

tainty in decision making. At the same time, the exigencies of managing sicker patients, coping with shorter lengths of stay, negotiating preauthorization for treatment, and conforming to restricted drug formularies have resulted in even greater demands on residents and difficulties in resolving these conflicting expectations.

This loss of norms has major consequences for current efforts to significantly reduce medical errors that harm or in some cases kill patients. The IOM report calls for an end to the “name, blame and shame” culture that characterizes medicine and inhibits open discussion of mistakes that result in harm to patients. In its place the report calls for voluntary and mandatory reporting systems for near misses and errors so that physicians can learn from their mistakes. Bosk’s study suggests that these recommendations will be difficult to implement. As he has demonstrated for surgery, the social construction of what constitutes an error, whether the error was preventable, blameless, or blameworthy, and the action that should be taken is determined by each specialty. Uncertainty is also a factor. Renée Fox in *The Student Physician* (Harvard University Press, 1957) documented the necessity to train medical students to deal with uncertainty in making clinical decisions. Bosk’s study also reveals that in residency training, clinical experience frequently overrides scientific evidence. Although evidence-based medicine is increasingly part of medical training, it will be difficult to change a culture in which the emphasis on personal first-hand assessment of each individual case based on the physician’s unique experience outweighs decisions based on formal, abstract scientific evidence. Unless policymakers take into consideration the uncertainty that permeates medicine and the importance of clinical experience in decision making, physicians and other health care workers may simply evade error reporting systems.

Finally, Bosk observes, “At present, a physician’s conscience is not only his guide but the patient’s only protection.” He calls for the medical profes-

sion to assume more collective responsibility by making structural changes that will instill greater social control and accounting mechanisms into everyday practice to reduce medical errors.

James G. Anderson, PhD
Purdue University
West Lafayette, Ind
Andersonj@soc.purdue.edu

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Research

Science in the Private Interest: Has the Lure of Profits Corrupted Biomedical Research? by Sheldon Krimsky, 247 pp, \$27.95, ISBN 0-7425-1479-X, Lanham, Md, Rowman & Littlefield Publishers, 2003.

DR SHELDON KRIMSKY’S NEW PUBLICATION adds voice to two other recent books^{1,2} that examine the commercialization of academia. Krimsky’s premise is that academia is fundamentally altered by increasing partnerships with the private sector. This premise is not new and is one that he has been addressing for more than 20 years. However, with this compilation of case histories, data, and analyses, Krimsky has clarified what is at stake in a way that warrants our attention.

Although deeply troubled by the proliferation of financial conflicts of interest, Krimsky generously articulates the benefits favoring the flow of money from business to academic researchers. With uncertain public sources of funding, academia clearly benefits from alternate sources of income; the business sector benefits from the expertise and credibility of partnerships with independent academic researchers; and society should benefit from the products brought to market because of such partnerships. Unfortunately, as Krimsky makes clear, these apparent benefits come with a price.

By looking closely at how research topics are chosen, how research is funded, and how policy decisions are made, Krimsky demonstrates that certain hypothetical fears are now realities. The definition of successful research programs has been narrowed to those most likely to yield a marketable product, rather than to those that generate new knowledge.

Decreases in communication and sharing are inevitable consequences of protecting personal interests. The work that is being done, and that is ultimately published, tends to favor the interests of those who fund the research. The obvious risk is flawed results, whether due to unconscious or conscious biases. Finally, and most importantly, the independence and perceived integrity of academic researchers is eroding. With an increased emphasis on opportunities for accumulating personal financial wealth, it is to be expected that researchers, the funders of the research, and the public will become increasingly cynical about the motives driving academic science. Ironically, the ultimate outcome could be that the original credibility afforded by partnerships with academic researchers will be lost. If Krimsky is right about these directions, then academia will have sold out a valuable mission in exchange for short-term profits.

The message of this book is relevant to most of us. Teachers of the responsible conduct of research will find ample material for an entire course on the subject of conflicts of interest. Educators and basic researchers should be concerned about the shifting of the academic mission toward profit and away from knowledge creation and student instruction. Scientists should be concerned about the potential for a loss of academic freedom, a decreased emphasis on public interest, and a long-term decrease in public trust. The general public has an interest in the effective use of tax dollars, how decisions are made about what will be studied, and the risk that research findings might be biased. Finally, academic administrators, regulators, and policy makers would do well to take advantage of Krimsky’s overview of this topic. In doing so, they may be moved to rethink the value of short-term strategies that are financially rewarding but that risk tarnishing those features of academia that are most desirable.

Because this subject is important, and because Krimsky’s writing is clear, there is little to criticize. However, an alternate interpretation of some of Krimsky’s anecdotes actually supports

partnerships between academia and industry. In several of the most egregious cases cited by Krinsky, the reason we know that a problem had occurred was because academic researchers and/or their institutions refused to be manipulated by private interests. One excellent example is the case of Betty Dong of the University of California at San Francisco (UCSF). Dong, her colleagues, and UCSF took a firm stand and successfully rejected inappropriate demands that would have compromised the design or publication of Dong's studies—despite significant pressure from those funding her work. An argument might be made that involving academia in for-profit research acts as a check in some, if not all, cases. Unfortunately, the problems enumerated by Krinsky clearly outweigh those few documented instances in which academia chose the principles of openness and free publication over the risk of a loss of external funding.

Much of what Krinsky writes relates to problems caused by a shift in the academic environment. Fortunately, he does not leave us entirely without hope. He has done nicely in contrasting science in the *public* interest with the title of his book. He offers an alternate view of what academia can be by highlighting the careers of three scientists who dedicated their careers to the communities in which they live. He cites Barry Commoner's influential research on the environment, Herbert Needleman's studies on lead toxicity in children, and Luz Claudio's demonstration of deleterious health effects due to emissions from energy plants. This vision of what academia has been and what it could continue to be is reason enough to read what Krinsky has to say.

Michael Kalichman, PhD
Research Ethics Program
University of California, San Diego
La Jolla

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2. Etzkowitz H. *MIT and the Rise of Entrepreneurial Science*. New York, NY: Routledge; 2002.

Unconscious Crime

Unconscious Crime: Mental Absence and Criminal Responsibility in Victorian London, by Joel Peter Eigen, 223 pp, \$39.95, ISBN 0-8018-7428-9, Baltimore, Md, Johns Hopkins University Press, 2003.

IN *UNCONSCIOUS CRIME*, WE ARE TRANSPORTED back to the courtrooms of Victorian England, where some of the most mysterious and controversial trials were heard and recorded. Defendants include a 12-year-old boy who stole arsenic and poisoned his grandfather without conscious intent or remorse; an inmate of a mental asylum with more than 200 spirits conversing in his head, who claimed to have witnessed the beating to death of a fellow inmate by their prison warden; and a father who arose in the middle of the night and flung his son repeatedly against the wall, thinking he was killing a wild beast attacking the son. These absurdly fantastic but true stories were recorded in the *Old Bailey Papers*. Beyond being excellent material for crime fiction, they reveal profoundly intriguing ideas about the definition of *consciousness* and *person* that had yet to be given much attention in the pre-Freudian, pre-brain imaging era.

The protagonists of these crimes had a common claim: that they were “not quite there” when the crime took place. It was not that they were “not themselves” but that they were someone or somewhere else, unrecognizable, unremembered. Today, with brain neuroimaging allowing exploration of what early psychoanalysts raised as projects for a neuroscience of the soul, forensic neuropsychologically informed psychiatry is increasingly welcomed into the courtroom. The resulting legal difficulties today are as profound as they were perplexing then. If the defendants were, as they claimed, absent from the crime—in today's slang, “spaced out” or, more literally, “timed out”—then who committed it? The law recognizes only one body as belonging to a “person,” and it is that physical person who would be convicted and hanged if found guilty.

In the insanity defense, common in the Victorian era, that one same person

had simply been found not to be responsible for himself owing to insanity; responsibility was absolved because of the lack of ability to conceive conventional morality. But the *Old Bailey* cases Eigen draws on did not fall into the category of insanity. Instead, in those cases, there appeared to be two different consciousnesses or two different people—one innocent, the other guilty. In the “unconscious crimes,” responsibility appeared to be a psychological state, not only a moral one.

Today, we would recognize that these defendants' symptoms need to be considered as part of a differential diagnosis formulation ranging from schizophrenia to partial complex seizures and malingering. But the Victorians struggled to come to terms with the validity of such claims of innocence and with the difficulties in formulation of both defense and verdict. Expert witnesses in those pre-Freudian times did not have an established common language to describe the strange phenomenon. Juries would have had to decide on an alien defense. This reminds us that the definition and character of such disorders depend not only on their causation and consequence but, perhaps also, on their being recognized, studied, and articulated.

Intertwined with the social and legal implications of such cases are broader questions of how to define “person” and “consciousness,” which Eigen addresses. These cases illustrate the importance not only of autobiographical memory, but also continuity. A lapse into an “other” consciousness breaks the continuity of memory, hence consciousness, and perhaps even identity. Most noteworthy in these *Old Bailey* cases is that the “second person” or “consciousness” was not completely arbitrary. The defendants had killed or harmed people meaningful and close to them. The suggestion of hostilities repressed as being motivating yet unconscious would emerge more formally only later through Freud. Today, neuropsychology recognizes that a spectrum of memory and unconscious states makes life all too often far stranger than we imagine.¹