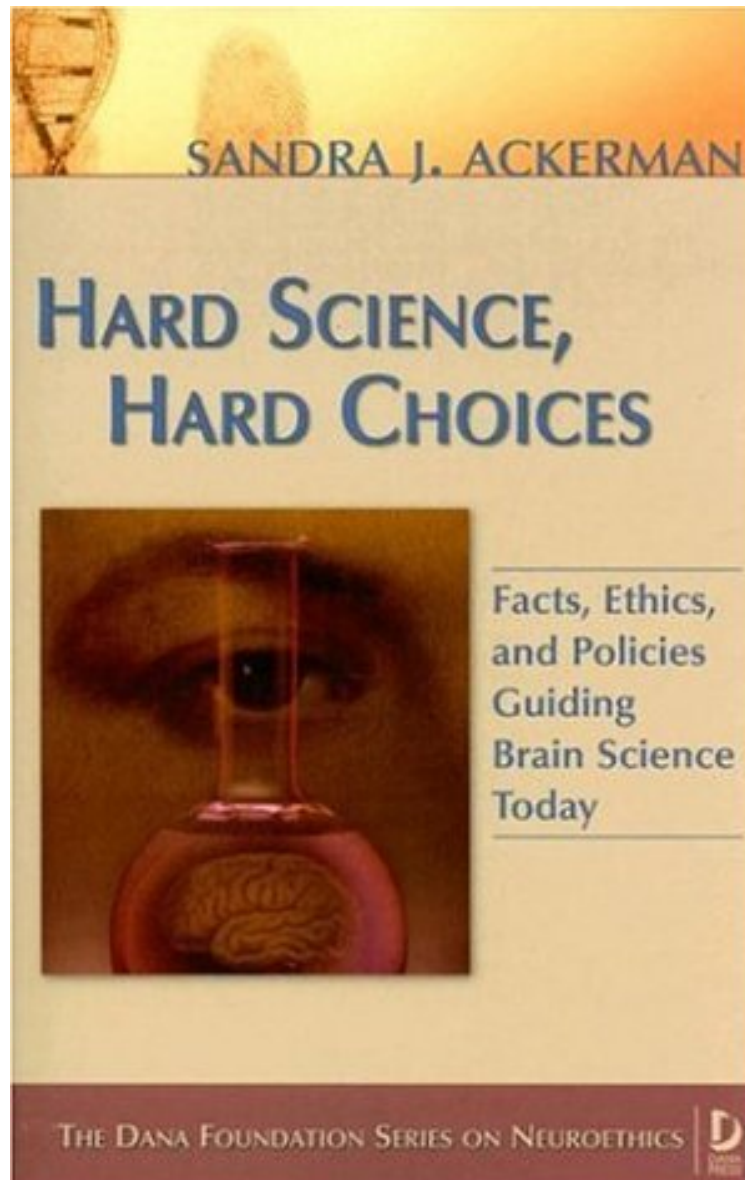


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## **Hard Science, Hard Choices: Facts, Ethics, and Policies Guiding Brain Science Today (Dana Press - Dana Foundation Series on Neuroethics)**

*Sandra J. Ackerman*

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**Sandra J. Ackerman : Hard Science, Hard Choices: Facts, Ethics, and Policies Guiding Brain Science Today (Dana Press - Dana Foundation Series on Neuroethics)** before purchasing it in order to gage whether or not it

would be worth my time, and all praised *Hard Science, Hard Choices: Facts, Ethics, and Policies Guiding Brain Science Today* (Dana Press - Dana Foundation Series on Neuroethics):

11 of 12 people found the following review helpful. A Unique, Important and Timely Book By Dr. Richard G. Petty Our entire understanding of the mind and the brain is undergoing radical change. We learn that our brains can create new neurons throughout life, and that we have undreamed of capacities for growth, adaptation and change. Many of the implications of this growth in knowledge are only just beginning to sink in, and are leading us to reconsider a great many issues concerning ethics, morality, responsibility and the law. Important new specialties with such names as "neuroethics" are beginning to emerge. The explosion of new knowledge about the brain is now thought to be doubling every 2-3 years, and is leading scientists, philosophers and ethicists to consider such knotty problems as personhood: does a severely brain injured person have the same rights as everyone else? If the brain has not finished growing until people are in their early twenties, can they be held to be legally responsible? What are the implications of direct brain-to-computer interfaces and drugs and artificial devices that enhance cognition? If someone in the near future can do a brain scan to see what you are thinking or what you will buy, what will be the impact of this kind of brain imaging on privacy? It has been shown to be very easy to implant false memories. Can brain scanning be used to tell if a memory is true or false or if someone is lying? Even very mundane questions: should a young person be able to drive a car or fire a gun if they do not yet have the cognitive abilities an adult? We all have our own views and opinions about topics like these, but this time the tools of science can help to inform our opinions. Many television dramas have presented simplified caricatures of some of this changing neurological landscape. There have been shows in which defense and prosecuting attorneys have argued over some arcane neurological finding and whether it should give an accused person a "get out of jail free" card. These shows are only reflecting a raft of issues that are being regularly argued at scientific meetings and in the courts. There are many experts who are convinced that they have found evidence from brain scans to "explain" antisocial behavior, rage attacks or paranoia. There are just as many who are convinced that they are wrong, and the specter of dueling experts often confuses juries and reporters. This slim book - only 152 pages excluding the forward - is a superb record of a series of deliberations by experts in brain sciences, psychology, philosophy and ethics that took place in May 2005. I know virtually all the people who spoke, and they are all not only thought leaders, but people known for their measured and thoughtful views on these complex issues. There are four parts and fourteen chapters: PART ONE. OVERVIEW Introduction Chapter 1 What We can Learn from a Chimera Enhancement, for Better or Worse Chapter 2 Neuroimaging and the Law Neuroscreening and Predictions Chapter 3 Too Much Help? Neuroscience and Morality Imminent Prospects and Responsibilities PART TWO. NEUROIMAGING Chapter 4 The Power of an Image What Are We Seeing? Chapter 5 Brain Privacy False Memories Chapter 6 There and Not There Who Is Conscious? Qualities of Consciousness Chapter 7 Decision-Making Circuits Moral Decision Making in the Human Brain PART THREE. DRUGS IN THE BRAIN Chapter 8 Starting with Safety Psychiatric Drugs for Children Unfair Advantage in a Pill? Chapter 9 What is Worth Treating? How Genes Interact with Drugs Therapy versus Enhancement Chapter 10 Dual-Purpose Research What Can We Do and What Should We Do? PART FOUR. NEUROTECHNOLOGY Chapter 11 A New Age of Neurotechnology Chapter 12 Deep Brain Stimulation for Movement Disorders How Deep Brain Stimulation Works Deep Brain Stimulation for Depression Ethical and Practical Concerns of Deep Brain Stimulation Chapter 13 The Brain-Computer Interface Ethics of Neurosurgery Chapter 14 Business Considerations The Therapy-Enhancement Distinction The Role of the Neuroethicist Following these chapters there is a public discussion featuring important contributions from the author and Pulitzer Prize winning journalist William Safire, who is chairman of the Dana Foundation, one of the sponsors of the 2005 meeting; Hank Greely, who is Professor of Law and Genetics at Stanford, and the eminent neuroscientist Michael Gazzaniga from Dartmouth College. One of the strengths of the book is that Sandra Ackerman is a journalist who is explaining the issues and the discussion for a general audience, so it is a very easy read and some very complex issues are clarified. Clearly a book of this length cannot do justice to all of the issues raised by the new advances in neuroscience, but this is the clearest introduction and overview that I have seen. This book deserves a very wide readership, and is essential for neuroscientists or anyone working in the law or ethics. Highly recommended.

Advances in neuroscience research are rapidly bringing new and complex issues to the forefront of medical and social ethics, and scholars from diverse fields have been coming together to debate the issues at stake. Acclaimed science writer Sandra Ackerman witnessed one such gathering, and here she skillfully synthesizes those proceedings into a concise presentation of the challenges that neuroscience and neuroethics currently face. Top scholars and scientists in neuroscience and ethics convened at the Library of Congress in Washington, D.C., in May 2005. They included Michael Gazzaniga, director of the Center for Cognitive Neuroscience at Dartmouth College; Marcus Raichle of the Washington University School of Medicine in St. Louis; Harvard University provost Steven Hyman; Judy Illes, cofounder of the Stanford Brain Research Center; University of Virginia bioethicist Jonathan Moreno; Stacey Tovino of the Health Law and Policy Institute at the University of Houston Law Center; and Stanford law professor Hank Greely. Ackerman weaves the invigorating arguments and discussions among these and other prominent scholars into

a seamless and dynamic narrative. She reveals the wide array of issues that have emerged from recent research, including brain imaging, free will and personal responsibility, disease diagnosis and prediction, brain enhancement, and the potential social, political, and legal ramifications of new discoveries. Translating these complex arguments into an engrossing account of neuroethics, she offers a rare view of science and ethics in the making.

About the Author Sandra Ackerman is a science journalist and the author of *Discovering the Brain*.