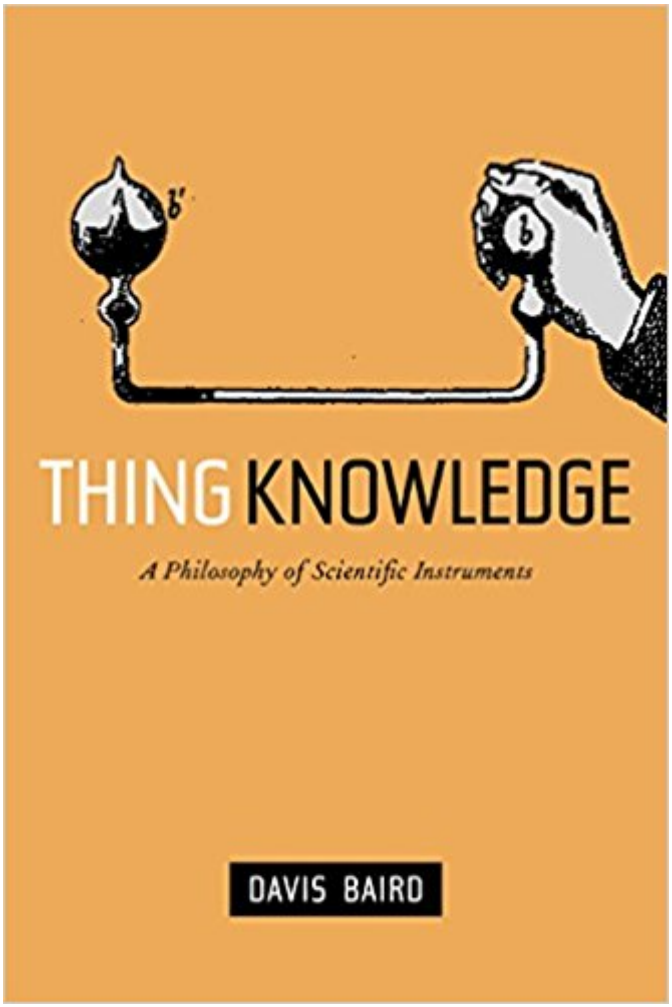
Thing Knowledge: A Philosophy Of Scientific Instruments



Synopsis

Western philosophers have traditionally concentrated on theory as the means for expressing knowledge about a variety of phenomena. This absorbing book challenges this fundamental notion by showing how objects themselves, specifically scientific instruments, can express knowledge. As he considers numerous intriguing examples, Davis Baird gives us the tools to "read" the material products of science and technology and to understand their place in culture. Making a provocative and original challenge to our conception of knowledge itself, Thing Knowledge demands that we take a new look at theories of science and technology, knowledge, progress, and change. Baird considers a wide range of instruments, including Faraday's first electric motor, eighteenth-century mechanical models of the solar system, the cyclotron, various instruments developed by analytical chemists between 1930 and 1960, spectrometers, and more.

Book Information

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Customer Reviews

"Davis Baird's Thing Knowledge uses instruments to do philosophy. Grappling with a wonderful assortment of objects—from antique orreries to modern spectrographs—he draws the reader deep into fascinating questions about the nature of knowledge. All too often, the knowledge Baird pursues here has been obscured by accounts that reduce understanding to theory. By contrast, in this rich text Baird shows the myriad of ways that models and devices do work in science: by representing, by manipulating, by measuring, and by calculating. This is a book as lucid on the semantic account of theories as it is on the inner workings of the cyclotron; it is a book that

brings the laboratory to philosophers and philosophy into the laboratory."—Peter Galison, author of Einstein’s Clocks, Poincare’s Maps: Empires of Time"Davis Baird has given us something new and demanding to think about: namely, in addition to propositional knowledge, he argues, there is ’thing knowledge.’ That is, scientific instruments embody or encapsulate knowledge in ways that most often not transparent. In making his case, Baird forces us to reconceptualize how we go about doing science and how to understand the product of human labor, both intellectual and manual. Thing Knowledge is must reading for anyone interested in the development of science and its attendant technologies."—Joseph C. Pitt, author of Thinking About Technology: Foundations of the Philosophy of Technology"Over the years the new frontier in philosophy of science has been on logic, then on theories to most recently on models and experimentation. Davis Baird goes one step further and considers the ’immediate’ kind of knowledge embodied by scientific instruments and devices. His book is highly thought provoking and will become a classic source."—Eric Scerri, UCLA, Department of Chemistry and Biochemistry, and editor of Foundations of Chemistry."From the air pump to the dynamo to the cyclotron, machines have played key roles in the development of scientific knowledge. Here, for the first time, Davis Baird looks at those machines as actual forms of scientific knowledge. Baird moves adeptly from historical case study to philosophical explanation in this convincing study of the material culture of science."—Ann Johnson, Department of History, Fordham University

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When I saw the title I was excited. I wanted to know how the knowledge captured in instruments could be harnessed. This book gives concrete examples and details on how knowledge is captured in models and instruments. It is rather theoretical and philosophical. I covered chapters 1, 2, 6,and 10. The author brings together a wide array of histories of scientific instruments, as well as some theoretical approach to knowledge. However, none of this effort results in a coherent, useful perspective to deal with scientific knowledge.For example, he covers MRI technology in detail. He shows that no single segment of the MRI community has all the information. Adjusting anisotropic pixels for time savings resulted in misdiagnoses by doctors. If anything, this shows that the knowledge captured in the MRI machines is either incomplete or hard to access. I would argue that inaccessible knowledge is no knowledge at all. This "thing knowledge" idea was interesting but disappointing. (If I'm mistaken and there's utility in this book, please show me how; I would be delighted to find out that the past hour of my life was spent usefully). The main message seems to be that if you want to tweak the machine, check the other stakeholders to make sure you're not screwing something up in the process. Or at least tweak it back after you're done.The author also seems to like to talk about gift economies vs commodity economies. Basically, "gift economies good, commodity economies bad." He goes to some lengths to talk about this, so there may be merit in this. However, I skipped it because I didn't see how this was relevant to my honing my skills to be a better scientist.If you want to read up on scientific instrumentations and bring this stuff up in a dinner conversation with your fellow scientists, then it would make for interesting talk. If you want to understand how to harness all that wonderful thing knowledge in your HPLC, you should read the HPLC manual.

Thing Knowledge: A Philosophy of Scientific Instruments Manifesto for Philosophy: Followed by Two Essays: "the (Re)Turn of Philosophy Itself" and "Definition of Philosophy" (Suny Series, Intersections, Philosophy and Critical Theory) Organising Knowledge: Taxonomies, Knowledge and Organisational Effectiveness (Chandos Knowledge Management) The Scientist's Atom and the Philosopher's Stone: How Science Succeeded and Philosophy Failed to Gain Knowledge of Atoms (Boston Studies in the Philosophy and History of Science) Metaphysics and Its Task: The Search for the Categorical Foundation of Knowledge (SUNY Series in Philosophy) (SUNY Series in Philosophy (Paperback)) The Official Mortal Instruments Coloring Book (The Mortal Instruments) Making Gourd Musical Instruments: Over 60 String, Wind & Percussion Instruments & How to Play Them Surgical Instruments: A Pocket Guide, 3e (Wells, Surgical Instruments) I Love Music: All About Musical Instruments Then and Now: Music Instruments for Kids (Children's Music Books) Christmas Instruments in Praise: Bass Clef Instruments (Bassoon, Trombone, Euphonium, & Others) Christmas Classics - Easy Instrumental Solos or Duets for Any Combination of Instruments: Bass Clef Instruments (Bassoon, Trombone, Euphonium, & Others) Is a Blue Whale the Biggest Thing There Is? (Wells of Knowledge Science Series) What is this thing called Knowledge? Scientific Instruments, 1500â "1900: An Introduction Texas Instruments TI-83 Plus Manual (TI-83 Scientific Graphing Calculator Manual only) Early Scientific Instruments: Europe, 1400-1800 The Right Thing To Do: Basic Readings in Moral Philosophy What is this thing called Philosophy? The Scientific Endeavor: A Primer on Scientific Principles and Practice Diversity and the Tropical Rain Forest: A Scientific American Library Book (Scientific American Library Series)