BOOK REVIEW

Rachel Dioso,[1] *M.A. and William C. Thompson,*[2] *J.D., Ph.D.*

Review of: *DNA and the Criminal Justice System: The Technology of Justice*

Forensic scientists are well aware of the value of DNA tests for human identification but may not have considered fully the legal, ethical, or social issues posed by the growing use of DNA technology in the justice system. Those who are interested in these broader questions will appreciate *DNA and the Criminal Justice System: The Technology of Justice*, a volume of essays edited by David Lazer of the Massachusetts Institute of Technology. This volume, which grew out of a conference in 2000 at Harvard's Kennedy School of Government, brings together a variety of important perspectives from leading academic commentators.

The first section of the book contains a series of chapters that lay the groundwork for broader discussion. Harvard biologist Frederick Bieber provides an able summary of current technology for DNA profiling. Supreme Court Justice Stephen Breyer comments on the difficulty judges and lawyers face in coming to grips with complex scientific issues and urges more open dialogue between legal and scientific experts regarding scientific evidence. Noted science historian Simon Cole links questions raised by DNA technology to issues society faced when dealing with earlier identification technologies, such as fingerprinting. Evidence scholars Edward Imwinkelried and Margaret Berger review the impact of DNA evidence on the legal system. Berger's discussion of how postconviction DNA exonerations have upset traditional notions about the finality of jury verdicts, and raised broader questions about the fairness of the justice system, will be particularly interesting to those involved in criminal prosecutions.

Lazer introduces the volume by suggesting that DNA technology has raised important issues of trust: whether the government can be trusted to use the technology wisely and fairly and, more broadly, whether science itself can be trusted as a means toward justice. For Lazer, O. J. Simpson's acquittal was a prime example of mistrust—not mistrust of DNA technology per se, but jurors' mistrust of the legal system to use it properly. He suggests that postconviction DNA exonerations have further undermined trust in the justice system by exposing a surprising number of wrongful convictions.

The issue of trust in government may come to a head, Lazer suggests, with expanding use of government-mandated databases of DNA profiles. Some people see these databases as a crucial tool for crime control; others see them as a serious threat to liberty.

The second section of the book contains a series of chapters that examine the database issue in detail, with much discussion of who should be included in databases, what information should be included in DNA records, whether (and how long) samples should be retained, what rights of access individuals and the public should have to the records, and how the records should be used. Bioethicists George Annas and Alta Charo provide context with broad discussions of the ethical and policy issues raised by the Human Genome Project, focusing on the need to balance progress in medical research and public health with individuals' interest in privacy. The main critic is ACLU lawyer Barry Steinhardt, who argues that DNA databases pose a serious threat to liberty and privacy. Although databases are currently used only for purposes of criminal identification, Steinhardt fears "function creep" will inevitably lead to more problematic applications, such as research on the genetic basis for criminal behavior. In Steinhardt's view, the expanding use of databases is the first step down a dark pathway to racial and genetic discrimination and eugenics. Sociologist Amitai Etzioni responds that the threats envisioned by Steinhardt are overstated. Etzioni argues that the communitarian benefits that databases offer for deterring and solving crime greatly outweigh any threats they pose to individual liberty. According to Etzioni, state law can ensure that databases are used appropriately. Victor Mayer-Schoenberger adds international context by discussing the implications of international standards on privacy promulgated by the Organization for Economic Cooperation and Development (OECD). Law professors David Kaye and Michael Smith make the provocative suggestion that the government should develop universal databases in which everyone's DNA profile is entered at birth. They suggest that the major ethical concerns surrounding databases arise from the selective inclusion of some citizens and not others, and that the benefits of a universal database would outweigh any risks.

The third section of the book considers the prospect of using genetic data to predict human behavior. Science historian Garland Allen argues that genetic determinism—the notion that genes influence human behavior in a significant way—has great popular appeal but little scientific support. Because human behavior is the product of complex gene–environment interactions, genetic information is likely to have little predictive utility, particularly for predicting a behavior like "crime," which is not a specific act but an abstract, socially-defined category. One danger posed by the popular appeal of genetic determinism, Allen argues, is that behavior arising from adverse social and environmental conditions may mistakenly be attributed to "bad genes." Allen argues that in

[1] Doctoral Candidate, Department of Criminology, Law & Society, University of California, Irvine, CA.
[2] Professor, Department of Criminology, Law & Society, University of California, Irvine, CA.

the early 20th century this kind of sloppy thinking led to the Eugenics Movement and contributed to abusive use of compulsory sterilization in the United States and the horrors of the Nazi regime in Germany.

Sociologist Troy Duster argues that DNA databases may facilitate the very sort of misguided genetic determinism that Allen fears. It is only a matter of time, Duster suggests, before researchers begin using databases to look for genetic markers that predict membership in specific criminal populations. A database of violent offenders or sex criminals might seem a great boon in the quest for genes that predict violence and rape. But this quest will be illusory, Duster argues, because not all criminal offenders will be included in the database. He reviews evidence suggesting that the criminal justice system focuses disproportionate attention on crimes likely to be committed by minority group members and argues that this bias will inevitably distort efforts to find a genetic basis for crime and will do so in a manner disparaging to minorities. Expanding the databases, as suggested by Kaye and Smith, will not solve the problem, Duster argues, because there will still be a bias in who bears the label of criminal: "If the lens of the criminal justice system is focused almost entirely on one part of the population for a certain kind of activity (drug-related street crime) and ignores a parallel kind of crime (fraternity cocaine sales a few miles away), then even if the fraternity members' DNA is in the databank, they will not be subject to the same level of matching, or of subsequent allele-frequency-profiling research to 'help explain' their behavior."

The kind of research that Duster fears requires access not just to numerical STR profiles but to original biological samples, which would be assayed for additional markers that might be associated with criminality. No such research has been conducted as yet, but Duster notes that most states require preservation of the biological samples collected from those included in a database. Only Wisconsin requires destruction of the sample once a DNA profile is developed. Those who are committed to developing and using DNA databases for criminal identification should give careful thought to how Duster's fears might be addressed.

The fourth and final section of the book discusses the role of democratic discourse in addressing the use of DNA evidence in the justice system. It considers the way in which our society deals with complex issues involving science and law and how that process might be improved. Forensic scientists will be particularly interested in the chapter by Shiela Jasanoff, an expert on science and technology studies, on the role of expert advisory panels, such as the National Research Council panels that issued reports on DNA evidence in 1992 and 1996. According to some critics, the problem with these panels is that political concerns enter the process, undermining the "purity" of the scientific advice offered by the panel. But Jasanoff argues that advisory panels are inherently political, at least in part, because scientific and policy concerns cannot be neatly separated when science is used in the public arena. Only by recognizing that these panels are partly political can we ensure that they are constituted and operated in an effective manner consistent with democratic values.

In sum, this is a fascinating volume filled with provocative material. It is not a perfect book. It would have benefited from additional material on the potential for error in DNA testing and on the serious misuses of DNA technology that have come to light in Houston and other jurisdictions. Nevertheless, this is the most serious, thoughtful and thorough exposition yet to emerge on the social, ethical and legal issues posed by the expanding use of DNA technology in the justice system. It will be the starting point for any future consideration of this topic.