



## DNA and the criminal justice system

### *The technology of justice*

David Lazer, editor

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As is its biological wont, DNA has an evolving role in the justice system. No longer a tool only for the prosecution, DNA testing has become a part of post-conviction review, a sometimes-appropriate model for what is considered science by the courts, and may eventually be of assistance to the investigator in the field. DNA's biologic centrality makes these actual and potential forensic applications at once powerful and concerning. The legal and scientific communities debate the utility of forensic DNA analysis from 2 very different professional mindsets. Attorneys de facto are biased because they have clients — they are for or against some proposition brought before the court. They assist their clients through an adversarial process of rhetoric, questioning, and citing legal precedent. Attorneys have a goal: win. Scientists have a different professional perspective: they are neither for nor against either side — despite the fact that 1 of those sides called them to court — and have no stake in the matter other than representing their science and their work objectively, fairly, and accurately. Scientists communicate through open debate and progress through the incremental accumulation of information about the world. In other words, their goal is to understand the world more completely. As a result, attorneys and scientists tend to view DNA and its forensic uses differently.

*DNA and the criminal justice system* (the title is drawn from a conference of the same name held at the John F. Kennedy School of Government in 2000), edited by David Lazer, captures this difference as it explores how DNA is used in the criminal justice system and how it may be used in the future. Read completely, Lazer's book provides a comprehensive view of the legal issues surrounding forensic DNA testing. The book covers 3 main areas: how DNA testing has affected the criminal justice system; privacy and security concerns; and

the creeping use of DNA to predict criminal behavior. Lazer has done a superb job of balancing the chapters and has produced a volume of high quality that will stand as a necessary reference for many years to come.

The crux of the argument about how DNA has affected the criminal justice system centers on post-conviction DNA testing. Without a doubt, post-conviction DNA testing has exonerated many innocent individuals. But does exoneration mean innocence? Just because the defendant's DNA wasn't found on crucial evidence doesn't mean he or she wasn't involved in the commission of the crime; a sexual assault can still occur without a male ejaculating. "Absence of evidence is not evidence of absence," as the old forensic chestnut goes. The context of the evidence is a primary factor in the interpretation of any DNA results. Another lingering question relates to the professional mindset previously discussed — how can DNA results be infallible for exoneration but flawed for conviction? The other side of this coin is reflected in the stubbornness of some prosecutors who reject post-conviction DNA testing because guilty means guilty. These are, notably, biased perspectives and are pitched from the professional stances of those who espouse them. Attorneys that consider DNA testing to be the "gold standard" of science are ignoring what any scientist could tell you: DNA analysis is just another method with benefits and limitations, depending on how you apply it.

The debate that courses through the middle portion of the book stems from the potential for abuse of DNA databases. The concern is that medical, genetic, or otherwise personal information will be gleaned from DNA databases that reside in the hands of the government. The DNA profiles used for forensic science are generated from noncoding sections of the human genome — that is, the sections were specifically chosen because they contain

no useful medical or behavioral information. A close understanding of the implications of this fact quells or negates most of the worries expressed in these chapters. What happens to the samples, however, is a more troubling situation. Should the DNA samples be retained for potential reanalysis or post-conviction testing? Yes. Does this place the DNA of those convicted (or those accused, in some cases) in the hands of government? Yes. Are certain demographic groups (i.e., the poor and the non-white) overrepresented in those databases? Sometimes. Interestingly, Sir Alec Jeffries, the scientist who developed the method used in forensic DNA testing, suggests that samples from *all* citizens should be in the forensic database, as that would ensure true equality.

The final section of the book discusses the concerns over eugenics and the prediction of criminality from a person's genes. Garland Allen's chapter on this is excellent and, in my opinion, he settles the argument by concluding, "the kind of data that exist at present simply do not allow us to draw any valid conclusions about a genetic influence in criminal behavior."

The roster of authors is astounding, and each chapter succeeds on its own. Several of the chapters are particularly noteworthy. Fred Bieber's chapter on the science and technology of forensic DNA profiling is as succinct and well written as any summary of this complicated topic I have read. Margaret Berger's chapter on lessons learned is a well-reasoned argument for post-conviction testing (although her claim that some traditional forensic techniques are "worthless" seems a bit overblown). And finally, Lazer and Michelle Meyer's consensus and debate summary reifies and condenses the arguments in a thoughtful and concise conclusion. *DNA and the criminal justice system* is a valuable and insightful reference on law and policy regarding the use of DNA in the courts.