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The Materiality of Interaction
Notes on the Materials of Interaction Design
Mikael Wiberg

Smart watches, smart cars, the Internet of things, 3D printing: all signal a trend toward combining digital and analog materials in design. Interaction with these new hybrid forms is increasingly mediated through physical materials, and therefore interaction design is increasingly a material concern. In this book, Mikael Wiberg describes the shift in interaction design toward material interactions. He argues that the "material turn" in human-computer interaction has moved beyond a representation-driven paradigm, and he proposes "material-centered interaction design" as a new approach to interaction design and its materials. He calls for interaction design to abandon its narrow focus on what the computer can do and embrace a broader view of interaction design as a practice of imagining and designing interaction through material manifestations. A material-centered approach to interaction design enables a fundamental design method for working across digital, physical, and even immaterial materials in interaction design projects.

Wiberg looks at the history of material configurations in computing and traces the shift from metaphors in the design of graphical user interfaces to materiality in tangible user interfaces. He examines interaction through a material lens; suggests a new method and foundation for interaction design that accepts the digital as a design material and focuses on interaction itself as the form being designed; considers design across substrates; introduces the idea of "interactive compositions"; and argues that the focus on materiality transcends any distinction between the physical and digital.

Mikael Wiberg is Professor of Informatics and Associate Dean of the Faculty of Social Sciences at Umeå University, Sweden.

A new approach to interaction design that moves beyond representation and metaphor to focus on the material manifestations of interaction.
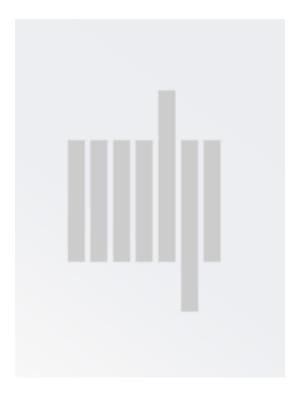
architecture | urbanism

Site Planning
International Practice

Gary Hack

Cities are built site by site. Site planning—the art and science of design-ing settlements on the land—encompasses a range of activities under-taken by architects, planners, urban designers, landscape architects, and engineers. This book offers a comprehensive, up-to-date guide to site planning that is global in scope. It covers planning processes and standards, new technologies, sustainability, and cultural context, address-ing the roles of all participants and stakeholders and offering extensive treatment of practices in rapidly urbanizing countries. Kevin Lynch and Gary Hack wrote the classic text on the subject, and this book takes up where the earlier book left off. It can be used as a textbook and will be an essential reference for practitioners.

Site Planning consists of forty self-contained modules, organized into five parts: The Art of Site Planning, which presents site planning as a shared enterprise; Understanding Sites, covering the components of site analysis; Planning Sites, covering the processes involved; Site Infra-structure, from transit to waste systems; and Site Prototypes, including housing, recreation, and mixed use. Each module offers a brief introduc-tion, covers standards or approaches, provides examples, and presents in-novative practices in sidebars. The book is lavishly illustrated with 1350 photographs, diagrams, and examples of practice.

Gary Hack has studied, taught, and practiced site planning for more than forty years in the United States, Canada, and other countries. He is Professor Emeri-tus of Urban Design at MIT, where he headed the Department of Urban Studies and Planning, Professor Emeritus and former Dean of the School of Design at the University of Pennsylvania, and Visiting Professor at Tsinghua and Chongq-ing Universities.

A comprehensive, state-of-the-art guide to site planning, covering planning processes, new technologies, and sustainability, with extensive treatment of practices in rapidly urbanizing countries.

April
8 x 10, 800 pp.
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art | media

The Metainterface

The Art of Platforms, Cities, and Clouds

Christian Ulrik Andersen and Søren Bro Pold

The computer interface is both omnipresent and invisible, at once embedded in everyday objects and characterized by hidden exchanges of information between objects. The interface has moved from office into culture, with devices, apps, the cloud, and data streams as new cultural platforms. In *The Metainterface*, Christian Ulrik Andersen and Søren Bro Pold examine the relationships between art and interfaces, tracing the interface's disruption of everyday cultural practices. They present a new interface paradigm of cloud services, smart phones, and data capture, and examine how particular art forms—including net art, software art and electronic literature—seek to reflect and explore this paradigm.

How the interface has moved from the office into culture, as seen in a series of works of net art, software art and electronic literature.

Andersen and Pold argue that despite attempts to make the interface disappear into smooth access and smart interaction, it gradually resurfaces; there is a metainterface to the displaced interface. Art can help us see this; the interface can be an important outlet for aesthetic critique. Andersen and Pold describe the "semantic capitalism" of a metainterface industry that captures user behavior; the metainterface industry's disruption of everyday urban life, changing how the city is read, inhabited, and organized; the ways that the material displacement of the cloud affects the experience of the interface; and the potential of designing with an awareness of the language and grammar of interfaces.

Christian Ulrik Andersen teaches and researches software and computer interfaces in the School of Communication and Culture at Aarhus University. **Søren Bro Pold** is Associate Professor of Digital Aesthetics in the School of Communication and Culture at Aarhus University.

June | 7 x 9, 240 pp. | 39 illus.

$30.00X/£24.95 cloth
978-0-262-03794-5

cognitive science

Efficient Cognition

The Evolution of Representational Decision Making

Armin W. Schulz

Many organisms (including humans) make decisions by relying on mental representations. Not simply a reaction triggered by perception, representational decision making employs high-level, non-perceptual mental states with content to manage interactions with the environment. A person making a decision based on mental representations, for example, takes a step back from her perceptions at the time to assess the nature of the world she lives in. But why would organisms rely on representational decision making, and what evolutionary benefits does this reliance provide to the decision maker? In *Efficient Cognition*, Armin Schulz argues that representational decision making can be more cognitively efficient than non-representational decision making. Specifically, he shows that a key driver in the evolution of representational decision making is that mental representations can enable an organism to save cognitive resources and adjust more efficiently to changed environments.

An argument that representational decision making is more cognitively efficient, allowing an organism to adjust more easily to changes in the environment.

After laying out the foundations of his argument—clarifying the central questions, the characterization of representational decision making, and the relevance of an evidential form of evolutionary psychology—Schulz presents his account of the evolution of representational decision making and critically considers some of the existing accounts of the subject. He then applies his account to three open questions concerning the nature of representational decision making: the extendedness of decision making, and when we should expect cognition to extend into the environment; the specialization of decision making and the use of simple heuristics; and the psychological sources of altruistic behaviors.

Armin W. Schulz is Associate Professor of Philosophy at the University of Kansas.

March | 6 x 9, 288 pp. | 9 illus.

$45.00S/£37.95 cloth
978-0-262-03760-0

cognitive science | psychology

The Illusion of Conscious Will

NEW EDITION

Daniel M. Wegner

foreword by Daniel Gilbert

introduction by Thalia Wheatley

Do we consciously cause our actions, or do they happen to us? Philosophers, psychologists, neuroscientists, theologians, and lawyers have long debated the existence of free will versus determinism. With the publication of *The Illusion of Conscious Will* in 2002, Daniel Wegner proposed an innovative and provocative answer: the feeling of conscious will is created by the mind and brain; it helps us to appreciate and remember our authorship of the things our minds and bodies do. Yes, we feel that we consciously will our actions, Wegner says, but at the same time, our actions happen to us. Although conscious will is an illusion ("the most compelling illusion"), it serves as a guide to understanding ourselves and to developing a sense of responsibility and morality. Wegner was unable to undertake a second edition of the book before his death in 2013; this new edition adds a foreword by Wegner's friend, the prominent psychologist Daniel Gilbert, and an introduction by Wegner's colleague, Thalia Wheatley.

A new edition of Wegner's classic and controversial work, arguing that conscious will simply reminds of us the authorship of our actions.

Approaching conscious will as a topic of psychological study, Wegner examines cases both when people feel that they are willing an act that they are not doing and when they are not willing an act that they in fact are doing in such phenomena as hypnosis, Ouija board spelling, and dissociative identity disorder.

Wegner's argument was immediately controversial (called "unwarranted impertinence" by one scholar) but also compelling. Engagingly written, with wit and clarity, *The Illusion of Conscious Will* was, as Daniel Gilbert writes in the foreword to this edition, Wegner's "magnum opus."

The late **Daniel Wegner** was Professor of Psychology at Harvard University.

February | 6 x 9, 432 pp. | 53 illus.

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computer science

Data Stream Mining

with Practical Examples in MOA

Albert Bifet, Ricard Gavaldà, Geoffrey Holmes, and Bernhard Pfahringer

Today many information sources—including sensor networks, financial markets, social networks, and healthcare monitoring—are so-called data streams, arriving sequentially and at high speed. Analysis must take place in real time, with partial data and without the capacity to store the entire data set. This book presents algorithms and techniques used in data stream mining and real-time analytics. Taking a hands-on approach, the book demonstrates the techniques using MOA (Massive Online Analysis), a popular, freely available open-source software framework, allowing readers to try out the techniques after reading the explanations.

A hands-on approach to tasks and techniques in data stream mining and real-time analytics, with examples in MOA, a popular freely available open-source software framework.

The book first offers a brief introduction to the topic, covering big data mining, basic methodologies for mining data streams, and a simple example of MOA. More detailed discussions follow, with chapters on sketching techniques, change, classification, ensemble methods, regression, clustering, and frequent pattern mining. Most of these chapters include exercises, an MOA-based lab session, or both. Finally, the book discusses the MOA software, covering the MOA graphical user interface, the command line, use of its API, and the development of new methods within MOA. The book will be an essential reference for readers who want to use data stream mining as a tool, researchers in innovation or data stream mining, and programmers who want to create new algorithms for MOA.

Albert Bifet is Associate Professor in Big Data at Télécom ParisTech. **Ricard Gavaldà** is Professor of Computer Science at the Politècnica de Catalunya, Barcelona. **Geoffrey Holmes** is Professor and Dean of Computing at the University of Waikato in Hamilton, New Zealand. **Bernhard Pfahringer** is Professor of Computer Science at the University of Auckland, New Zealand.

March | 7 x 9, 280 pp. | 21 color illus., 29 b&w illus.

$55.00S/£45.95 cloth
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Adaptive Computation and Machine Learning series

How to Design Programs

An Introduction to Programming and Computing

SECOND EDITION

Matthias Felleisen, Robert Bruce Findler, Matthew Flatt, and Shriram Krishnamurthi

This introduction to programming places computer science in the core of a liberal arts education. Unlike other introductory books, it focuses on the program design process, presenting program design guidelines that show the reader how to analyze a problem statement, how to formulate concise goals, how to make up examples, how to develop an outline of the solution, how to finish the program, and how to test it. Because learning to design programs is about the study of principles and the acquisition of transferable skills, the text does not use an off-the-shelf industrial language but presents a tailor-made teaching language. For the same reason, it offers DrRacket, a programming environment for novices that supports playful, feedback-oriented learning. The environment grows with readers as they master the material in the book until it supports a full-fledged language for the whole spectrum of programming tasks.

A completely revised edition, offering new design recipes for interactive programs and support for images as plain values, testing, event-driven programming, and even distributed programming.

This second edition has been completely revised. While the book continues to teach a systematic approach to program design, the second edition introduces different design recipes for interactive programs with graphical interfaces and batch programs. It also enriches its design recipes for functions with numerous new hints. Finally, the teaching languages and their IDE now come with support for images as plain values, testing, event-driven programming, and even distributed programming.

Matthias Felleisen is Trustee Professor in the College of Computer Science at Northeastern University. **Robert Bruce Findler** is Associate Professor of Computer Science at Northwestern University. Matthew Flatt is Professor in the School of Computing at the University of Utah. **Shriram Krishnamurthi** is Professor of Computer Science at Brown University.

February | 8 x 9, 792 pp. | 194 illus.

$60.00X/£49.95 paper
978-0-262-53480-2

Distributed Algorithms

An Intuitive Approach

SECOND EDITION

Wan Fokkink

This book offers students and researchers a guide to distributed algorithms that emphasizes examples and exercises rather than the intricacies of mathematical models. It avoids mathematical argumentation, often a stumbling block for students, teaching algorithmic thought rather than proofs and logic. This approach allows the student to learn a large number of algorithms within a relatively short span of time. Algorithms are explained through brief, informal descriptions, illuminating examples, and practical exercises. The examples and exercises allow readers to understand algorithms intuitively and from different perspectives. Proof sketches, arguing the correctness of an algorithm or explaining the idea behind fundamental results, are also included. The algorithms presented in the book are for the most part "classics," selected because they shed light on the algorithmic design of distributed systems or on key issues in distributed computing and concurrent programming.

The new edition of a guide to distributed algorithms that emphasizes examples and exercises rather than the intricacies of mathematical models.

This second edition has been substantially revised. A new chapter on distributed transaction offers up-to-date treatment of database transactions and the important evolving area of transactional memory. A new chapter on security discusses two exciting new topics: blockchains and quantum cryptography. Sections have been added that cover such subjects as rollback recovery, fault-tolerant termination detection, and consensus for shared memory. An appendix offers pseudocode descriptions of many algorithms. Solutions and slides are available for instructors.

Distributed Algorithms can be used in courses for upper-level undergraduates or graduate students in computer science, or as a reference for researchers in the field.

Wan Fokkink is Professor of Theoretical Computer Science at the VU University, Amsterdam.

March | 8 x 9, 264 pp. | 103 illus.

$48.00X/£39.95 cloth
978-0-262-03766-2

computer science

The Reasoned Schemer

SECOND EDITION

Daniel P. Friedman, William E. Byrd, Oleg Kiselyov, and Jason Hemann

foreword by Guy Lewis Steele and Gerald Jay Sussman
afterword by Robert A. Kowalski
drawings by Duane Bibby

The goal of this book is to show the beauty of pure logic programming, termed "relational programming" by the authors. They believe that it is natural to extend functional programming to relational programming, and they demonstrate this by extending Scheme with a few new constructs, thereby combining the benefits of both styles. This extension also captures the essence of Prolog, the most well-known logic programming language. As in the first edition, the pedagogical method is a series of questions and answers, which proceed with the characteristic humor that marked *The Little Schemer* and *The Seasoned Schemer*. Familiarity with a functional language or with the first eight chapters of *The Little Schemer* is assumed.

A new edition of a textbook that demonstrates how to extend functional programming to relational programming, taught in a humorous question-and-answer style.

For this second edition, the authors have simplified the programming language used in the book as well as the implementation of the language. In addition to simplifying and revising the "Laws" and "Commandments," they have added explicit "Translation" rules that are more uniform and easier to internalize.

Daniel P. Friedman is Professor of Computer Science at Indiana University and is the author of many books published by the MIT Press, including *The Little Schemer*, *The Seasoned Schemer*, *A Little Java*, *A Few Patterns* (each of these coauthored with Matthias Felleisen), and *The Little Prover* (coauthored with Carl Eastlund). **William E. Byrd** is Research Professor in the School of Computing at the University of Utah. **Oleg Kiselyov** is Assistant Professor in the Department of Electronic Engineering and Information Engineering at Tohuku University, Japan. **Jason Hemann** is a PhD candidate in the Department of Informatics and Computer Science at Indiana University.

March | 7 x 9, 208 pp. | 13 illus.

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978-0-262-53551-9

design

Critical Fabulations

Reworking the Methods and Margins of Design

Daniela Rosner

In *Critical Fabulations*, Daniela Rosner proposes redefining design as activist and investigative, personal and culturally situated, responsive, and responsible. Challenging the field's dominant paradigms and reinterpreting its history, Rosner wants to change the practice of design itself, reworking it from the inside. Focusing on technological design, she takes on powerful narratives of innovation and technology shaped by the professional expertise that has become integral to design's mounting status within the new industrial economy. To do so, she intervenes in legacies of design, expanding what is considered "design" to include long-silenced narratives of practice, and enhancing existing design methodologies based on these rediscovered inheritances. Drawing on discourses of feminist technoscience, she examines craftwork's contributions to computing innovation—how craft-work becomes hardware manufacturing, and how hardware manufacturing becomes craftwork. She reclaims for design, for example, NASA's "Little Old Ladies," the women who created code for the Apollo missions by weaving wires through magnetized metal rings.

A proposal to redefine design in a way that not only challenges the field's dominant paradigms but also changes the practice of design itself.

Mixing history, theory, personal experience, and case studies, Rosner reweaves fibers of technoscience by slowly reworking the methods and margins of design. She suggests *critical fabulations* as ways of telling stories that awaken alternative histories, and offers a set of techniques and orientations for fabulating through design. *Critical Fabulations* shows how design's hidden inheritances open different possibilities for practice.

Daniela Rosner is Assistant Professor in Human Centered Design and Engineering (HCDE) at the University of Washington, where she codirects HCDE's Tactile and Tactical Design Lab.

June | 7 x 9, 216 pp. | 37 photos

$35.00S/£27.95 cloth
978-0-262-03789-1

Design Thinking, Design Theory series

design | human-computer interaction

Critical Theory and Interaction Design

edited by Jeffrey Bardzell, Shaowen Bardzell, and Mark Blythe

Why should interaction designers read critical theory? Critical theory today is seldom taught in literature courses, but is proving un-expectedly relevant to media and technology studies. The editors of this volume argue that reading critical theory—understood in the broadest sense, including but not limited to the Frankfurt School—can help designers do what they want to do; can teach wisdom itself; can provoke; and can introduce new ways of seeing. They illustrate their argument by presenting classic texts by thinkers in critical theory from Althusser to Žižek alongside essays in which leaders in interaction design and HCI describe the influence of the text on their work. For example, one contributor considers the relevance Umberto Eco's "Openness, Information, and Communication" to digital content; another reads Walter Benjamin's "The Author as Producer" in terms of interface designers; and another reflects on the implications of Judith Butler's "Gender Troubles" for interaction design. The editors offer a substantive introduction that traces the various strands of critical theory.

Classic texts by thinkers from Althusser to Žižek alongside essays by leaders in interaction design and HCI show the relevance critical theory to interaction design.

Taken together, the essays show how critical theory and interaction design can inform each other, and how interaction design, drawing on critical theory, might contribute to our deepest needs for connection, competency, self-esteem, and wellbeing.

Jeffrey Bardzell is Professor of Informatics in the School of Informatics and Computing at Indiana University Bloomington. **Shaowen Bardzell** is Associate Professor of Human-Computer Interaction Design in the School of Informatics and Computing at Indiana University Bloomington. **Mark Blythe** is Professor of Interdisciplinary Design at Northumbria University.

economics

Market Design

Auctions and Matching

Guillaume Haeringer

This book offers an introduction to market design, providing students with a broad overview of issues related to the design and analysis of market mechanisms. It defines a market as a demand and a supply, without specifying a price system or mechanism. This allows the text to analyze a broad set of situations—including such unconventional markets as college admissions and organ donation—and forces readers to pay attention to details that might otherwise be overlooked. Students often complain that microeconomics is too abstract and disconnected from reality; the study of market design shows how theory can help solve existing, real-life problems. The book focuses on the interplay between theory and applications. To keep the text as accessible as possible, special effort has been made to minimize formal description of the models while emphasizing the intuitive, with detailed explanations and resolution of examples. Appendixes offer general reviews of elements of game theory and mechanism design that are related to the themes explored in the book, presenting the basic concepts with as many explanations and illustrations as possible.

A broad overview of market mechanisms, with an emphasis on the interplay between theory and real-life applications; examples range from eBay auctions to school choice.

The book covers topics including the basics of simple auctions; eBay auctions; Vickrey–Clarke–Groves auctions; keyword auctions, with examples from Google and Facebook; spectrum auctions; financial markets, with discussions of treasury auctions and IPOs; trading on the stock market; the basic matching model; medical match; assignment problems; probabilistic assignments; school choice; course allocation, with examples from Harvard and Wharton; and kidney exchange.

Guillaume Haeringer is Professor of Economics at the Zicklin School of Business at Baruch College.

economics

Developments in Global Sourcing

edited by Wilhelm Kohler and Erdal Yalcin

Recent decades have seen a fragmentation of production processes across borders, as firms find it increasingly profitable

Theoretical and empirical perspectives on the fragmentation of production processes across borders, shedding light on global sourcing decisions and their economic effects.

to organize production on a global scale. This fragmentation occurs across national borders as well as across firm boundaries; companies must decide not only the location of production but also how much control to exert over the different production stages. Economists have responded to this shift by developing new models of global sourcing generating important insights into the driving forces and economic effects of this new form of globalization. Many questions, however, remain unanswered. This book tries to fill this gap

The contributors ask new questions or offer new modeling approaches to fragmentation of production, focusing in particular on time and uncertainty. They examine global sourcing in firms' multinationalization strategies, including offshoring, product scope, managerial incentives, supplier search, and contractual issues; and explore the interactions of global sourcing, exports, and economic development, investigating such topics as the complementarity of offshoring and exporting, product diversification, and the relationship between vertical linkages and development.

Wilhelm Kohler is Professor of International Economics at Enerhard Karis University Tuebingen. Erdal Yalcin is Deputy Director of the ifo Center for International Economics.

Contributors

Pol Antràs, Sasan Bakhtiari, Sebastian Benz, Giuseppe Berlingieri, Johannes Boehm, Jeronimo Carballo, Huiya Chen, Alejandro Cuñat, Fabrice Defever, Swati Dhingra, Harald Fadinger, Ana P. Fernandes, Christian Fischer, Wilhelm Kohler, Bohdan Tang, Luca Marcolin, Antonio Minniti, John Morrow, Alireza Naghavi, Han (Steffan) Qi, Jens Suedekum, Deborah L. Swenson, Kukharskyy, Edwin L.-C. Lai, Anders Rosenstand Laugesen, Ngo Van Long, Heiwai, Erdal Yalcin

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CESifo Seminar Series

economics

Comparative Economics in a Transforming World Economy

THIRD EDITION

J. Barkley Rosser, Jr., and Marina V. Rosser

Comparative economics, with its traditional dichotomies of socialism versus capitalism, private versus state, and planning

An approach to comparative economic systems that avoids simple dichotomies to examine a wide variety of institutional and systemic arrangements, with updated country case studies.

versus market, is changing. This innovative textbook offers a new approach to understanding different economic systems that reflects both recent transformations in the world economy and recent changes in the field. This new edition examines a wide variety of institutional and systemic arrangements, many of which reflect deep roots in countries' cultures and histories.

The book has been updated and revised throughout, with new material in both the historical overview and the country case studies. It offers a broad survey of economic systems, then looks separately at market capitalism, Marxism and socialism, and "new traditional economies" (with an emphasis on the role of religions, Islam in particular, in economic systems). It presents case studies of advanced capitalist nations, including the United States, Japan, Sweden, and Germany; alternative paths in the transition from socialist to market economies taken by such countries as Russia, the former Soviet republics, Poland, China, and the two Koreas; and developing countries, including India, Iran, South Africa, Mexico, and Brazil. The new chapters on Brazil and South Africa complete the book's coverage of all five BRICS nations; the chapter on South Africa extends the book's comparative treatment to another continent. The chapter on Brazil with its account of the role of the Amazon rain forest as a great carbon sink expands the coverage of global environmental and sustainability issues. Each chapter ends with discussion questions.

J. Barkley Rosser, Jr., and **Marina V. Rosser** are Professors of Economics at James Madison University.

March | 7 x 9, 736 pp. | 27 illus.

$125.00X/£104.95 cloth
978-0-262-03733-4

economics | finance

When Things Don't Fall Apart

Global Financial Governance and Developmental Finance in an Age of Productive Incoherence

Ilene Grabel

foreword by Dani Rodrik

In *When Things Don't Fall Apart*, Ilene Grabel challenges the dominant view that the global financial crisis had little effect on global financial governance and developmental finance. Most observers discount all but grand, systemic ruptures in institutions and policy. Grabel argues instead that the global crisis induced inconsistent and ad hoc discontinuities in global financial governance and developmental finance that are now having profound effects on emerging market

An account of the significant though gradual, uneven, disconnected, ad hoc, and pragmatic innovations in global financial governance and developmental finance induced by the global financial crisis.

and developing economies. Grabel's chief normative claim is that the resulting incoherence in global financial governance is productive rather than debilitating. In the age of *productive incoherence*, a more complex, dense, fragmented, and pluripolar form of global financial governance is expanding possibilities for policy and institutional experimentation, policy space for economic and human development, financial stability and resilience, and financial inclusion. Grabel draws on key theoretical commitments of Albert Hirschman to cement the case for the productivity of incoherence. Inspired by Hirschman, Grabel demonstrates that meaningful change often emerges from disconnected, erratic, experimental, and inconsistent adjustments in institutions and policies as actors pragmatically manage in an evolving world.

Grabel substantiates her claims with empirically rich case studies that explore the effects of recent crises on networks of financial governance (such as the G-20); transformations within the IMF; institutional innovations in liquidity support and project finance from the national to the transregional levels; and the "rebranding" of capital controls. Grabel concludes with a careful examination of the opportunities and risks associated with the evolutionary transformations underway.

Ilene Grabel is Professor of International Finance at the Josef Korbel School of International Studies at the University of Denver.

February | 6 x 9, 392 pp.

$35.00X/£27.95 cloth
978-0-262-03725-9

economics | international development

Israel and the World Economy

The Power of Globalization

Assaf Razin

Anti-globalization sentiments are rising, especially in Europe and the United States, with the increasingly integrated global

A rigorous analysis of the role played by globalization in key episodes in the development of the Israeli economy, from hyperinflation crisis to high-tech surge.

economy blamed for domestic economic distress. In this book, Assaf Razin argues that Israel offers a counterexample to this view, showing decisively positive economic effects of globalized finance, trade, and immigration. He offers a rigorous analysis of the role played by globalization in key episodes in the remarkable development of the Israeli economy. His findings may hold lessons for productivity-challenged advanced economies as well as for other countries such as China currently making the transition to fully developed economies.

Razin examines the wave of immigration after the collapse of the Soviet Union, as highly skilled Soviet Jews migrated to Israel and the effect on income inequality; the Great Moderation of inflation and employment in advanced economies, as Israel's inflation converged in parallel with low world inflation rates; Israel's robustness in the face of the deflation shocks of the 2008 financial crisis; technology transmission through foreign direct investment, reinforcing Israel's high-tech sector surge. He also considers such ongoing challenges as high fertility and low labor market participation and the economic costs of the Israeli-Palestinian conflict.

Assaf Razin is a former Professor at Cornell University, Emeritus Professor at the Eitan Berglas School of Economics at Tel Aviv University, and Research Fellow at the NBER, CEPR, and CESifo. He is the author of *Understanding Global Crises: An Emerging Paradigm* and a coauthor of, among other books, *The Decline of the Welfare State: Demography and Globalization* and *Migration and the Welfare State: Political-Economy Policy Formation*, all published by the MIT Press. He is the recipient of the 2017 EMET Prize in Economics.

February | 6 x 9, 232 pp. | 36 illus.

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economics | international policy

Globalizing Innovation

State Institutions and Foreign Direct Investment in Emerging Economies

Patrick Egan

In the past, multinational firms have looked to developing countries as sources of raw materials, markets, or production efficiencies, but rarely as locations for innovation. Today, however, R&D facilities and other indicators of multinational-linked innovation are becoming more common in emerging economies. In this book, Patrick Egan investigates patterns of inward foreign direct investment (FDI) in developing countries, considering the impact of host country institutions and policy on the innovative activities undertaken by multinational firms. He examines the uneven spread of innovation-intensive foreign direct investment and emerging sectoral distributions, then develops a number of arguments about the determinants of multinational innovation in developing countries. Firms are attracted by a country's supply of skilled labor and are often eager to innovate close to new markets; but, Egan finds, host country institutions and the configuration of the host country's investment policies have a strong impact on firm decisions and evolving country investment profiles.

The impact of host country institutions and policy on innovation by multinational firms in emerging economies.

Egan uses econometric analysis to identify determinants of multinational innovation; and examines differences among state institutions as a key variable. He then offers a detailed case study, assessing Ireland's attempts to use foreign direct investment in innovation as a catalyst for development. While FDI is a potential vehicle for industrial upgrading, Egan cautions, it is neither necessary nor sufficient for development. Furthermore, innovation-intensive investments are not likely to develop linkages with local actors or otherwise embed themselves in host economies in the absence of active, discriminating policies channeled through coherent and coordinated institutions.

Patrick Egan is Assistant Professor of Political Science at Tulane University.

February | 6 x 9, 312 pp. | 23 illus.

$35.00S/£27.95 cloth
978-0-262-03735-8

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education | game studies

Resonant Games

Design Principles for Learning Games that Connect Hearts, Minds, and the Everyday

Eric Klopfer, Jason Haas, Scot Osterweil, and Louisa Rosenheck

foreword by Colleen Macklin

Too often educational videogames are narrowly focused on specific learning outcomes dictated by school curricula and fail to engage young learners. This book suggests another approach, offering a guide to designing games that integrates content and play and creates learning experiences that connect to many areas of learners' lives. These games are not gamified workbooks but are embedded in a long-form experience of exploration, discovery, and collaboration that takes into consideration the learning environment. *Resonant Games* describes twenty essential principles for designing games that offer this kind of deeper learning experience, presenting them in connection with five games or collections of games developed at MIT's educational game research lab, the Education Arcade.

Principles for designing educational games that integrate content and play and create learning experiences connecting to many areas of learners' lives.

Each of the games—which range from *Vanished*, an alternate reality game for middle schoolers promoting STEM careers, to *Ubiquitous Bio*, a series of casual mobile games for high school biology students—has a different story, but all spring from these fundamental assumptions: honor the whole learner, as a full human being, not an empty vessel awaiting a fill-up; honor the sociality of learning and play; honor a deep connection between the content and the game; and honor the learning context—most often the public school classroom, but also beyond the classroom.

Eric Klopfer is Professor and Director of the Scheller Teacher Education Program and the Education Arcade at MIT. **Jason Haas** is a game designer and Research Assistant at the MIT Media Lab and Education Arcade. **Scot Osterweil** is a game designer and Creative Director at the Education Arcade. **Louisa Rosenheck** is an ed tech designer and Research Manager at Education Arcade.

May | 6 x 9, 232 pp. | 63 illus.

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

energy | environment

Renewables

The Politics of a Global Energy Transition

Michaël Aklin and Johannes Urpelainen

Wind and solar are the most dynamic components of the global power sector. How did this happen? After the 1973 oil crisis, the limitations of an energy system based on fossil fuels created an urgent need to experiment with alternatives, and some pioneering governments reaped political gains by investing heavily in alternative energy such as wind or solar power.

A comprehensive political analysis of the rapid growth in renewable wind and solar power, mapping an energy transition through theory, case studies, and policy.

Public policy enabled growth over time, and economies of scale brought down costs dramatically. In this book, Michaël Aklin and Johannes Urpelainen offer a comprehensive political analysis of the rapid growth in renewable wind and solar power, mapping an energy transition through theory, case studies, and policy analysis.

Aklin and Urpelainen argue that, because the fossil fuel energy system and political support for it are so entrenched, only an external shock—an abrupt rise in oil prices, or a nuclear power accident, for example—allows renewable energy to grow. They analyze the key factors that enable renewable energy to withstand political backlash, and, based on this, they explain and predict the development of renewable energy in different countries over time. They examine the pioneering efforts in the United States, Germany, and Denmark after the 1973 oil crisis and other shocks; explain why the United States surrendered its leadership role in renewable energy; and trace the recent rapid growth of modern renewables in electricity generation.

Michaël Aklin is Assistant Professor at the University of Pittsburgh. **Johannes Urpelainen** is Prince Sultan Bin Abdulaziz Professor of Energy, Resources and Environment in the School of Advanced International Studies at Johns Hopkins University.

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environment

Planetary Improvement

Cleantech Entrepreneurship and the Contradictions of Green Capitalism

Jesse Goldstein

Entrepreneurs and investors in the green economy have encouraged a vision of addressing climate change with new technologies. In *Planetary Improvement*, Jesse Goldstein examines the cleantech entrepreneurial community in order to understand the limitations of environmental transformation within a capitalist system.

An examination of clean technology entrepreneurship finds that "green capitalism" is more capitalist than green.

capitalist system. Reporting on a series of investment pitches by cleantech entrepreneurs in New York City, Goldstein describes investor-friendly visions of incremental improvements to the industrial status quo that are hardly transformational. He explores a new "green spirit of capitalism," a discourse of planetary improvement, that aims to "save the planet" by looking for "non-disruptive disruptions," technologies that deliver "solutions" without changing much of what causes the underlying problems in the first place.

Goldstein charts the rise of business environmentalism over the last half of the twentieth century and examines cleantech's unspoken assumptions of continuing cheap and abundant energy. Reporting on the sometimes conflicting motivations of cleantech entrepreneurs and investors, he argues that the cleantech innovation ecosystem and its Schumpetarian dynamic of creative destruction are built around attempts to control creativity by demanding that transformational aspirations give way to short-term financial concerns. As a result, capitalist imperatives capture and stifle visions of sociotechnical possibility and transformation. Finally, he calls for a green spirit that goes beyond capitalism, in which sociotechnical experimentation is able to break free from the narrow bonds and relative privilege of cleantech entrepreneurs and the investors that control their fate.

Jess Goldstein is Assistant Professor in the Department of Sociology at Virginia Commonwealth University.

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environment

Global Climate Policy

Actors, Concepts, and Enduring Challenges

edited by Urs Luterbacher and Detlef F. Sprinz

The current international climate change regime began with the drafting of the United Nations Framework Convention on

Analyses of the international climate change regime consider the challenges of maintaining current structures and the possibilities for creating new forms of international cooperation.

Climate Change (UNFCCC) at the 1992 Earth Summit in Rio, and continued with annual Conferences of the Parties (COP) of the Rio Treaty. Significant agreements have included the Kyoto Protocol in 1997, and the Paris Agreement in 2015 (from which the United States withdrew

in 2017). This volume offers a variety of perspectives on the international climate change regime, considering the challenges of maintaining current structures and the possibilities for creating new forms of international cooperation.

Contributors describe the evolution of the architecture of the climate change regime, and discuss its viability; analyze different theoretical perspectives on international climate change collaboration; and offer game-theoretical and computer simulation approaches to model outcomes and assess agreements. They address coordination with other legal regimes; the influence of major GHG-emitting countries; the role of non-state actors; the special case of business and industrial interests; the situation of developing and emerging countries; problems of implementation, compliance, and effectiveness of agreements; and the challenges of climate change mitigation after the Paris Agreement.

Urs Luterbacher is Professor Emeritus at the Centre for Environmental Studies and the Centre for Finance and Development at the Graduate Institute of International and Development Studies, Geneva. **Detlef F. Sprinz** is Professor at Potsdam Institute for Climate Impact Research and the University of Potsdam.

Contributors
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Global Environmental Accord: Strategies for Sustainability and Institutional Innovation series

environment

Can We Price Carbon?

Barry G. Rabe

Economists have long argued that putting a price on the carbon content of fossil fuels—by taxing carbon, cap-and-trade

A political science perspective on the feasibility and sustainability of carbon pricing, with case studies from North America, Europe, and Asia.

systems, or other methods— is an effective way to address climate change. Seldom considered in the scholarly discourse, however, is the political science perspective. The case for carbon pricing may be far less compelling when weighed against

political realities. In this book, Barry Rabe offers the first major political analysis of the feasibility and sustainability of carbon pricing, offering case studies of successful and unsuccessful attempts to price carbon in North America, Europe, and Asia.

Economists consider the effectiveness of carbon pricing in a world free from political constraints. Rabe, by contrast, first asks whether carbon pricing policies are politically possible, and, if adopted, if they would survive further political and managerial challenges over time. Rabe examines the entire policy life cycle, from adoption through implementation, in a series of attempts to price carbon over the last two decades. The policies discussed include not only carbon taxes and cap-and-trade auctions but also such alternative methods as taxing extraction. Rabe argues that these real-world cases show that, despite the political difficulties, carbon pricing can be both feasible and durable.

Barry G. Rabe is J. Ira and Nicki Harris Family Professor of Public Policy and Arthur F. Thurnau Professor of Environmental Policy at the University of Michigan, where he also has a primary faculty appointment at the Gerald R. Ford School of Public Policy and is Director of the Center for Local, State, and Urban Policy.

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American and Comparative Environmental Policy series

environment | technology

Reassembling Rubbish

Worlding Electronic Waste

Josh Lepawsky

The prevailing storyline about the problem of electronic waste frames e-waste as generated by consumers in developed countries and dumped on people and places in developing countries. In *Reassembling Rubbish*, Josh Lepawski offers a different view. In an innovative analysis of the global trade and traffic in discarded electronics,

An examination of the global trade and traffic in discarded electronics that reframes the question of the "right" thing to do with e-waste.

Lepawsky reframes the question of the "right" thing to do with e-waste, mapping the complex flows of electronic materials. He counters the assumption that e-waste is a post-consumer problem, pointing out that waste occurs at all stages of electronic materials' existence, and calls attention to the under-researched world of reuse and repair.

Lepawsky explains that there are conflicting legal distinctions between electronic waste and non-waste, and examines a legal case that illustrates the consequences. He shows that patterns of trade do not support the dominant narrative of e-waste dumping but rather represent the dynamic ecologies of repair, refurbishment, and materials recovery. He asks how we know waste, how we measure it, and how we construe it, and how this affects our efforts to mitigate it. We might not put so much faith in household recycling if we counted the more massive amounts of pre-consumer electronic waste as official e-waste. Lepawsky charts the "minescapes," "productionscapes," and "clickscapes" of electronics, and the uneven "discardscapes" they produce. Finally, he considers both conventional and unconventional e-waste solutions, including decriminalizing export for reuse, repair, and upgrade; enabling ethical trade in electronics reuse, repair, refurbishment, and recycling; implementing extended producer responsibility; and instituting robust forms of public oversight.

Josh Lepawsky is Associate Professor in the Department of Geography at Memorial University of Newfoundland.

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evolution | anthropology

Convergent Evolution in Stone-Tool Technology

edited by Michael J. O'Brien, Briggs Buchanan, and Metin I. Eren

Hominins began using stone tools at least 2.6 million years ago, perhaps even 3.4 million years ago. Given the nearly ubiquitous use of stone tools by humans and their ancestors, the study of lithic technology offers an important line of inquiry into questions of evolution and behavior. This book examines convergence in stone tool-making, cases in which functional or developmental constraints result in

Scholars from a variety of disciplines consider cases of convergence in lithic technology, when functional or developmental constraints result in similar forms in independent lineages.

similar forms in independent lineages. Identifying examples of convergence, and distinguishing convergence from divergence, refutes hypotheses that suggest physical or cultural connection between far-flung prehistoric toolmakers. Employing phylogenetic analysis and stone-tool replication, the contributors show that similarity of tools can be caused by such common constraints as the fracture properties of stone or adaptive challenges rather than such unlikely phenomena as migration of toolmakers over an Artic ice shelf.

Michael J. O'Brien and Provost and Professor of History at Texas A&M University–San Antonio and the coauthor of *The Acceleration of Cultural Change: From Ancestors to Algorithms* (MIT Press). He was previously Professor of Anthropology and Dean of Arts and Sciences at the University of Missouri. Briggs Buchanan is Assistant Professor of Anthropology at the University of Tulsa. **Metin I. Eren** is Assistant Professor of Anthropology and Director of Archaeology at Kent State University.

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Vienna Series in Theoretical Biology

evolution | anthropology

Rethinking Human Evolution

edited by Jeffrey H. Schwartz

The study of human evolution often seems to rely on scenarios and received wisdom rather than theory and methodology, with each new fossil or molecular analysis interpreted as supporting evidence for the presumed lineage of human ancestry. We might wonder why we should pursue new inquiries if we already know the story. Is paleoanthropology an evolutionary science? Are analyses of human evolution biological? In this volume, contributors from disciplines that range from paleoanthropology to philosophy of science consider the disconnect between human evolutionary studies and the rest of evolutionary biology. All of the contributors reflect on their own research and its disciplinary context, considering how their fields of inquiry can move forward in new ways. The goal is to encourage a more multifaceted intellectual environment for the understanding of human evolution.

Contributors from a range of disciplines consider the disconnect between human evolutionary studies and the rest of evolutionary biology.

Topics discussed include paleoanthropology's history of procedural idiosyncrasies; the role of mind and society in our evolutionary past; humans as large mammals rather than a special case; genomic analyses; computational approaches to phylogenetic reconstruction; descriptive morphology versus morphometrics; and integrating insights from archaeology into the interpretation of human fossils.

Jeffrey H. Schwartz is Professor of Physical Anthropology at the University of Pittsburgh. He is the author of *The Red Ape: Orangutans and Human Origins, What the Bones Tell Us*, and other books.

Contributors
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Vienna Series in Theoretical Biology

game studies

A Play of Bodies

How We Perceive Videogames

Brendan Keogh

Our bodies engage with videogames in complex and fascinating ways. Through an entanglement of eyes-on-screens, ears-at-speakers, and muscles-against-interfaces, we experience games with our senses. But, as Brendan Keogh argues in *A Play of Bodies*, this corporal engagement goes both ways; as we touch the videogame, it touches back, augmenting the very senses with whch we perceive. Keogh investigates this merging of actual and virtual bodies and worlds, asking how our embodied sense of perception constitutes, and becomes constituted by, the phenomenon of videogame play. In short, how do we perceive videogames?

An investigation of the embodied engagement between the playing body and the videogame: how player and game incorporate each other.

Keogh works toward formulating a phenomenology of videogame experience, focusing on what happens in the embodied engagement between the playing body and the videogame, and anchoring his analysis in an eclectic series of games that range from mainstream to niche titles. Considering smartphone videogames, he proposes a notion of *co-attentiveness* to understand how players can feel present in a virtual world without forgetting that they are touching a screen in the actual world. He discusses the somatic basis of videogame play, whether games involve vigorous physical movement or quietly sitting on a couch with a controller; the sometimes overlooked visual and audible pleasures of videogame experience; and modes of temporality represented by character death, failure, and repetition. Finally, he considers two metaphorical characters: the "hacker," representing the hegemonic, masculine gamers concerned with control and configuration; and the "cyborg," less concerned with control than with embodiment and incorporation.

Brendan Keogh, Brisbane-based critic, scholar, and journalist, is the author of *Killing is Harmless: A Critical Reading of Spec Ops: The Line*.

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history of science | bioethics

The Eugenic Mind Project

Robert A. Wilson

Part science and part social movement, eugenics emerged in the late nineteenth century as a tool for human improvement.

An examination of eugenic thinking past and present, from forced sterilization to prenatal screening, drawing on experience with those who survived eugenics.

In response to perceived threats of criminality, moral degeneration, feeble-mindedness, and "the rising tide of color," eugenic laws and social policies aimed to better the human race by regulating reproductive choice through science and technology. In this book, Rob Wilson examines eugenic thought and practice—from forced sterilization to prenatal screening—drawing on his experience working with eugenics survivors. Using the social sciences' standpoint theory as a framework to understand the intersection of eugenics, disability, social inclusiveness, and human variation, Wilson focuses on those who have lived through a eugenic past and those confronted by the legacy of eugenic thinking today. By doing so, he brings eugenics from the distant past to the ongoing present.

Wilson discusses such topics as the conceptualization of eugenic traits; the formulation of laws regulating immigration and marriage and requiring sexual sterilization; the depiction of the targets of eugenics as "subhuman"; the systematic construction of a concept of normality; the eugenic logic in prenatal screening and contemporary bioethics; and the incorporation of eugenics and disability into standpoint theory.

Individual purchasers of this book will receive free access to the documentary *Surviving Eugenics*, available at EugenicsArchive.ca/film.

Robert A. Wilson is Professor of Philosophy at La Trobe University, the author of *Genes and the Agents of Life*, and coeditor of *The MIT Encyclopedia of the Cognitive Sciences* and of *Explanation and Cognition* (MIT Press). He directed the project that built EugenicsArchive.ca and is a director and the executive producer of the documentary *Surviving Eugenics*.

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history of technology | energy | Middle East studies

Machineries of Oil

An Infrastructural History of BP in Iran

Katayoun Shafiee

In the early twentieth century, international oil corporations emerged as a new kind of political actor. The development

The emergence of the international oil corporation as a political actor in the twentieth century, seen in BP's infrastructure and information arrangements in Iran.

of the world oil industry, argues Katayoun Shafiee, was one of the era's largest political projects of techno-economic development. In this book, Shafiee maps the machinery of oil operations in the Anglo-Iranian oil industry between 1901 and 1954, tracking the organizational work involved in moving oil through a variety of technical, legal, scientific, and administrative networks. She shows that, in a series of disagreements, the British-controlled Anglo-Iranian Oil Company (AIOC, which later became BP) relied on various forms of information management to transform political disputes into techno-economic calculation, guaranteeing the company complete control over profits, labor, and production regimes. She argues that the building of alliances and connections that constituted Anglo-Iranian oils infrastructure reconfigured local politics of oil regions and examines how these arrangements in turn shaped the emergence of both nation state and transnational oil corporation.

Drawing on her extensive archival and field research in Iran, Shafiee investigates the surprising ways in which nature, technology, and politics came together in battles over mineral rights; standardizing petroleum expertise; formulas for calculating profits, production rates, and labor; the "Persianization" of employees; nationalism and oil nationalization; and the long-distance machinery of an international corporation. Her account shows that the politics of oil cannot be understood in isolation from its technical dimensions.

Katayoun Shafiee is Assistant Professor in the History Department at the University of Warwick.

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Infrastructures series

information science

The Monumental Challenge of Preservation

The Past in a Volatile World

Michèle Valerie Cloonan

The monuments—movable, immovable, tangible, and intangible—of the world's shared cultural heritage are at risk. War,

The enormous task of preserving the world's heritage in the face of war, natural disaster, vandalism, neglect, and technical obsolescence.

terrorism, natural disaster, vandalism, and neglect make the work of preservation a greater challenge than it has been since World War II. In *The Monumental Challenge of Preservation* Michèle Cloonan makes the case that, at this critical juncture, we must consider preservation in the broadest possible contexts. Preservation requires the efforts of an increasing number of stakeholders.

In order to explore the cultural, political, technological, economic, and ethical dimensions of preservation, Cloonan examines particular monuments and their preservation dilemmas. The massive Bamiyan Buddhas, blown up by the Taliban in 2001, are still the subject of debates over how, or whether, to preserve what remains, and the U. S. National Park Service has undertaken the complex task of preserving the symbolic and often ephemeral objects that visitors leave at the Vietnam Veterans Memorial—to take just two of the many examples described in the book. Cloonan also considers the ongoing genocide and cultural genocide in Syria; the challenges of preserving our digital heritage; the dynamic between original and copy; efforts to preserve the papers and architectural fragments of the architect Louis Sullivan; and the possibility of sustainable preservation. In the end, Cloonan suggests, we are what we preserve—and don't preserve. Every day we make preservation decisions, individually and collectively, that have longer-term ramifications than we might expect.

Michèle Valerie Cloonan is Professor in the School of Library and Information Science and Dean Emerita of the Graduate School of Library and Information Science at Simmons College.

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information science | digital culture

Authors, Users, and Pirates

Copyright Law and Subjectivity

James Meese

In current debates over copyright law, the author, the user, and the pirate are almost always invoked. Some in the creative

An examination of subjectivity in copyright law, analyzing authors, users, and pirates through a relational framework.

industries call for more legal protection for authors; activists and academics promote user rights and user-generated content; and online pirates openly challenge the strict enforcement of copyright law. In this book, James Meese offers a new way to think about these three central subjects of copyright law, proposing a relational framework that encompasses all three. Meese views authors, users, and pirates as interconnected subjects, analyzing them as a relational triad. He argues that addressing the relationships among the three subjects will shed light on how the key conceptual underpinnings of copyright law are justified in practice.

Meese presents a series of historical and contemporary examples, from nineteenth-century cases of book abridgement to recent controversies over the reuse of Instagram photos. He not only considers the author, user, and pirate in terms of copyright law, but also explores the experiential element of subjectivity—how people understand and construct their own subjectivity in relation to these three subject positions. Meese maps the emergence of the author, user, and pirate over the first two centuries of copyright's existence; describes how regulation and technological limitations turned people from creators to consumers; considers relational authorship; explores practices in sampling, music licensing, and contemporary art; examines provisions in copyright law for user-generated content; and reimagines the pirate as an innovator.

James Meese is a Lecturer in the School of Communication at the University of Technology Sydney.

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Information Society series

information science

Shadow Libraries

Access to Educational Materials in Global
Higher Education

edited by Joe Karaganis

Even as middle- and low-income countries expand their higher education systems, their governments are retreating from

Examining the new ecosystems of access that are emerging in middle- and low-income countries as opportunities for higher education expand but funding for materials shrinks.

responsibility for funding and managing this expansion. The public provision of educational materials in these contexts is rare; instead, libraries, faculty, and students are on their own to get what they need. *Shadow Libraries* explores the new ecosystem of access, charting

the flow of educational and research materials from authors to publishers to libraries to students, and from comparatively rich universities to poorer ones. In countries from Russia to Brazil, the weakness of formal models of access was countered by the growth of informal ones. By the early 2000s, the principal form of access to materials was informal copying and sharing. Since then, such unauthorized archives as Libgen, Gigapedia, and Sci-Hub have become global "shadow libraries," with massive aggregations of downloadable scholarly materials.

The chapters consider experiments with access in a range of middle- and low-income countries, describing, among other things, the Russian samizdat tradition and the connection of illicit copying to resistance to oppression; Bibilofyl, an online archive built by students at the University of Buenos Aires; education policy and the daily practices of students in post-Apartheid South Africa; the politics of access in India; and copy culture in Brazil.

Joe Karaganis is Vice President of The American Assembly, a public policy institute at Columbia University, and coauthor of *Media Piracy in Emerging Economies*.

Contributors
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**International Development Research Centre series
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information science | media studies

Networked Press Freedom

Creating Infrastructures for a Public Right to Hear

Mike Ananny

In *Networked Press Freedom*, Mike Ananny offers a new way to think about freedom of the press in a time when media systems

Reimagining press freedom in a networked era: not just a journalist's right to speak but also a public's right to hear

are in fundamental flux. Ananny challenges the idea that press freedom comes only from heroic, lone journalists who speak truth to power. Instead, drawing on journalism studies,

institutional sociology, political theory, science and technology studies, and an analysis of ten years of journalism discourse about news and technology, he argues that press freedom emerges from social, technological, institutional, and normative forces that vie for power and fight for visions of democratic life. He shows how dominant, historical ideals of professionalized press freedom often mistook journalistic *freedom from* constraints for the public's *freedom to* encounter the rich mix of people and ideas that self-governance requires. Ananny's notion of press freedom ensures not only an individual right to speak, but also a public right to hear.

Seeing press freedom as essential for democratic self-governance, Ananny explores what publics need, what kind of free press they should demand, and how how today's press freedom emerges from intertwined collections of humans and machines. If someone says, "The public needs a free press," Ananny urges us to ask in response, "What kind of public, what kind of freedom, and what kind of press?" Answering these questions shows what robust, self-governing publics need to demand of technologists and journalists alike.

Mike Ananny is Assistant Professor of Communication and Journalism in the Annenberg School at the University of Southern California and a Faculty Affiliate in USC's Science, Technology, and Society initiative and a Fellow with Columbia University's Tow Center for Digital Journalism.

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New Solutions for Cybersecurity

edited by Howard Shrobe, David L. Shrier, and Alex Pentland

Ongoing cyberattacks, hacks, data breaches, and privacy concerns demonstrate vividly the inadequacy of existing

Experts from MIT explore recent advances in cybersecurity, bringing together management, technical, and sociological perspectives.

methods of cybersecurity and the need to develop new and better ones. This book brings together experts from across MIT to explore recent advances in cybersecurity from management, technical, and sociological perspectives.

Leading researchers from MIT's Computer Science & Artificial Intelligence Lab, the MIT Media Lab, MIT Sloan School of Management, and MIT Lincoln Lab, along with their counterparts at Draper Lab, the University of Cambridge, and SRI, discuss such varied topics as a systems perspective on managing risk, the development of inherently secure hardware, and the Dark Web. The contributors suggest approaches that range from the market-driven to the theoretical, describe problems that arise in a decentralized, IoT world, and reimagine what optimal systems architecture and effective management might look like.

Howard Shrobe leads the cybersecurity initiative at MIT's Computer Science & Artificial Intelligence Lab (CSAIL). **David Shrier** is Lecturer & Futurist with the MIT Media Lab. **Alex Pentland** leads the Human Dynamics research group and leads the Connection Science initiative at the MIT Media Lab and the author of *Honest Signals: How They Shape Our World* (MIT Press). Shrier and Pentland are coeditors of the MIT Press's Connection Science and Engineering imprint.

Contributors
Yaniv Altshuler, Manuel Cebrian, André DeHon, Ryan Ellis, Yuval Elovici, Harry Halpin, Thomas Hardjono, Keman Huang, Stuart Madnick, Peter G. Neumann, Hamed Okhravi, Jothy Rosenberg, Michael Siegel, Gregory T. Sullivan, Guy Zyskind

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An MIT Connection Science and Engineering Book

Protecting Children Online?

Cyberbullying Policies of Social Media Companies

Tijana Milosevic

High-profile cyberbullying cases often trigger exaggerated public concern about children's use of social media. Large

A critical examination of efforts by social media companies—including Facebook, Twitter, Snapchat, and Instagram—to rein in cyberbullying by young users.

companies like Facebook respond by pointing to their existing anti-bullying mechanisms or coordinate with nongovernmental organizations to organize anti-cyberbullying efforts. Do these attempts at self-regulation work? In this book, Tijana

Milosevic examines the effectiveness of efforts by social media companies—including Facebook, Twitter, YouTube, Snapchat, and Instagram—to rein in cyberbullying by young users. Milosevic analyzes the anti-bullying policies of fourteen major social media companies, as recorded in companies' corporate documents, draws on interviews with company representatives and e-safety experts, and details the roles of nongovernmental organizations examining their ability to provide critical independent advice. She draws attention to lack of transparency in how companies handle bullying cases, emphasizing the need for a continuous independent evaluation of effectiveness of companies' mechanisms, especially from children's perspective. Milosevic argues that cyberbullying should be viewed in the context of children's rights and as part of the larger social problem of the culture of humiliation.

Milosevic looks into five digital bullying cases related to suicides, examining the pressures on the social media companies involved, the nature of the public discussion, and subsequent government regulation that did not necessarily address the problem in a way that benefits children. She emphasizes the need not only for protection but also for participation and empowerment—for finding a way to protect the vulnerable while ensuring the child's right to participate in digital spaces.

Tijana Milosevic is a Postdoctoral Researcher in the Department of Media and Communication at the University of Oslo.

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Information Society series

linguistics

101 Problems and Solutions in Historical Linguistics

A Workbook

Robert Andrew Blust

This book offers a hands-on approach to historical linguistics, guiding the student through 101 problems in five different

A hands-on approach to historical linguistics, working through 101 problems in five different categories.

categories. These include 12 problems on the establishment of genetic relationship among languages, 24 problems on sound change, 35 problems on phonological reconstruction, 10 problems on internal reconstruction, and 20 problems on subgrouping. Each section begins with an introduction to the principles of historical linguistics as applied to the topic at hand. The problems come next, ordered by level of difficulty—beginning, intermediate, advanced. The "Solutions" section at the end of the book provides answers.

The book provides a consistent structure for each section, offering an overview of the topic followed by progressively difficult problems. Examples come from a wide range of languages, including Austronesian languages. The book provides explicit solutions to all problems; there is no need for a separate answer book or instructor's manual.

101 Problems and Solutions in Historical Linguistics is intended to be a companion to any textbook on historical linguistics, providing data-based instruction on the basic principles of the field and illustrating theory in a practical way. It can also serve as a standalone text for course work or independent study.

Robert Blust is Professor of Linguistics at the University of Hawai'i at Mānoa.

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> **Section 2 Sound Change**
> **Section 3 Phonological Reconstruction**
> **Section 4 Internal Reconstruction**
> **Section 5 Subgrouping**
> **Section 6 Solutions**

linguistics

Situations and Syntactic Structures

Rethinking Auxiliaries and Order in English

Gillian Catriona Ramchand

Research in syntax has found that there is a hierarchical ordering of projections within the verb phrase across languages

A new theory of the syntax-semantics interface that relies on hierarchical orderings in language, with the English auxiliary system as its empirical ground.

(although researchers differ with respect to how fine grained they assume the hierarchy to be). In *Situations and Syntactic Structures*, Gillian Ramchand explores the hierarchy of the verb phrase from a semantic perspective, attempting to derive it from semantically sorted zones in the compositional semantics. The empirical ground is the auxiliary ordering found in the grammar of English. The "situation" in the title refers to the semanticists' notion of eventuality that is the central element of the ontology of the formal semantics of verbal meaning. Ramchand discusses the semantic notion of situations in relation to the hierarchical ordering evidenced in syntactic structures and tries to bridge semantic and syntactic ontologies. She proposes and formalizes a new theory of semantic zones, and presents explicitly semantic and morphological analysis of all the auxiliary constructions of English that derive their rigid order of composition without recourse to lexical item–specific ordering statements.

Gillian Catriona Ramchand is Professor of Linguistics at the Institute for Language and Culture at the University of Tromsø–the Arctic University of Norway; she was previously University Lecturer in General Linguistics at Oxford University. She is President of GLOW (Generative Linguistics in the Old World) and the author of *Aspect and Predication: The Semantics of Argument Structure and Verbal Meaning and the Lexicon*.

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Linguistic Inquiry Monographs series

neuroscience

The Heart of the Brain

The Hypothalamus and Its Hormones

Gareth Leng

As human beings, we prefer to think of ourselves as reasonable. But how much of what we do is really governed by reason?

How hormonal signals in one small structure of the brain—the hypothalamus—govern our physiology and behavior.

In this book, Gareth Leng considers the extent to which one small structure of the neuroendocrine brain—the hypothalamus—influences what we do, how we love, and who we are.

The hypothalamus contains a large variety of neurons. These communicate not only through neurotransmitters, but also through peptide signals that act as hormones within the brain. While neurotransmitter signals tend to be ephemeral and confined by anatomical connectivity, the hormone signals that hypothalamic neurons generate are potent, wide-reaching, and long-lasting. Leng explores the evolutionary origins of these remarkable neurons, and where the receptors for their hormone signals are found in the brain. By asking how the hypothalamic neurons and their receptors are regulated, he explores how the hypothalamus links our passions with our reason. *The Heart of the Brain* shows in an accessible way how this very small structure is very much at the heart of what makes us human.

Gareth Leng is Professor of Experimental Physiology at the University of Edinburgh. His research focuses on neuronal networks in the hypothalamus, particularly those controlling pituitary hormone secretion and those controlling appetite and obesity.

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philosophy

The Bodily Self

Selected Essays

José Luis Bermúdez

These essays explore how the rich and sophisticated forms of self-consciousness with which we are most familiar—as

Essays on the role of the body in self-consciousness, showing that full-fledged, linguistic self-consciousness is built on a rich foundation of primitive, nonconceptual self-consciousness.

philosophers, psychologists, and as ordinary, reflective individuals—depend on a complex underpinning that has been largely invisible to students of the self and self-consciousness. José Luis Bermúdez, extending the insights of his groundbreaking 1998 book, *The Paradox of Self-Consciousness*, argues that full-fledged, linguistic self-consciousness is built on a rich foundation of primitive, nonconceptual self-consciousness, and that these more primitive forms of self-consciousness persist in ways that frame self-conscious thought. They extend throughout the animal kingdom, and some are present in newborn human infants.

Bermúdez makes the case that these primitive forms of self-awareness can indeed be described as forms of self-consciousness, arguing that they share certain structural and epistemological features with full-fledged, linguistic self-consciousness. He offers accounts of certain important classes of states of nonconceptual content, including the self-specifying dimension of visual perception and the content of bodily awareness, considering how they represent the self. And he explores the general role of nonconceptual self-consciousness in our cognitive and affective lives, examining in several essays the relation between nonconceptual awareness of our bodies and what has been called our "sense of ownership" for our own bodies.

José Luis Bermúdez is Professor of Philosophy at Texas A&M University. He is the coeditor of *The Body and the Self* (MIT Press) and the author of *The Paradox of Self-Consciousness* (MIT Press) and several other books, including most recently *Understanding "I": Language and Thought*.

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philosophy

Re-Reasoning Ethics

The Rationality of Deliberation and Judgment in Ethics

Barry Hoffmaster and Cliff Hooker

In *Re-Reasoning Ethics*, Barry Hoffmaster and Cliff Hooker enhance and empower ethics by adopting a non-formal paradigm

How developing a more expansive, non-formal conception of reason produces richer ethical understandings of human situations, explored and illustrated with many real examples.

of rational deliberation as intelligent problem-solving and a complementary non-formal paradigm of ethical deliberation as problem solving design to promote human flourishing. The non-formal conception of reason produces broader and richer ethical understandings of human situations, not the simple, constrained depictions provided by moral theories and their logical applications in medical ethics and bioethics. Instead, it delivers and vindicates the moral judgment that complex, contextual, and dynamic situations require.

Hoffmaster and Hooker demonstrate how this more expansive rationality operates with examples, first in science and then in ethics. Non-formal reason brings rationality not just to the empirical world of science but also to the empirical realities of human lives. Among the many real cases they present is that of how women at risk of having children with genetic conditions decide whether to try to become pregnant. These women do not apply the formal principle of maximizing expected utility (as advised by genetic counselors) and instead imagine scenarios of what their lives could be like with an affected child and assess whether they could accept the worst of these scenarios.

Hoffmaster and Hooker explain how moral compromise and a liberated, extended, and enriched reflective equilibrium expand and augment rational ethical deliberation and how that deliberation can rationally design ethical practices, institutions, and policies.

Barry Hoffmaster, a bioethicist, is Professor Emeritus of Philosophy at the University of Western Ontario. **Cliff Hooker**, a philosopher of science, is Professor Emeritus of Philosophy at the University of Newcastle, Australia.

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Basic Bioethics series

philosophy

The Anxious Mind

An Investigation of the Varieties and Virtues of Anxiety

Charlie Kurth

In *The Anxious Mind*, Charlie Kurth offers a philosophical account of anxiety in its various forms, investigating its nature

An empirically informed, philosophical account of the nature of anxiety and its value for agency, virtue, and decision making.

and arguing for its value in agency, virtue, and decision making. Folk wisdom tells us that anxiety is unpleasant and painful, and scholarly research seems to provide empirical and philosophical confirmation of this. But Kurth points to anxiety's positive effects: enhancing performance, facilitating social interaction, and even contributing to moral thought and action.

Kurth argues that an empirically informed philosophical account of anxiety can help us understand the nature and value of emotions, and he offers just such an account. He develops a model of anxiety as a bio-cognitive emotion—anxiety is an aversive emotional response to uncertainty about threats or challenges—and shows that this model captures the diversity in the types of anxiety we experience. Building on this, he considers a range of issues in moral psychology and ethical theory. He explores the ways in which anxiety can be valuable, arguing that anxiety can be a fitting response and that it undergirds an important form of moral concern. He considers anxiety's role in deliberation and decision making, using the examples of Martin Luther King, Jr. and the abolitionist John Woolman to show that anxiety can be a mechanism of moral progress. Drawing on insights from psychiatry and clinical psychology, Kurth argues that we can cultivate anxiety so that we are better able to experience it at the right time and in the right way.

Charlie Kurth is Assistant Professor of Philosophy at Washington University in St. Louis.

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philosophy | ethics

Afflicted

How Vulnerability Can Heal Medical Education
and Practice

Nicole Piemonte

In *Afflicted*, Nicole Piemonte examines the preoccupation in medicine with cure over care, arguing that the traditional

How medical education and practice can move beyond a narrow focus on biological intervention to recognize the lived experiences of illness, suffering, and death.

focus on biological intervention keeps medicine from addressing the complex realities of patient suffering. Although many have pointed to the lack of compassion and empathy in medical practice, few have considered the deeper philosophical, psychological, and ontological reasons for it. Piemonte fills that gap, examining why it is that clinicians and medical trainees largely evade issues of vulnerability and mortality and, doing so, offer patients compromised care. She argues that contemporary medical pedagogy and epistemology are not only shaped by the human tendency to flee from the reality of death and suffering but also perpetuate it. The root of the problem, she writes, is the educational and institutional culture that promotes reductionist understandings of care, illness, and suffering but avoids any authentic confrontation with human suffering and the fear and self-doubt that can come with that confrontation. Through a philosophical analysis of the patient-practitioner encounter, Piemonte argues that the doctor, in escaping from authentic engagement with a patient who is suffering, in fact "escapes from herself."

Piemonte explores the epistemology and pedagogy of medicine, examines its focus on calculative or technical thinking, and considers how "clinical detachment" diminishes physicians. She suggests ways that educators might cultivate the capacity for authentic patient care and proposes specific curricular changes to help students expand their moral imaginations.

Nicole Piemonte is an Assistant Professor in the Department of Medical Education at Creighton University, School of Medicine, andAcademic Consultant at St. Joseph's Hospital and Medical Center, Phoenix.

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Basic Bioethics series

science, technology, and society

Excursive Science

Quantum Physics, Nuclear Discourse, and the Cultural
Migration of Scientific Concepts

Jennifer Burwell

The principles of quantum physics—and the strange phenomena they describe—are represented most precisely in

How highly abstract quantum concepts were represented in language, and how these concepts were later taken up by philosophers, literary critics, and new-age gurus.

highly abstract algebraic equations. Why, then, did these mathematically driven concepts compel founders of the field, particularly Erwin Schrödinger, Niels Bohr, and Werner Heisenberg, to spend so much time reflecting on ontological, epistemological,

and linguistic concerns? What is it about quantum concepts that appeals to latter-day Eastern mystics, poststructuralist critics, and get-rich-quick schemers? How did their interpretations and misinterpretations of quantum phenomena reveal their own priorities? In this book, Jennifer Burwell examines these questions and considers what quantum phenomena—in the context of the founders' debates over how to describe them—reveal about the relationship between everyday experience, perception, and language.

Drawing on linguistic, literary, and philosophical traditions, Burwell illuminates representational and linguistic problems posed by quantum concepts—the fact, for example, that quantum phenomena exist only as probabilities or tendencies toward being and cannot be said to exist in a particular time and place. She traces the emergence of quantum theory as an analytic tool in literary criticism, in particular the use of wave/particle duality in interpretations of gender differences in the novels of Virginia Woolf and critics' connection of Bohr's Principle of Complementarity to poetic form; she examines the "quantum mysticism" of Fritjof Capra and Gary Zukav; and she concludes by analyzing "nuclear discourse" in the context of quantum concepts, arguing that it, too, adopts a language of the unthinkable and the indescribable.

Jennifer Burwell is Associate Professor in the Department of English at Ryerson University in Toronto.

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science, technology, and society

The Continued Exercise of Reason

Public Addresses by George Boole

edited and with an introduction by Brendan Dooley

George Boole (1815–1864), remembered by history as the developer of an eponymous form of algebraic logic, can be

Lectures, many never before published, that offer insights into the early thinking of the mathematician and polymath George Boole.

considered a pioneer of the information age not only because of the application of Boolean logic to the design of switching circuits but also because of his contributions to the mass distribution of knowledge. In the classroom and the lecture hall, Boole interpreted recent discoveries and debates in a wide range of fields for a general audience. This collection of lectures, many never before published, offers insights into the early thinking of an innovative mathematician and intellectual polymath.

Bertrand Russell claimed that "pure mathematics was discovered by Boole," but before Boole joined a university faculty as professor of mathematics in 1849, advocacy for science and education occupied much of his time. He was deeply committed to the Victorian ideals of social improvement and cooperation, arguing that "the continued exercise of reason" joined all disciplines in a common endeavor. In these talks, Boole discusses the genius of Isaac Newton; ancient mythologies and forms of worship; the possibility of other inhabited planets in the universe; the virtues of free and open access to knowledge; the benefits of leisure; the quality of education; the origin of scientific knowledge; and the fellowship of intellectual culture. The lectures are accompanied by a substantive introduction by Brendan Dooley, the editor of the volume, that supplies biographical and historical context.

Brendan Dooley is Professor in the Graduate School of the College of Arts at University College Cork.

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science, technology, and society | African studies

The Mobile Workshop

The Tsetse Fly and African Knowledge Production

Clapperton Chakanetsa Mavhunga

The tsetse fly is a pan-African insect that bites an infective forest animal and ingests blood filled with invisible parasites,

How the presence of the tsetse fly turned the African forest into an open laboratory where African knowledge formed the basis of colonial tsetse control policies.

which it carries and transmits into cattle and people as it bites them, leading to *n'gana* (animal trypanosomiasis) and sleeping sickness. In *The Mobile Workshop*, Clapperton Chakanetsa Mavhunga examines how the presence of the tsetse fly

turned the forests of Zimbabwe and southern Africa into an open laboratory where African knowledge formed the basis of colonial tsetse control policies. He traces the pestiferous work that an indefatigable, mobile insect does through its movements, and the work done by humans to control it.

Mavhunga's account restores the central role not just of African labor but of African intellect in the production of knowledge about the tsetse fly. He describes how European colonizers built on and beyond this knowledge toward destructive and toxic methods, including cutting down entire forests, forced "prophylactic" resettlement, massive destruction of wild animals, and extensive spraying of organochlorine pesticides. Throughout, Mavhunga uses African terms to describe the African experience, taking vernacular concepts as starting points in writing a narrative of *ruziva* (knowledge) rather than viewing Africa through foreign keywords. The tsetse fly became a site of knowledge production—a mobile workshop of pestilence.

Clapperton Chakanetsa Mavhunga is Associate Professor of Science, Technology, and Society at MIT. He is the author of *Transient Workspaces: Technologies of Everyday Innovation in Zimbabwe* and the editor of *What Do Science, Technology, and Innovation Mean from Africa?*, both published by the MIT Press.

July | 6 x 9, 400 pp. | 43 illus.

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science, technology, and society | sound studies

Listening in the Field

Recording and the Science of Birdsong

Joeri Bruyninckx

Scientific observation and representation tend to be seen as exclusively visual affairs. But scientists have often drawn on sensory experiences other than the visual. Since the end of the nineteenth century, biologists have used a variety of techniques to register wildlife sounds. In this book, Joeri Bruyninckx describes the evolution of sound recording into a scientific technique for studying the songs and calls of wild birds and asks, what it means to listen to animal voices as a scientist.

The transformation of sound recording into a scientific technique in the study of birdsong, as biologists turned wildlife sounds into scientific objects.

The practice of recording birdsong took shape at the intersection of popular entertainment and field ornithology, turning recordings into objects of investigation and popular fascination. Shaped by the technologies and interests of amateur naturalism and music teaching, radio broadcasting and gramophone production, hobby electronics and communication engineering, birdsong recordings traveled back and forth between scientific and popular domains, to appear on gramophone recordings, radio broadcasts, and movie soundtracks.

Bruyninckx follows four technologies—the musical score, the electric microphone, the portable magnetic tape recorder, and the sound spectrograph—through a cultural history of field recording and scientific listening. He chronicles a period when verbal descriptions, musical notations, and onomatopoeic syllables represented birdsong and shaped a community of listeners; later electric recordings struggled with notions of fidelity, realism, objectivity, and authenticity; scientists, early citizen scientists, and the recording industry negotiated recording exchange; and trained listeners complemented the visual authority of spectrographic laboratory analyses. This book reveals a scientific process fraught with conversions, between field and laboratory, sound and image, science and its various audiences.

Joeri Bruyninckx is Assistant Professor in the Department of Technology and Society Studies at Maastricht University.

April | 6 x 9, 240 pp. | 5 color illus., 25 b&w illus.

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Inside Technology series

science | psychology

Pseudoscience

The Conspiracy Against Science

edited by Allison B. Kaufman and James C. Kaufman

In a post-truth, fake news world, we are particularly susceptible to the claims of pseudoscience. When emotions and opinions are more widely disseminated than scientific findings, and self-proclaimed experts get their expertise from Google, how can the average person distinguish real science from fake? This book examines pseudoscience from a variety of perspectives, through case studies, analysis, and personal accounts that show how to recognize pseudoscience, why it is so widely accepted, and how to advocate for real science.

Case studies, personal accounts, and analysis show how to recognize and combat pseudoscience in a post-truth world.

Contributors examine the basics of pseudoscience, including issues of cognitive bias; the costs of pseudoscience, with accounts of naturopathy and logical fallacies in the anti-vaccination movement; perceptions of scientific soundness; the mainstream presence of "integrative medicine," hypnosis, and parapsychology; and the use of case studies and new media in science advocacy.

Allison B. Kaufman is Research Scientist in the Department of Ecology and Evolutionary Biology at the University of Connecticut, where she is also Adjunct Professor in the Department of Psychology. **James C. Kaufman** is Professor of Educational Psychology at the University of Connecticut's Neag School of Education.

Contributors

David Ball, Paul Joseph Barnett, Jeffery Beall, Mark Benisz, Fernando Blanco, Ron Dumont, Stacy Ellenberg, Kevin M. Folta, Christopher French, Ashwin Gautam, Dennis M. Gorman, David Gorski, David K. Hecht, Britt Hermes, Clyde F. Herreid, Jonathan Howard, Seth C. Kalichman, Leif Edward Ottesen Kennair, Arnold Kozak, Scott O. Lilienfeld, Emilio Lobato, Steven Lynn, Adam Marcus, Helena Matute, Ivan Oransky, Chad Orzel, Dorit Reiss, Ellen Beate Hansen Sandseter, Kavin Senapathy, Dean Keith Simonton, Indre Viskontas, John O. Willis, Corrine Zimmerman

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The Origins of Musicality

edited by Henkjan Honing

foreword by W. Tecumseh Fitch

Research shows that all humans have a predisposition for music, just as they do for language. All of us can perceive and

Interdisciplinary perspectives on the capacity to perceive, appreciate, and make music.

enjoy music, even if we can't carry a tune and consider ourselves "unmusical." This volume offers interdisciplinary perspectives on the capacity to perceive, appreciate, and make music. Scholars from biology, musicology, neurology, genetics, computer science, anthropology, psychology, and other fields consider what music is for and why every human culture has it; whether musicality is a uniquely human capacity; and what biological and cognitive mechanisms underlie it.

Contributors outline a research program in musicality, and discuss issues in studying the evolution of music; consider principles, constraints, and theories of origins; review musicality from cross-cultural, cross-species, and cross-domain perspectives; discuss the computational modeling of animal song and creativity; and offer a historical context for the study of musicality. The volume aims to identify the basic neuro-cognitive mechanisms that constitute musicality (and effective ways to study these in human and nonhuman animals) and to develop a method for analyzing musical phenotypes that point to the biological basis of musicality.

Henkjan Honing is Professor of Music Cognition at the University of Amsterdam.

Contributors
Jorge L. Armony, Judith Becker, Simon E. Fisher, W. Tecumseh Fitch, Bruno Gingras, Jessica Grahn, Yuko Hattori, Marisa Hoeschele, Henkjan Honing, David Huron, Dieuwke Hupkes, Yukiko Kikuchi, Julia Kursell, Marie-Élaine Lagrois, Hugo Merchant, Björn Merker, Iain Morley, Aniruddh D. Patel, Isabelle Peretz, Martin Rohrmeier, Constance Scharff, Carel ten Cate, Laurel J. Trainor, Sandra E. Trehub, Peter Tyack, Dominique Vuvan, Geraint Wiggins, Willem Zuidema

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Transit Life

How Commuting Is Transforming Our Cities

David Bissell

We spend much of our lives in transit to and from work. Although we might dismiss our daily commute as a wearying slog,

An exploration of the ways that everyday life in the city is defined by commuting.

we rarely stop to think about the significance of these daily journeys. *In Transit Life*, David Bissell explores how everyday life in cities is increasingly defined by commuting. Examining the overlooked events and encounters of the commute, Bissell shows that the material experiences of our daily journeys are transforming life in our cities. The commute is a time where some of the most pressing tensions of contemporary life play out, striking at the heart of such issues as our work-life balance; our relationships with others; our sense of place; and our understanding of who we are.

Drawing on in-depth fieldwork with commuters, journalists, transit advocates, policymakers, and others in Sydney, Australia, Transit Life takes a holistic perspective to change how we think about commuting. Rather than arguing that transport infrastructure investment alone can solve our commuting problems, Bissell explores the more subtle but powerful forms of social change that commuting creates. He examines the complex politics of urban mobility through multiple dimensions, including the competencies that commuters develop over time; commuting dispositions and the social life of the commute; the multiple temporalities of commuting; the experience of commuting spaces, from footpath to on-ramp, both physical and digital; the voices of commuting, from private rants to drive-time radio; and the interplay of materialities, ideas, advocates, and organizations in commuting infrastructures.

David Bissell is Associate Professor in the School of Geography at the University of Melbourne.

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