experiential wholes can be characterized and how such characterization can be analyzed conceptually as well as computationally.

An interdisciplinary account of phenomenal unity, investigating how experiential wholes can be characterized and how such characterizations can be analyzed computationally.

Wiese first addresses how the unity of consciousness can be characterized phenomenologically, discussing what it is like to experience wholes and what is the experiential contribution of phenomenal unity. Considering the associated conceptual and empirical issues, he draws connections to phenomenological accounts and research on Gestalt theory. The results show how the attentional structure of experience, the experience of temporal flow, and different types of experiential wholes contribute to our sense of phenomenal unity. Moreover, characterizing phenomenal unity in terms of the existence of a single global phenomenal state is neither necessary nor sufficient to adequately address the problem of phenomenal unity. Wiese then suggests that the concepts and ideas of predictive processing can be used to analyze phenomenal unity computationally. The result is both a conceptual framework and an interdisciplinary account: the regularity account of phenomenal unity. According to this account, experienced wholes correspond to a hierarchy of connecting regularities. The brain tracks these regularities by hierarchical prediction error minimization, which approximates hierarchical Bayesian inference.

Wanja Wiese is Assistant Researcher and Lecturer in the Theoretical Philosophy Group at Johannes Gutenberg University Mainz.

January | 6 x 9, 312 pp. | 21 illus.

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philosophy of mind | cognitive science

Real Hallucinations

Psychiatric Illness, Intentionality, and the Interpersonal World

Matthew Ratcliffe

In *Real Hallucinations*, Matthew Ratcliffe offers a philosophical examination of the structure of human experience, its vulnerability to disruption, and how it is shaped by relations with other people. He focuses on the seemingly simple question of how we manage to distinguish among our experiences of perceiving, remembering, imagining, and thinking. To answer this question, he first develops a detailed analysis of auditory verbal hallucinations (usually defined as hearing a voice in the absence of a speaker) and thought insertion (somehow experiencing one's own thoughts as someone else's). He shows how thought insertion and many of those experiences labeled as "hallucinations" consist of disturbances in a person's sense of being in one type of intentional state rather than another.

A philosophical account of the structure of experience and how it depends on interpersonal relations, developed through a study of auditory verbal hallucinations and thought insertion.

Ratcliffe goes on to argue that such experiences occur against a backdrop of less pronounced but wider-ranging alterations in the structure of intentionality. In so doing, he considers experience associated with trauma, schizophrenia, and profound grief.

The overall position arrived at is that experience has an essentially temporal structure, involving patterns of anticipation and fulfillment that are specific to types of intentional states and serve to distinguish them phenomenologically. Disturbances of this structure can lead to various kinds of anomalous experience. Importantly, anticipation-fulfillment patterns are sustained, regulated, and disrupted by interpersonal experience and interaction. It follows that the integrity of human experience, including the most basic sense of self, is inseparable from how we relate to other people and to the social world as a whole.

Matthew Ratcliffe is Professor for Theoretical Philosophy at the University of Vienna. He is author of *Experiences of Depression, Feelings of Being,* and *Rethinking Commonsense Psychology*.

October | 6 x 9, 288 pp.

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Philosophical Psychopathology

philosophy of mind | cognitive science

The Subject's Matter

Self-Consciousness and the Body

edited by Frédérique de Vignemont and Adrian Alsmith

The body may be the object we know the best. It is the only object from which we constantly receive a flow of information through sight and touch; and it is the only object we can experience from the inside, through our proprioceptive, vestibular, and visceral senses. Yet there have been very few books that have attempted to consolidate our understanding of the body as it figures in our experience and self-awareness. This volume offers an interdisciplinary and comprehensive treatment of bodily self-awareness, the first book to do so since the landmark 1995 collection *The Body and the Self*, edited by José Bermúdez, Naomi Eilan, and Anthony Marcel (MIT Press). Since 1995, the study of the body in such psychological disciplines as cognitive psychology, cognitive neuroscience, psychiatry, and neuropsychology has advanced dramatically, accompanied by a resurgence of philosophical interest in the significance of the body in our mental life. The sixteen specially commissioned essays in this book reflect the advances in these fields. The book is divided into three parts, each part covering a topic central to an explanation of bodily self-awareness: representation of the body; the sense of bodily ownership; and representation of the self.

An interdisciplinary and comprehensive treatment of bodily self-consciousness, considering representation of the body, the sense of bodily ownership, and representation of the self.

Frédérique de Vignemont is the CNRS Research Director at the Institute Jean Nicod. **Adrian Alsmith** is an Associate Professor at the University of Copenhagen.

Contributors
Adrian Alsmith, Brianna Beck, José Luis Bermúdez, Anna Berti, Alexandre Billon, Andrew J. Bremner, Lucilla Cardinali, Tony Cheng, Frédérique de Vignemont, Francesca Fardo, Alessandro Farnè, Carlotta Fossataro, Shaun Gallagher, Francesca Garbarini, Patrick Haggard, Jakob Hohwy, Matthew R. Longo, Tamar Makin, Marie Martel, Melvin Mezue, John Michael, Christopher Peacocke, Lorenzo Pia, Louise Richardson, Alice C. Roy, Manos Tsakiris, Hong Yu Wong

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Representation and Mind series

philosophy of science | ethics

Elements of Ethics for Physical Scientists

Sandra C. Greer

This book offers the first comprehensive guide to ethics for physical scientists and engineers who conduct research. Written by a distinguished professor of chemistry and chemical engineering, the book focuses on the everyday decisions about right and wrong faced by scientists as they do research, interact with other people, and work within society. The goal is to nurture readers' ethical intelligence so that they know an ethical issue when they see one, and to give them a way to think about ethical problems.

A guide to the everyday decisions about right and wrong faced by physical scientists and research engineers.

After introductions to the philosophy of ethics and the philosophy of science, the book discusses research integrity, with a unique emphasis on how scientists make mistakes and how they can avoid them. It goes on to cover personal interactions among scientists, including authorship, collaborators, predecessors, reviewers, grantees, mentors, and whistleblowers. It considers underrepresented groups in science as an ethical issue that matters not only to those groups but also to the development of science, and it examines human participants and animal subjects. Finally, the book examines scientifically relevant social issues, including public policy, weapons research, conflicts of interest, and intellectual property.

Each chapter ends with discussion questions and case studies to encourage debate and further exploration of topics. The book can be used in classes and seminars in research ethics and will be an essential reference for scientists in academia, government, and industry.

Sandra C. Greer is Professor Emerita of Chemical and Biomolecular Engineering and of Chemistry and Biochemistry at the University of Maryland College Park and also Professor Emerita of Chemistry at Mills College.

November | 6 x 9, 240 pp. | 21 illus.

$60.00X/£49.95 cloth
978-0-262-03688-7

philosophy | cognitive science

Panpsychism in the West

REVISED EDITION

David F. Skrbina

In *Panpsychism in the West*, the first comprehensive study of the subject, David Skrbina argues for the importance of panpsychism—the theory that mind exists, in some form, in all living and nonliving things—in consideration of the nature of consciousness and mind. Panpsychism, with its conception of mind as a general phenomenon of nature, uniquely links being and mind. More than a theory of mind, it is a meta-theory—a statement about theories of mind rather than a theory in itself. Panpsychism can parallel almost every current theory of mind; it simply holds that, no matter how one conceives of mind, such mind applies to all things. After a brief discussion of general issues surrounding philosophy of mind, Skrbina examines the panpsychist views of philosophers from the pre-Socratics to the post-structuralists.

An updated edition of a comprehensive study of the theory that mind exists, in some form, in all living and nonliving things.

The original edition of *Panpsychism in the West* helped to reinvigorate a neglected and important aspect of philosophic thinking. This revised edition offers expanded and updated material that reflects the growth of panpsychism as a subdiscipline. It covers the problem of emergence of mind from a nonmental reality and the combination problem in greater detail. It offers expanded coverage of the pre-Socratics and Plato; a new section on Augustine; expanded discussions of Continental panpsychism, scientific arguments, Nietzsche, and Whitehead; and a new section on Russellian monism. With this edition, *Panpsychism in the West* will be continue to be the standard work on the topic.

David F. Skrbina is a Senior Lecturer in Philosophy in the Department of Philosophy at the University of Michigan at Dearborn.

October | 6 x 9, 384 pp.

$35.00S/£27.95 paper
978-0-262-53406-2

psychology | athropology | psychiatry

The Cultural Nature of Attachment

Contextualizing Relationships and Development

edited by Heidi Keller and Kim Bard

It is generally acknowledged that attachment relationships are important for infants and young children, but there is little clarity on what exactly constitutes such a relationship. Does it occur between two individuals (infant–mother or infant–father) or in an extended network? In the West, attachment appears to function as a secure foundation for infants, but is this true in other cultures? This volume offers perspectives from a range of disciplines on these questions. Contributors from psychology, biology, anthropology, evolution, social policy, neuroscience, information systems, and practice describe the latest research on the cultural and evolutionary foundations on children's attachment relationships as well as the implications for education, counseling, and policy.

Multidisciplinary perspectives on the cultural and evolutionary foundations of children's attachment relationships and on the consequences for education, counseling, and policy.

The contributors discuss such issues as the possible functions of attachment, including trust and biopsychological regulation; the evolutionary foundations, if any, of attachment; ways to model attachment using the tools of information science; the neural foundations of attachment; and the influence of cultural attitudes on attachment. Taking an integrative approach, the book embraces the wide cultural variations in attachment relationships in humans and their diversity across nonhuman primates. It proposes research methods for the culturally sensitive study of attachment networks that will lead to culturally sensitive assessments, practices, and social policies.

Heidi Keller is Professor Emeritus at Osnabrück University, Germany, and a Director of Nevet Greenhouse of Context-Informed Research and Training for Children in Need in the Paul Baerwald School of Social Work and Social Welfare at Hebrew University of Jerusalem. **Kim Bard** is Professor of Comparative Developmental Psychology at the University of Portsmouth.

September | 6 x 9, 432 pp. | 21 color illus., 2 b&w illus.

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Strüngmann Forum Reports

science, technology, and society | history of technology

The Unreliable Nation

Hostile Nature and Technological Failure in the Cold War

Edward Jones-Imhotep

Throughout the modern period, nations defined themselves through the relationship between nature and machines. Many cast themselves as a triumph of technology over the forces of climate, geography, and environment. Some, however, crafted a powerful alternative identity: they defined themselves not through the triumph of machines over nature, but through technological failures and the distinctive natural orders that caused them. In *The Unreliable Nation*, Edward Jones-Imhotep examines one instance in this larger history: the Cold War–era project to extend reliable radio communications to the remote and strategically sensitive Canadian North. He argues that, particularly at moments when countries viewed themselves as marginal or threatened, the identity of the modern nation emerged as a scientifically articulated relationship between distinctive natural phenomena and the problematic behaviors of complex groups of machines.

An examination of how technological failures defined nature and national identity in Cold War Canada.

Jones-Imhotep shows how Canadian defense scientists elaborated a distinctive "Northern" natural order of violent ionospheric storms and auroral displays, and linked it to a "machinic order" of severe and widespread radio disruptions throughout the country. Tracking their efforts through scientific images, experimental satellites, clandestine maps, and machine architectures, he argues that these scientists naturalized Canada's technological vulnerabilities as part of a program to reimagine the postwar nation. The real and potential failures of machines came to define Canada, its hostile Northern nature, its cultural anxieties, and its geo-political vulnerabilities during the early Cold War. Jones-Imhotep's study illustrates the surprising role of technological failures in shaping contemporary understandings of both nature and nation.

Edward Jones-Imhotep is Associate Professor of History of Science and Technology at York University.

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Inside Technology series

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Power Lines

Electricity in American Life and Letters, 1882–1952

Jennifer L. Lieberman

At the turn of the twentieth century, electricity emerged as a metaphor for modernity. Writers from Mark Twain to Ralph Ellison grappled with the idea of electricity as both life force (illumination) and death spark (electrocution). The idea that electrification created exclusively modern experiences took hold of Americans' imaginations, whether they welcomed or feared its adoption. In *Power Lines*, Jennifer Lieberman examines the apparently incompatible notions of electricity that coexisted in the American imagination, tracing how electricity became a common (though multifarious) symbol for modern life.

How electricity became a metaphor for modernity in the United States, inspiring authors from Mark Twain to Ralph Ellison.

Lieberman examines a series of moments of technical change when electricity accrued new social meanings, plotting both power lines and the power of narrative lines in American life and literature. While discussing the social construction of electrical systems, she offers a new interpretation of Twain's use of electricity as an organizing metaphor in *A Connecticut Yankee in King Arthur's Court*, describes the rhetoric surrounding the invention of electric execution, analyzes Charlotte Perkins Gilman's call for human connection in her utopian writing and in her little-known *Human Work*, considers the theme of electrical interconnection in Jack London's work, and shows how Ralph Ellison and Louis Mumford continued the literary tradition of electrical metaphor.

Electrical power was a distinctive concept in American literary, cultural, and technological histories. For this reason, narratives about electricity were particularly evocative. Bridging the realistic and the romantic, the historical and the fantastic, these stories guide us to ask new questions about our enduring fascination with electricity and all it came to represent.

Jennifer L. Lieberman is Assistant Professor of American Literature and Culture at the University of North Florida.

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science, technology, and society

Technically Together

Reconstructing Community in a Networked World

Taylor Dotson

If social interaction by social media has become "the modern front porch" (as one sociologist argues), offering richer and more various contexts for community and personal connection, why do we often feel lonelier after checking Facebook? For one thing, as Taylor Dotson writes in *Technically Together*, "Try getting a Facebook status update to help move a couch or stay for dinner." Dotson argues that the experts who assure us that "networked individualism" will only bring us closer together seem to be urging citizens to adapt their social expectations to the current limits of technology and discouraging them from considering how technologies could be refashioned to enable other ways of relating and belonging.

Why we should not accept "networked individualism" as the inevitable future of community.

Dotson characterizes different instantiations of community as "thick" or "thin," depending on the facets and manifestations of togetherness that they encompass. Individuating social networks are a form of community, he explains, but relatively thin in regard to several dimensions of communality.

Dotson points out that current technological practices are not foreordained but supported by policies, economic arrangements, and entrenched patterns of thought. He examines a range of systems, organizations, and infrastructures—from suburban sprawl and smartphones to energy grids and "cry-it-out" sleep training for infants—and considers whether they contribute to the atomization of social life or to togetherness and community vibrancy. Dotson argues that technology could support multifaceted communities if citizens stopped accepting the technological status quo and instead demanded more from their ever-present devices.

Taylor Dotson is Assistant Professor of Social Science at the New Mexico Institute of Mining and Technology.

September | 6 x 9, 328 pp. | 1 illus.

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urban studies | food

Food Trucks, Cultural Identity, and Social Justice

From Loncheras to Lobsta Love

edited by Julian Agyeman, Caitlin Matthews, and Hannah Sobel

The food truck on the corner could be a brightly painted old-style lonchera offering tacos or an upscale mobile vendor serving lobster rolls. Customers range from gastro-tourists to construction workers, all eager for food that is delicious, authentic, and relatively inexpensive. Although some cities that host food trucks encourage their proliferation, others throw up regulatory roadblocks. This book examines the food truck phenomenon in North American cities from Los Angeles to Montreal, taking a novel perspective: social justice. It considers the motivating factors behind a city's promotion or restriction of mobile food vending, and how these motivations might connect to or impede broad goals of social justice.

The contributors investigate the discriminatory implementation of rules, with gentrified hipsters often receiving preferential treatment over traditional immigrants; food trucks as part of community economic development; and food trucks' role in cultural identity formation. They describe, among other things, mobile food vending in Portland, Oregon, where relaxed permitting encourages street food; the criminalization of food trucks by Los Angeles and New York City health codes; food as cultural currency in Montreal; social and spatial bifurcation of food trucks in Chicago and Durham, North Carolina; and food trucks as a part of Vancouver, Canada's, self-branding as the "Greenest City."

Julian Agyeman is Professor of Urban and Environmental Policy and Planning at Tufts University. **Caitlin Matthews** holds master's degrees in Urban and Environmental Policy and in Agriculture, Food, and Environment from Tufts University. **Hannah Sobel** holds a Master of Arts in Urban and Environmental Policy and Planning and a Master of Science in Food Policy and Applied Nutrition from Tufts University.

Contributors
Julian Agyeman, Sean Basinski, Jennifer Clark, Ana Croegaert, Kathleen Dunn, Renia Ehrenfeucht, Emma French, Matthew Gebhardt, Phoebe Godfrey, Amy Hanser, Robert Lemon, Nina Martin, Caitlin Matthews, Nathan McClintock, Alfonso Morales, Alan Nash, Katherine Alexandra Newman, Lenore Lauri Newman, Alex Novie, Matthew Shapiro, Hannah Sobel, Mark Vallianatos, Ginette Wessel, Edward Whittall, Mackenzie Wood

Aspects of the urban food truck phenomenon, including community economic development, regulatory issues, and clashes between ethnic authenticity and local sustainability.

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Brian K. Obach
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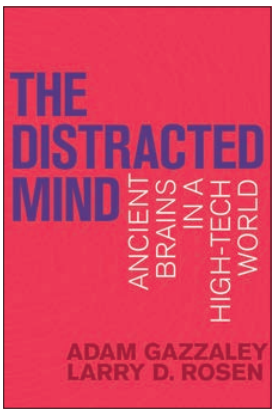
science

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, check Facebook, watch a video clip. Talk on the phone, send a text, drive a car. Enjoy family dinner with glowing smartphones 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—suggest better ways to live in a high-tech world. The authors explain that we don't really multitask but rather switch rapidly between tasks. They offer practical strategies, backed by science, to fight distraction. 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 Founding Director of the Neuroscience Imaging Center, Neuroscape Lab, and the Gazzaley Lab. Recipient of the 2015 Society for Neuroscience Science Educator Award, he wrote and hosted the nationally televised 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.

Winner, 2017 PROSE Awards, Biomedicine and Neuroscience

"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*

November | 6 x 9, 304 pp. | 13 illus.

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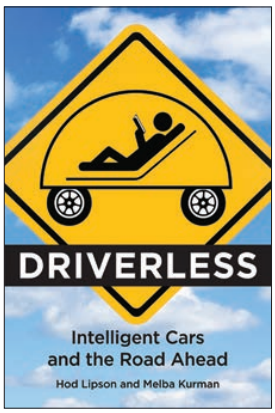
science | technology

Driverless

Intelligent Cars and the Road Ahead

Hod Lipson and Melba Kurman

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 *Driverless*, 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. 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*.

"Anyone looking for a book about driverless cars—smart, wide-ranging, nontechnical, easy to understand—was pretty much out of luck until *Driverless: Intelligent Cars and the Road Ahead* was published."
—Russ Mitchell, *Los Angeles Times*

October | 6 x 9, 328 pp. | 31 illus.

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current affairs | technology

Drone

Remote Control Warfare

Hugh Gusterson

Drones are changing the conduct of war. Advocates say that drones are more precise than conventional bombers, allowing warfare with minimal civilian deaths while keeping American pilots out of harm's way. Critics say that drones are cowardly and that they often kill innocent civilians while terrorizing entire villages on the ground. In this book, Hugh Gusterson explores the significance of drone warfare from multiple perspectives, drawing on accounts by drone operators, victims of drone attacks, antidrone activists, human rights activists, international lawyers, journalists, military thinkers, and academic experts.

Gusterson examines the way drone warfare has created commuter warriors and redefined the space of the battlefield. He looks at the paradoxical mix of closeness and distance involved in remote killing: is it easier than killing someone on the physical battlefield if you have to watch onscreen? He maps "ethical slippage" over time in targeting practices. And he contrasts government officials' legal justification of drone attacks with arguments by international lawyers and NGOs.

Hugh Gusterson is Professor of Anthropology and International Affairs at George Washington University. He is the author of *Nuclear Rites* and *People of the Bomb: Portraits of America's Nuclear Complex*.

"[A] thoughtful examination of the dilemmas this new weapon poses."
—Lawrence D. Freedman, *Foreign Affairs*

"Among a blizzard of new books probing drone warfare, Hugh Gusterson's slim volume is among the most careful, concise and insightful. . . [R]ich and penetrating."
—Kurt Jacobsen

October | 5 3/8 x 8, 216 pp. | 13 illus.

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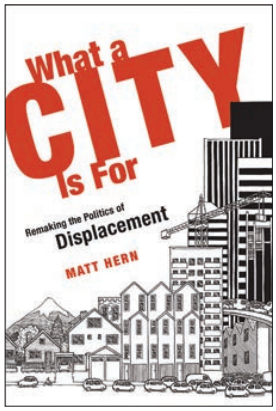
sociology | current events | urban studies

What a City Is For

Remaking the Politics of Displacement

Matt Hern

Portland, Oregon, is one of the most beautiful, livable cities in the United States. But liberal Portland is also the whitest city in the country. This is not happenstance; the city has a long history of officially sanctioned racialized displacement that continues today. Over the last two and half decades, Albina—the one major Black neighborhood in Portland—has been systematically uprooted by market-driven gentrification and city-renewal policies. 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. Arguing that home ownership drives inequality, Hern wants us to disown ownership. 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*.

"Essential reading for anyone interested in urban studies and the politics of Portland generally. This text will stand the test of time."
—Judson L. Jeffries, Professor of African American and African Studies, The Ohio State University, coauthor of *The Portland Black Panthers*

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NOW IN PAPERBACK

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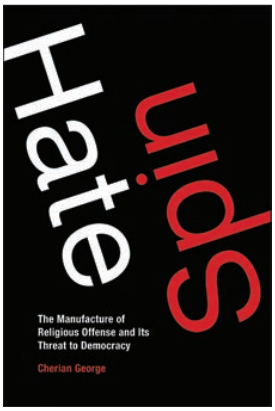
Hate Spin

The Manufacture of Religious Offense and Its Threat to Democracy

Cherian George

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", arguing 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. 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.

"This timely work provides an essential warning against the misuse of perceived religious-based bias and an unmasking of the real motives of those who incite manufactured offense."
—Publishers Weekly

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Information Policy series

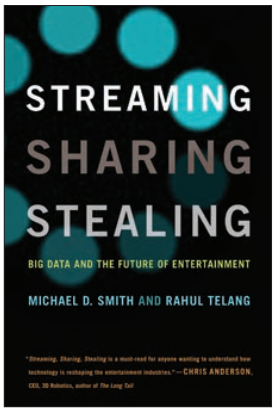
business | technology

Streaming, Sharing, Stealing

Big Data and the Future of Entertainment

Michael D. Smith and Rahul Telang

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 such as Amazon and Apple are changing the rules in other entertainment industries, notably publishing and music. 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.

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 Co-directors of the Initiative for Digital Entertainment Analytics (IDEA) at Carnegie Mellon.

"Should be required for anyone who wishes to believe that nothing much has changed."
—Frank Rose, *The Wall Street Journal*

"Packed with examples, from the nimblefooted who reacted quickly to adapt their businesses, to laggards who lost empires."
—The Financial Times

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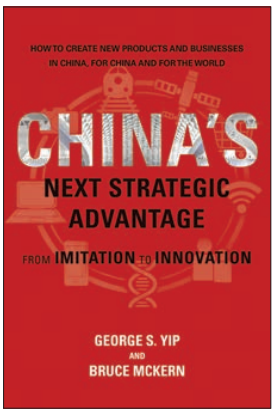
business | management

China's Next Strategic Advantage

From Imitation to Innovation

George S. Yip and Bruce McKern

The history-making development of the Chinese economy has entered a new phase. China is moving aggressively from a strategy of imitation to one of innovation. Driven both by domestic needs and by global ambition, China is establishing itself at the forefront of technological innovation. Experts George Yip and Bruce McKern explain this epic transformation and propose strategies for both Western and Chinese companies. Western CEOs can learn from Chinese companies and can create an effective innovation process in China, for China and the world. Chinese CEOs can benefit from understanding the strategies of their peers as they strive to enter foreign markets. Yip and McKern provide case studies of successful firms, and describe how multinational corporations doing business in China can become part of the Chinese ecosystem of new knowledge and technology. They argue that these innovation capabilities will be crucial for creating world-class products and services to meet the challenges of a new era of global competition.



George S. Yip is Professor of Marketing and Strategy at Imperial College Business School in London. He was previously Professor of Strategy and Codirector of the Centre on China Innovation at China Europe International Business School in Shanghai. **Bruce McKern** is Adjunct Professor at the University of Technology Sydney Business School and was previously Professor of International Business and Codirector of the Centre on China Innovation at the China Europe International Business School in Shanghai.

"Yip and McKern have written an eye-opening book. . . . they leave no doubt that China is now a major force in innovation with an increasing global reach."
—A. Michael Spence, Nobel Laureate in Economics, 2001

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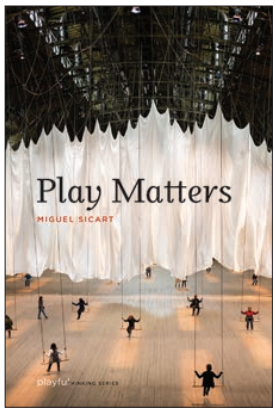
game studies

Play Matters

Miguel Sicart

In *Play Matters*, Miguel Sicart argues that to play is to be in the world; playing is a form of understanding what surrounds us and a way of engaging with others. Play goes beyond games; it is a mode of being human. We play games, but we also play *with* toys, *on* playgrounds, *with* technologies and design. Sicart proposes a theory of play that doesn't derive from a particular object or activity but is a portable tool for being—not tied to objects but brought by people to the complex interactions that form their daily lives. Along the way, he considers playfulness, the capacity to use play outside the context of play; toys, the materialization of play—instruments but also play pals; playgrounds, play spaces that enable all kinds of play; beauty, the aesthetics of play through action; political play—from Maradona's goal against England in the 1986 World Cup to the hacktivist activities of Anonymous; the political, aesthetic, and moral activity of game design; and why play and computers get along so well.



Miguel Sicart is Associate Professor at the Center for Computer Game Research at IT University Copenhagen. He is the author of *The Ethics of Computer Games* and *Beyond Choices: The Design of Ethical Gameplay*, both published by the MIT Press.

"A significant contribution to understanding the transformative potential of play."
—Michael DeAnda, *American Journal of Play*

"Should be read at least by all designers and players of computer games, as well as by proponents of gamification."
—Klaus Galensa, *Computing Reviews*

November | 5 3/8 x 8, 176 pp. | 11 illus.

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game studies

How Games Move Us

Emotion by Design

Katherine Isbister

How do games create emotion? In *How Games Move Us*, Katherine Isbister takes the reader on a timely and novel exploration of the design techniques that evoke strong emotions for players, countering arguments that games are creating a generation of isolated, emotionally numb, antisocial loners. Games, Isbister shows us, can actually play a powerful role in creating empathy and other strong, positive emotional experiences; they reveal these qualities over time, through the act of playing. She offers a nuanced, systematic examination of exactly how games can influence emotion and social connection, with examples—drawn from popular, indie, and art games—that unpack the gamer's experience. Isbister's analysis shows us a new way to think about games, helping us appreciate them as an innovative and powerful medium for doing what film, literature, and other creative media do: helping us understand ourselves and what it means to be human.

Katherine Isbister is Professor of Computational Media at the University of California, Santa Cruz, and is the author of *Better Game Characters by Design*. She was the founding Director of the Game Innovation Lab at New York University.

"An essential read for all game scholars and game designers who want to make a real emotional impact with their work."
—Jane McGonigal, PhD, author of *Reality Is Broken* and creator of *SuperBetter*

"Katherine Isbister gets to the heart of what makes games a powerful emotional medium."
—Noah Falstein, Chief Game Designer, Google

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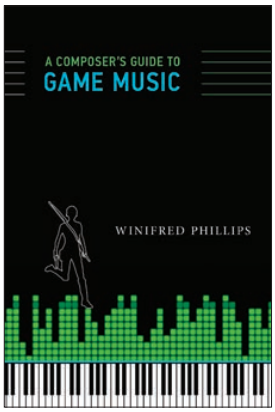
Playful Thinking series

music | game studies

A Composer's Guide to Game Music

Winifred Phillips

In *A Composer's Guide to Game Music*, Winifred Phillips—herself an award-winning composer of video game music—provides a comprehensive, practical guide that leads an aspiring video game composer from acquiring the necessary creative skills to understanding the function of music in games to finding work in the field. Phillips offers detailed coverage of essential topics, including musicianship and composition experience; immersion; musical themes; music and game genres; workflow; working with a development team; linear music; interactive music, both rendered and generative; audio technology, from mixers and preamps to software; and running a business. The book offers indispensable guidance for musicians and composers who want to deploy their creativity in a dynamic and growing industry, protect their musical identities while working in a highly technical field, and create great music within the constraints of a new medium.



Winifred Phillips is an award-winning composer who has composed music for video games in five of the biggest franchises in gaming, including *Assassin's Creed*, *God of War*, *Total War*, *LittleBigPlanet*, and *The Sims*.

Awarded the Global Music Award Gold Medal for an exceptional book in the field of music

"The first book designed to help experienced musicians brave the transition to the world of game composing."
—The Boston Globe

"A beautifully organized, intelligently written book about music for games."
—John Burlingame, *The Film Music Society*

"Already an acclaimed book, Phillips' hands-on insights and advice make this one a keeper."
—Music Connection Magazine

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environment | public health

Heat Advisory

Protecting Health on a Warming Planet

Alan H. Lockwood, M.D.

Climate change affects not just the planet but the people who live on it. In this book, physician Alan Lockwood describes how global warming is 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.

Rising temperatures create long-duration heat waves during which people sicken and die. Climate change increases the risk for certain infectious diseases. Extreme weather and poor soil conditions cause agricultural shortfalls, leading to undernutrition and famine. There is even evidence that violence increases in warmer weather. We must use what we know to adapt to a warmer world and minimize adverse health effects. 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).

"In clear language accessible to any layman, Dr. Lockwood. . . makes a compelling case for how action today can avert still greater suffering for generations to come."
—Michael Brune, Executive Director, Sierra Club

"With a physician's healing intent, [Lockwood] gives us a prescription for survival."
—Christine K. Cassel, M.D., Planning Dean, Kaiser Permanente School of Medicine

September | 6 x 9, 256 pp. | 23 illus.

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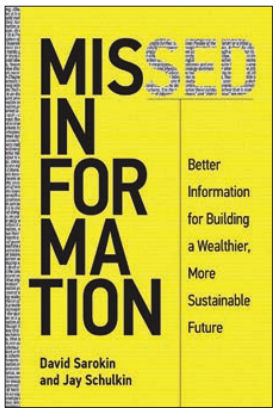
science | current events

Missed Information

Better Information for Building a Wealthier, More Sustainable Future

David Sarokin and Jay Schulkin

Information is power. 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. They argue that freely flowing information helps systems run more efficiently and that incomplete information does just the opposite. They 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 reconfigured, 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 a 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.

"Presents a valuable perspective, as there is an increased understanding of what it means to live in the information age."
—K. J. Whitehair, *Choice*

"Well written, and of interest not only to the organizations at which it is aimed, but also to information professionals."
—T. D. Wilson, *Information Research*

"Thought-provoking and original throughout, the book makes a compelling case for how we can solve our most pressing problems by making use of missed information."
—Jason Dana, Assistant Professor of Management and Marketing, Yale School of Management

September | 6 x 9, 264 pp. | 46 illus.

$19.95T/£14.95 paper
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cloth 2014
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NOW IN PAPERBACK

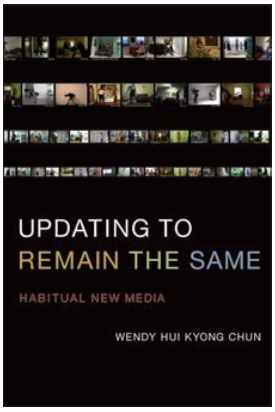
new media

Updating to Remain the Same

Habitual New Media

Wendy Hui Kyong Chun

New media—we are told—exist at the bleeding edge of obsolescence. We thus forever try to catch up, updating to remain the same. But what do we miss in this constant push to the future? In *Updating to Remain the Same*, Wendy Hui Kyong Chun argues that our media matter most when they seem not to matter at all—when they have moved from "new" to habitual. Chun links habits to the rise of networks, which have been central to the emergence of neoliberalism, replacing "society" with groupings of individuals and connectable "YOUs." Habit is central to the inversion of privacy and publicity that drives neoliberalism and networks. What would happen, Chun asks, if, rather than pushing for privacy that is no privacy, we demanded public rights—the right to be exposed, to take risks, and to be in public and not be attacked?



Wendy Hui Kyong Chun, who has studied both systems design and English literature, is Professor of Modern Culture and Media at Brown University. She is the author of *Control and Freedom: Power and Paranoia in the Age of Fiber Optics* and *Programmed Visions: Software and Memory*, both published by the MIT Press.

"Highly recommended for anyone interested in contemporary media theory, network culture, and contemporary cultural theory."
—N. Katherine Hayles, James B. Duke Professor of Literature, Duke University

"A terrific book, sharply critical, cautiously hopeful."
—Peter Galison, Joseph Pellegrino University Professor in History of Science and of Physics at Harvard University

September | 6 x 9, 264 pp. | 44 illus.

$19.95T/£14.95 paper
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cloth 2016
978-0-262-03449-4

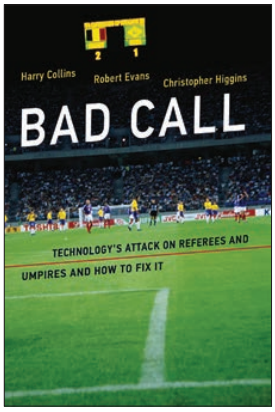
sports | technology

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. New technologies—goal-line technology used in English football, for example,—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. Used badly, however, decision-making technologies pass off statements of probability as perfect accuracy and perpetuate a mythology of infallibility. The authors reanalyze three seasons of play in English Premier League football, and discover that goal-line technology was irrelevant. Simple video replay could have prevented most of these bad calls. 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 *Gravity's Kiss: The Detection of Gravitational Waves* (MIT Press) and other books. **Robert Evans** is Personal Chair in the Cardiff School of Social Sciences. **Christopher Higgins** is a PhD candidate at Cardiff University.

"A thoroughly absorbing read."
—Keith Hackett, former referee, FIFA, Premier League; UEFA referee expert; coauthor of *You Are the Ref*

September | 5 3/8 x 8, 296 pp. | 26 illus.

$19.95T/£14.95 paper
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cloth 2016
978-0-262-03539-2

Inside Technology series

art

Living as Form

Socially Engaged Art from 1991–2011

edited by Nato Thompson

Over the past twenty years, an abundance of art forms have emerged that use aesthetics to affect social dynamics. This book offers a global portrait of a complex and exciting mode of cultural production—one that has virtually redefined contemporary art practice. This book is a landmark survey of more than 100 projects, each project documented by a selection of color images. The artists include the Danish collective Superflex, Turner Prize nominee Jeremy Deller, Women on Waves, and Santiágo Cirugeda. *Living as Form* also includes commissioned essays from noted critics and theorists who look at this phenomenon from a global perspective and broaden the range of what constitutes this form.

Nato Thompson is Artistic Director of the New York–based public arts institution Creative Time. He edited *The Interventionists: Users' Manual for the Creative Disruption of Everyday Life* and *Becoming Animal* (both published by the MIT Press) and curated the MASS MoCA exhibitions they accompanied.

Contributing authors
Claire Bishop, Carol Becker, Teddy Cruz, Brian Holmes, Shannon Jackson, Maria Lind, Anne Pasternak, Nato Thompson

"A compelling and ambitious effort, and a much needed contribution to the study and understanding of art concerned with engaging social life."
—Daniel Tucker, *Afterimage*

September | 7 3/4 x 10, 264 pp. | 250 color illus., 50 illus.

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cloth 2012
978-0-262-01734-3

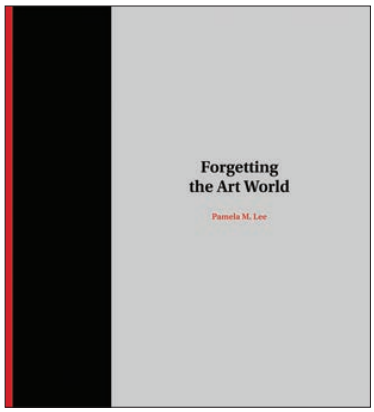
Copublished with Creative Time, New York

art

Forgetting the Art World

Pamela M. Lee

In *Forgetting the Art World*, Pamela Lee connects the current state of the art world to globalization and its attendant controversies. Contemporary art has responded to globalization with images of movement and migration, borders and multitudes, but Lee looks beyond iconography to view globalization as a world process. Rather than think about the "global art world" as a socio-economic phenomenon, or in terms of the imagery it stages and sponsors, Lee considers "the work of art's world" as a medium through which globalization takes place. She explores the ways that art actualizes, iterates, or enables the processes of globalization, offering close readings of works by artists who have come to prominence in the last two decades. To speak of "the work of art's world," Lee says, is to point to both the work of art's mattering and its materialization, to understand the activity performed by the object as utterly continuous with the world it at once inhabits and creates.



Pamela M. Lee is Osgood Hooker Professor of Fine Arts at Stanford University and the author of *Object to Be Destroyed: The Work of Gordon Matta-Clark* and *Chronophobia: On Time in the Art of the 1960s*, both published by the MIT Press.

"Incredibly well informed, perceptive, and intellectually rigorous."
—D.E. Gliem, *Choice*

"While Lee is spectacularly informed, she navigates the complexity of her topic with ease, creating a clear argument that avoids polemic in favor of deeper insight."
—Publishers Weekly

September | 8 x 9, 248 pp. | 6 color illus., 43 illus.

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NOW IN PAPERBACK

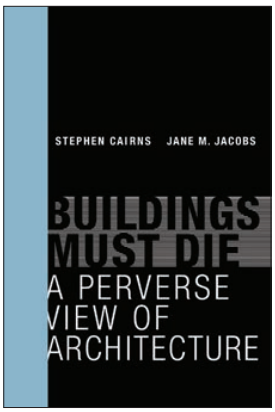
architecture

Buildings Must Die

A Perverse View of Architecture

Stephen Cairns and Jane M. Jacobs

Buildings, though inanimate, are often assumed to have "life." And the architect, through the act of design, is assumed to be their conceiver and creator. But what of the "death" of buildings? What of the decay, deterioration, and destruction to which they are inevitably subject? In *Buildings Must Die*, Stephen Cairns and Jane Jacobs look awry at core architectural concerns. They examine spalling concrete and creeping rust, contemplate ruins old and new, and pick through the rubble of earthquake-shattered churches, imploded housing projects, and demolished brutalist office buildings. Their investigation of the death of buildings reorders architectural notions of creativity, reshapes architecture's preoccupation with good form, loosens its vanities of durability, and expands its sense of value. *Buildings Must Die* is both a memento mori for architecture and a call to reimagine the design values that lay at the heart of its creative purpose.



Stephen Cairns is Programme Director of the Future Cities Laboratory at the Singapore-ETH Centre. **Jane M. Jacobs** is Director of Social Sciences and Professor of Urban Studies at Yale-NUS College, Singapore.

"*Buildings Must Die* has the freshness of a project that takes a field and turns it on its head—or, perhaps, blows it up."
—Annemarie Adams, *Times Higher Education*

"A strikingly original and provocative book which deserves a wide readership across the social sciences."
—Richard Jones, *LSE Review of Books*

"A fascinating, articulate exploration of [the] movement of creative destruction that haunts the very project of architecture."
—Elizabeth Grosz, author of *Architecture from the Outside*

September | 6 x 9, 312 pp. | 50 illus.

$29.95T/£24.95 paper
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cloth 2014
978-0-262-02693-2

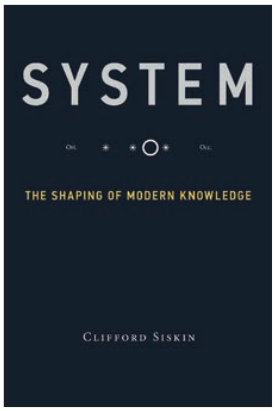
history

System

The Shaping of Modern Knowledge

Clifford Siskin

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. 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. He traces the turn to system in the seventeenth and eighteenth centuries, 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 too 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.

"A landmark book, both revisionary and provocative, that advances a new appreciation of 'system' as the norm for modern knowledge."
—James Raven, Professor of Modern History, University of Essex and Fellow of Magdalene College, Cambridge

"Illuminating and thought-provoking throughout."
—David Deutsch, author of *The Beginning of Infinity*

September | 6 x 9, 336 pp. | 19 illus.

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Infrastructures series

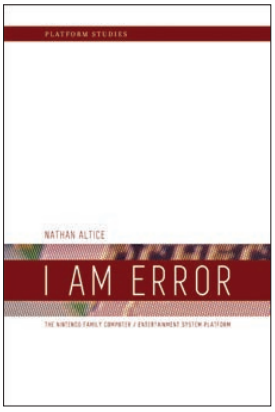
game studies

I AM ERROR

The Nintendo Family Computer/Entertainment System Platform

Nathan Altice

In the 1987 Nintendo Entertainment System videogame *Zelda II: The Adventure of Link*, a character famously declared: I AM ERROR. Puzzled players assumed that this cryptic message was a programming flaw, but it was actually a clumsy Japanese–English translation of "My Name is Error," a benign programmer's joke. In *I AM ERROR* Nathan Altice explores the complex material histories of the Nintendo Entertainment System (and its Japanese predecessor, the Family Computer), offering a detailed analysis of its programming and engineering, its creative potential, and its cultural significance. Nintendo games were rife with mistranslated texts, but, as Altice explains, Nintendo's translation challenges were not just linguistic, with consequences beyond simple misinterpretation.



"This excellently written book will make oldtime Nintendo users recollect the days they played its games and will encourage newcomers to investigate their new versions and renditions."
—Bernice Glenn, *Computing Reviews*

"A glorious glimpse into the guts of the most influential video game system of our generation, a detailed history book, and a treatise on the essential elements of game design."
—Jared Petty and Colin Moriarty, IGN

"Nathan Altice's *I AM ERROR*. . . is destined to be a classic in Platform Studies as well as the study of Nintendo's legacy and influence."
—Mark J. P. Wolf, Professor and Department Chair, Communication Department, Concordia University Wisconsin

September| 6 x 9, 440 pp. | 46 illus.

$30.00S/£24.95 paper
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cloth 2015
978-0-262-02877-6

Platform Studies

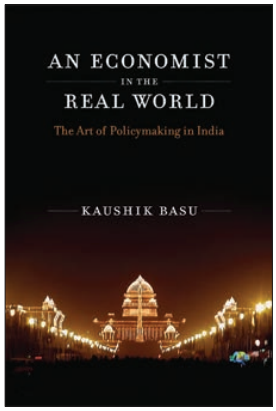
economics | India

An Economist in the Real World

The Art of Policymaking in India

Kaushik Basu

In this book, economist Kaushik Basu describes the art of economic policymaking, viewed through the lens of his two and a half years as chief economic adviser (CEA) to the Government of India. In December 2009, Basu left the rarefied world of academic research for the nuts and bolts of policymaking. Appointed by the then Prime Minister of India, Manmohan Singh, to be CEA, Basu discovered the complexity of applying economic models to the real world. Effective policymaking, Basu learned, integrates technical knowledge with political awareness.



Basu writes from a unique perspective—neither that of the career bureaucrat nor that of the traditional researcher. He addresses topics that range from the macroeconomic—fiscal and monetary policies—to the granular—designing grain auctions and policies to assure everyone has access to basic food. India is, Basu argues, at an economic crossroads. As CEA from 2009 to 2012, he was present at the creation of a potential economic powerhouse.

Kaushik Basu is Senior Vice President and Chief Economist at the World Bank and Professor of Economics and C. Marks Professor of International Studies at Cornell University. He is the author of *Beyond the Invisible Hand: Groundwork for a New Economics*.

"*An Economist in the Real World* reveals a brilliant and lively mind combined with a compassionate humanity."
—Joseph E. Stiglitz, Nobel Laureate in Economics, 2001

"Required reading for everyone who teaches economics, legislates, or makes and implements economic policy."
—M. J. Frost, *Choice*

September | 6 x 9, 256 pp. | 6 illus.

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NOW IN PAPERBACK

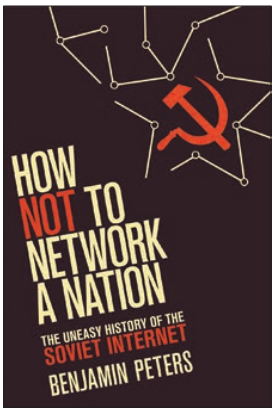
Internet studies | Cold War studies

How Not to Network a Nation

The Uneasy History of the Soviet Internet

Benjamin Peters

Between 1959 and 1989, Soviet scientists and officials made numerous attempts to network their nation—to construct a nationwide computer network. None of these attempts succeeded, and the enterprise had been abandoned by the time the Soviet Union fell apart. Meanwhile, ARPANET, the American precursor to the Internet, went online in 1969. In *How Not to Network a Nation*, Benjamin Peters reverses the usual cold war dualities and argues that the American ARPANET took shape thanks to well-managed state subsidies and collaborative research environments, while the Soviet network projects stumbled because of unregulated competition among self-interested institutions, bureaucrats, and others. The capitalists behaved like socialists while the socialists behaved like capitalists. Peters chronicles the various Soviet attempts to build a "unified information network," considering the implications of the Soviet experience for today's networked world.



Benjamin Peters is Assistant Professor in the Department of Communication at the University of Tulsa and affiliated faculty at the Information Society Project at Yale Law School.

Honorable Mention, 2017 PROSE Awards, History of Science, Medicine and Technology

"Anyone interested in the history of the internet, comparative systems, or the history of the Soviet Union should read this book."
—Tyler Cowen, *Marginal REVOLUTION*

"An immersive read that covers the ground in impressive detail."
—John Gilbey, *Times Higher Education*

September | 6 x 9, 312 pp. | 23 illus.

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cloth 2016
978-0-262-03418-0

Information Policy series

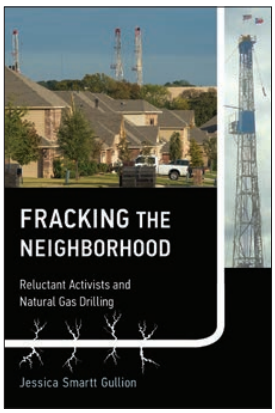
environmental justice | public health

Fracking the Neighborhood

Reluctant Activists and Natural Gas Drilling

Jessica Smartt Gullion

When natural gas drilling moves into an urban or a suburban neighborhood, a 200-foot-high drill appears on the other side of a back yard fence and diesel trucks clog a quiet two-lane residential street. Children seem to be having more than the usual number of nosebleeds. There are so many local cases of cancer that the elementary school starts a cancer support group. In this book, Jessica Smartt Gullion examines what happens when natural gas extraction by means of hydraulic fracturing, or "fracking," takes place not on wide-open rural land but in a densely populated area. Gullion focuses on fracking in the Barnett Shale, the natural-gas–rich geological formation under the Dallas–Fort Worth metroplex. She gives voice to the residents—for the most part educated, middle class, and politically conservative—who became reluctant anti-drilling activists in response to perceived environmental and health threats posed by fracking. The book shows the high cost of fracking to the local communities that bear the health and environmental burdens.



Jessica Smartt Gullion, formerly Chief Epidemiologist at the Denton County Health Department in Denton, Texas, is Assistant Professor of Sociology at Texas Woman's University.

"A welcome addition to the growing body of literature about fracking. . . . Regardless of where you stand on the issue, you're likely to learn something."
—Seamus McGraw, author of *Betting the Farm on a Drought*

"Should be required reading in any environmental sociology course."
—Brenda Phillips, Ohio University-Chillicothe, author of *Disaster Recovery and Qualitative Disaster Research*

September | 6 x 9, 216 pp.

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Urban and Industrial Environments series

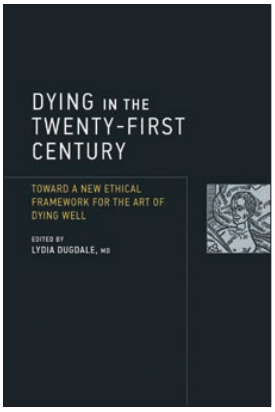
bioethics

Dying in the Twenty-First Century

Toward a New Ethical Framework for the Art of Dying Well

edited by Lydia Dugdale, MD

In the early fifteenth century, the Roman Catholic Church published the *Ars moriendi* texts, which established prayers and practices for an art of dying. How can we recapture an art of dying that can facilitate our dying well? In this book, physicians, philosophers, and theologians attempt to articulate a bioethical framework for dying well in a secularized, diverse society. Contributors discuss such topics as the acceptance of human finitude, the roles of hospice and palliative medicine, spiritual preparation for death, and the relationship between community and individual autonomy. They also consider special cases, including children, elderly patients with dementia, and death in the early years of the AIDS epidemic. These chapters make the case for a robust bioethics that could foster both the contemplation of finitude and the cultivation of community that would be necessary for a contemporary art of dying well.



Lydia Dugdale, MD, is an internal medicine physician and Associate Director for the Program for Biomedical Ethics at Yale School of Medicine.

"Those who work in the health professions and scholars of bioethics will want to read these excellent essays, which address cutting-edge issues around care."
—A.W. Klink, *Choice*

September | 6 x 9 224 pp.

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978-0-262-02912-4

Basic Bioethics series

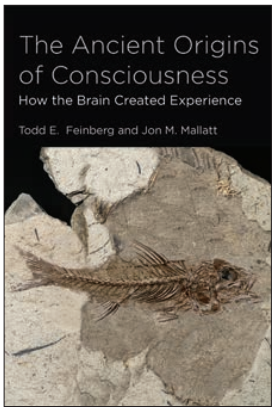
science

The Ancient Origins of Consciousness

How the Brain Created Experience

Todd E. Feinberg and Jon M. Mallatt

How is consciousness created? When did it first appear on Earth, and how did it evolve? What constitutes consciousness, and which animals can be said to be sentient? In *The Ancient Origins of Consciousness*, Todd Feinberg and Jon Mallatt draw on recent scientific findings to answer these questions—and to tackle the most fundamental question about the nature of consciousness: How does the material brain create subjective experience? The authors argue that consciousness appeared much earlier in evolutionary history than is commonly assumed, evolving simultaneously but independently in the first vertebrates and possibly arthropods more than half a billion years ago. Combining evolutionary, neurobiological, and philosophical approaches allows Feinberg and Mallatt to offer an original solution to the "hard problem" of consciousness.



Todd E. Feinberg is Professor of Psychiatry and Neurology at the Icahn School of Medicine at Mount Sinai, New York. **Jon M. Mallatt** is Clinical Associate Professor in the WWAMI Medical Program at the University of Idaho and the University of Washington.

Honorable Mention, 2017 PROSE Awards, Biological Science

"[Feinberg and Mallatt's] neuroevolutionary approach is the best we will have if we are to respect the power of our own human consciousness and also to locate it within a biological framework."
—Steven Rose, *The Guardian*

"A very level-headed, deeply informed, and magisterial approach to the neurobiological basis of consciousness."
—Christof Koch, author of *Consciousness: Confessions of a Romantic Reductionist*

September | 6 1/8 x 9 1/4, 392 pp. | 55 illus.

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NOW IN PAPERBACK

philosophy of mind

Outside Color

Perceptual Science and the Puzzle of Color in Philosophy

M. Chirimuuta

Is color real or illusory, mind independent or mind dependent? Does seeing in color give us a true picture of external reality?

In this book, M. Chirimuuta draws on contemporary perceptual science to address these questions. Her account integrates historical philosophical debates, contemporary work in the philosophy of color, and recent findings in neuroscience and vision science to propose a novel theory of the relationship between color and physical reality. Chirimuuta offers an overview of philosophy's approach to the problem of color, reviews recent work in perceptual science that challenges philosophers' accounts of color experience, and offers a pragmatic alternative whereby perceptual states are understood primarily as action-guiding interactions between a perceiver and the environment. Colors force us to reconsider what we mean by accurately presenting external reality, and, as this book demonstrates, thinking about color has important consequences for the philosophy of perception and, more generally, for the philosophy of mind.

M. Chirimuuta is Associate Professor of History and Philosophy of Science at the University of Pittsburgh.

CHOICE Outstanding Academic Title, 2015

"The most important work on the philosophy of color and philosophy of perception published in recent decades."
—J. R. Shook, *Choice*

"Essential and enjoyable reading for anybody interested in the ontology of color."
—Stephen Westland, *Perception*

September | 6 x 9, 264 pp. | 5 color illus., 5 b&w illus.

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978-0-262-02908-7

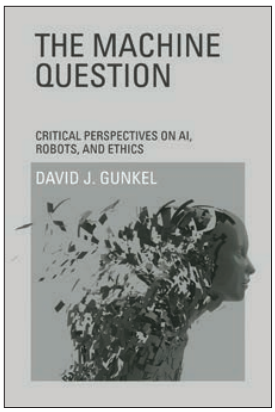
philosophy | ethics | artificial intelligence

The Machine Question

Critical Perspectives on AI, Robots, and Ethics

David J. Gunkel

Much recent attention has been devoted to the "animal question"—consideration of the moral status of nonhuman animals. In this book, David Gunkel takes up the "machine question": whether and to what extent intelligent and autonomous machines of our own making can be considered to have legitimate moral responsibilities and any legitimate claim to moral consideration. Gunkel begins by addressing the question of machine moral agency: whether a machine might be considered a legitimate moral agent that could be held responsible for decisions and actions. He then approaches the machine question from the other side, considering whether a machine might be a moral patient due legitimate moral consideration. Finally, he considers some recent innovations in moral philosophy and critical theory that complicate the machine question, deconstructing the binary agent–patient opposition itself.



David J. Gunkel is Distinguished Teaching Professor and Professor of Communication Technology at Northern Illinois University. He is the author of *Hacking Cyberspace and Thinking Otherwise: Philosophy, Communication, Technology*.

Winner, 2012 Top Single Authored Book of the Year Award, given by the National Communication Association's (NCA) Communication Ethics Division

"Delightful mainly because such diversity of approach, content, and examples is too rarely found in an academic publication."
—Peter H. Denton, *Essays in Philosophy*

"Provides a galaxy of challenging thought. . . Gunkel does a fine job of lucid and concise exposition."
—Peter Hankins, *Machines Like Us*

September | 6 x 9, 270 pp. | 1 illus.

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978-0-262-01743-5

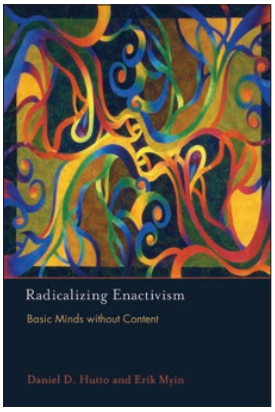
philosophy of mind

Radicalizing Enactivism

Basic Minds without Content

Daniel D. Hutto and Erik Myin

Many philosophers and cognitive scientists now acknowledge the importance of situated, environment-involving embodied engagements as a means of understanding basic minds—including basic forms of human mentality. Yet many of the same theorists hold fast to the view that basic minds are necessarily or essentially contentful—that they represent conditions the world might be in. In this book, Daniel Hutto and Erik Myin promote the cause of a radically enactive, embodied approach to cognition that holds that some kinds of minds—basic minds—are neither best explained by processes involving the manipulation of contents nor inherently contentful. Hutto and Myin oppose the widely endorsed thesis that cognition always and everywhere involves content. They defend the counter-thesis that there can be intentionality and phenomenal experience without content, and demonstrate the advantages of their approach for thinking about scaffolded minds and consciousness.



Daniel D. Hutto is Professor of Philosophical Psychology at the University of Wollongong. **Erik Myin** is Professor of Philosophy and Head of the Centre for Philosophical Psychology at the University of Antwerp. Hutto and Myin are also coauthors of *Evolving Enactivism: Basic Minds Meet Content* (MIT Press).

CHOICE Outstanding Academic Title, 2013

"An original contribution to the debate, well written and highly recommended to anyone interested in these issues. It is a rich and stimulating book."
—Somogy Varga, *Philosophy*

"No collection in modern philosophy of mind is complete without this ground breaking book."
—H. Storl, *Choice*

September | 5 3/8 x 8, 232 pp. | 1 illus.

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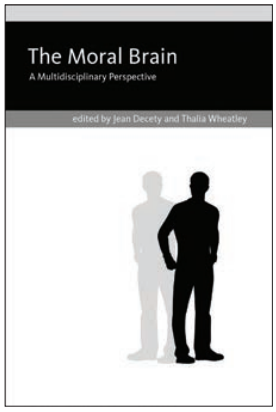
psychology | neuroscience

The Moral Brain

A Multidisciplinary Perspective

edited by Jean Decety and Thalia Wheatley

Over the past decade, an explosion of empirical research in a variety of fields has allowed us to understand human moral sensibility as a sophisticated integration of cognitive, emotional, and motivational mechanisms shaped through evolution, development, and culture. This volume offers an overview of current research on the moral brain, examining the topic from disciplinary perspectives that range from anthropology and neurophilosophy to justice and law. The contributors address the evolution of morality, considering precursors of human morality in other species as well as uniquely human adaptations. They examine motivations for morality, exploring the roles of passion, extreme sacrifice, and cooperation. They go on to consider the development of morality, from infancy to adolescence; findings on neurobiological mechanisms of moral cognition; psychopathic immorality; and the implications for justice and law of a more biological understanding of morality. These new findings may challenge our intuitions about society and justice, but they may also lead to a more humane and flexible legal system.



Jean Decety is Irving B. Harris Professor of Psychology and Psychiatry at the University of Chicago. He is the editor of *Empathy: From Bench to Bedside* and coeditor of *The Social Neuroscience of Empathy*, both published by the MIT Press. **Thalia Wheatley** is Associate Professor of Psychological and Brain Sciences at Dartmouth College.

"*The Moral Brain* gives us a compelling and modern take, providing biological details and history that both reduce and enrich the complex phenomenon that is moral thought."
—Matthew A. Butkus, *Metapsychology*

September | 6 x 9, 344 pp. | 8 illus.

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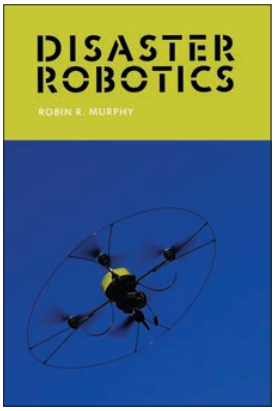
NOW IN PAPERBACK

robotics

Disaster Robotics

Robin R. Murphy

This book offers the definitive guide to the theory and practice of disaster robotics. It can serve as an introduction for researchers and technologists, a reference for emergency managers, and a textbook in field robotics. Written by a pioneering researcher in the field who has herself participated in fifteen deployments of robots in disaster response and recovery, the book covers theory and practice, the history of the field, and specific missions. The book provides a chronological summary and formal analysis of the thirty-four documented deployments of robots to disasters; examines disaster robotics in the typical robot modalities of ground, air, and marine; and discusses types of fieldwork, providing practical advice on matters that include collecting data and collaborating with emergency professionals. The field of disaster robotics has lacked a comprehensive overview. This book by a leader in the field, offering a unique combination of the theoretical and the practical, fills the gap.



Robin R. Murphy is Raytheon Professor of Computer Science and Engineering at Texas A&M University and directs the Center for Robot-Assisted Search and Rescue (CRASAR). An IEEE Fellow and a founder of Roboticists without Borders, she has worked in disaster robotics research and deployment since 1995.

Honorable Mention, 2014 American Publishers Award for Professional and Scholarly Excellence (PROSE Award) in Engineering & Technology

"A very good read, interesting and generally well written. . . likely to prove useful to researchers and students interested in exploring the field."
—Jeffrey Putnam, *Computing Reviews*

September | 6 x 9, 240 pp. | 43 illus.

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Intelligent Robotics and Autonomous Agents series

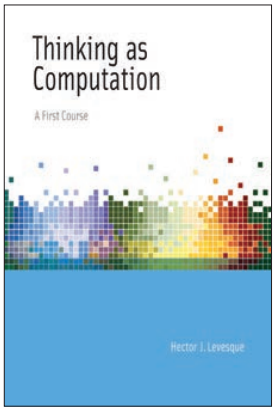
artificial intelligence | cognitive science

Thinking as Computation

A First Course

Hector J. Levesque

Thinking as Computation guides students through an exploration of the idea that thinking might be understood as a form of computation. Students make the connection between thinking and computing by learning to write computer programs for a variety of tasks that require thought, including solving puzzles, understanding natural language, recognizing objects in visual scenes, planning courses of action, and playing strategic games. The material is presented with minimal technical detail and is accessible to undergraduate students with no specialized knowledge or technical background beyond high school mathematics. Students use Prolog (without having to learn algorithms: "Prolog without tears!"), learning to express what they need as a Prolog program and letting Prolog search for answers.



The book is based on a popular course at the University of Toronto and can be used by students ranging from first-year liberal arts undergraduates to more technically advanced computer science students.

Hector J. Levesque is Professor Emeritus in the Department of Computer Science at the University of Toronto. He is the coauthor (with Gerhard Lakemeyer) of *The Logic of Knowledge Bases* (MIT Press, 2001) and coeditor (with Ronald J. Brachman) of *Knowledge Representation and Reasoning* (MIT Press).

Selected as a Best of 2012 by *Computing Reviews*

"This book is a major contribution to philosophy and computing. It should be on the bookshelf of every professor of arts and sciences."
—James Van Speybroeck, *Computing Reviews*

August | 7 x 9, 328 pp. | 139 illus.

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978-0-262-01699-5

urban studies | geography

The New Science of Cities

Michael Batty

In *The New Science of Cities*, Michael Batty suggests that to understand cities we must view them not simply as places in space but as systems of networks and flows. He presents the foundations of a new science of cities, defining flows and their networks and introducing tools that can be applied to understanding different aspects of city structure. He examines the size of cities, their internal order, the transport routes that define them, and the locations that fix these networks. He introduces methods of simulation that range from simple stochastic models to bottom-up evolutionary models to aggregate land-use transportation models. Then, using largely the same tools, he presents design and decision-making models that predict interactions and flows in future cities. These networks emphasize a notion with relevance for future research and planning: that design of cities is collective action.

Michael Batty is Bartlett Professor of Planning at University College London, where he is Chairman of the Centre for Advanced Spatial Analysis (CASA), and Visiting Distinguished Professor at Arizona State University. He is the coauthor of *Fractal Cities: A Geometry of Form and Function* and the author of *Cities and Complexity: Understanding Cities with Cellular Automata, Agent-Based Models, and Fractals* (MIT Press).

"An ambitious and laudable undertaking, one that Batty admits cannot be comprehensive, but which, even so, may well be seen as a milestone."
—Tim Smedley, *New Scientist*

"A substantial contribution to the science of city design and planning."
—Jacques-François Thisse, *Journal of Economic Literature*

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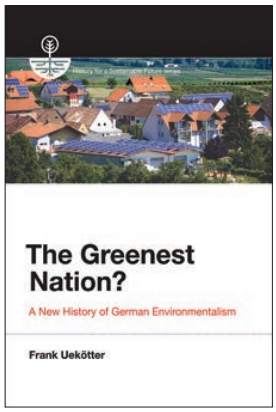
environment | history

The Greenest Nation?

A New History of German Environmentalism

Frank Uekötter

In *The Greenest Nation?* Frank Uekötter offers an overview of the evolution of German environmentalism since the late nineteenth century. He shows that much of Germany's green reputation rests on accomplishments of the 1980s, and he emphasizes the mutually supportive roles of environmental nongovernmental organizations, corporations, and the state. Uekötter looks at environmentalism in terms of civic activism, government policy, and culture and life, eschewing the usual focus on politics, prophets, and NGOs. He also views German environmentalism in an international context, tracing transnational networks of environmental issues and actions and discussing German achievements in relation to global trends.



Bringing his discussion up to the present, he shows the influence of the past on today's environmental decisions. As environmentalism is wrestling with the challenges of the twenty-first century, Germany could provide a laboratory for the rest of the world.

Frank Uekötter is Reader in Environmental Humanities at the University of Birmingham, UK. He has written or edited more than a dozen books on German and international environmental history, including *The Green and the Brown: A History of Conservation in Nazi Germany* and *The Age of Smoke: Environmental Policy in Germany and the United States, 1880–1970*.

"A source of inspiration for environmental decision makers."
—Luc Hens and Bernhard Glaeser, *International Journal of Environment and Pollution*

September | 5 3/8 x 8, 248 pp. | 14 illus.

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History for a Sustainable Future series

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environment | history

The Commons in History

Culture, Conflict, and Ecology

Derek Wall

The history of the commons—jointly owned land or other resources such as fisheries or forests set aside for public use—provides a useful context for current debates over sustainability and how we can act as "good ancestors." In this book, Derek Wall considers the commons from antiquity to the present day as an idea, an ecological space, an economic abstraction, and a management practice. He argues that the commons should be viewed neither as a "tragedy" of mismanagement (as the biologist Garrett Hardin wrote in 1968) nor as a panacea for solving environmental problems. Instead, Wall sees the commons as a particular form of property ownership.

Wall offers historical case studies from the United States, England, India, and Mongolia. He examines the power of cultural norms to maintain the commons; political conflicts over the commons; and how commons have protected, or failed to protect, ecosystems. Combining intellectual and material histories with an eye on contemporary debates, Wall offers an applied history that will interest academics, activists, and policymakers.

Derek Wall, an English politician and member of the Green Party of England and Wales, is Associate Lecturer in the Department of Politics at Goldsmiths College, University of London. Among his books are *The No-Nonsense Guide to Green Politics* and *The Rise of the Green Left*.

"This is a terrific book. . . the writing is like an English meadow on a spring day—clear, orderly, engaging, and warm."
—James Murton, *Environmental History*

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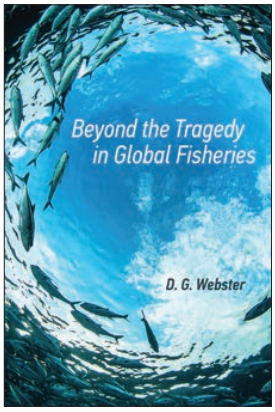
History for a Sustainable Future series

environment | international relations

Beyond the Tragedy in Global Fisheries

D. G. Webster

The oceans are heavily overfished, and the greatest challenges to effective fisheries management are not technical but political and economic. In this book, D. G. Webster describes how the political economy of fisheries has evolved and highlights patterns that are linked to sustainable transitions in specific fisheries. Using her Action Cycle/Structural Context framework, she maps long-running patterns that cycle between depletion and rebuilding in a process that she terms the *management treadmill*. She identifies the *profit disconnect*, in which economic incentives are out of sync with sustainable use, and the *power disconnect*, in which those who experience the costs of overexploitation are politically marginalized. She finds that the management treadmill is speeding up with population growth and economic development, and so concludes that sustainable fisheries can only exist within a sustainable global economic system.



D. G. Webster is Associate Professor in the Environmental Studies Program at Dartmouth College and the author of *Adaptive Governance: The Dynamics of Atlantic Fisheries Management* (MIT Press).

"Brings a welcome and heretofore largely underutilized perspective."
—Dale Squires, Senior Scientist, US NOAA Fisheries; Adjunct Professor of Economics, University of California, San Diego

"Anyone seeking a comprehensive, up-to-date, balanced, and accessible account of issues relating to the management of marine fisheries will find this book indispensable."
—Oran R. Young, Professor Emeritus and Codirector, Program on Governance for Sustainable Development, Bren School of Environmental Science and Management, University of California, Santa Barbara

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Politics, Science, and the Environment series

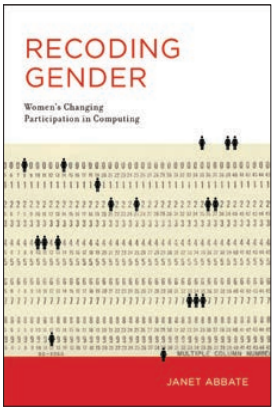
history of computing | gender studies

Recoding Gender

Women's Changing Participation in Computing

Janet Abbate

Few people know that women were a significant presence in the early decades of computing in both the United States and Britain. In *Recoding Gender*, Janet Abbate explores the untold history of women in computer science and programming from the Second World War to the late twentieth century. Offering a valuable historical perspective on today's concerns over women's underrepresentation in the field, Abbate describes the experiences of women who worked with the earliest electronic digital computers: Colossus, the wartime code-breaking computer at Bletchley Park outside London, and the American ENIAC, developed to calculate ballistics. Her account of the bold and creative strategies of women who loved computing work, excelled at it, and forged successful careers will provide inspiration for those working to change gendered computing culture.



Janet Abbate is Associate Professor of Science, Technology, and Society at Virginia Tech and the author of *Inventing the Internet* (MIT Press).

Winner, 2014 Computer History Museum Prize, awarded by the Society for the History of Technology

"This is a must-read for gender researchers and computing historians. However, this book should be on every computing professional's shelf."
—B. B. Owens, *Computing Reviews*

"Abbate does a marvelous job of describing the excitement, fun, and satisfaction that women past and present have found, and will continue to find, in computing work."
—Caroline Clarke Hayes, *Technology and Culture*

September | 6 x 9, 264 pp. | 16 illus.

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History of Computing series

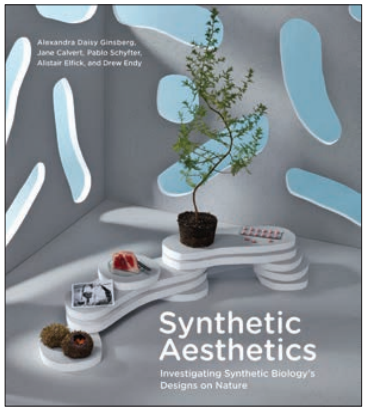
biology | design

Synthetic Aesthetics

Investigating Synthetic Biology's Designs on Nature

Alexandra Daisy Ginsberg, Jane Calvert, Pablo Schyfter, Alistair Elfick, and Drew Endy

Synthetic biology manipulates the stuff of life. For synthetic biologists, living matter is programmable material. Some synthetic biologists see themselves as designers, inventing new products and applications. But if biology is viewed as a malleable, engineerable, designable medium, what will be the role of design and how will its values apply?



The book follows six boundary-crossing collaborations between artists and designers and synthetic biologists from around the world. These collaborations have resulted in, among other things, biological computers that calculate form; algae that feeds on circuit boards; and a sampling of human cheeses. Synthetic biology is driven by its potential; some of these projects are fictions, beyond the current capabilities of the technology. Yet even as fictions, they help illuminate, question, and even shape the future of the field.

Alexandra Daisy Ginsberg is a London-based artist, designer, and writer. **Jane Calvert** and **Pablo Schyfter** are social scientists based in Science, Technology and Innovation Studies at the University of Edinburgh. **Alistair Elfick** is Professor of Synthetic Biological Engineering and Deputy Director of the UK Centre for Mammalian Synthetic Biology at the University of Edinburgh. **Drew Endy** is a bioengineer at Stanford University and President of the BioBricks Foundation.

"A timely overview that seeks to raise questions, rather than provide answers."
—Jonathan Openshaw, *PostMatter*

September | 8 x 9, 376 pp.
80 color photographs, 13 color illus., 11 b&w photographs, 30 b&w illus.

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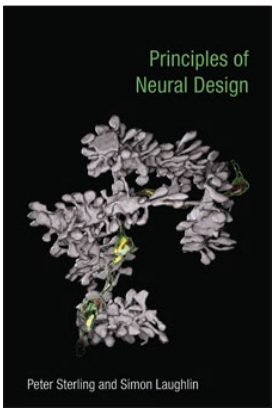
neuroscience

Principles of Neural Design

Peter Sterling and Simon Laughlin

Neuroscience research has exploded, with more than fifty thousand neuroscientists applying increasingly advanced methods.



A mountain of new facts and mechanisms has emerged. And yet a principled framework to organize this knowledge has been missing. In this book, Peter Sterling and Simon Laughlin, two leading neuroscientists, strive to fill this gap, outlining a set of organizing principles to explain the whys of neural design that allow the brain to compute so efficiently. Setting out to "reverse engineer" the brain—disassembling it to understand it—Sterling and Laughlin avoid speculation about how the brain *might* work and endeavor to make sense of what is already known. Their distinctive contribution is to gather a coherent set of basic rules and exemplify them across spatial and functional scales.

Peter Sterling is Professor of Neuroscience at the University of Pennsylvania School of Medicine and Member of the Neuroscience and Behavior Program at the University of Massachusetts. **Simon Laughlin** is Professor of Neurobiology in the Department of Zoology at the University of Cambridge and a Fellow of the Royal Society.

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

"This book is a wonderful start for what will, I believe, become the standard way for conceptualizing neurobiology."
—Charles F. Stevens, *Current Biology*

"Unique insights, recounted in the authors' characteristically appealing style, are to be found on every page."
—David Attwell, Jodrell Professor of Physiology, University College London

September | 6 x 9, 568 pp. | 169 illus.

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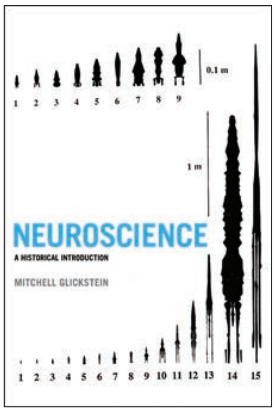
neuroscience

Neuroscience

A Historical Introduction

Mitchell Glickstein

This introduction to neuroscience is unique in its emphasis on how we know what we know about the structure and function of the nervous system.



The book traces our current neuroscientific knowledge to its many and varied sources. It discusses, among other topics, the structure of nerve cells; electrical transmission in the nervous system; chemical transmission and the mechanism of drug action; sensation; vision; hearing; movement; learning and memory; language and the brain; neurological disease; personality and emotion; the treatment of mental illness; and consciousness. It explains the sometimes baffling Latin names for brain subdivisions; discusses the role of technology in the field, from microscopes to EEGs; and describes the many varieties of scientific discovery. The book's novel perspective offers a particularly effective way for students to learn about neuroscience. It also makes it clear that past contributions offer a valuable guide for thinking about the puzzles that remain.

Mitchell Glickstein is Emeritus Professor of Neuroscience at University College London. He has held research and teaching positions at Caltech, University of Washington, Brown University, and Dartmouth College.

"Generalists, and even specialists, looking for a good overview of neuroscience will find that Glickstein's contribution is solid."
—Amy Ione, *Leonardo Reviews*

"Authoritative, highly readable, wonderfully illustrated, and just plain interesting. . . . Only Glickstein could have achieved all of this."
—Michael Gazzaniga

"This book is a must for anyone interested in the historical antecedents of the concepts and ideas that preoccupy today's neuroscientists."
—Leo M. Chalupa, George Washington University

August | 6 x 9, 424 pp. | 52 color illus., 119 b&w illus.

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science

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Nautilus is a different kind of science magazine. It delivers deep, undiluted, narrative storytelling that brings big-picture science into today's most important conversations. It challenges readers to consider the common themes that run through the sciences and connect them to philosophy, culture, and art.

The print edition of *Nautilus* is a co-publication of the MIT Press and NautilusThink. Digital content is housed at nautil.us.

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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NEW!

arts & humanities

Journal of Design and Science

The *Journal of Design and Science* (*JoDS*) captures the antidisciplinary ethos of the MIT Media Lab. Like the Lab, it opens new connections between science and design, encouraging discourse that breaks down the barriers between traditional academic disciplines. It explores not only the design of science, but also the science of design.

JoDS is shepherded by a team led by MIT Media Lab Director Joi Ito, and published in partnership with the MIT Press.

Open Access
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ARTMargins

Sven Spieker, executive editor
Karen Benezra, Francesca Dal Lago
Octavian Eşanu, Anthony Gardner,
Angela Harutyunyan, and
Andrew Weiner, editors

ARTMargins publishes scholarly articles and essays about contemporary art, 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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Phyllis S. Bendell, managing editor

Drawing on the nation's foremost scholars in the arts, sciences, humanities, and social sciences, *Dædalus*, Journal of the American Academy of Arts and Sciences, explores the frontiers of knowledge and issues of public importance.

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144 pp. per issue | 7 x 10
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arts & humanities

PAJ: A Journal of Performance and Art

Bonnie Marranca, editor

PAJ explores innovative work in theatre, performance art, dance, video, writing, technology, sound, and music, bringing together all live arts in thoughtful cultural dialogue.

Triannual, ISSN 1520-281X
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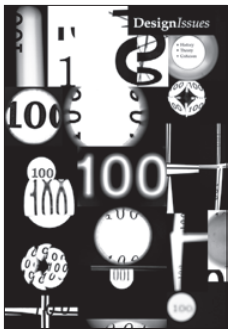

Design Issues

Bruce Brown, Richard Buchanan,
Carl DiSalvo, Dennis P. Doordan,
Kipum Lee, Victor Margolin,
and Ramia Mazé, editors

The first American academic journal to examine design history, theory, and criticism, *Design Issues* provokes inquiry into the cultural and intellectual issues surrounding design. Special guest-edited issues concentrate on particular themes, such as human-computer interface, service design, design for development, and product design methodology.

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October

Rosalind Krauss, Annette Michelson,
George Baker, Yve-Alain Bois,
Benjamin H. D. Buchloh,
Leah Dickerman, Devin Fore,
Hal Foster, Denis Hollier,
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Mignon Nixon, and Malcolm Turvey,
editors

At the forefront of art criticism and theory, *October* focuses critical attention on the contemporary arts—film, painting, music, media, photography, performance, sculpture, and literature—and their various contexts of interpretation.

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arts & humanities

TDR/The Drama Review

Richard Schechner, editor

TDR traces the broad spectrum of performances—studying performances in their aesthetic, social, economic, and political contexts. Long known as the basic resource for current scholarship in performance studies, *TDR* continues to be a lively forum.

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edited by the African Arts Consortium: UCLA, Rhodes University, and University of North Carolina at Chapel Hill

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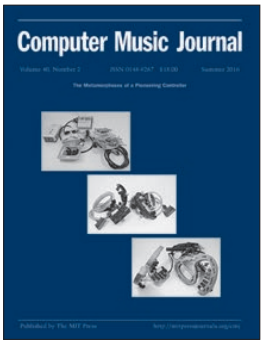

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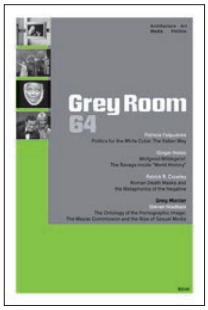

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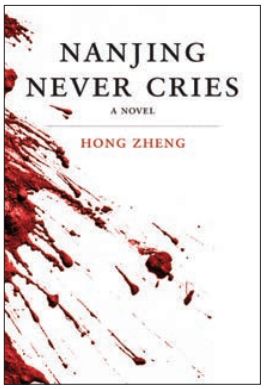

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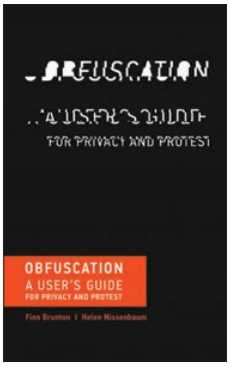

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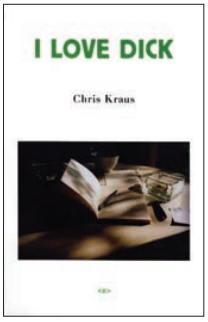

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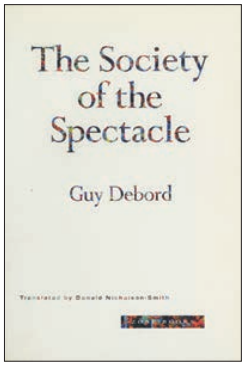

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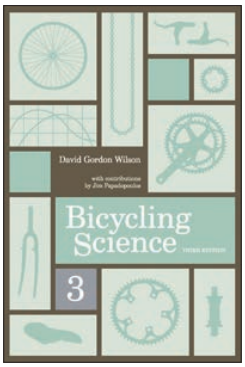

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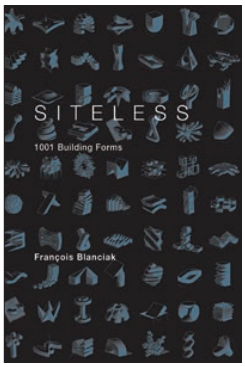

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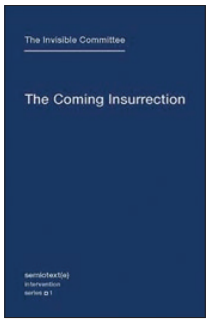

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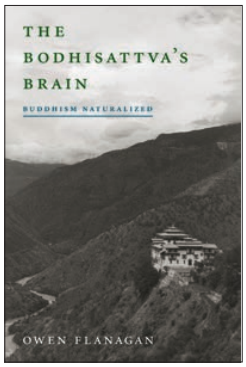

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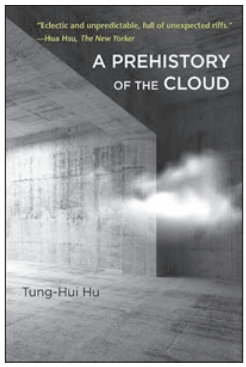

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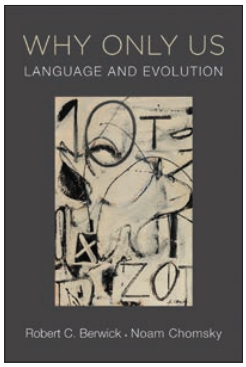

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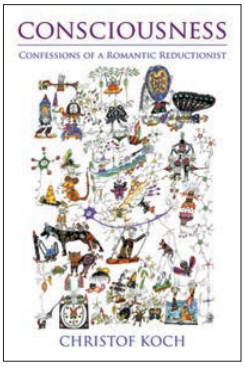

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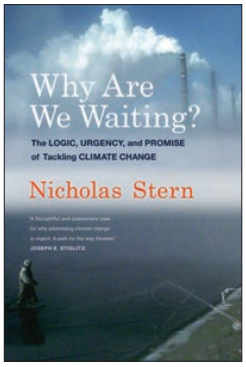

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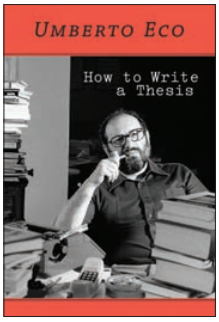

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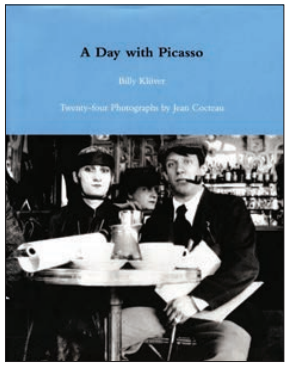

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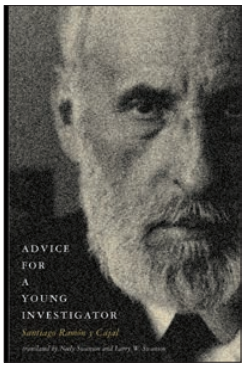

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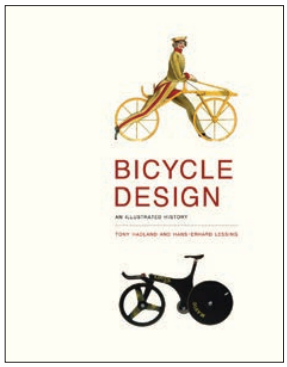

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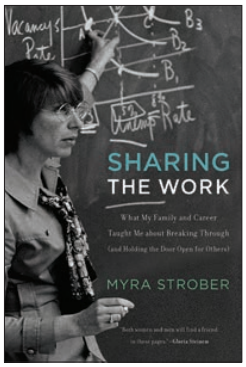

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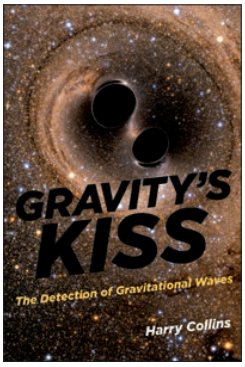

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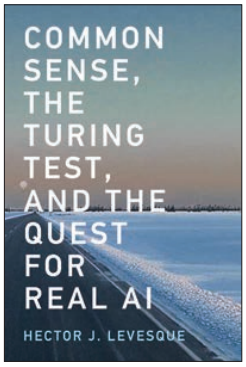

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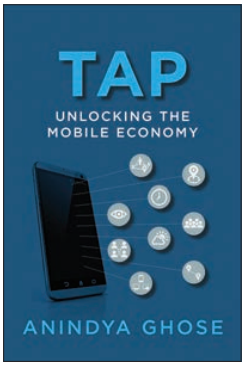

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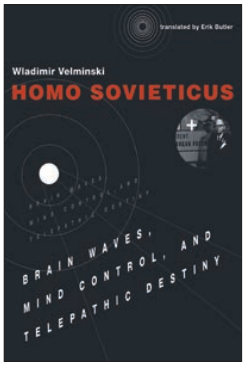

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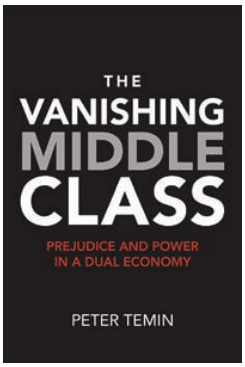

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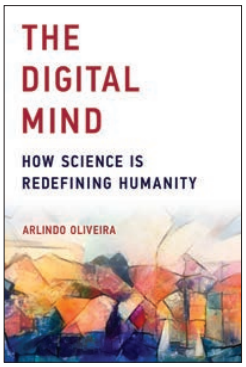

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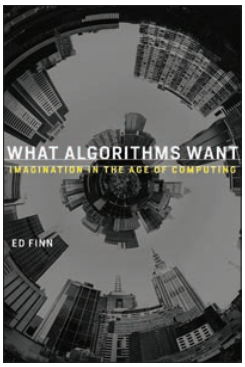

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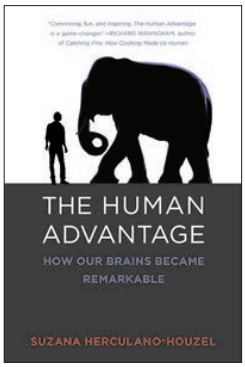

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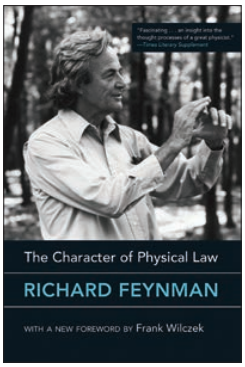

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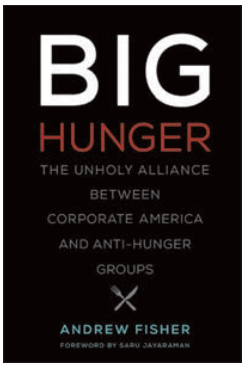

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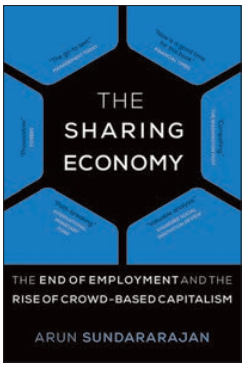

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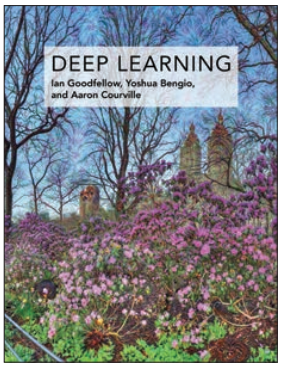

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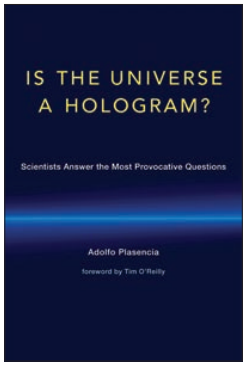

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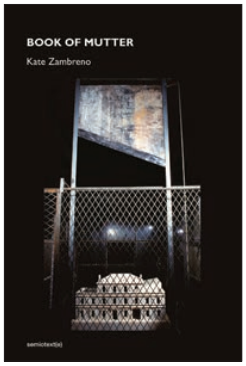

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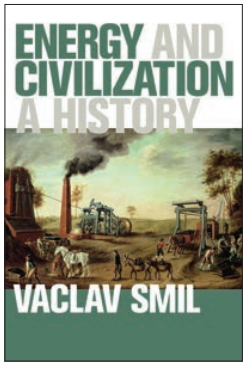

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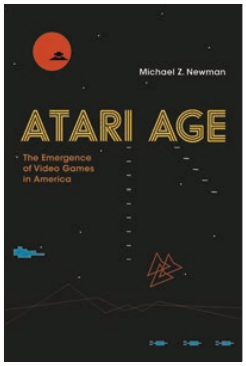

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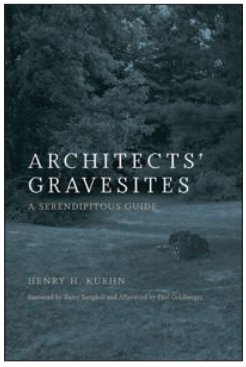

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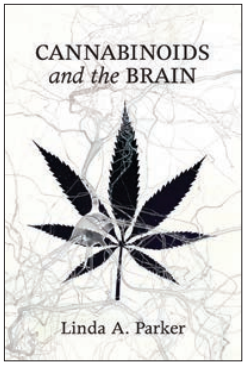

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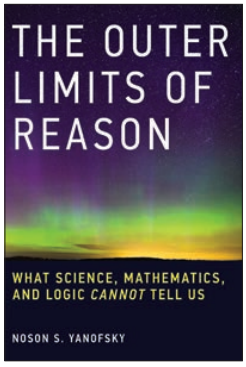

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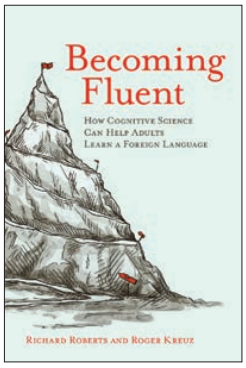

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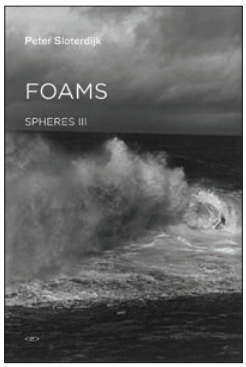

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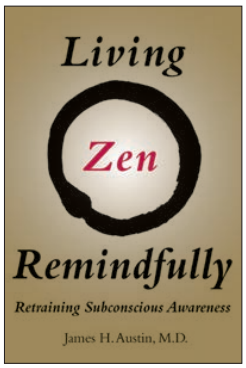

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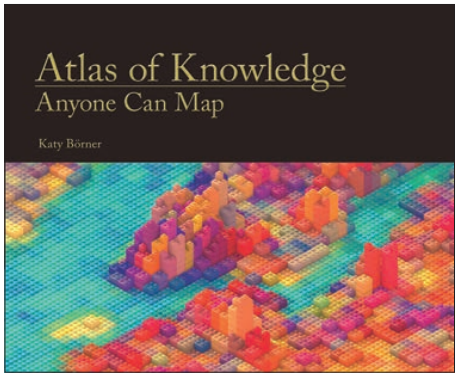

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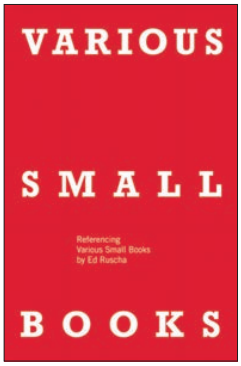

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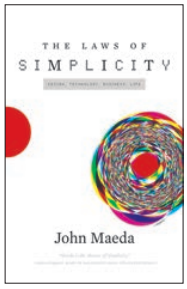

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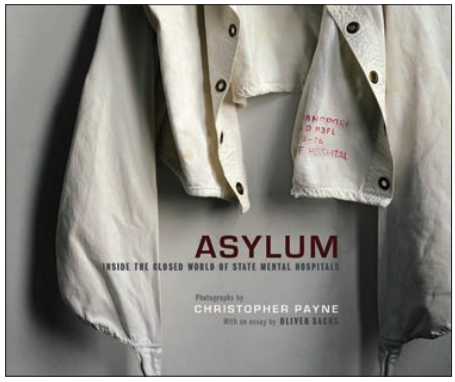

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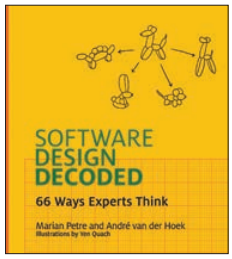

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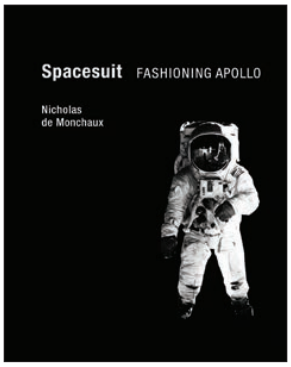

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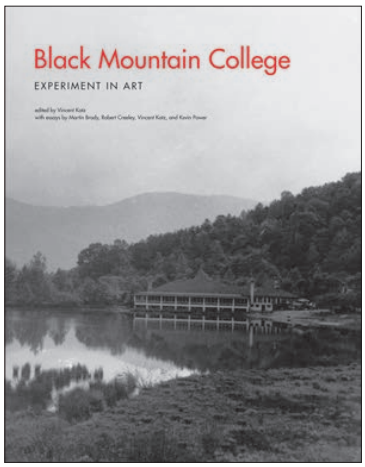

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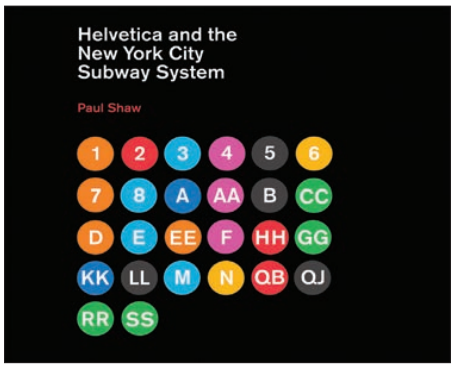

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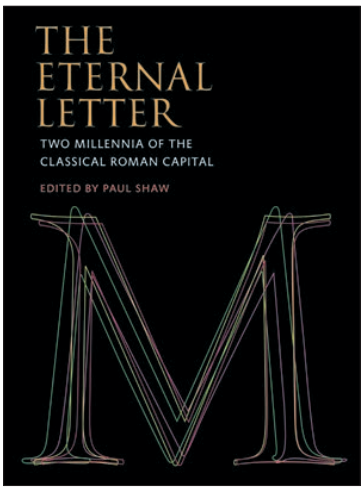

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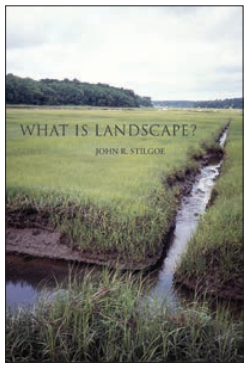

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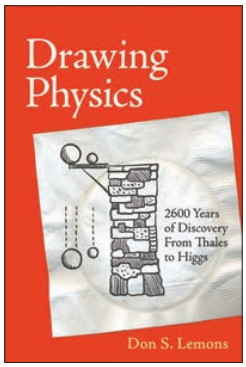

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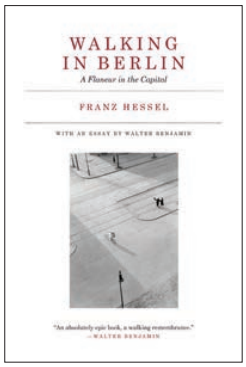

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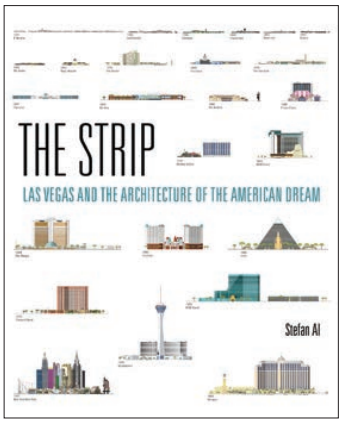

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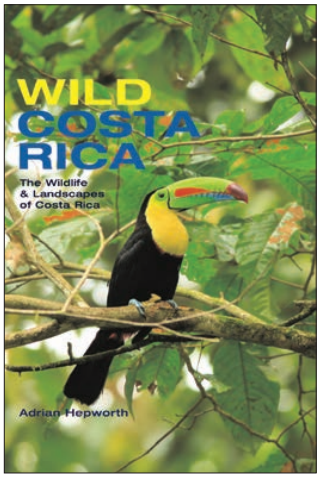

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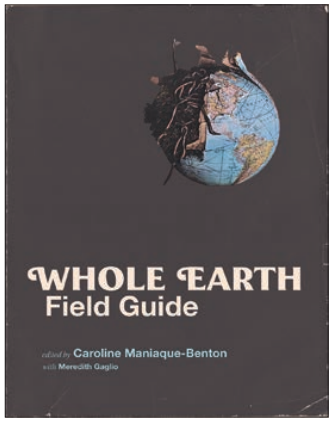

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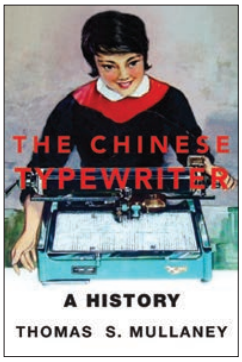

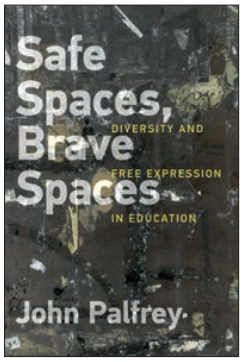

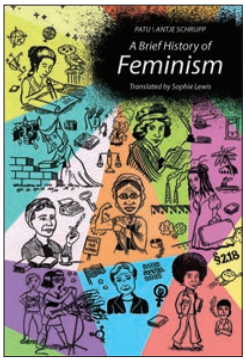

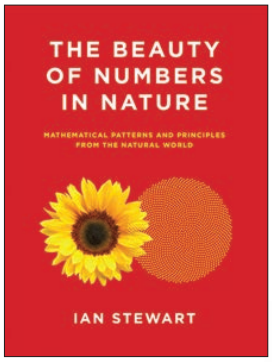

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