

**AMERICAN SOCIETY OF LAW, MEDICINE & ETHICS
DNA FORENSICS AND CIVIL LIBERTIES: WORKSHOP 1**

Forensic Use of DNA: Summary of Selected Law Review and Law Journal Articles

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Lindsay A. Elkins, *Five Foot Two with Eyes of Blue: Physical Profiling And The Prospect Of A Genetics-Based Criminal Justice System*, 17 Notre Dame J. L.Ethics & Pub. Pol'y 269 (2003)

Criminal investigators and law enforcement agents should utilize the new scientific breakthroughs that give DNA labs the ability to identify physical traits including height, eye color, sex, and race from a trace of DNA material. Hundreds of thousands of cases with DNA samples go unsolved each year due to lack of suspects and inadequate use of existing technology. It seems that DNA profiles will meet the legal requirement that a warrant describe the arrestee either by name or with reasonable certainty, and attorneys are basing indictments solely on the DNA profiles of yet unidentified suspects to prevent the statute of limitations from running out. Although DNA-based physical profiling might raise a constitutional equal protection problem, it can pass constitutional muster because no group is singled out for special treatment and no one is penalized because of hostility toward a particular trait or race. Additionally, DNA analysis could serve as an antidote to racial profiling in that reliance on genetic information in crime scene samples could correct tendencies to pursue one group disproportionately. There are three reasons, though, to pay significant attention to the complex, non-fatalistic, relationship between genes and human traits: history (e.g. Hitler), social construction (e.g. a criminal is not an isolated being whose social environment is generally inconsequential), and unwarranted media attention. But while biology may not dictate human behavior in any single individual, the shared components of human psychology nevertheless contribute substantially to the average patterns exhibited across the entire human population—and are thus within the scope of every legal regime.

Paul C. Giannelli, *The DNA Story: An Alternative Viewpoint (book review)*, 88 J. Crim. L. & Criminology 380 (1997)

The most significant legal issues that arose in the early era of DNA admissibility were: the improper use of scientific techniques, insufficient pretrial discovery, the difficulty of obtaining defense experts and the lack of independent scientific procedures. The author suggests that we must acknowledge why DNA tests were at first highly contested because it will help the community improve the next time a new scientific discovery promises to provide compelling evidence for criminal trials.

Jeffrey S. Grand, *The Bleeding of America: Privacy and the DNA Dragnet*, 23 Cardozo Law Review 2277 (2002)

Collection and analysis of biological samples in DNA dragnets may constitute an unreasonable search or seizure under the 4th Amendment. If a reasonable person in similar circumstances would not have felt free to leave, police detention to obtain a sample may be an illegal seizure. The collection methods and subsequent examination of the sample may constitute an illegal search if the government conduct infringes upon an area to which an individual has a reasonable expectation of privacy. However, the exigent circumstances, special needs and consent exceptions to the probable cause/warrant requirement still of course apply. (However, if the special needs exception is invoked, the police must establish a non-law enforcement purpose. See *Ferguson v. City of Charleston*, 532 U.S. 67 (2001).) Federal courts are not likely to find 4th Amendment privacy concerns implicated by the subsequent use of DNA profiles in unrelated criminal investigations. DNA dragnets may also implicate a recognized constitutional right to privacy independent of the 4th Amendment. Some proposed statutory guidelines for the regulation of DNA dragnets and databases include stringent access and storage regulations, the destruction or return of a sample following the creation of its profile and fully informed, written consent from donors.

Ronald M. Green & A. Mathew Thomas, *DNA: Five Distinguishing Features for Policy Analysis*, 11 *Harv. J.L. & Tech.* 571 (1998)

The law may need to move towards a more family-centric or even community-centric viewpoint as opposed to solely focusing upon the rights of the individual in question. DNA information has the potential to not only affect the individual from whom the DNA is taken but also to affect the family of the individual and even the ethnic group to which the individual belongs. There are three other features of DNA that also suggest it should be afforded a higher degree of protection than that afforded other forms of biological materials used for identification purposes. First, DNA contains a great deal of information about an individual. Not only does it provide a method for identification, but it can also reveal personal information about the individual that can be used for the wrong reasons and be interpreted with an unduly strong adherence to genetic determinism. Second, DNA databanks suggest that DNA information will be preserved for long periods of time, and thus may be used in newly developed tests to which the donor did not consent. Third, DNA is a unique identifier, which is problematic in cases of desired anonymous donation, such as tissue donation.

David H. Kaye, *Two Fallacies About DNA Data Banks for Law Enforcement*, 67 *Brook. L. Rev.* 179 (2001)

Confining forensic loci to non-coding regions is neither necessary nor sufficient to protect privacy. Limiting the coverage of the databases to sexual offenses and violent felonies would also be unduly restrictive. Conspicuously absent is a clear and convincing statement of the liberty or dignitary interests being threatened. While more research is needed if the database laws are to select those crimes that are the most appropriate to trigger collection of DNA, there are clear indications that limiting coverage to violent felons significantly compromises the power of the data bases to identify perpetrators of both violent and nonviolent crimes and to deter criminal misconduct. Creating a hodgepodge of DNA databases on the basis of contacts with police, prosecutors and judges is sure to compound the racial polarization of our criminal justice system, while foregoing the deterrent and investigative capability that a population-wide database would afford. Conversely, a comprehensive DNA could act as a mild antidote to conscious or unconscious racial biases. However, *City of Indianapolis v. Edmond*, 531 U.S. 32 (2000), and *Ferguson v. City of Charleston*, 532 U.S. 67 (2001), confine the special needs doctrine to programs of searches and seizures adopted for a primary purpose other than catching or deterring offenders, effectively pulling the rug out from under the earlier database cases. Three legal arguments might justify the exercise of the police power to construct and operate DNA databases in the aftermath of *Edmond* and *Ferguson*, including a new exception to the warrant requirement for the relatively non-intrusive collection of non-stigmatizing, personally identifying markers that can generate a list of probable perpetrators of serious crimes.

Richard Lempert, *The Suspect Population and DNA Identification*, 34 *Jurimetrics J.* 1 (1993)

The probative value of the match is determined by estimating the probability that alleles extracted from the blood of some random individual would have matched the alleles in the evidence sample. This probability estimate is typically made by estimating the frequency with which specific alleles are found in some population. Analysts have argued that given population substructure, allele frequencies estimated on the basis of a laboratory's reference sample may understate the allele frequencies in the ethnic group to which the defendant belongs and configurations of alleles, as estimated by the product rule, may underestimate the probability that these configurations would be found in specific subpopulations. Yet the population substructure problem is often not serious. Thinking in terms of suspect populations reveals that often there is little reason to be concerned that a defendant's ethnic group is poorly represented in a laboratory population database. No problem will arise unless the "suspect population," which is to say the group of people who plausibly might be suspected of having committed the crime, contains members of the same inbred group. Even if alleles that match the defendant's are substantially more common among

his ethnic peers than within the suspect population, there is little reason for concern if allele frequencies have been conservatively estimated in the first instance.

As the proportion of the suspect population that belongs to the defendant's particular ethnic group increases, the attention that must be paid to allele frequencies within that group also increases. However, random probabilities of matching allele configurations are often so low that even though the group of potential suspects may be much larger than the group of close relatives, the probability that at least one person has matching DNA will be larger, and sometimes considerably so, for the group of relatives than for the group of unrelated suspects. In these circumstances relatives in the suspect population must be treated separately from unrelated individuals. At least until DNA data bases come on line, a substantial amount of non-DNA evidence ordinarily will link a defendant whose DNA is tested to the alleged crime. Where the non-DNA evidence is weak or where that evidence would as strongly implicate related others, as an identification based on appearance and accent might, the cautions mentioned above are essential if the DNA evidence is to be given its proper weight and justice is to be done.

Jennifer L. Mnookin, *Fingerprint Evidence in an Age of DNA Profiling*, 67 *Brook L. Rev.* 13 (2001)

Fingerprint evidence was rapidly accepted in courtrooms despite a lack of evidence on the validity of using fingerprints to identify putative criminals. The early reaction to DNA evidence in the courtroom was very similar to the reaction to fingerprint evidence. First, just as fingerprint cases relied upon the testimony of police identification experts, the prosecution relied upon the expert testimony of forensic scientists who worked at the company that developed the DNA testing procedure. Second, as in the fingerprint cases, the judges in the early DNA cases were preoccupied with the general notion of the uniqueness of human characteristics—that we can all be identified by looking to some part of our physical body. Finally, as in the fingerprinting cases, there was a lack of defense experts to critique the results of the new DNA testing procedure. Recent questions that have been raised about the validity of DNA testing raise objections similar to those raised concerning the use of fingerprint evidence in the courtroom. Most of these criticisms, however, have been to no avail.

Mark A. Rothstein & Sandra Carnahan, *Legal and Policy Issues in Expanding the Scope of Law Enforcement DNA Databanks*, 67 *Brook L. Rev.* 127 (2001)

Constitutional challenges have been articulated against expanding the scope of DNA databases. Inmates have suggested that state statutes only requiring certain types of offenders to provide DNA samples violate the Equal Protection clause of the 14th Amendment. These claims have been consistently struck down by courts under rational basis review. Individuals have suggested that forcing certain classes of offenders to provide DNA samples violates their 5th amendment right against self-incrimination. Courts have consistently held that the DNA sample requirement does not violate the 5th Amendment because the DNA contained in one's blood is not testimonial evidence and as such is similar to forcing an accused to produce voice exemplars, urine, blood, and other items similarly not protected by the 5th. The most formidable of the constitutional challenges to forcing inmates to provide DNA samples is that of violation of the 4th Amendment protection against unreasonable search and seizure. In the cases of mandatory DNA testing, the courts have relaxed the typical warrant and probable cause requirements, stating that the courts have the right to such intrusion because the balance of interests weighs in the government's favor (the interests being the degree of intrusion upon an individual's privacy and the government's interest in solving criminal cases). The courts have also suggested that the actual physical intrusion of a DNA test is minimal (and are therefore perhaps not even a search) and in the case of criminals they already have reduced privacy rights due to their status. Given this legal landscape, the authors provide five detailed suggestions for lawmakers involved in developing DNA databank legislation.

William C. Thompson, *A Sociological Perspective on the Science of Forensic DNA Testing*, 30 *U.C. Davis L. Rev.* 1113 (1997)

The culture of forensic science and forensic scientists is different than the culture of science in general, which in the author's opinion is highly problematic. Scientific evidence generated from forensic

laboratories is more likely to be biased than if scientific evidence were produced from the general scientific community at large. Forensic scientists are required to sell their services to law enforcement agencies, prosecutors, or defense attorneys, and as such, they have an incentive to put a good face on their work. In addition, since the forensic scientists know what they are looking for, they are unlikely to rigorously scrutinize their experimental methods. Forensic scientists may identify themselves with the actual side that they are representing and, as such, do their best to be team players. Numerous problems have been found with the way DNA testing is carried out in major criminal laboratories in the US, including the use of the subjective opinions of analysts, as opposed to more objective and rigorous procedures for interpreting the results of DNA tests. For all of the above reasons, the practice of forensic science should be reformed, or the courts should turn to the broader scientific community to evaluate the validity of such scientific evidence.