Reviews and reflections

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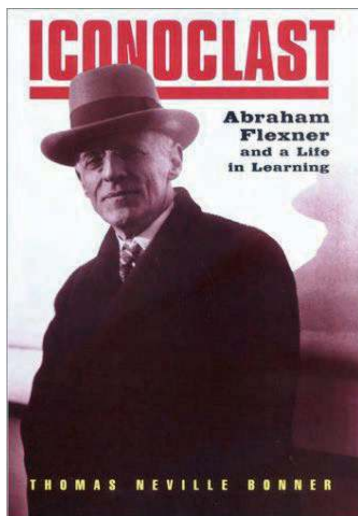

Iconoclast: Abraham Flexner and a Life of Learning

Thomas N. Bonner
Johns Hopkins University Press,
Baltimore, MD, 2002

Reviewed by Alan R. Nelson, M.D.

Abraham Flexner was the catalyst that brought about a revolution in medical education at the turn of the last century. This dramatic sea change arose from a fortuitous convergence of dynamic forces: growing public recognition that many of America's doctors had virtually no training for the task of providing care to patients; academic leadership in the American Medical Association willing to set medicine's house in order; and philanthropy that provided millions to make it happen. Medical education reform would likely have happened in any event, sooner or later, because of the clear need for it in this country, and the fact that medical education in Europe was predicated on generally higher standards. But how and when it happened can be related directly to the enormous talents of this determined, stubborn man.

Flexner's vision was to convert medical education from an apprenticeship model, the sole mentors of which were private practitioners, to a university-based system in which teaching would be intertwined with research and scholarly pursuit. He sought to "drive the money lenders from the temple," and this issue became as contentious in his day as it is in ours.

The insightful Flexner report (*Medical Education in the United States and Canada, 1910*) provoked fundamental change in the structure and process of medical education. It facilitated the demise of the notorious medical diploma mills and established standards of education that persist to this day. Yet the most remarkable aspect of this phenomenon was that the author of that report had never worked within a university or medical school and lacked a medical degree. How did this son of poor immigrant Jewish parents create such profound change, when today making even a simple modification of the curriculum in a single medical school is so daunting? Thomas Neville Bonner provides the answer in *Iconoclast: Abraham Flexner and a Life in Learning*, a book meticulously researched and written in scholarly prose. Anyone interested in medical history, medical education, or health policy will enjoy this finely drawn biography.

Abraham Flexner was an early intellectual, reading the complete works of Plutarch at age 13. He was able to complete high school despite his family's poverty, and entered Johns Hopkins University with the financial assistance of his older brother. Young Abraham became a schoolmaster in Louisville, supporting his family for the next ten years until he married Anne Crawford. Anne, a talented playwright, soon published *Mrs. Wiggs of the Cabbage Patch*. The income from the play provided financial security for the couple and allowed Abraham to pursue a masters degree at Harvard. That experience, and study in Germany, led him to form ideas that were the basis for his book, *The American College*, published in 1908. He came upon the scene, little known and unemployed, taking on the academic icons running America's colleges. His accusations were sharp and uncompromising, stating that all colleges were "deficient in earnestness and pedagogical intelligence."

Meanwhile, the Carnegie Foundation was considering conducting a series of studies of professional education with the goal of setting national standards. The American Medical Association's Council on Medical Education had started the process of reform, partly because of growing public concern. (The *New York Times* had published a story reporting that "incompetent physicians were manufactured by wholesale in this country.") And, indeed, medical education was a disgrace. Four hundred and fifty-seven medical schools had sprung up over the preceding century, of which 150 survived. Many students had less than a high school education. Half of the schools provided their sole practical experience in a neighboring hospital or clinic, and students were often "graduated" without serious testing. Of these schools, 89 required only an elementary education, and only one of eight required two years of college. Degrees were sometimes "conferred on any man who had settled his tuition."

The Carnegie Foundation picked Flexner to head up the study, with the collaboration of the AMA Council on Medical Education. According to Bonner, Flexner was chosen despite his lack of experience in medical education, probably because he was "willing to criticize the status quo boldly and had the ability to write clear, trenchant prose." He "stood at the vortex of swiftly moving scientific, educational, and philanthropic currents that strongly favored reform."

The Flexner report, which included the minimum requirements for study, equipment and finances, as well as a survey of all schools (performed personally by Flexner), was an immediate sensation. Flexner was seen as "fiercely independent, often quarrelsome, an abrupt man who had definite ideas of his own." The pungency of his reports captured attention with such statements

as, "Chicago, with 14 schools is the plague spot of the nation." It called for reducing the 148 existing U.S. schools to 31, which would be strategically located and connected to universities or major teaching hospitals. Teaching was to be done personally by full-time teachers in laboratories and clinics, with less time in large lecture classes. Entrance requirements were to include two years of college. This was to be followed by two years in preclinical training, then two years of supervised clinical experience. It was an amazing demonstration of insight, setting the stage for generations of medical school curricula.

The report was given broad exposure, and state legislatures began to adopt its recommendations. Flexner's name became a household word in education circles. He began a long and fruitful career as head of the Rockefeller General Education Board, using foundation money to influence adoption of education reforms in his ongoing battle to "crush the commercial spirit in academic medicine." It was a historic struggle.

Yet, eventually, Flexner wore out his welcome. Earlier triumphs had been based on the "elegant simplicity of his reasoning and the remarkable clarity of his writing." According to Bonner, compromise and accommodation were never his strong suits. In his decline at Rockefeller, he became more polarized, rigid, and marginalized, especially around the notion of paid full-time faculty. Still, Flexner remains the founder of philanthropic management, the one who developed the art of matching grants. He achieved rare success as an "organizer, fund raiser and cheerleader without peer in the cause of American education."

The last third of Bonner's book covers Flexner's outstanding career as founder and director of the Princeton Institute for Advanced Study. He recruited Albert Einstein, among others. He remained candid to a fault, a trait epitomized by a fascinating anecdote. While he was a lecturer at Oxford and a guest of Lady Astor, he and Winston Churchill "got into a grand scrap." Churchill asked him what he thought "ailed" England. Flexner replied, "It's governed by amateurs."

At age 81, Flexner started a new life, taking classes on Shakespeare, Chaucer, and Russian history and culture at Columbia. He walked daily to his office downtown, wrote, and received callers. He died at 93. Bonner's book is a rich document, replete with abundant notes, a bibliography, and a listing of the published writings of the unique and remarkable Abraham Flexner. Perhaps no other single individual has had a more profound and enduring impact on the quality of medicine in America.

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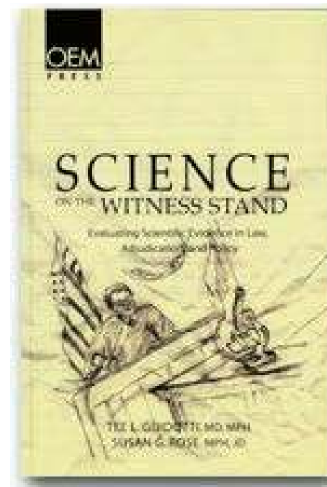
Science on the Witness Stand: Evaluating Scientific Evidence in Law, Adjudication, and Policy



Tee L. Guidotti, and Susan G. Rose
OEM Health Information, Beverly Farms, Massachusetts, 2001

Reviewed by Lee J. Dunn, Jr., P.C.

As a practicing attorney who specializes in litigation in the health care field, my opinion of this book was so strongly negative the first time I read it that I was obliged to lay it aside. I did not read it again for several weeks. Having read it a second time, my opinion is unchanged. I *really* don't like it!

I have tried to conjure up an image of how this book came to be written. I picture a group of old friends sitting around a table, when someone came up with the idea of writing a book, to which they all respond, "Wouldn't that be fun?" Unfortunately, that is the last time any common goal was achieved by the contributors to this book. It is *not* an explanation or discussion of the evaluation of scientific evidence in the legal process. It is *not* true to its title nor its subtopics. This book should never have made it past a strong, discriminating editor. There is no common thread, and the chapters don't build a central thesis, nor do they complement each other. In critique:

1. It is unclear what audience they seek to address. If the book was aimed at young practicing lawyers, Chapter 3, "Civil Litigation: Principles and Providers," would have been sufficient, and the rest of the book superfluous—since it bears no clear direction or theme. In an attempt to provide examples to support their arguments, the authors unleash a blizzard of unrelated scenarios. It is thoroughly confusing.

2. Chapters 9 ("Causation") and 11 ("Appointment") are written by the same physician, who reveals his bias by referring to medicine as "we." These chapters are largely duplicative. In Chapter 9, he leads with his worst: "Causation is akin to the concept of etiology in clinical medicine but without the implication that there can be only a single cause. In clinical medicine, *etiology is usually not as important as diagnosis*, because in clinical practice, *regardless of what caused the condition*, the task at hand is to treat the patient. In law and policy, however, the assessment of cause is critical." (Italics mine.)[p131]

How wrong can one man be in 64 words? If "etiology is usually not as important as diagnosis," how can one ever be sure of the diagnosis? A diagnosis is only as sound as its known base(s). For example, chest pain can be caused by any number of factors. I settled three cases in the last 18 months in which patients had died because the rush to (incorrect) diagnosis without appropriate work-up led to misdiagnosis and death. One can only wonder if the author is a nonclinician, out of his element.

His definition of "legal causation" is also off the mark. He writes, "The concept of causation in law has been described as the 'occurrence or aggravation of an underlying disorder by the one causative element [in isolation] . . .' This definition has many features. It requires the fact of contribution to the disorder; it admits, by making an effort to isolate the pertinent cause, that effects may be moderated by complexity; it is deterministic and assumes a proximate cause; and it admits preexisting condition and permissive factors."[p131–32] Even if you manage to untangle the semantics, as a practical definition it is wrong. He cites no source or reference to support this statement.

He concludes this introduction by writing, "This legal concept of causation therefore is remarkably flexible and concordant with the following essential features of the idea of causation in science: strict cause and effect, moderation by complexity and interaction, a chain of events the outcome of which may be unforeseeable (as in chaos theory), contributing causes in deterministic mechanisms, and multifactorial risk factors in stochastic phenomena."[p132]

I doubt that one in ten readers will understand what these last 12 words mean. I certainly did not.

3. Chapter 15 is an example of an all-too-common flaw. Entitled "Communication in Medical Dispute Resolution," it is a verbose, anfractuous, superficial discussion (the author says) of linguistics, semiotics, semantics, pragmatics, 'languid language,' and 'fallacies of logic in language'; all subjects addressed by an author seemingly enamored of his own rhetoric. This is the flaw. The method and content of communication between participants in the legal process is, of course, integral to the proper functioning of the process. However, I challenge anyone to defend the author's method and content of this chapter. If this topic requires any discussion, it could have been addressed in far fewer pages.

4. Chapter 8, entitled "Looking Backward: The Bayesian Approach to Assessing Causation," uses the *Daubert* opinion as justification for discussing the theories of one Reverend Thomas Bayes (1702–1761), described as "an eighteenth century approach to probability that eventually was eclipsed by controversy and by the frequentist methods that evolved into the statistical analytic approaches."[p117] The reader is then inundated with too many pages of mathematical formulae in a purported attempt to convince the reader that mathematics may (repeat, may) be helpful in determining causation. I read (and reread) this chapter; the question kept arising in my mind—who cares? For a book allegedly devoted to "how to," this excursion into the murky world of Bayesian dynamics of "how might" seems misplaced.

5. Chapter 21, "Parity for Mental Health Issues," is an editorial, inappropriate for what purports to be a learned treatise. The author decries the fact that mental health issues have generally not been accorded the same respect and attention as physical problems, when society evaluates and compensates for illness. Then she stops. This book, we have been told, is about how to deal with the system *as it exists*, not how it should exist in a perfect world. This chapter belongs on the op-ed page of a newspaper, not here.

6. The author of Chapter 22 simply does not understand the early history of ERISA litigation. The brouhaha was not about insurers establishing a standard of care. It was about insurers preventing physicians from rendering care to their patients (insureds) and trying to prevent the initiation of any malpractice litigation that arose from this enforced level of practice.

In the prevailing climate of "litigation awareness" that permeates medical practice today, a book with this seductive title might entice nervous practitioners to purchase it. That would be a mistake. In sum, this is a collection of suggestions directed primarily to individuals who deal with workman's compensation and environmental cases about how to deal with evidentiary problems. That said; that's all it is. Once outside this limited area, the authors keep tripping over the same topics, deploy terms that are unusual or unknown, and make statements about the law that are simply wrong. Finally, at times the semantic underbrush is almost impenetrable.

I hesitate to go on. Don't buy this book!

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Affirmative Action in Medicine: Improving Health Care for Everyone

James L. Curtis, M.D.
The University of Michigan Press, Ann Arbor, Michigan, 2003

Reviewed by Steven A. Wartman, M.D., Ph.D. (AΩA, Johns Hopkins University School of Medicine, 1970)

Affirmative action. These words create emotional intensity. To some, they represent a just and needed methodology to achieve a diverse and culturally competent workforce, as well as an

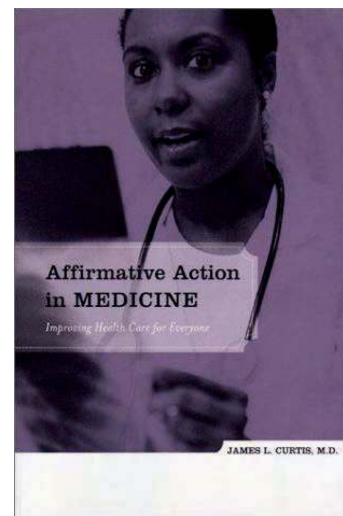
effort to address past wrongs and current racism. To others, these words represent a form of reverse discrimination that only exacerbates ethnic differences, drawing comparisons to rulings by the NCAA for violations of past varsity athletes while punishing innocent current athletes.

Curiously, this latter situation affects the University of Michigan, which was also the defendant in two recent U.S. Supreme Court decisions involving affirmative action. From the point of view of medical school admissions, the decision involving the law school is perhaps more relevant, with its finding that "student body diversity is a compelling state interest that can justify using race in university admissions."[1] It is therefore most timely that Dr. James L. Curtis (in a book published by the University of Michigan Press) presents his well thought-out views and accumulated data on the topic. Dr. Curtis was the only black graduate in a class of 145 at the University of Michigan Medical School. He trained in psychiatry, and after a stint in private practice, joined the faculty of Cornell University Medical College (now known as the Weill Medical College of Cornell University) as associate dean in 1968, where he led the medical school's new minority admissions program. This book is a recapitulation of Dr. Curtis's experiences and candid opinions about the impact of minority students in medicine, as well as a 30-year follow-up of a cohort of minority students admitted to medical schools in the 1970s. From 1980 until his retirement nearly 20 years later, Dr. Curtis was chairman of the Department of Psychiatry at Harlem Hospital Center.

Following a brief preface and introduction, in which the tone is set and the author's views made known, the book is divided into three main parts. Part 1 discusses the history of affirmative action at Cornell's medical school in the 1970s. Curtis notes that there must be minimally acceptable and fair levels of minorities in medical school classes not just for civil rights purposes, but also because "an ethnically diverse student body will, by its very composition, obtain a sounder medical education and as physicians be more responsive to the medical needs of the diverse American public."[p16] Under his leadership, minority admissions at Cornell went from two in 1969 to an average of about 14 each year between 1970 and 1977. The selection criteria and many other issues surrounding the admissions process are fully discussed. Despite obvious success at the student level, Dr. Curtis notes the ongoing difficulty in the hiring and retention of minority faculty. There is also an important chapter in this section on civil rights in health care that includes the following comment: "During slavery the health care and health status gap between Whites and Blacks was less than at any time since Blacks became free."[p75]

Part 2 presents data on the cohort of about 4000 minority and nonminority medical students who graduated from 1973 to 1977. Curtis followed 2109 minority medical students and 2191 randomly chosen nonminority medical students (by picking the next name following a minority on the NRMP alphabetical list). The minority group represented 45.3 percent of the sample of minority students who graduated during this period, and the nonminority control group represented 3.1 percent of their peers. Geographic location, internship positions, and a number of other factors are analyzed. Interestingly, Dr. Curtis makes the following general observation: "The addition of as few as twenty new minority physicians in almost any state would favorably improve access to physicians care by the minority population of that state, whereas the same number of new nonminority physicians would have much less effect."[p93] It is unclear how this claim is substantiated; however, it does raise a host of issues regarding specialty choice, patient preferences, and practice locations.

Part 3 follows up this cohort nearly 30 years later. Practice location by state and ethnicity, as well as income of the practice neighborhood, among other factors, are reviewed. Minority black physicians tended to practice



in economically disadvantaged urban areas independent of their own family income status. Dr. Curtis points out that "these findings do not support those who maintain that affirmative action programs should only be aimed at the most economically disadvantaged among the minority groups."[p163] The concluding chapters of this section focus on the impact of affirmative action in medical school, special problems for black physicians ("It is my concern that we may be desegregating faster than we are integrating."[p178]), and the future of affirmative action. Fortunately, there is a strong focus on the pressing and critical need for improved education at elementary and high school levels as a key to bringing about more equality in higher education opportunity, as well as job opportunity. Finally, Dr. Curtis comments on health status and concludes that "affirmative action at all levels of education, from preschool through university, represents the best policy and program to build a strong, single, and ethnically integrated nation."[p209] As you might infer, the book is not a quick read; nor does it deserve to be read quickly. It is a combination of Dr. Curtis's experiences, accumulated insights, and data analyses, alongside a treatise on the subject of affirmative action. Parts 1 and 2 do not really break any new ground, having mostly

a historical focus. Part 3 is an interesting combination of analysis of data and personal reflection.

Jordan Cohen, president of the AAMC, argues powerfully in a recent paper that abandonment of affirmative action in medical schools could be "catastrophic."[2] He summarizes four strong reasons in favor of affirmative action programs, and concludes that "For the foreseeable future, the use of race-conscious decision making in medical school admissions is the only way medicine can meet its obligations to everyone in our society." In a recent television special on the topic, Tom Brokaw presented a fairly balanced view of the controversy.[3] Some of the most telling moments of the program involved a minority student accepted to MIT who worried that other students in his class would automatically think he was not as qualified as the other accepted nonminority students. He also seemed to imply that there may be some lingering doubt in his own mind. Another minority student, reflecting back on her experiences at the University of Michigan, was asked if she had made any white friends during college. Her answer was "none." A recent review of the topic was published in the May 2003 issue of *Academic Medicine.* In a series of articles, affirmative action is accepted because of the need for more diversity in medical school classes; the articles review what has been working at some institutions to achieve it. In his opening commentary, Michael E. Whitcomb echoes Dr. Curtis in pointing out the need for a "dramatic" improvement in the qualifications of minority applicants before any meaningful increase can be achieved.[4]

This raises another perspective to consider: namely the data that suggests a growing physician shortage and the need for expansion of medical school capacity.[5,6] This pipeline issue may well extend beyond the United States.[7] Thus the issue remains that even if race-conscious admissions were a fully accepted reality, there would not be sufficient numbers of minority students who are both qualified and willing to apply to medical school. In Richard A. Cooper's trenchant analysis, the hurdles to college graduation, combined with medical school application trends, will result in a yield of medical school applicants that "will not be sufficient to allow significant expansion of medical school capacity," leaving a "racial and ethnic composition of the physician workforce . . . at serious discordance with the characteristics and needs of the population overall."[8]

My view is that affirmative action is ultimately more an issue of philosophy than fact. Data-driven analyses, no matter how compelling, can only go so far within the limitations of social science research and politics. In the field of medicine, it boils down to whether diversity of the health care workforce—and all that it implies—serves the best interests of the health care system and the nation. As pointed out, it may be a generation or more before substantially larger numbers of qualified and willing minorities are applying to medical schools. Perhaps, as the Supreme Court notes, "25 years from now, the use of racial preferences will no longer be necessary to further the interest approved today."[1] In the meantime, medical schools must aggressively develop curricula and environments that emphasize cultural competence, professionalism, and humanism. Affirmative action—however you define it and feel about it—is a core issue for medical schools and health care.

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