
Picturing Science And Engineering The Mit Press

Picturing Research
Technologized Images, Technologized Bodies
Picturing Machines 1400-1700
The Philosophy of Science Fiction Film
Envisioning Science
Picturing Personhood
Picturing Political Power
Science and the Educated Man
Visual Strategies
The Visual Elements—Photography
Picturing War in France, 1792-1856
Picturing Science, Producing Art
Picturing Knowledge
Championing Science
On the Surface of Things
Hidden in Plain Sight
Diagrammatic Representation and Inference
Merchants of Doubt
Picturing American Modernity
Picturing Science and Engineering
Ivory Bridges
Picturing Imperial Power
No Small Matter
Picturing Science and Engineering

The Visual Elements--Design
Picturing Russia
Designing Engineers
Picturing Punishment
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Picturing Quantum Processes
If You Could See Inside
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Art of Doing Science and Engineering
On Line and On Paper
Picturing the Closet
Picturing America
Science and Engineering
The Squares
Picturing the Page
Picturing Women in Renaissance and Baroque
Italy

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**MOLLY
RAMIREZ**

Picturing
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Using
innovative
photographic
technology,

Felice Frankel
finds startling
abstract
beauty on the
surfaces of
objects all
around us.
Chemist
George M.
Whitesides
explains each
photograph,
describing
why and how

each of these
phenomena
occur.
*Technologized
Images,
Technologized
Bodies*
University of
Chicago Press
An
interdisciplinar
y study of
visual
representation

s of British colonial power in the eighteenth century.

**Picturing
Machines
1400-1700**

Kingfisher
How technical drawings shaped early engineering practice. Technical drawings by the architects and engineers of the Renaissance made use of a range of new methods of graphic representation . These drawings—among them Leonardo da Vinci's famous drawings of mechanical

devices—have long been studied for their aesthetic qualities and technological ingenuity, but their significance for the architects and engineers themselves is seldom considered. The essays in Picturing Machines 1400-1700 take this alternate perspective and look at how drawing shaped the practice of early modern engineering. They do so through detailed investigations

of specific images, looking at over 100 that range from sketches to perspective views to thoroughly constructed projections. In early modern engineering practice, drawings were not merely visualizations of ideas but acted as models that shaped ideas. Picturing Machines establishes basic categories for the origins, purposes, functions, and contexts of early modern engineering

illustrations, then treats a series of topics that not only focus on the way drawings became an indispensable means of engineering but also reflect the main stages in their historical development. The authors examine the social interaction conveyed by early machine images and their function as communication between practitioners; the knowledge either conveyed or presupposed

by technical drawings, as seen in those of Giorgio Martini and Leonardo; drawings that required familiarity with geometry or geometric optics, including the development of architectural plans; and technical illustrations that bridged the gap between practical and theoretical mechanics. The Philosophy of Science Fiction Film MIT Press The contributors to

this volume examine the historical and philosophical issues concerning the role that scientific illustration plays in the creation of scientific knowledge. *Envisioning Science* Berghahn Books When ungroovy scientists did groovy science: how non-activist scientists and engineers adapted their work to a rapidly changing social and political landscape. In

The Squares, Cyrus Mody shows how, between the late 1960s and the early 1980s, some scientists and engineers who did not consider themselves activists, New Leftists, or members of the counterculture accommodated their work to the rapidly changing social and political landscape of the time. These “square scientists,” Mody shows, began to do many of the things that the counterculture

urged: turn away from military-industrial funding, become more interdisciplinary, and focus their research on solving problems of civil society. During the period Mody calls “the long 1970s,” ungroovy scientists were doing groovy science. Mody offers a series of case studies of some of these collective efforts by non-activist scientists to use their technical knowledge for

the good of society. He considers the region around Santa Barbara and the interplay of public universities, think tanks, established firms, new companies, philanthropies, and social movement organizations. He looks at Stanford University’s transition from Cold War science to commercialized technoscience; NASA’s search for a post-Apollo mission; the unsuccessful foray into

solar energy by Nobel laureate Jack Kilby; the “civilianization” of the US semiconductor industry; and systems engineer Arthur D. Hall’s ill-fated promotion of automated agriculture. Picturing Personhood Harvard University Press Helps scientists and engineers to communicate research results by showing how to create effective graphics for use in journal submissions,

grant proposals, conference posters, presentations and more. Picturing Political Power MIT Press A complete guide to the creation of compelling science photographs. Science and the Educated Man Duke University Press The role of representation in the production of technoscientific knowledge has become a subject of great interest in recent years. In this book,

sociologist and art critic Kathryn Henderson offers a new perspective on this topic by exploring the impact of computer graphic systems on the visual culture of engineering design. Henderson shows how designers use drawings both to organize work and knowledge and to recruit and organize resources, political support, and power. Henderson's analysis of the collective

nature of knowledge in technical design work is based on her participant observation of practices in two industrial settings. In one she follows the evolution of a turbine engine package from design to production, and in the other she examines the development of an innovative surgical tool. In both cases she describes the messy realities of design practice, including the mixed use of

the worlds of paper and computer graphics. One of the goals of the book is to lay a practice-informed groundwork for the creation of more usable computer tools. Henderson also explores the relationship between the historical development of engineering as a profession and the standardization of engineering knowledge, and then addresses the question: Just

what is high technology, and how does it affect the extent to which people will allow their working habits to be disrupted and restructured? Finally, to help explain why visual representations are so powerful, Henderson develops the concept of "metaindexicality"—the ability of a visual representation, used interactively, to combine many diverse levels of knowledge and thus to

serve as a meeting ground (and sometimes battleground) for many types of workers. *Visual Strategies* Duke University Press A guide to making scientific photographs for presentations, journal submissions, and covers, featuring step-by-step instructions and case studies, by an award-winning science photographer; illustrated in color

throughout. One of the most powerful ways for scientists to document and communicate their work is through photography. Unfortunately, most scientists have little or no training in that craft. In this book, celebrated science photographer Felice Frankel offers a guide for creating science images that are both accurate and visually stunning. *Picturing Science and Engineering*

provides detailed instructions for making science photographs using the DSLR camera, the flatbed scanner, and the phone camera. The book includes a series of step-by-step case studies, describing how final images were designed for cover submissions and other kinds of visualizations. Lavishly illustrated in color throughout, the book encourages the reader to

learn by doing, following Frankel as she recreates the stages of discovery that lead to a good science visual. Frankel shows readers how to present their work with graphics-- how to tell a visual story-- and considers issues of image adjustment and enhancement. She describes how developing the right visual to express a concept not only helps make science accessible to

nonspecialists, but also informs the science itself, helping scientists clarify their thinking. Within the book are specific URLs where readers can view Frankel's online tutorials-- visual "punctuations" of this printed edition. Additional materials, including tutorials and videos, can be found online at the book's website. Published with the help of funding from Furthermore:

a program of the J. M. Kaplan fund **The Visual Elements—Photography** University of Chicago Press The science fiction genre maintains a remarkable hold on the imagination and enthusiasm of the filmgoing public, captivating large audiences worldwide and garnering ever-larger profits. Science fiction films entertain the possibility of time travel and extraterrestrial visitation and

imaginatively transport us to worlds transformed by modern science and technology. They also provide a medium through which questions about personal identity, moral agency, artificial consciousness, and other categories of experience can be addressed. In *The Philosophy of Science Fiction Film*, distinguished authors explore the storylines, conflicts, and

themes of fifteen science fiction film classics, from *Metropolis* to *The Matrix*. Editor Steven M. Sanders and a group of outstanding scholars in philosophy, film studies, and other fields raise science fiction film criticism to a new level by penetrating the surface of the films to expose the underlying philosophical arguments, ethical perspectives, and metaphysical views. Sanders's introduction

presents an overview and evaluation of each essay and poses questions for readers to consider as they think about the films under discussion. The first section, "Enigmas of Identity and Agency," deals with the nature of humanity as it is portrayed in *Blade Runner*, *Dark City*, *Frankenstein*, *Invasion of the Body Snatchers*, and *Total Recall*. In the second section, "Extraterrestrial Visitation,

Time Travel, and Artificial Intelligence," contributors discuss 2001: A Space Odyssey, The Terminator, 12 Monkeys, and The Day the Earth Stood Still and analyze the challenges of artificial intelligence, the paradoxes of time travel, and the ethics of war. The final section, "Brave Newer World: Science Fiction Futurism," looks at visions of the future in Metropolis, The Matrix, Alphaville, and screen adaptations of George Orwell's 1984. Picturing War in France, 1792-1856 Univ of California Press A study of two bridges between science and society: governmental science policy and scientists' voluntary public-interest associations. According to a widespread stereotype, scientists occupy an ivory tower, isolated from other parts of society. To some extent this is true, and the resulting freedom to pursue curiosity-driven research has made possible extraordinary scientific advances. The spinoffs of "pure" science, however, have also had powerful impacts on society, and the potential for future impacts is even greater. The public and many policymakers, as well as many researchers, have paid insufficient attention to

the mechanisms for interchange between science and society that have developed since World War II. Ivory Bridges examines two such mechanisms: governmental science policy (often involving the participation of "scientist administrators") and scientists' voluntary public-interest associations. The examination of science policy is guided by the

notion of "Jeffersonian science"—defined as basic research on topics identified as being in the national interest. The book illustrates the concept with a historical case study of the Press-Carter Initiative of the late 1970s and proposes that a Jeffersonian approach would make a valuable addition to future science policy. The book also looks at the activities of citizen-scientists who

have organized themselves to promote the welfare of society. It shows that their numerous and diverse organizations have made major contributions to the commonweal and that they have helped to prevent science from becoming either too subservient to government or too autonomous. An extensive appendix profiles a wide variety of these organizations.

Picturing Science, Producing Art Oxford University Press, USA Instructive, amusing, colorful—pictorial maps have been used and admired since the first medieval cartographer put pen to paper depicting mountains and trees across countries, people and objects around margins, and sea monsters in oceans. More recent generations of pictorial map artists have continued that traditional mixture of whimsy and fact, combining cartographic elements with text and images and featuring bold and arresting designs, bright and cheerful colors, and lively detail. In the United States, the art form flourished from the 1920s through the 1970s, when thousands of innovative maps were mass-produced for use as advertisement s and decorative objects—the golden age of American pictorial maps. *Picturing America* is the first book to showcase this vivid and popular genre of maps. Geographer Stephen J. Hornsby gathers together 158 delightful pictorial jewels, most drawn from the extensive collections of the Library of Congress. In his informative introduction, Hornsby outlines the development

of the cartographic form, identifies several representative artists, describes the process of creating a pictorial map, and considers the significance of the form in the history of Western cartography. Organized into six thematic sections, *Picturing America* covers a vast swath of the pictorial map tradition during its golden age, ranging from "Maps to Amuse" to

"Maps for War." Hornsby has unearthed the most fascinating and visually striking maps the United States has to offer: Disney cartoon maps, college campus maps, kooky state tourism ads, World War II promotional posters, and many more. This remarkable, charming volume's glorious full-color pictorial maps will be irresistible to any map lover or armchair traveler. [Picturing Knowledge](#)

MIT Press *Picturing* research: drawing as visual methodology offers a timely analysis of the use of drawings in qualitative research. Drawing can be a method in itself, as in the research area of Visual Studies, and also one that complements the use of photography, video, and other visual methodologies. This edited volume is divided into two sections. The first section provides

critical commentary on the use of drawings in social science research, addressing such issues of methodology as the politics of working with children and drawing, ethical issues in working with both adults and children, and some of the interpretive considerations. The second section, in its presentation of nine research-based case-studies, illustrates the richness of drawings. Each case

study explores participatory research involving drawings that encourages social change, or illustrates participant resilience. These case studies also highlight the various genres of drawings including cartoons and storyboarding. The book draws on community-based research from a wide variety of contexts, most in South Africa, although it also includes work from Rwanda and Lesotho.

Given the high rates of HIV&AIDS in sub-Saharan Africa, it should not be surprising that many of the chapters take up concerns such as the preparation of teachers and community health workers in the age of AIDS, and the experiences of orphans and vulnerable children. Moving further afield, this book also includes work done with immigrant populations in Canada, and with tribunals in Somalia and

Australia. Picturing research is an important resource for novice and experienced researchers interested in employing qualitative methodology that encourages rich (yet low-tech) visible data and that offers a participatory, enabling experience for participants and their communities. Championing Science MIT Press Bringing together themes in the history of art, punishment,

religion, and the history of medicine, Picturing Punishment provides new insights into the wider importance of the criminal to civic life. **On the Surface of Things** MIT Press Picturing the Closet takes a pioneering approach to visual culture and by so doing builds on Eve Kosofsky Sedgwick's Epistemology of the Closet in order to present a compelling new approach to the British

experience of queer culture since the eighteenth century. Hidden in Plain Sight Routledge A small revolution is remaking the world. The only problem is, we can't see it. This book uses dazzling images and evocative descriptions to reveal the virtually invisible realities and possibilities of nanoscience. An introduction to the science and technology of small things,

No Small Matter explains science on the nanoscale. Authors Felice C. Frankel and George M. Whitesides offer an overview of recent scientific advances that have given us our ever-shrinking microtechnology—for instance, an information processor connected by wires only 1,000 atoms wide. They describe the new methods used to study nanostructures, suggest ways of

understanding their often bizarre behavior, and outline their uses in technology. This book explains the various means of making nanostructures and speculates about their importance for critical developments in information processing, computation, biomedicine, and other areas. No Small Matter considers both the benefits and the risks of nano/microtechnology—from the potential

of quantum computers and single-molecule genomic sequencers to the concerns about self-replicating nanosystems. By making the practical and probable realities of nanoscience as comprehensible and clear as possible, the book provides a unique vision of work at the very boundaries of modern science. *Diagrammatic Representation and Inference* University of Chicago Press

How technical drawings shaped early engineering practice. Technical drawings by the architects and engineers of the Renaissance made use of a range of new methods of graphic representation. These drawings—among them Leonardo da Vinci's famous drawings of mechanical devices—have long been studied for their aesthetic qualities and technological ingenuity, but their significance

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means of engineering but also reflect the main stages in their historical development. The authors examine the social interaction conveyed by early machine images and their function as communication between practitioners; the knowledge either conveyed or presupposed by technical drawings, as seen in those of Giorgio Martini and Leonardo; drawings that required familiarity

with geometry or geometric optics, including the development of architectural plans; and technical illustrations that bridged the gap between practical and theoretical mechanics. Merchants of Doubt A&C Black For novice or pro, primary investigator or postdoc, the essentials for photographing science and technology for journals, grant applications, and public understanding . Award-

winning photographer Felice C. Frankel, whose work has graced the covers of Science, Nature, and Scientific American, among other publications, offers a quick guide for scientists and engineers who want to communicate—and better understand—their research by creating compelling photographs. Like all the books in the Visual Elements series, this short guide uses engaging

examples to train researchers to learn visual communication. Distilling her celebrated books and courses to the essentials, Frankel shows scientists and engineers the importance of thinking visually. When she creates stunning images of scientific phenomena, she is not only interested in helping researchers to convey understanding to others in their research community or to gain media attention, but

also in making these experts themselves “look longer” to understand more fully. Ideal for researchers who want a foothold for presenting and preparing their work for conferences, journal publications, and funding agencies, the book explains four tools that all readers can use—a phone, a camera, a scanner, and a microscope—and then offers important advice on composition and image manipulation ethics. The

Visual Elements—Photography is an essential element in any scientist’s, engineer’s, or photographer’s library.

Picturing American Modernity

Springer

This is the first work to examine illustrated children’s literature under Lenin and Stalin and to make use of rarely-explored Soviet children’s books from libraries around the world.

Picturing

**Science and
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Media
Engineering
observations -
The object -

Cosmology -
Ecology -
Design
discourse -
Endings.