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# Background Information

A brief explanation of admissibility of scientific/forensic expert evidence in court: Before any expert forensic testimony such as a DNA analysis is admitted into evidence, it must meet several criteria. First, the evidence must be relevant. For example, DNA from the crime scene that belongs to the defendant would be relevant evidence, but DNA from the crime scene that belongs to some other person may or may not be relevant depending on the circumstances. Second, the evidence must be authenticated. In criminal cases involving DNA, the key term is "chain of custody." Chain of custody means that the police can track the progression of evidence through the police system to show that it has not been mishandled or contaminated. Third, the evidence must meet the court's standards for scientific reliability. The affirmative plan seeks to increase the court's standards for scientific reliability and require that scientific reliability hearings be held.

There are two primary standards for scientific reliability of evidence in the United States: *Frye* and *Daubert*. The test in *Frye v. United States* states that scientific/forensic evidence can be admissible in court when it is "sufficiently established to have gained general acceptance in the particular field in which it belongs." In other words, if scientists generally accept that DNA evidence is a reliable means of determining if a suspect was at the scene of the crime, the DNA evidence is admissible. The *Frye* test is not used in federal court, but a majority of state courts either use the *Frye* test or use a standard very similar to the *Frye* test. The test in *Daubert v. Merrill Dow Pharmacuticals* is a more complex test. First, *Daubert* requires the party seeking to admit scientific evidence to prove that the scientific methodology underlying the evidence was derived from the scientific method. In the context of DNA, this means that a prosecutor must prove that the DNA testing methodology has been studied and tested by going through all of the steps of the scientific method. Second, *Daubert* requires a showing of scientific reliability based on a set of factors. While the Supreme Court has used a number of different factors to determine the admissibility of scientific/forensic evidence, the primary *Daubert* factors are:

1. Whether the theory or technique employed by the expert is generally accepted in the scientific community (note: this is the *Frye* test);

2. Whether it has been subjected to peer review and publication;

3. Whether it can be and has been tested; and

4. Whether the known or potential rate of error is acceptable.

Finally, some courts have begun to take "judicial notice" of the scientific reliability of DNA evidence. Judicial notice is most commonly used to bring certain facts into evidence that cannot be disputed. For example, a judge might choose to take judicial notice of the fact that February 5, 2018, was a Monday, not a Tuesday, or that only 0.2 inches of snow fell in Washington D.C. during February in 2018. Judges sometimes apply judicial notice to DNA evidence because the techniques used to test DNA are not considered subject to reasonable dispute by the court. The affirmative argues that the use of judicial notice is improper in the DNA context both because of the development of new DNA techniques and the high potential for mishandling DNA evidence at the crime lab.

# Strategy/Argument Guide

As shown in the Background Information above, the exact details of this affirmative are complicated and based on various Supreme Court cases. However, the affirmative can be simplified:

1. The plan, in its most basic, mandates the Supreme Court to increase the reliability standard for DNA evidence and require that scientific reliability hearings are conducted to determine said reliability of evidence (based on ***Daubert v. Merrill Dow Pharmaceuticals)***. This is currently not done for DNA evidence.
2. By requiring DNA evidence to reach the reliability threshold, it would keep bad evidence out of the courts and lead to the advantage, “Reducing Wrongful Convictions and Institutional Racism in the Court System”
3. The impacts to this advantage are numerous (wrongful convictions, erosion of civil liberties, racism) but the terminal impact is white supremacy and eugenics (the study of how to arrange reproduction within a human population to increase the occurrence of heritable characteristics regarded as desirable)
4. The affirmative rejects the lens of utilitarianism, explaining that it leads to justifications of practices such as eugenics

This file contains many extensions regarding the Wrongful Convictions/Institutional Racism Advantage, but there also exists a large literature base on this topic that could lead to other advantages being developed.

# 

# 1AC 1/17

**Plan: The Supreme Court of the United States should, in the next available test case, extend the rule in *Daubert v. Merrill Dow Pharmaceuticals* to increase the threshold for the scientific reliability of DNA evidence and require *Daubert* hearings in all cases and in all courts prior to the admission of DNA evidence.**

**The reliance on forensic DNA science is increasing and judges are the key gatekeepers to keep bad DNA science out of courts**

Robert M. **Sanger 2019** (Professor of Law and Forensic Science, Santa Barbara College of Law); ARTICLE: FORENSICS: EDUCATING THE LAWYERS, 43 J. Legal Prof. 221, 228; Lexis (Spring 2019)

The indisputable fact is that forensic science is ubiquitous in litigation, both criminal and civil, and the reliance on forensic evidence is increasing. The leaders in forensic science have been attempting to increase the level of science in forensic science. Unfortunately, the end users of this forensic science are the lawyers and, ultimately, the judges who allow juries to hear or not hear the evidence. This is where the best intentions of the leaders in forensic science are thwarted. If judges do not do their job in gatekeeping, there is nothing to distinguish between "good" science and sub-standard science. Regrettably, sub-standard science is always available for a price.

# 1AC 2/17

**And unproven DNA science is the basis of most modern convictions.**

**Cino 2017**. Jessica Gabel Cino (Associate Professor of Law, Georgia State University College of Law). ARTICLE: TACKLING TECHNICAL DEBT: MANAGING ADVANCES IN DNA TECHNOLOGY THAT OUTPACE THE EVOLUTION OF LAW, 54 Am. Crim. L. Rev. 373, 54 Am. Crim. L. Rev. 373, 420 (2017). Lexis.

DNA used to be corroborating evidence. Now, cases are packaged and sold to juries with nothing more than DNA evidence. Essentially, DNA has been translated to "Do Not Acquit" in the minds of jury members, and evidence produced by old-fashioned investigative work is disappearing. Instead, we are embracing a criminal justice system in which science is purportedly able to determine a person's physical characteristics faster--and with less DNA than ever before. This is not a far cry from using genetic markers to assess an individual's propensity for crime or violence. Forget judge and jury: instead, untested science will determine the fate of individuals--possibly for the duration of their lives. Given the near-religious embrace of DNA, this is not a far-fetched concern.

# 1AC 3/17

**Further, focus on DNA testing has caused crowd-out of more traditional and reliable criminal forensics such as trace evidence and fingerprinting**

**Cino 2017**. Jessica Gabel Cino (Associate Professor of Law, Georgia State University College of Law). ARTICLE: TACKLING TECHNICAL DEBT: MANAGING ADVANCES IN DNA TECHNOLOGY THAT OUTPACE THE EVOLUTION OF LAW, 54 Am. Crim. L. Rev. 373, 54 Am. Crim. L. Rev. 373, 373 (2017). Lexis.

From its initial development in the 1980s as an identification tool, the use of DNA in criminal cases--both to convict defendants and exonerate the wrongly convicted--has been prolific. By the 1990s, Congress focused on forensic DNA research and development. As DNA continued to expand its footprint as the ostensible "gold standard" in criminal investigations, an extraordinary amount of the federal funding allocated to crime labs was specifically earmarked for DNA expansion. Because of this, research and development of new DNA analytical techniques was a lucrative business. Indeed, the funding abundance for DNA collection, testing, and retention far outstripped other crime lab allotments, despite the fact that DNA analysis only represented a small portion of crime lab work at that time. Two decades later, DNA testing is now a primary hub of many labs, forcing other traditional forensic lab departments--such as trace evidence or fingerprints--to cut back or close shop.

# 1AC 4/17

**The epistemological failure of law to prevent junk science from infiltrating courts results in high rates of wrongful convictions**

Robert M. **Sanger 2019** (Professor of Law and Forensic Science, Santa Barbara College of Law); ARTICLE: FORENSICS: EDUCATING THE LAWYERS, 43 J. Legal Prof. 221, 222; Lexis (Spring 2019)

Thomas Kuhn famously wrote about the epistemological paradigm shift that has to occur in science in order for progress to be made. As long as the current paradigm is accepted, even the most advanced thinking of those involved in a discipline will be limited by that paradigm. Historically, the transition from one paradigm to another often begins with a discomfort over the manner in which the data fits the paradigm. The data relating to what it means to be a lawyer or a judge is shifting, but the paradigm of the law school curriculum -- the very framework in which lawyers and judges are educated -- is slow to change. The data shows that lawyers and judges are not adequately dealing with an important component of the job for which they were inadequately educated. The data empirically demonstrates that this inadequate education has resulted in a crisis in the courts. It is a crisis of forensic science. Wrongful convictions have been documented at an alarming rate and a substantial number of those wrongful convictions, including condemnation of innocent people to death, are the result of substandard forensic expert testimony. In addition, controversies regarding civil judgments have continued to proliferate focusing on what is characterized as "junk science" invoked either for the plaintiffs or the defendants -- or, sometimes, both.

# 1AC 5/17

**Lower courts have excused DNA from the rule in *Daubert* requiring evidentiary hearings, which results in the unquestioned-admission of DNA evidence by judicial notice**

**Cino 2017**. Jessica Gabel Cino (Associate Professor of Law, Georgia State University College of Law). ARTICLE: TACKLING TECHNICAL DEBT: MANAGING ADVANCES IN DNA TECHNOLOGY THAT OUTPACE THE EVOLUTION OF LAW, 54 Am. Crim. L. Rev. 373, 54 Am. Crim. L. Rev. 373, 373-75 (2017). Lexis.

Despite the "gold standard" label, DNA profiling was not always so readily accepted. Like any scientific evidence, the process of DNA profiling must meet certain standards in order to be admitted at trial. The path to DNA's widespread recognition and admissibility began with the landmark case of Daubert v. Merrill Dow Pharmaceuticals, Inc. In Daubert, the Supreme Court created a new standard to use when evaluating the admissibility of scientific evidence in federal court. The Court determined that the [Federal Rule of Evidence 702](https://advance.lexis.com/document/?pdmfid=1000516&crid=50166961-2988-4048-adb0-b2194e8f5700&pddocfullpath=%2Fshared%2Fdocument%2Fanalytical-materials%2Furn%3AcontentItem%3A5N7W-JR90-00CV-8227-00000-00&pdcontentcomponentid=168966&pdteaserkey=sr6&pditab=allpods&ecomp=kxdsk&earg=sr6&prid=1120bc68-c797-4e58-a5d8-f1e12bf8c97f) eliminated the old Frye test and decided that federal courts must apply a relevance test to determine whether scientific evidence and testimony should be admitted. Under the Daubert standard, judges must first find that DNA expert's scientific evidence is "reliable and relevant, both in theory and in the expert's methodology." In its evaluation, courts may consider factors including: (1) whether the underlying principles and methods are susceptible to empirical testing, (2) whether the underlying principles and methods have been subjected to peer review and publication within the relevant community, (3) whether there exists a known or potential error rate, and (4) whether the principles and methods are generally accepted in the relevant community. While DNA evidence can--and, in appropriate cases, must--be questioned prior to trial, many courts skip the in-depth Daubert analysis, with some going so far as to take judicial notice of the reliability of DNA evidence. After Daubert, the phenomenon of taking judicial notice of the reliability of DNA profiling became more common after the Eighth Circuit's decision in United States v. Martinez. In Martinez, investigators recovered sperm from the clothing of a rape victim and conducted a DNA analysis to determine if the sperm matched the defendant Martinez. The analysis yielded a match and prosecutors sought to admit evidence of the match at trial. The district court admitted this evidence, but refused to admit a statistical analysis that indicated the DNA profile could be found in "1 in 2600 American Indians." Martinez appealed on the basis that the admission of evidence of a DNA match without the relevant statistical probabilities that the DNA could have come from another individual was improper, and that all DNA evidence should have been excluded. In lieu of conducting its own independent Daubert analysis on appeal, the Eighth Circuit looked to the Second Circuit, which had recently concluded that DNA evidence survived Daubert and that the "reliability of the general theory and techniques of DNA profiling [were] valid." The Martinez court went on not only to admit the DNA evidence, but also prospectively held that courts can take judicial notice of the reliability of DNA analysis. The Eighth Circuit, however, provided an important limitation on the ability to essentially replace Daubert with judicial fiat in assessing the reliability of DNA evidence. The Martinez court's caveat noted that Daubert hearings would be required in order to determine admissibility of DNA evidence if the technology, methods, or procedures used developed or changed. Despite the Martinez caution, DNA is rarely subject to renewed Daubert scrutiny even though the technology continues to evolve. Indeed, the upmarket peddling of DNA evidence in fictional television dramas has translated to real life courtrooms: judges and juries want more science and the criminal justice system has responded. But maybe the DNA overkill was too much too soon. There is a vast amount of biological input that goes into the DNA system. With more input comes the need for more warehousing and output and an explosion in the size of DNA databanks. As of November 2016, the National DNA Indexing System ("NDIS") contains over 12,647,876 convicted offender profiles and 2,551,917 arrestee profiles. While the breadth of DNA databanks broadens, so too does the application of genetic research. The thirst to incorporate and accept technologies--like stem cell research, cloning, or genetic-based medicine--only increases as scientists continue to disentangle the human genome and intermingle its everevolving applications in criminal investigations.

# 1AC 6/17

**The Plan reverses this trend by requiring courts to examine DNA evidence under *Daubert* prior to its admission rather than rely on judicial notice**

**Cino 2016**. Jessica G. Cino (associate professor at Georgia State University College of Law). 2016 FLAWED FORENSICS AND INNOCENCE SYMPOSIUM: AN UNCIVIL ACTION: CRIMINALIZING DAUBERT IN PROCEDURE AND PRACTICE TO AVOID WRONGFUL CONVICTIONS, 119 W. Va. L. Rev. 651 (2016).

There can be little debate that, since Daubert, the legal landscape has experienced an explosion in expert litigation and epic battles of admissibility, qualifications, and validity. While this trend is more prominent in federal courts (that house the cradle of Daubert and Rule 702), the influx of science in state courts is not far behind. Daubert charges trial courts with the responsibility to weigh specified criteria and weed out claims or defenses founded on expert evidence that cannot be shown to be reliable. Frye lacks the ability to keep pace with the current state of science, research, and technology, and should be retired in favor of Daubert's more modern, scientifically defensible standard for the admissibility of expert testimony. All courts should follow Daubert for expert testimony in criminal cases - and abandon the easy road of judicial notice, acquiescence, and apathy - because "reliable expert opinion testimony is no less important in criminal cases than it is in civil cases." Adopting Daubert holistically could be deemed a quixotic quest, but the incongruent treatment of scientific evidence in criminal and civil cases should be abandoned. Yes, there is unease about hired guns in civil cases, but the loss of liberty and life in criminal cases warrants equal concern. In criminal cases, unlike civil cases, courts have generally been unwilling to exclude scientific evidence for lack of sufficient validation and reliability. Scientific reliability and legal reliability should be two sides of the same coin. Forensic science is raising its reliability bar, and we should raise the legal bar. When the evidence is admitted, it has received the gold-seal of reliability. Attaining that seal is all-too-easy in a criminal case. Real analysis of the evidence is required. Admissibility and reliability determinations rest on more than satisfaction of a threshold sufficiency factor; they require detailed consideration of what the evidence demonstrates and how the trier of fact will weigh it. A one-size-fits-all Daubert may not be the best approach in theory, but I believe it is the best approach in practice. The late and esteemed Margaret Berger noted that "what criminal defendants need in order to deal more effectively with the forensic identification expertise proffered against them is not more Daubert, but tools that would enable them to make more cogent evidentiary arguments - better counsel, access to expert assistance and more discovery." That statement is absolutely true, but it will take years of resource reallocations and legislative lobbying to achieve anything close to it. At this moment, we are on the cusp of breakthroughs in forensic science. But much like the law, not all crime labs will immediately adopt the more scientific approach. As one arm of the criminal justice system, we have a legal obligation to meet the challenge of new and old evidence with appropriate admissibility standards that reflect the advancements of science now and in the future. If we fail to do so, then we only perpetuate the ongoing problem of bad science and wrongful convictions.

# 1AC 7/17

**The Advantage is Reducing Wrongful Convictions and Institutional Racism in the Court System**

**Blind testing studies have proved DNA mistakes have put innocent people behind bars**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

A groundbreaking study by Itiel Dror, a cognitive neuroscientist at University College London, and Greg Hampikian, a biology and criminal-justice professor at Boise State University, illustrates exactly how subjective the reading of complex mixtures can be. In 2010, Dror and Hampikian obtained paperwork from a 2002 Georgia rape trial that hinged on DNA typing: The main evidence implicating the defendant was the accusation of a co-defendant who was testifying in exchange for a reduced sentence. Two forensic scientists had concluded that the defendant could not be excluded as a contributor to the mixture of sperm from inside the victim, meaning his DNA was a possible match; the defendant was found guilty.Dror and Hampikian gave the DNA evidence to 17 lab technicians for examination, withholding context about the case to ensure unbiased results. All of the techs were experienced, with an average of nine years in the field. Dror and Hampikian asked them to determine whether the mixture included DNA from the defendant. In 2011, the results of the experiment were made public: Only one of the 17 lab technicians concurred that the defendant could not be excluded as a contributor. Twelve told Dror and Hampikian that the DNA was exclusionary, and four said that it was inconclusive. In other words, had any one of those 16 scientists been responsible for the original DNA analysis, the rape trial could have played out in a radically different way. Toward the end of the study, Dror and Hampikian quote the early DNA-testing pioneer Peter Gill, who once noted, “If you show 10 colleagues a mixture, you will probably end up with 10 different answers” as to the identity of the contributor. (The study findings are now at the center of the defendant’s motion for a new trial.) “Ironically, you have a technology that was meant to help eliminate subjectivity in forensics,” Erin Murphy, a law professor at NYU, told me recently. “But when you start to drill down deeper into the way crime laboratories operate today, you see that the subjectivity is still there: Standards vary, training levels vary, quality varies.”

# 1AC 8/17

**And new DNA forensic techniques such as using mixed samples contributes to errors - its more subjective art than science**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

The problem, as a growing number of academics see it, is that science is only as reliable as the manner in which we use it—and in the case of DNA, the manner in which we use it is evolving rapidly. Consider the following hypothetical scenario: Detectives find a pool of blood on the floor of an apartment where a man has just been murdered. A technician, following proper anticontamination protocol, takes the blood to the local crime lab for processing. Blood-typing shows that the sample did not come from the victim; most likely, it belongs to the perpetrator. A day later, the detectives arrest a suspect. The suspect agrees to provide blood for testing. A pair of well-trained crime-lab analysts, double-checking each other’s work, establish a match between the two samples. The detectives can now place the suspect at the scene of the crime. When Alec Jeffreys devised his DNA-typing technique, in the mid-1980s, this was as far as the science extended: side-by-side comparison tests. Sizable sample against sizable sample. The state of technology at the time mandated it—you couldn’t test the DNA unless you had plenty of biological material (blood, semen, mucus) to work with. In North Carolina, state and local law-enforcement agencies operating crime labs are compensated $600 for DNA analysis that results in a conviction. But today, most large labs have access to cutting-edge extraction kits capable of obtaining usable DNA from the smallest of samples, like so-called touch DNA (a smeared thumbprint on a window or a speck of spit invisible to the eye), and of identifying individual DNA profiles in complex mixtures, which include genetic material from multiple contributors, as was the case with the vaginal swab in the Sutton case. These advances have greatly expanded the universe of forensic evidence. But they’ve also made the forensic analyst’s job more difficult. To understand how complex mixtures are analyzed—and how easily those analyses can go wrong—it may be helpful to recall a little bit of high-school biology: We share 99.9 percent of our genes with every other human on the planet. However, in specific locations along each strand of our DNA, the genetic code repeats itself in ways that vary from one individual to the next. Each of those variations, or alleles, is shared with a relatively small portion of the global population. The best way to determine whether a drop of blood belongs to a serial killer or to the president of the United States is to compare alleles at as many locations as possible. Think of it this way: There are many thousands of paintings with blue backgrounds, but fewer with blue backgrounds and yellow flowers, and fewer still with blue backgrounds, yellow flowers, and a mounted knight in the foreground. When a forensic analyst compares alleles at 13 locations—the standard for most labs—the odds of two unrelated people matching at all of them are less than one in 1 billion. With mixtures, the math gets a lot more complicated: The number of alleles in a sample doubles in the case of two contributors, and triples in the case of three. Now, rather than a painting, the DNA profile is like a stack of transparency films. The analyst must determine how many contributors are involved, and which alleles belong to whom. If the sample is very small or degraded—the two often go hand in hand—alleles might drop out in some locations, or appear to exist where they do not. Suddenly, we are dealing not so much with an objective science as an interpretive art.

# 1AC 9/17

**In fact, DNA evidence at trial all but ensures a guilty verdict - statistics and juror expectations prove**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

While helping to overturn wrongful convictions, DNA was also becoming more integral to establishing guilt. The number of state and local crime labs started to multiply, as did the number of cases involving DNA evidence. In 2000, the year after Sutton was convicted, the FBI’s database contained fewer than 500,000 DNA profiles, and had aided in some 1,600 criminal investigations in its first two years of existence. The database has since grown to include more than 15 million profiles, which contributed to tens of thousands of investigations last year alone. As recognition of DNA’s revelatory power seeped into popular culture, courtroom experts started talking about a “CSI effect,” whereby juries, schooled by television police procedurals, needed only to hear those three magic letters—DNA—to arrive at a guilty verdict. In 2008, Donald E. Shelton, a felony trial judge in Michigan, published a study in which 1,027 randomly summoned jurors in the city of Ann Arbor were polled on what they expected prosecutors to present during a criminal trial. Three-quarters of the jurors said they expected DNA evidence in rape cases, and nearly half said they expected it in murder or attempted-murder cases; 22 percent said they expected DNA evidence in every criminal case. Shelton quotes one district attorney as saying, “They expect us to have the most advanced technology possible, and they expect it to look like it does on television.” Shelton found that jurors’ expectations had little effect on their willingness to convict, but other research has shown DNA to be a powerful propellant in the courtroom. A researcher in Australia recently found that sexual-assault cases involving DNA evidence there were twice as likely to reach trial and 33 times as likely to result in a guilty verdict; homicide cases were 14 times as likely to reach trial and 23 times as likely to end in a guilty verdict. As the Nuffield Council on Bioethics, in the United Kingdom, pointed out in a major study on forensic evidence, even the knowledge that the prosecution intends to introduce a DNA match could be enough to get a defendant to capitulate.

# 1AC 10/17

**Wrongful convictions are the justice system’s worst nightmare and a threat to public safety and democratic society.**

**Furman 2003**. H. Patrick Furman (Clinical Professor of Law @ University of Colorado). Wrongful Convictions and the Accuracy of theCriminal Justice System. University of Colorado Law School. 2003. https://scholar.law.colorado.edu/cgi/viewcontent.cgi?article=1509&context=articles

The wrongful conviction of an innocent person is the worst nightmare to anyone who cares about justice. Eighty years ago, Judge Learned Hand said, "Our procedure has always been haunted by the ghost of the innocent man convicted. It is an unreal dream."' The good judge was, as events of the last decade have conclusively proved, simply wrong. Although the criminal justice system has a number of safeguards designed to ensure that wrongful convictions are avoided, and the overwhelming majority of convictions are accurate determinations of fact, it is clear that wrongful convictions do occur. For decades, public attention focused on the danger of a guilty person going free. Some people question, for example, whether the trade-off created by the exclusionary rule between the loss of probative evidence and the need to regulate police conduct is appropriate.2 Others argue that the courts are too stingy in admitting evidence of other misconduct by a criminaldefendant.3 Although these issues can affect the accuracy off actual determinations by the criminal justice system, this article focuses on the other side of the accuracy issue: the danger of convicting a factually innocent person.4 Recent advances in DNA technology and other forensic sciences, along with hard work by lawyers and non-lawyers alike, have focused attention on the danger and reality of convicting an innocent person.5CONCERN ABOUTWRONGFUL CONVICTIONS Wrongful convictions are a concern of prosecutors and defense lawyers, liberals and conservatives, lawyers and non-lawyers. The issue involves the accuracy in the justice system, and accuracy is a goal that is shared by everyone. It concerns anyone who cares about law enforcement and public safety. For every innocent person wrongfully convicted, a guilty person roams free. Indeed, because the justice system is one of the corner-stones of democracy, it is not an overstatement to say that wrongful convictions concern anyone who cares about a democratic society.

# 1AC 11/17

**Entrusting judges with admissibility decisions ensures consistent results and keeps out DNA errors, preventing wrongful convictions and threatening civil liberties**

**Land 2005**. Garrett E. Land (JD; Associate with Bales Weinstein). ARTICLE: JUDICIAL ASSESSMENT OR JUDICIAL NOTICE? AN EVALUATION OF THE ADMISSIBILITY STANDARDS FOR DNA EVIDENCE AND PROPOSED SOLUTIONS TO REPRESS THE CURRENT EFFORTS TO EXPAND FORENSIC DNA CAPABILITIES, 9 Mich. St. J. Med. & Law 95 (2005)

Judges, not juries, should make these decisions, because they are better equipped and have access to more resources than juries to assist in the evaluation of DNA evidence. Judges' decisions are also more transparent as the judiciary has accountability to the public to a degree not shared by a jury. Using this dynamic to address DNA admissibility should produce more consistent rulings. Just because a court takes judicial notice that the underlying science has become generally accepted, does not mean that the laboratory has properly applied the appropriate methodologies. However, some decisions assume the latter into their judicial notice. If such practice continues, we could have convictions without trials. Courts could simply take judicial notice of the same factual circumstances or of a person's genetic inclinations, and convict just because the facts comport with prior decisions. Such a precedent is contrary to the gate keeping duties judges meted out in Daubert and will result in the infringement of our civil liberties. This is dangerous ground. We need to be cautious because our freedom is at stake. It is important to the efficiency, consistency, and reliability of the judicial system, that the scientific and legal communities reach a mutual understanding on basic issues before moving ahead technologically.

# 1AC 12/17

**And this improper use of DNA both impacts minorities more than white people and is itself racist. We have three internal links:**

**1. The collection of DNA from people of color is more common, meaning that they are more likely to be falsely convicted of crimes by bad DNA evidence**

**Mercer and Gabel 2019**. Stephen Mercer (Adjunct Professor of Law, University of the District of Columbia David A. Clarke School of Law and Chief Attorney, Forensics Division, Maryland Office of the Public Defender) and Jessica Gabel (Associate Professor of Law, Georgia State University College of Law). ARTICLE: SHADOW DWELLERS: THE UNDERREGULATED WORLD OF STATE AND LOCAL DNA DATABASES, 69 N.Y.U. Ann. Surv. Am. L. 639, 686-87 (2019)

Many factors may lead minorities to be disproportionately represented in local and state DNA databases. First, there are multiple studies that show that police officials on the local level, for example in San Francisco, underreport arrests of minorities. Further, minorities and people of color are disproportionately represented in the criminal justice system. This overrepresentation correlates directly with an overrepresentation of people of color in familial searches given that minorities have a greater and unequal probability of having their DNA collected and stored upon arrest. With the known bias against minority groups and people of color, some scholars believe the familial searches themselves are discriminatory because collection of DNA and the arrest itself is discretionary and based on criminal suspicion, which is led by a person's race or ethnicity alone in some cases. Although the fear of racial discrimination does exist, the U.S. Bureau of Justice Assistance (BJA) insists that DNA specimens in DNA databases do not indicate race and that there is no ability to specify a particular race in a search. Moreover, the BJA emphasizes that law enforcement must comply with constitutional law and other legal ramifications to successfully seize biological evidence; if they do not comply, law enforcement runs the risk of "subsequent suppression of evidence at a trial." The problem with the BJA's assertion is that many local law enforcement agencies have no guidelines directing the collection of DNA and the practice of familial searches. The concern regarding racial inequality in the criminal justice system has been evident for at least the past 200 years. Nonetheless, the Supreme Court has held that complaints about the personal motivations of the police are irrelevant under the Fourth Amendment. Thus, if a local law enforcement agent detains an individual and collects DNA samples upon an arrest motivated by personal bias, there is the possibility that a court would find that the law enforcement agent would be justified by doing so and protected under the notion that he or she acted on the basis of probable cause. This idea is also connected to the fear that crimes will be underreported: if minorities and people of color ran a higher risk of having their DNA profiles abused by the familial search process, it would be no surprise if they became less likely to report crime.

# 1AC 13/17

**2. DNA evidence at trial provides a moral justification for the improper linkage of race and violent crime - this ensures more minorities are convicted by DNA evidence**

**Khan 2008**. Jonathan Kahn (Associate Professor of Law at Hamline University School of Law). Race, Genes, and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials. Brooklyn Law Review. Dec. 2008. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707819/

Third, there is the unfortunate but well documented tendency in the United States to identify race and violent crime. In Whitewashing Race, Michael Brown et al. discuss a cultural shift that began in the 1960s when the image of “the brave little girl walking up to the schoolhouse door in the face of jeering white crowds was replaced by fearsome young black men coming down the street ready to take your wallet or your life.”215 In the context of the rising racialization of crime in the United States, Rothenberg and Wang observe that “[f]rom 1990 to 2004, blacks were five times more likely than whites to be incarcerated, and in 2000, blacks and Latinos comprised 63% of incarcerated adults, even though together they represented only 25% of the total population.”216 Similarly, while examining the impact of DNA technology on the criminal justice system, Simon Cole concludes that [a]t the endpoint of this system is a carceral system that embodies gross race and class disparities, even if differential rates of offending are taken into account: two thirds of people in prison are racial and ethnic minorities, one in eight black males in their twenties are in prison or jail, three-quarters of persons in prison for drugs are people of color.217 Considering the dynamics that have produced such inequalities, Brown et al. review an array of historical, legal, and sociological data on race and crime in the United States. Citing a “classic … observational study of police responses to juveniles in a midwestern city in the 1960s,”218 they note that police “‘justified their selective treatment’ [of black youths] on ‘epidemiological lines,’” concentrating on “‘those youths whom they believed were most likely to commit delinquent acts.’”219 They argue, however, that the result of this “actuarial” reasoning … is to exacerbate the very differences that are invoked to justify the racially targeted practices in the first place. This in turn helps to cement the public’s image, and the police’s image, of the gun-toting gangster or drug dealer as black or Latino. And this confirms the validity of the police focus on youth of color, which then goes around and around in the same kind of vicious circle … described a generation ago.220 The same sort of actuarial reasoning is at work in Duster’s identification of the use of genetics in the “practical matter of naming suspects.”221 The association of crime and race produces more racialized crime.222 As Dorothy Roberts has noted, the resulting mass incarceration is “iatrogenic”223—by damaging social networks, distorting social norms, and destroying social citizenship, the disproportionate incarceration of minorities has produced a vicious cycle of crime and repression that further reinforces the identification of race and crime in the public mind.224 Taken together, the persistent conceptualization of race as genetic, the confusion of statistical with forensic significance, and the deep-seated American identification of violent crime and race may be understood to frame and facilitate the inertial power of race—to perpetuate itself as a salient category of forensic DNA analysis long after its practical legal utility has passed.

# 1AC 14/17

**3. DNA used in courtrooms is actually classified by race. This use of DNA improperly frames “race” and conflates it with social grouping - this results in racist assumptions entering the courtroom**

**Khan 2008**. Jonathan Kahn (Associate Professor of Law at Hamline University School of Law). Race, Genes, and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials. Brooklyn Law Review. Dec. 2008. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707819/

Generally speaking, the more “related” a person is to a particular population group, the higher the odds are of finding shared alleles—or, alternatively stated, the less independence there is among alleles.60 Siblings would likely share more DNA than cousins; cousins more than others in the same isolated village; members of the same isolated village more than others in the same region; and so forth. Higher odds favor a suspect or defendant because they indicate a greater likelihood that some other person may have left the DNA sample found at a particular crime scene.61 The choice of reference population, therefore, can play a critical role in shaping the weight and authority of DNA evidence.62 The choice, however, is not always straightforward. Indeed, some of the earliest and most contentious controversies involving the use of DNA technology in forensic science involved choosing the appropriate population against which a suspect’s DNA should be compared and defining just how the suspect may be “related” to this population.63 Concepts of race played a central role in these debates and continue to frame the way forensic scientists, law enforcement, and the bar produce and interpret DNA evidence to this day.64 The basic issue is whether or to what extent racial or ethnic categories should be used to characterize reference populations against which particular DNA samples could be compared to generate RMPs. The use of such categories may be particularly problematic in the arena of forensic DNA analysis because racial groups, especially those delineated in the U.S. Census, are fundamentally social, not biological, categories.65 Indeed, at least since the 1970s scientists have understood that race will statistically explain only a small portion of genetic variations.66 As a recent editorial in Nature Genetics put it, “scientists have long been saying that at the genetic level there is more variation between two individuals in the same population than between populations and that there is no biological basis for ‘race.’”67 Nonetheless, to the extent that certain population geneticists understand particular racial groups as sharing a common genetic ancestry—usually by using race as a crude surrogate for geographic or continental ancestry—members of those groups can be viewed as more “related” to each other (like an extended family) than to individuals from other groups.68 This problematic understanding of relatedness can then affect the calculation of RMPs. Generally speaking, the more fine-grained the characterization of a particular reference population, the higher the odds of a random match,69 higher odds again favoring the suspect or defendant. In the early years of forensic DNA analysis, when typically only four VNTR loci were tested, there were concerns that using a general, undifferentiated population database would produce inappropriately low RMPs.70 The decision to use race in constructing and categorizing reference populations was introduced into forensic DNA analysis with the belief that it would improve the precision of the calculations that generate RMPs.71

# 1AC 15/17

**And the use of DNA to quantify minorities reinforces white supremacist attempts to define a racial hierarchy**

**Herrera 2019**. Jack Herrera. DNA tests can’t tell you your race. 12-27-19. https://www.popsci.com/story/science/dna-tests-myth-ancestry-race/

Think about it in terms of science and history. European colonizers invented the concept of race 500 years before the double helix was discovered. Many of their terms for describing human difference, based on traits like skin color and facial features, are still used in our censuses and societies today. (For instance, our idea that a person can be “one-fourth” something comes from the logic Europeans used to figure out which mixed-race people were “black enough” to enslave.) This category-forming was not a scientific process—it wasn’t Mendel in a greenhouse with his peas. It was backed by men with giant armies, whose objectives were mass enslavement, conquest, and subjugation. “I think in that period when Europe was dominant, [racial terms] were a way of classifying levels of inferiority,” Feldman says, speaking of the birth of white supremacy. “It was a validation of colonialism.” This is what some people mean when they say race isn’t real: It’s a social concept created to empower Europeans, as much as it was created to describe differences between people. That’s why modern historians and geneticists worry about how people are trying to use DNA to define race . “We think that when people use racial classifications when talking about genetic data, it may reify the wrong idea that there’s a biological basis to racial classification,” Tiskoff says.

# 1AC 16/17

**This type of scientific racism is the basis for eugenics and is the very language of white supremacy**

**Markel 2018**. Dr. Howard Markel (director of the Center for the History of Medicine and the George E. Wantz Distinguished Professor of the History of Medicine at the University of Michigan). Column: The false, racist theory of eugenics once ruled science. Let’s never let that happen again. PBS. 2-16-2018. https://www.pbs.org/newshour/nation/column-the-false-racist-theory-of-eugenics-once-ruled-science-lets-never-let-that-happen-again

The word eugenics is taken from the Greek root, “eugenes,” namely good in stock or hereditarily endowed with noble qualities. Galton coined the term in his 1883 book, “Inquiries into the Human Faculty and its Development.” The idea was to propose a way to ‘give to the more suitable races … a better chance of prevailing speedily over the less suitable.” In a 1904 issue of the American Journal of Sociology, Galton defined eugenics more succinctly as “the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage.” Galton also coined the phrase “nature versus nurture.” Sir Francis’s social theories on who was eugenically worthy spread like wildfire among white intellectuals in almost every developed Western nation. For example, in July of 1912, one year after Galton’s death, the threat of inferior races polluting the Western body politic was discussed at the first International Congress of Eugenics in London. Sitting in the audience were Britain’s Prime Minister Lord Balfour, Winston Churchill and Charles Darwin’s son Leonard, along with the ambassadors of Greece, France and (wait for it) Norway. During the Progressive era (1900-1920), a generation of American reformers sought to fix several social problems of the day, which included urban poverty, assimilating the huge number of immigrants coming to American shores, and public health crises such as epidemics, high infant mortality rates and explosive population growth. Many of these reformers used inappropriate eugenic explanations for their management of those deemed to be socially undesirable: so-called “mental defectives” (which included those labeled with newly-created clinical terms like “imbeciles,” “idiots,” and “morons”); the blind, deaf, mentally ill and “crippled”; orphans, unwed mothers, epileptics, Native Americans, African Americans, foreigners, poor residents from the mountains and hollows of Appalachia and many other “outsider” groups. “Inferior races,” eugenic theorists concluded, were a drain on the economic, political and moral health of American life. Some African American intellectuals, too, supported the theory, arguing we should focus on the “talented tenth” of every race. One of the dirtiest realities of the American eugenics movement is that, with relatively few prominent exceptions, it is difficult to find a white Anglo-Saxon Protestant man (or woman) of means who did not endorse such theories. As the “social Darwinist” Herbert Spencer famously opined, it was a matter of the “survival of the fittest.” “Race suicide,” a term introduced in 1901 by the University of Wisconsin sociologist and best-selling author Edward A. Ross, was a concern that captured the American conversation all the way up to the White House. Behind his “bully pulpit,” President Theodore Roosevelt repeatedly wrung his hands over the issue. Other influential eugenicists who fretted over the American protoplasm included grant makers from both the Rockefeller and Carnegie Foundations, U.S. President Calvin Coolidge, David Starr Jordan, the president of Stanford University, psychologist Henry H. Goddard, Senator Henry Cabot Lodge, R-Mass., auto magnate Henry Ford, inventor of the telephone Alexander Graham Bell, botanist Luther Burbank, Supreme Court Justice Oliver Wendell Holmes, Jr., Robert A. Millikan, a Nobel laureate in physics, novelists Upton Sinclair and Sinclair Lewis, economist William Z. Ripley, birth control advocate Margaret Sanger, advocate for the blind Helen Keller, African-American scholar W.E.B. Dubois, and the creator of the wellness movement, Dr. John Harvey Kellogg. The solution of the day was to quarantine, cordon off and prevent these “undesirables” from contaminating the “superior” mostly white, native-born citizens. Moreover, racial groups deemed “eugenically superior,” specifically White Anglo-Saxon Protestants, were encouraged to reproduce at greater rates, a concept often referred to as “positive eugenics.” Those adjudged to have “inferior genes” were discouraged from reproducing through the establishment of “negative eugenics” programs, such as state-mandated sterilization laws for “mental defectives,” restrictions against who could marry whom, birth control policies, harsh adoption laws and loud nativist calls for laws restricting the entry of “swarthy,” “unkempt” and “unassimilable” immigrants. In essence, eugenics offered Americans in positions of power an authoritative scientific language to substantiate their biases against those they feared as dangerous. Indeed, few of the “social eugenics policies” had a greater impact than the Immigration Restriction Act of 1924, which blocked the entry of the millions of Eastern and Southern European and Asian immigrants seeking refuge on our shores for the following 40 years. How many millions of them died or lived tortured lives in their native lands because of this stringent and prejudiced policy is difficult to enumerate. One of the biggest fans of the American eugenics movement was Adolf Hitler, the chancellor of Nazi Germany. When the world discovered the role eugenics played in Hitler’s campaign to cleanse the Third Reich of its “unfit,” it drummed a final nail into the eugenics movement coffin. Once the theory of an armchair population biologist, eugenics too quickly transmogrified into a racist and harmful evidence base for ridding nations of those the dominant society did not like or feared. The problem, of course, was that the evidence base was false and poorly constructed. If Francis Galton is remembered at all, it should be poorly, despite his many other intellectual contributions. Some consider eugenics to be merely the weird, step-uncle of modern, scientifically-grounded genetics. Yet this bit of history reminds us to constantly evaluate and test our theories for evidence of racism and prejudice before implementing them and harming the innocent.

# 1AC 17/17

**Utilitarianism is immoral---it justifies discriminatory actions**

**Austin**, Jun, 6-8-**2015**, Michael Ph.D., is a professor of philosophy at Eastern Kentucky University "What's Wrong With Utilitarianism?," Psychology Today, <https://www.psychologytoday.com/blog/ethics-everyone/201506/whats-wrong-utilitarianism>

The consequences of our actions are important. They matter. But if the utilitarian is right, then consequences are all that matters. Is this correct? The main principle of utilitarian moral theory, the principle of utility, states that the right action is the one that produces the most overall happiness. John Stuart Mill adapted Jeremy Bentham's theory, and stated that happiness is pleasure and the absence of pain. However, Mill clarified that there are higher and lower pleasures. The higher pleasures are the pleasures of the intellect, and the lower pleasures are the pleasures of the senses. The upshot is that morally speaking, it is not just the quantity of pleasure that matters to the utilitarian, but the quality as well. On the positive side, if we applied this theory to our lives we might become more unselfish, and many of the problems we face might be alleviated. This is because everyone's happiness counts the same. Prejudice and discrimination have no place here, because each individual counts the same when calculating the happiness produced by our actions. Mill himself fought for women's rights, against slavery, and for fair labor practices, which is consistent with his utilitarian convictions. However, there are some weaknesses in this theory. Utilitarianism's primary weakness has to do with justice. A standard objection to utilitarianism is that it could require us to violate the standards of justice. For example, imagine that you are a judge in a small town. Someone has committed a crime, and there has been some social unrest resulting in injuries, violent conflict, and some rioting. As the judge, you know that if you sentence an innocent man to death, the town will be calmed and peace restored. If you set him free, even more unrest will erupt, with more harm coming to the town and its people. Utilitarianism seems to require punishing the innocent in certain circumstances, such as these. It is wrong to punish an innocent person, because it violates his rights and is unjust. But for the utilitarian, all that matters is the net gain of happiness. If the happiness of the many is increased enough, it can justify making one (or a few) miserable in service of the rest. Utilitarianism requires that one commit unjust actions in certain situations, and because of this it is fundamentally flawed. Some things ought never to be done, regardless of the positive consequences that may ensue. Utilitarian moral reasoning is prevalent in our political and moral dialogue. Consequences have a place, and must be considered, but we must also think about other moral principles, the relevant virtues, human rights, and what our choices and judgments say about us. Consequences matter, but they are not all that matter. Morality is about more than the consequences of our actions.

# Inherency – Daubert Not Followed 1/2

**Judges have failed to exercise their “gatekeeper” role in excluding bad science from court - current court precedent has not kept up with newer forensic standards**

Robert M. **Sanger 2019** (Professor of Law and Forensic Science, Santa Barbara College of Law); ARTICLE: FORENSICS: EDUCATING THE LAWYERS, 43 J. Legal Prof. 221, 230-31; Lexis (Spring 2019)

In general, the judicial response to forensic evidence, particularly when offered by the prosecution in criminal cases, is lethargic and tends to favor letting experts testify and not to regulate the scope of the experts' opinions. The all too common judicial ruling is to let the evidence come in and to let the jury decide what weight to give that evidence. To the contrary, the law is that the judge must act as the "gatekeeper."To simply rule as a default that the evidence is admitted, and that any objections go to the weight not admissibility, is to abdicate the duties of gatekeeper. The result of this default approach is that, sub-standard science gets admitted along with valid science. The efforts of the leaders of forensic science who are trying to be faithful to the commitments of science are thwarted by the admission of substandard science as if it were equivalent to their more disciplined work. Therefore, the leaders of the forensic community, as represented by the American Academy of Forensic Sciences (AAFS), for instance, can make progress among those committed to the highest standards of forensics but cannot impose those standards on everyone who is willing to testify. That job is left to the lawyers and the judges. Only they can keep substandard science out of the courtroom. And, yet, the National Academy of Sciences in their 2009 Report said: The judicial system is encumbered by, among other things, judges and lawyers who generally lack the scientific expertise necessary to comprehend and evaluate forensic evidence in an informed manner, trial judges (sitting alone) who must decide evidentiary issues without the benefit of judicial colleagues and often with little time for extensive research and reflection, and the highly deferential nature of the appellate review afforded trial courts' Daubert rulings.”

# Inherency – Daubert Not Followed 1/2

**Courts generally do not question forensic science evidence, which is contrary to what *Daubert* intended**

**Manucci 2018**. Kayla Marie Mannucci (J.D. Cardozo Law School). NOTE: Framed by Forensics: Fulfilling Daubert's Gatekeeping Function by Segregating Science from the Adversarial Model, 39 Cardozo L. Rev. 1947 (2018).

Despite what the Supreme Court may have intended, Daubert failed to revolutionize the judicial tolerance of unsupported forensic disciplines. Daubert has largely been ignored in the field of forensic sciences such that some scholars argue that, if the Daubert standard were stringently applied, most of what we consider forensic science would not be admissible at trial.

Judges argue that they do not need to reinvent the wheel every time a Daubert objection is raised to a contested item of forensic evidence. They reason that courts have considered the scientific merits of this type of evidence many times before. Since judges have difficulty engaging with scientific evidence, they refer to past case law. Opinions discussing complex science often serve as precedent for other judges reviewing the same issue. The problem, of course, is that science is constantly evolving, and thus, inherently conflicts with the legal doctrine of precedent.

# Inherency – Daubert Not Followed 2/2

**The trend toward judicial notice means *Daubert* is not being followed, and even when it is, judges don’t provide a true review of prosecution forensic science evidence**

**Manucci 2018**. Kayla Marie Mannucci (J.D. Cardozo Law School). NOTE: Framed by Forensics: Fulfilling Daubert's Gatekeeping Function by Segregating Science from the Adversarial Model, 39 Cardozo L. Rev. 1947 (2018).

Not surprisingly, criminal defense attorneys have used the NAS Report to try to exclude forensic evidence from being presented at trial through motions in limine. However, when defense attorneys challenge the evidence, trial judges simultaneously hear from the prosecution's well-credentialed forensic scientist who confidently ensures the judge that their forensic discipline rests on sound science; signaling to the judge that "precedent supports admission, and that the technique at issue easily meets the Daubert standard." The result is that when defense attorneys raise Daubert challenges to scientific evidence, courts generally side with the prosecution. Despite what is at stake in these criminal cases - life and liberty - courts apply a diluted version of Daubert or ignore it altogether. Yet, when prosecutors raise a Daubert challenge to exclude a defendant's forensic expert or evidence, courts tend to side with the prosecution and exclude the evidence. Judges prefer to take judicial notice of scientific evidence and depend on cross-examination to showcase flaws or bias in the prosecution's expert testimony. The adversarial system uses cross-examination as a means to safeguard the accuracy and completeness of witness testimony. However, scientific testimony is not like other forms of testimony. Because of the complexity of applying scientific principles to evaluate an expert's methodology, judges cannot simply delegate to the jury the task of deciphering scientific evidence despite the traditional role of cross-examination in the adversarial process. Therefore, trial judges need to acquire the requisite tools and knowledge to assess the reliability of the methods used by forensic scientists. To do so, they need independent guidance.

**Inherency – Daubert Not Followed 2/2**

**The judicial notice frequently applied to DNA cases runs counter to *Daubert***

**Cino 2016**. Jessica G. Cino (associate professor at Georgia State University College of Law). 2016 FLAWED FORENSICS AND INNOCENCE SYMPOSIUM: AN UNCIVIL ACTION: CRIMINALIZING DAUBERT IN PROCEDURE AND PRACTICE TO AVOID WRONGFUL CONVICTIONS, 119 W. Va. L. Rev. 651 (2016).

Of course, it is difficult to piece together what actually occurred in a trial based on appellate decisions. The reported decisions only summarize the big picture and rarely deal with the minutiae. But the numbers seem to support that Daubert receives different effect in criminal cases. In criminal cases, the focal point is on identifying the suspect as the source of evidence (fingerprints, DNA, bite marks) and linking a suspect to a crime scene (ballistics, hair, fiber). Of these methods of identification, DNA profiling is the only one housed in the scientific rigor of biochemistry and population genetics. DNA profiling has been subjected to peer review, and DNA testing laboratories are subject to external quality assurance. Although there are significant theoretical and methodological gaps in the forensic pattern identification disciplines, this evidence - generally offered by the prosecution - is usually admitted, even sometimes by judicial notice. Moreover, even if the methodology is sound (as in DNA), that still does not mean that it was applied reliably to a particular case. Finally, if the defense objects to the admissibility of the prosecution's forensic evidence (and that is a big "if"), courts often shift the burden to the defense and require proof of inadmissibility. This is counter to Daubert, which requires that the proponent of the expert evidence demonstrate its validity and reliability.

# DNA Subject to Errors – Misinterpreted

**Empirically, even the most basic DNA samples can be misinterpreted**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

The subject of the segment was the Houston Police Department Crime Laboratory, among the largest public forensic centers in Texas. By one estimate, the lab handled DNA evidence from at least 500 cases a year—mostly rapes and murders, but occasionally burglaries and armed robberies. Acting on a tip from a whistle-blower, KHOU 11 had obtained dozens of DNA profiles processed by the lab and sent them to independent experts for analysis. The results, William Thompson, an attorney and a criminology professor at the University of California at Irvine, told a KHOU 11 reporter, were terrifying: It appeared that Houston police technicians were routinely misinterpreting even the most basic samples. “If this is incompetence, it’s gross incompetence … and repeated gross incompetence,” Thompson said. “You have to wonder if [the techs] could really be that stupid.”

# DNA Subject to Errors – Misinterpreted

**DNA interpretation is highly subjective and prone to misinterpretation**

**Manucci 2018**. Kayla Marie Mannucci (J.D. Cardozo Law School). NOTE: Framed by Forensics: Fulfilling Daubert's Gatekeeping Function by Segregating Science from the Adversarial Model, 39 Cardozo L. Rev. 1947 (2018).

However, DNA typing is not perfect and, as the technology develops, there is growing potential for mistakes. DNA samples and mixtures are complex and their interpretation involves subjective estimations by experts. In addition, DNA technology is becoming remarkably sensitive. For example, nowadays investigators can sometimes generate DNA profiles from skin cells left behind when someone touched something at a crime scene, no longer needing a blood or semen stain to generate a DNA profile. However, when using such small amounts of DNA, the data collected can also include meaningless information that becomes difficult to interpret. Thus, it is becoming clear that the subjectivity and bias that may affect an expert's analysis, as illustrated by the cases below, have not been completely eliminated by the evolution of DNA analysis in the criminal justice system. Further, the older forensic disciplines will continue to play a role in criminal investigations since only twenty percent of violent crime investigations include evidence suitable for DNA testing.

# DNA Subject to Errors – Contamination 1/2

**DNA evidence is easily contaminated**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

To Murphy, Anderson’s case demonstrates a formidable problem. Contamination is an obvious hazard when it comes to DNA analysis. But at least contamination can be prevented with care and proper technique. DNA transfer—the migration of cells from person to person, and between people and objects—is inevitable when we touch, speak, do the laundry. A 1996 study showed that sperm cells from a single stain on one item of clothing made their way onto every other item of clothing in the washer. And because we all shed different amounts of cells, the strongest DNA profile on an object doesn’t always correspond to the person who most recently touched it. I could pick up a knife at 10 in the morning, but an analyst testing the handle that day might find a stronger and more complete DNA profile from my wife, who was using it four nights earlier. Or the analyst might find a profile of someone who never touched the knife at all. One recent study asked participants to shake hands with a partner for two minutes and then hold a knife; when the DNA on the knives was analyzed, the partner was identified as a contributor in 85 percent of cases, and in 20 percent as the main or sole contributor. Given rates of transfer, the mere presence of DNA at a crime scene shouldn’t be enough for a prosecutor to obtain a conviction. Context is needed. What worries experts like Murphy is that advancements in DNA testing are enabling ever more emphasis on ever less substantial evidence. A new technique known as low-copy-number analysis can derive a full DNA profile from as little as 10 trillionths of a gram of genetic material, by copying DNA fragments into a sample large enough for testing. The technique not only carries a higher risk of sample contamination and allele dropout, but could also implicate someone who never came close to the crime scene. Given the growing reliance on the codis database—which allows police to use DNA samples to search for possible suspects, rather than just to verify the involvement of existing suspects—the need to consider exculpatory evidence is greater than ever.

# DNA Subject to Errors – Contamination 2/2

**DNA contamination is a serious concern**

**Giannelli et al 2020**. Paul C. Giannelli (Distinguished University Professor of Law, Case Western Reserve University School of Law); Edward L. Imwinkelreid (Edward L. Barrett, Jr. Professor of Law and Director of Trial Advocacy, University of California at Davis School of Law); Andrea Roth (Assistant Professor of Law, University of California at Berkeley School of Law); and Jane Campbell Moriarty (Carol Los Mansmann Chair in Faculty Scholarship, Professor of Law and Associate Dean for Faculty Scholarship, Duquesne University School of Law). Scientific Evidence, Fifth Edition, § [sec. no.] (Matthew Bender) 2020. Lexis

As the preceding paragraph indicated, there are possibilities for human error at many steps of the procedure. The mixture of exogenous DNA can cause allelic drop-in during the analysis, making interpretation difficult, and can also cause false database cold hits. For example, a DNA sample from a crime scene might be mixed with bacterial, viral, or other nonhuman DNA; but according to our reviewer, bacterial and viral sequences differ so markedly that their differentiation poses little problem today. Inadvertent contamination can occur at the laboratory itself. To prevent such contamination, the laboratory should adopt such procedures as disposing of gloves after the handling of each separate sample and the use of controls during testing. Several laboratories such as Cellmark implemented a “witnessing” procedure to better ensure the integrity of sample transfers. According to a press release, http://www.labhoo.com/PressRelease.asp?PRID=2544, more recently a company named Biotx has improved the “witnessing” procedure. Despite these improvements, concerns about contamination persist.

# DNA Subject to Errors – New Technologies

**The speedy development of new DNA technologies compounds the risk of a wrongful conviction**

**Cino 2017**. Jessica Gabel Cino (Associate Professor of Law, Georgia State University College of Law). ARTICLE: TACKLING TECHNICAL DEBT: MANAGING ADVANCES IN DNA TECHNOLOGY THAT OUTPACE THE EVOLUTION OF LAW, 54 Am. Crim. L. Rev. 373, 54 Am. Crim. L. Rev. 373, 375-77 (2017). Lexis.

This raises difficult questions about how best to apply this technology. DNA testing continues to advance and now encompasses several new types of analyses that are being used in court cases. It also gets us to the problem of technical debt associated with DNA analysis. To borrow from the software world, technical debt describes the eventual but unintended consequences of a system design or architecture that can occur when a feature is developed and pushed to production quickly. Failure to address this debt can result in an incomplete or poorly executed product. Similarly, these potential consequences can exist in the development of DNA analysis products. This Article explores those new advances in DNA and suggests solutions that navigate the scientific, legal, and policy quagmires that may occur.

In particular, three new technologies are currently being piloted by some jurisdictions and could soon become widespread. Low Copy DNA testing, or "LCN DNA testing," can be used on a sample that contains less than 200 picograms of DNA, which means a profile can be extrapolated from only a few skin cells. LCN DNA testing has been used in the United Kingdom, but that use has revealed some shortcomings in the testing. In the United States, New York courts have begun to admit LCN DNA testing, although not all New York courts are in agreement on the reliability of LCN DNA analysis.

Phenotyping refers to a technique used to determine an individual's physical characteristics based on his or her genetic profile. Early research demonstrates that some externally visible characteristics, called phenotypes, can be linked to certain genetic arrangements, called genotypes. The characteristics that scientists have attempted to pinpoint include: ancestry; ethnic origin; skin, eye, and hair color; facial shape; height; and even age. Several jurisdictions have experimented with this technology to generate sketches of suspects based upon DNA profiles. Of course, the accuracy of the profile created remains subject to the success of a criminal investigation. More importantly, given that DNA at a scene can come from a number of sources, the use of phenotyping may unduly implicate or profile otherwise innocent individuals, including ethnic or racial minority groups.

Rapid DNA testing is the newest of these technologies and refers to a line of DNA testing machines that may be able to produce a DNA profile in as little as two hours. Traditionally, it takes a crime laboratory about two days to expedite DNA results, assuming no backlog, so reducing that time to two hours could speed up an investigation. Additionally, the machines that create a short tandem repeat ("STR") profile are entirely automated, allowing law enforcement personnel to potentially perform an analysis formerly restricted to laboratories. These machines, however, are only in the early stages of being acceptable as reliable alternatives to the standard DNA tests and are not yet used by databases like the NDIS.

This next generation of DNA technology will inevitably find its way into criminal investigations and the courtroom. The high rate of return on DNA-based investment almost dictates this result: the Combined DNA Index System ("CODIS") has produced over 355,535 hits that assisted in at least 340,554 investigations up to November 2016. But DNA technology may advance and outpace the testimonial claims that are put forth in court--claims that are not yet reliable and scientifically defensible. Technology does not wait for the legal system to catch up with it. From DNA to GPS, "the boon that new technology will provide to law enforcement, is an engraved invitation to future expansion."

# DNA Subject to Errors – Institutional Bias

**Analysts are under pressure for results, compounding DNA mistakes and creating bias**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

But Bicka Barlow, the San Francisco attorney, argues that the justice system now allows little room for caution. Techs at many state-funded crime labs have cops and prosecutors breathing down their necks for results—cops and prosecutors who may work in the same building. The threat of bias is everywhere. “An analyst might be told, ‘Okay, we have a suspect. Here’s the DNA. Look at the vaginal swab, and compare it to the suspect,’ ” Barlow says. “And they do, but they’re also being told all sorts of totally irrelevant things: The victim was 6 years old, the victim was traumatized, it was a hideous crime.” Indeed, some analysts are incentivized to produce inculpatory forensic evidence: A recent study in the journal Criminal Justice Ethics notes that in North Carolina, state and local law-enforcement agencies operating crime labs are compensated $600 for DNA analysis that results in a conviction. “I don’t think it’s unreasonable to point out that DNA evidence is being used in a system that’s had horrible problems with evidentiary reliability,” Murphy, who worked for several years as a public defender, told me. No dependable estimates exist for how many people have been falsely accused or imprisoned on the basis of faulty DNA evidence. But in Inside the Cell, she hints at the stakes: “The same broken criminal-justice system that created mass incarceration,” she writes, “and that has processed millions through its machinery without catching even egregious instances of wrongful conviction, now has a new and powerful weapon in its arsenal.”

# DNA Subject to Errors – Experts Lie

**Large numbers of government forensic scientists have been caught misrepresenting DNA data**

**Manucci 2018**. Kayla Marie Mannucci (J.D. Cardozo Law School). NOTE: Framed by Forensics: Fulfilling Daubert's Gatekeeping Function by Segregating Science from the Adversarial Model, 39 Cardozo L. Rev. 1947 (2018).

Joyce Gilchrist, a forensic scientist, participated in over three thousand criminal cases over twenty-one years while working for the Oklahoma City police department. Gilchrist was known as "Black Magic" for her ability to obtain convictions by matching evidence to  defendants, when other forensic examiners could not. Gilchrist's testimony helped sentence twenty-three people to death, eleven of whom have been executed. Concerns about Gilchrist's expert testimony were first raised when a court questioned her testimony in a death penalty case, finding that she had overstated her scientific conclusions at trial. A year later, the court reversed another conviction in which Gilchrest had testified, noting that she had omitted critical conclusions from her report. Another suspect, whom Gilchrist had previously excluded from her analysis, was later convicted for the crime. In 2001, Jeffrey Pierce, who was also convicted with the help of Gilchrist's testimony, was proven innocent by new DNA evidence. After having been condemned in several judicial opinions and criticized by other forensic scientists, Gilchrist's career as an expert witness should have been over. Prosecutors, having been alerted to her corrupted testimony, should have stopped using her. Yet, she continued to work for another decade while receiving commendations and promotions. She was, after all, a "prosecution superstar." Flawed testimony, like Gilchrist's, is not as rare as one might think. In 2015, the Justice Department and FBI reported that almost all examiners in an elite FBI forensic unit gave flawed testimony in nearly all trials in which they offered evidence against criminal defendants for more than a two-decade period. Twelve of the defendants in those cases have been executed. The misuse of forensic expert testimony is a significant contributor to wrongful convictions. Almost a third of wrongful convictions have included false or misleading testimony by forensic experts. These exonerations have triggered immense controversy over the use of forensic sciences. However, little has been considered about the ways in which expert testimony is presented at trial. Customarily, there has been no oversight over what forensic scientists can actually say once inside the courtroom.

# DNA Crowds Out Alternative Forensics

**The use of DNA has increased due to federal dollars and grants, crowding out funding for forensic labs performing other types of more accurate analysis.**

**Cino 2017**. Jessica Gabel Cino (Associate Professor of Law, Georgia State University College of Law). ARTICLE: TACKLING TECHNICAL DEBT: MANAGING ADVANCES IN DNA TECHNOLOGY THAT OUTPACE THE EVOLUTION OF LAW, 54 Am. Crim. L. Rev. 373, 54 Am. Crim. L. Rev. 373, 379 (2017). Lexis.

Since the 1990s, Congress has devoted a large amount of funds to forensic DNA research and development. This is directly related to the amplified use of DNA in criminal investigations. As DNA continued to become the so-called "gold standard" in law enforcement, this new reverence--bordering on obsession--meant that a tremendous amount of the federal funding was designated for DNA research and development. Two decades later, DNA testing is the focal point of many labs, forcing other traditional forensic areas to reduce or even shut down their units. Police departments now include routine DNA swabs of evidence and persons in everyday investigations, from stolen cars to burgled homes, because "the justice system's hunger for DNA evidence just keeps growing."

# DNA 🡪 Convictions

**The impact of DNA evidence on trial outcomes cannot be overstated - where DNA evidence is admitted, conviction is certain even if the evidence is flawed**

**Cino 2017**. Jessica Gabel Cino (Associate Professor of Law, Georgia State University College of Law). ARTICLE: TACKLING TECHNICAL DEBT: MANAGING ADVANCES IN DNA TECHNOLOGY THAT OUTPACE THE EVOLUTION OF LAW, 54 Am. Crim. L. Rev. 373, 54 Am. Crim. L. Rev. 373, 384 (2017). Lexis.

DNA's impact on criminal trials cannot be ignored. Prosecutors then use this information to argue to a jury that, because a defendant's DNA was found a crime scene, that defendant is more likely to have been present at the scene and committed the crime being charged.

When DNA is used in the forensic context, the term "match" is used to represent a probability not a certainty. DNA cannot tell a jury with 100% certainty that the DNA found at the scene of a crime came from a particular defendant. It can, however, tell the jury that the DNA is a close match to the defendant's DNA, as well as the likelihood of that DNA profile being found in another individual. That is, DNA evidence tells the jury that the DNA extracted from a defendant and the DNA found at the scene of a crime are very similar, but there is a chance, although extremely small, that the DNA came from someone other than the defendant. At minimum, a DNA match is able to "exclude large proportions of the population as potential contributors of genetic material (e.g., blood, semen, hair) that are recovered from violent crime scenes."

It is important to note that a DNA match does not provide incontrovertible evidence of guilt. Some jurors, judges, and prosecutors comingle DNA statistics with guilt in what is colloquially known as the "Prosecutor's Fallacy." In other words, the likelihood ratio of DNA(e.g., one in one quadrillion) is interpreted as a likelihood of an individual's guilt rather than a likelihood that the individual is actually the source of the DNA. Nonetheless, DNA evidence remains powerful. One court went so far as to say that DNA matching is "the single greatest advance in the 'search for truth,' and the goal of convicting the guilty and acquitting the innocent, since the advent of cross-examination." Moreover, while many prosecutors complain of increased difficulty in establishing proof beyond a reasonable doubt in criminal trials as a result of unrealistic expectations caused by television shows like CSI, the "CSI-effect" impacts defendants as well. Having been trained, through television crime dramas, to believe that DNA evidence is not to be questioned, juries place undue weight on any sort of DNA evidence brought forth by the prosecutor. At least one study shows that when juries are presented with specific evidence of high laboratory error rates alongside a DNA match, they are still just as likely to convict a defendant.

# DNA 🡪 Convictions

**Multiple real world examples prove bad DNA evidence puts innocent people in jail**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

Last year, Murphy published a book called Inside the Cell: The Dark Side of Forensic DNA, which recounts dozens of cases of DNA typing gone terribly wrong. Some veer close to farce, such as the 15-year hunt for the Phantom of Heilbronn, whose DNA had been found at more than 40 crime scenes in Europe in the 1990s and early 2000s. The DNA in question turned out to belong not to a serial killer, but to an Austrian factory worker who made testing swabs used by police throughout the region. And some are tragic, like the tale of Dwayne Jackson, an African American teenager who pleaded guilty to robbery in 2003 after being presented with damning DNA evidence, and was exonerated years later, in 2011, after a police department in Nevada admitted that its lab had accidentally swapped Jackson’s DNA with the real culprit’s. Most troubling,

# DNA 🡪 Convictions

**Bad science in court results in high levels of wrongful convictions**

Robert M. **Sanger 2019** (Professor of Law and Forensic Science, Santa Barbara College of Law); ARTICLE: FORENSICS: EDUCATING THE LAWYERS, 43 J. Legal Prof. 221, 240-41; Lexis (Spring 2019)

Suffice it to say that, even though there are many wrongfully convicted who have not been exonerated and there has not been an adequate study of "near misses" where faulty forensics did not result in conviction, the sheer number of wrongfully convicted is alarming. The National Registry of Exonerations shows currently that there have been 2,145 exonerations in the United States since 1989 resulting in innocent human beings spending a total of 18,750 years in prison. False or misleading forensic evidence is attributed by the Registry to about one fourth of the cases even though others have placed the number much higher. This does not take into account false or misleading forensics in civil cases where millions of dollars either has been paid where it was not warranted or has not been paid where it was.[[\*241]](https://advance.lexis.com/document/?pdmfid=1000516&crid=cc514478-9aaf-434e-b02d-39b20f8cb8b9&pddocfullpath=%2Fshared%2Fdocument%2Fanalytical-materials%2Furn%3AcontentItem%3A5XYC-32T1-JBT7-X15J-00000-00&pddocid=urn%3AcontentItem%3A5XYC-32T1-JBT7-X15J-00000-00&pdcontentcomponentid=151335&pdteaserkey=sr20&pditab=allpods&ecomp=spnqk&earg=sr20&prid=5cde7a7a-577a-4ebe-b818-d9d8b48fa098) In criminal cases, there is also another significant consequence of bad forensics. When the wrong person has been prosecuted and convicted, the actual perpetrator remains at large. There are numerous documented cases in which the real perpetrator committed other rapes or murders which would not have occurred if forensic scientists and prosecutors had done their jobs correctly.The loss of life and tragedy to other innocent people who were their victims in incalculable. As lawyers and judges, it should be true that, as a matter of ethics of the profession, we should not use unreliable evidence to come to a wrongful judgment; but it also has real consequences as a matter of life and death in criminal cases and millions of dollars in civil cases. That harms everyone.

Neg

# Wrongful Convictions Impact Ext.

**Wrongful convictions are the greatest threat to justice and just society**

**Furman 2003**. H. Patrick Furman (Clinical Professor of Law @ University of Colorado). Wrongful Convictions and the Accuracy of theCriminal Justice System. University of Colorado Law School. 2003. https://scholar.law.colorado.edu/cgi/viewcontent.cgi?article=1509&context=articles

Lawyers and non-lawyers alike have an important stake in the health of the criminal justice system. In 1789, the first year of constitutional governance of this country, George Washington wrote that he was convinced 'the due administration of justice is the firmest pillar of good government."196 If people lose faith in the criminal justice system, society is greatly weakened. There may be no greater threat to faith in the justice sys-tem than the threat presented by wrongful convictions.

# Minority Collection Internal Link Ext.

**DNA evidence itself is more likely to be taken from minorities and stored in DNA databases due to lack of regulation**

**Mercer and Gabel 2019**. Stephen Mercer (Adjunct Professor of Law, University of the District of Columbia David A. Clarke School of Law and Chief Attorney, Forensics Division, Maryland Office of the Public Defender) and Jessica Gabel (Associate Professor of Law, Georgia State University College of Law). ARTICLE: SHADOW DWELLERS: THE UNDERREGULATED WORLD OF STATE AND LOCAL DNA DATABASES, 69 N.Y.U. Ann. Surv. Am. L. 639, 681 (2019)

The ease of collection, swift processing, and low cost, combined with the opportunity to indefinitely retain DNA samples in underregulated local or state DNA databases, creates a powerful incentive for police to target disfavored individuals for DNA collection. Courts have mostly been unwilling to scrutinize unwarranted search claims arising out of collection from persons who consent to a buccal swab, finding that consent constitutes a waiver of any privacy interest in DNA identification. And, the lack of transparency shields underregulated databases from any meaningful legislative oversight on the utility or disproportionate impact of police collection practices.

# Justification Internal Link Ext. 1/3

**The use of DNA draws a connection between crime and minorities - plan solves**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

The desire to maintain systems of racial differentiation is deeply rooted to an often unspoken and unconscious need to preserve racial hierarchy and privilege. After all, what becomes of racial hierarchy if there are no racial categories? Using science to interpret racial difference and validate folk notions of the supposed fixed nature of race inevitably protects "whiteness" and the racial status quo. The historical development of the race concept demonstrates how the science of racial difference has long been used to establish the genetic, cultural, and moral bases of white superiority and non-white inferiority. It is unsurprising, though disappointing, that the specter of nineteenth century "race science" has reappeared in the criminal context with the modern use of racial DNA probability estimates. Non-whiteness, and more specifically blackness, has been closely linked to criminality as part of a broader project of non-white racial oppression: "the prevailing image of Blackness as something loathsome, marginal, and deviant--the criminalblackman--persists." Professor Frank Rudy Cooper summarizes the historical racist linkage of blackness with criminality as follows: Early European observers linked blackness to criminality. During United States chattel bondage, states criminalized the very property of being black. That resulted in an association of blackness with a criminal propensity. The success of the notion that blacks are inherently criminal was seen in white people's panic over the possibility of crime waves by recently freed blacks. With respect to black men, the image of black criminality merges with the myth of black men has having unrestrained sexuality to form the image of black men as incipient rapists. The continued judicial acceptance of racialized DNA random match probability estimates reinforces this connection between non-whiteness and criminality. As racial difference is interpreted as genetically meaningful and discernable through DNA testing, racial probability estimates admitted against non-white criminal defendants provide a "scientific" testament to deep-seated associations of blackness with criminality and biological inferiority. Random match probability estimates based on race are simply irrelevant, unreliable and unfairly prejudicial in the state and federal courts of the United States. The heretofore judicial embrace of racialized probability estimates reflects an unyielding protection of whiteness as a meaningful genetic category rather than an arbitrary social construction. While this racial project should not be given legal acceptance on normative grounds, it is similarly objectionable under many of the doctrinal rules of federal evidence. The determination of whether scientific evidence is admissible is entrusted to the trial judge as part of its "gatekeeping" role, as elucidated by the United States Supreme Court in the seminal Daubert v. Merrell Dow Pharmaceuticals, Inc. case. The Daubert court stressed that the trial judge must screen scientific evidence prior to its presentation to the jury, to ensure that such evidence is relevant, reliable, and not unfairly prejudicial.

# Justification Internal Link Ext. 2/3

**The use of DNA at trial helps society justify institutional racism in the criminal justice system**

**Khan 2008**. Jonathan Kahn (Associate Professor of Law at Hamline University School of Law). Race, Genes, and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials. Brooklyn Law Review. Dec. 2008. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707819/

Race enters into people’s consciousness in complex and often unanticipated ways. The NRC II report clearly focused on issues of race in response to the questions raised by the debate in which Lewontin and Hartl opposed Chakraborty’s and Kidd’s views. That debate involved the relation between social groups of race and genetic variation.122 Both sides recognized that racial categories were crude surrogates for capturing genetic variation across groups, but Chakraborty and Kidd were, in effect, arguing that race was nonetheless not “too crude”—that is, it was good enough for practical use in law enforcement because of the ability to generate astronomically low RMPs even allowing for a substantial range of variation.123 As a practical matter, the debate cast into doubt the admissibility of DNA forensic evidence in courts; hence the FBI’s urging that the issue be revisited by a second NRC Committee.124 The NRC II report, therefore, aimed to quiet the dispute, rendering it irrelevant to the practical application of forensic DNA technologies in law enforcement. Yet, it is unclear why the NRC II report characterized difference among racial reference populations as meaningful “error,” while it deemed the hundred (or even thousand) fold range of variance within a single reference population to be of no practical significance.125 This seems largely to be an artifact of the report’s focus on addressing the issues raised by Lewontin and Hartl in a manner that would allow forensic DNA testing to proceed unimpeded by concerns of the accuracy of using racial reference populations to calculate RMPs. The report needed to show that RMPs generated by using racial categories were good enough for practical use in courts of law. The utility and/or validity of using a general population database without reference to either race or ethnic subgroups was never really at issue. In the end, the report issued the following formal recommendation for estimating RMPs: In general, the calculation of a profile frequency should be made with the product rule. If the race of the person who left the evidence-sample DNA is known, the database for the person’s race should be used; if the race is not known, calculations for all the racial groups to which possible suspects belong should be made.126 The NRC II report thus legitimized the then standard practice of using race to generate RMPs. In rejecting Lewontin and Hartl’s concerns about broad racial databases, it seems also, implicitly, to have rejected—or at least failed to fully appreciate—Lewontin’s cognate concerns about the incoherence of race as a genetic category and the dangers of reifying race as genetic.127

# Justification Internal Link Ext. 3/3

**Race-coding of DNA results in the improper conflation between race and crime**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

Racial probability estimates of genome frequency are clearly unfairly prejudicial. Racial probability estimates are generally admitted in criminal trials, where the defendant is often accused of committing a violent and reprehensible crime. Such evidence unnecessarily injects issues of race and ethnicity into the trial, thereby leading the trier of fact to improperly focus on the race of the defendant and, at times, victim. A racial probability estimate clothed in science also reifies the folk association of race with biology. This pseudo-scientific evidence facilitates a "molecular reinscription of race in the biological sciences," further feeding the folk myth that the races are real, natural, and fixed genetic categories. The damage borne by the defendant and society cannot be understated.The clear risk of racial bias stemming from the introduction of racial DNA estimates is highlighted by the unfortunate historical association of crime and race. Racist ideology has long sought to establish the biological inferiority of non-white persons by claiming that non-white people are naturally predisposed to committing crimes against society. The introduction of "scientific" evidence against a criminal defendant that purports to assess genetic probabilities based on race, therefore, threatens to resurrect an enduring racial prejudice.

# Justification Internal Link Ext. 3/3

**DNA science is used to link race and crime**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

Science has a long and regrettable history of inappropriately taking it upon itself to interpret racial difference. Science--whether it be phrenology, anthropometrics, anthropology, biology, eugenics or now genetics--has steadfastly heeded the call to provide empirical validation to folk beliefs of white superiority and non-white inferiority. Following World War II, prominent scientists from around the world uniformly rejected the biological theories of race that had led to the death and oppression of countless millions. Race was established, not simply theorized, to be a social construction that has no biological or genetic meaning. The rise of DNA profiling and population genetics, however, has ushered in a modern era of "race science." Genetics has once again been relied on to scientifically interpret racial difference, notwithstanding the unfortunate lessons of history. Modern science and the courts apparently are easily lured by the folk notion that racial classifications in society are not simply arbitrary artifacts reflecting historical social and political processes, but rather account for enduring and naturally-occurring biological differences. It is thus now common and widely accepted for courts in the United States to admit statistical evidence claiming the scientific ability to interpret genetic racial difference. Such evidence, however, is objectionable on both normative and doctrinal grounds. The allure of believing there is a biological dimension to race is deeply tied to an often unspoken and unconscious desire to preserve existing structures of racial classification and privilege. The use of science to validate folk notions of race inevitably protects both the racial status quo and the social benefits that accrue from whiteness. The re-emergence of "race science" in the forensic genetics context is, however, somewhat unsurprising, given the long-standing racist history of linking criminality with non-whiteness (more specifically, blackness).

# Race-Coded DNA Inherency

**DNA used in court is racially-marked**

**Giannelli et al 2020**. Paul C. Giannelli (Distinguished University Professor of Law, Case Western Reserve University School of Law); Edward L. Imwinkelreid (Edward L. Barrett, Jr. Professor of Law and Director of Trial Advocacy, University of California at Davis School of Law); Andrea Roth (Assistant Professor of Law, University of California at Berkeley School of Law); and Jane Campbell Moriarty (Carol Los Mansmann Chair in Faculty Scholarship, Professor of Law and Associate Dean for Faculty Scholarship, Duquesne University School of Law). Scientific Evidence, Fifth Edition, § [sec. no.] (Matthew Bender) 2020. Lexis

After the 1996 report, most laboratories resumed the practice of using population frequencies for broad racial categories. However, recently some commentators have called on the courts to exclude racial statistics and instead demand that experts use population frequencies for the non-differentiated general population. These commentators argue that the use of racial categories is unduly prejudicial because of “the gratuitous association of race with genetics and violent crime.” They also assert that race is “a socio-political construction with no biological meaning.” However, to date, no court has embraced this argument and barred testimony about random match probabilities for a racial group in a DNA case.

# Race-Coded DNA Internal Link Ext. 1/2

**Racial marking of DNA is results in a legally insignificant difference in DNA testing**

**Khan 2008**. Jonathan Kahn (Associate Professor of Law at Hamline University School of Law). Race, Genes, and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials. Brooklyn Law Review. Dec. 2008. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707819/

And yet, even accepting this huge range of variance, the report persisted in using race as an organizing category in calculating RMPs. Thus, even while acknowledging that “some assert that the word race is meaningless [in a genetic context,] … white (Caucasian), black (African American), Hispanic, east Asian (Oriental), and American Indian (Native American) [are] racial groups.”117 It justified this choice by asserting that “there are reproducible differences among the races in the frequencies of DNA profiles used in forensic settings, and these must be taken into account if errors are to be minimized.”118 It is instructive to note here just where it is that “difference” made a difference in the calculation of RMPs. Difference was deemed insignificant when it manifested as a thousand-fold range for an “accurate” calculation using the product rule to compare a single sample against a single reference population database—that is, the “difference” between “one in 100,000 or one in 100 million” made no practical difference for use of the data in a court of law.119 To be fair, as noted above, the NRC II report recommended calculating RMPs with a margin of error limited to ten-fold in either direction120—but this still translates into a variation of one hundred-fold between the lowest and highest estimate. But when race was at issue in the NRC II report, the “difference” of frequencies among racial reference populations became critical and had to be “taken into account if errors are to be minimized.”121

# Race-Coded DNA Internal Link Ext. 1/2

**Modern DNA science uses the same logic as eugenics and is not helpful in court**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

To the extent … that "DNA profiles are dependent on the construction of racial and ethnic subgroups that are conceptualized in purely biological terms," then in light of the "widespread agreement … that biologically distinct races do not exist," the profilers are unwittingly engaged in legendary "race science." Race is increasingly viewed as being reducible through genetic testing to a biological essence. A person's deoxyribonucleic acid ("DNA") may purportedly be analyzed to isolate one's "racial essence." DNA technology and genetic testing claim to be able to biologically discern a person's race, and DNA samples left at crime scenes have been analyzed to introduce probabilistic estimates that criminal defendants shared the same race as the perpetrators of the crimes. Intellectual and physical attributes are similarly being attributed to racial difference on the basis of DNA and genetic scientific discoveries. The widespread legal acceptance of such scientific interpretations of race as relevant, reliable, and un-prejudicial evidence threatens to undermine modern conceptions of race as a socio-political construction. In its stead, the proliferation of racial DNA evidence promotes a biological view of race that hearkens back to nineteenth century "race science." From a doctrinal perspective, such evidence clearly fails to satisfy basic evidentiary requirements of relevance, reliability, and fairness under existing United States statutory law. From a normative perspective, the use of extant racial categories to interpret and give racial meaning to DNA and genetic evidence rests on a flawed understanding of race as biologically meaningful. This Article thus argues that the prevailing socio-political understanding of race is being threatened by legal acceptance of modern "race science," and proposes a conception of race that accounts for the teachings of modern DNA and genetic technology, while avoiding biological reductionism.

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# Race-Coded DNA Internal Link Ext. 2/2

**The assignment of race to DNA ensures an oversimplified understanding of race as biology enters the courtroom rather than the more accurate and nuanced definition of race as a social construction**

**Khan 2008**. Jonathan Kahn (Associate Professor of Law at Hamline University School of Law). Race, Genes, and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials. Brooklyn Law Review. Dec. 2008. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707819/

The casual and perfunctory assignment of social categories of race to biological samples in professional discussions of forensic DNA stands in marked contrast to the meticulous care taken concerning the more technical aspects of DNA extraction, amplification, and analysis. The discussions of each in a 2005 article164 by Peter Vallone, Amy Decker, and John Butler, of the National Institute of Standards and Technology’s (NIST) Human Identity Project165 team, are fairly typical. This particular article involved the characterization of allelic frequencies for seventy single nucleotide polymorphisms (“SNPs”) in DNA samples taken from three racially marked groups: U.S. Caucasian, African-American, and Hispanic.166 The article presents its techniques for racially identifying the DNA samples as follows: “Anonymous liquid blood samples with self-identified ethnicities were purchased from Interstate Blood Bank, Inc. (Memphis, TN) and Millennium Biotech, Inc. (Ft. Lauderdale, FL).”167 “Self-identification” thus provides the sum total of all care and technique devoted by Vallone et al. to characterizing genetic samples by race. Contrast this with their discussion of the more apparently technical aspects of how they manipulated the samples once in the lab (which is quoted at length to heighten the contrast): 2. DNA extraction Blood samples were extracted using a modified salting out procedure. 3. Quantification Extracted DNA was quantified using UV spectrophotometry followed by a PicoGreen assay to adjust concentrations to approximately 1 ng/μl. 4. SNP markers The 70 autosomal SNP markers are listed in Table 1 (see also http://www.cstl.nist.gov/biotech/strbase/SNP.htm). The PCR primer sequences were obtained from Orchid Cellmark (personal communication, Jeanine Baisch, Orchid Cellmark Dallas). The exact chromosomal locations were ascertained using BLAT (http://genome.ucsc.edu/cgi-bin/hgBlat) and dbSNP (http://www.ncbi.nlm.nih.gov/SNP/) and are based on the July 2003 assembly of the human genome. All of the SNPs are C/T transitions. 5. PCR amplification For each sample, the 70 SNP markers were typed in 11 unique 6-plexes and a single 4-plex PCR. The final concentrations of the six (or 4) PCR primer pairs were present at 0.5 μM for all multiplex PCRs. Amplifications were performed in reaction volumes of 10 μl using a master mix containing 1X GeneAmp® PCR Gold buffer (Applied Biosystems, Foster City, CA), 4.5 mmol/l MgCl2, 250 μmol/l deoxynucleotide triphosphates (dNTPs; Promega Corporation, Madison, WI), 0.16 mg/ml bovine serum albumin (BSA) fraction V (Sigma, St. Louis, MO), and 0.5 unit of AmpliTaq Gold® DNA polymerase (Applied Biosystems). The thermal cycling program was carried out on a GeneAmp 9700 (Applied Biosystems) using the following conditions in 9600-emulation mode (i.e., ramp speeds of 1 °C/s): 95 °C for 10 min Three cycles of {95 °C for 30 s, 50 °C for 55 s, 72 °C for 30 s} 18 cycles of {95 °C for 30 s, 50 °C for 30 s +0.2 °C per cycle. 72 °C for 30 s} 11 cycles of {95 °C for 30 s, 55 °C for 30 s, 72 °C for 30 s} 72 °C for 7 min 25 °C until removed from thermocycler Following PCR amplification, unincorporated primers and dNTPs were removed by adding 4 μl of a Exo-SAP enzyme cocktail consisting of 1.4 μl Exonuclease I (10 U/μl) and 2.6 μl (1U/μl) of shrimp alkaline phosphatase (SAP; USB Corp., Cleveland, OH) to each 10 μl PCR reaction. Reactions were mixed briefly and incubated at 37 °C for 90 min and then 80 °C for 20 min to inactivate the enzymes.168 The point here is not to assess (or even understand) the intricacies of the technical analysis performed by Vallone et al. on their DNA samples. Rather, it is to contrast the extreme care and detail devoted to illustrating the techniques performed in the lab with the casual and perfunctory discussion of how the samples came to be racially marked in the first place. As scientists, Vallone et al. understandably go into greatest detail with respect to those very techniques and practices in which they are professionally trained and proficient. This detail reflects their reasonable understanding that the extraction, amplification, and analysis of DNA take great care and expertise. The contrasting lack of care taken in characterizing the racial identity of the genetic samples indicates an implicit assumption that such characterizations are obvious, uncomplicated, and take no special expertise. This contrast may be understood more broadly as reflecting a conceptual separation of the world of the “social” from that of the “natural,” where the former is understood to contain transparent categories accessible to all, while the latter requires specialized knowledge and expertise for proper analysis and interpretation. In other words, race is seen as easy and obvious; DNA is seen as difficult and complex.169 There is an utter failure to consider that social subjects such as race may demand similar rigor, expertise, and care in handling as scientific subjects such as DNA.

# Race-Coded DNA Internal Link Ext. – AT: Race Is a Useful Categorization 1/2

**Race and DNA have nothing to do with each other. DNA can explain ancestry to a certain extent, but it’s unscientific to say a suspect’s DNA can explain the social construct of race**

**Herrera 2019**. Jack Herrera. DNA tests can’t tell you your race. 12-27-19. https://www.popsci.com/story/science/dna-tests-myth-ancestry-race/

The vast majority of human DNA—we’re talking 99.9 percent—is entirely identical between individuals. So when the code diverges between two people, that’s interesting to scientists. A DNA ancestry test scans the entirety of your genome looking for single-letter differences. Statistical experts like Feldman have figured out that people from the same continent, on average, tend to have certain variations in the same regions of DNA. Still, it’s impossible to say that one tiny nuance comes from a specific place; analysts can only note when someone’s differences overlap a lot with a general geographic group. "You can’t take your DNA and chop it up and say, ‘This bit came from here, and that bit came from there,’ ” Feldman says, laughing. Feldman knows what he’s talking about: He was a part of the Human Genome Diversity Project, the first research group that sought out connections between genetics and geographic ancestry. Starting in the 1990s, collaborators began using blood samples collected from around the world to try to understand human migration and evolution. The result was the first-ever “map” detailing commonalities in the DNA of people from different regions. It was a monumental achievement: The Project’s results are still the baseline for most consumer tests on the market today. Back to Feldman’s point about divvying up DNA ... you might think your ancestry works sort of like inheriting genes from your parents—an even 50/50 split. But that’s not the case when you go back another generation, as DNA reshuffles and reorganizes with every new transfer. So even if your mom gave you 50 percent of her own genes, doesn’t mean you got an even portion of, say, her Pakistani parent’s. In fact, if you dig far enough, it’s possible you’ll find a direct ancestor that you have no genes in common with. This means that you and your sibling can have significantly different ancestry results, given you’ve each inherited different portions of your parents’ DNA (unless you’re identical twins). That brings us to another important detail: the fact that ancestry and physical appearance (or phenotypic traits) don’t directly overlap. Characteristics like skin color, hair texture, and eye shape are controlled by thousands of different genes—separate from the ones scientists look at when composing an ancestry profile. As a result, someone with a high estimate of West African ancestry might not look or even identify as black. Similarly, an individual whose tests come back with a very low estimate of West African ancestry might actually be black. That’s why geneticists haven’t devised a test that can conclusively determine a person’s race. And in a way, it’s impossible. Race is about how we identify and are identified; it’s more than a question of appearance—it’s a question of culture, history, geography, and family. It can’t be boiled down to genetics and percentages. “It’s fundamentally flawed to think that a genetic test can figure out race,” says Sarah Tishkoff, a professor of genetics and biology at the University of Pennsylvania. “The biggest issue is distinguishing between ancestry and race. Race is a socially constructed concept. How someone self-identifies in terms of their ethnicity or race may be different than what their genetic ancestry tells us.”

# Race-Coded DNA Internal Link Ext. – AT: Race Is a Useful Categorization 2/2

**Racial classification of DNA lacks legal relevance – does not help establish guilt**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

As modern forensic DNA analysis now uses 13 STR loci in the CODIS system, astronomical probability estimates are now possible using just the general population as the reference point. The FBI's Bruce Budowle noted in 2000 that the "average random match probability for unrelated individuals for the 13 STR loci is less than one in a trillion, even in populations with reduced genetic variability." Dr. Budowle further explained that a DNA "profile would be considered rare whether it had an estimated frequency of 1/5,000,000, 1/50,000,000, or 1/500,000,000. Obviously, the difference in the rarity of such estimates would have little consequence in a forensic context." Moreover, expert witnesses testifying in court have often acknowledged the insignificance of differences in probability estimates. The population geneticist Kenneth Kidd, while generally in favor of using racialized estimates, admitted in the Soto case that "any difference in estimates over one in a million was pragmatically meaningless." An expert in the Wilson case similarly observed that a DNA random match probability estimate "would be a 'pretty discriminating number' no matter what population data base was used." The racial probability estimates admitted in Wilson illustrate the problem of legal irrelevancy. In Wilson, expert testimony was admitted that stated that the defendant's DNA profile would occur in "one of 96 billion Caucasians, one of 180 billion Hispanics, and one of 340 billion African Americans." Therefore the defendant's genetic profile would be slightly more common in Caucasians than in African Americans. However, the defendant was described by the court and witnesses as being a "light-skinned Black man." This mismatch between the identified race of the defendant and the racial probability estimates presented at trial demonstrates the inherent irrelevancy of using race in forensic DNA analysis. The racial probability estimates admitted in Wilson simply did not add anything relevant to the analysis. The Wilson court, while not acknowledging the mismatch, nonetheless observed that "as the science underlying DNA comparisons continues to improve, the practical significance of the different racial frequencies diminishes." The court stated that whether the jury focused on the probability estimate most favorable to the defendant (e.g., the Caucasian estimate of one in 96 billion) or the estimate most damaging to the defendant (e.g., the African-American estimate of one in 340 billion) "is of little moment." The court reasoned that "since there are no more than 7 billion people on the planet, it is rather unlikely, to say the very least, that a jury's evaluation of the significance of the match between defendant's DNA and the crime scene DNA would differ whether the jury focuses on 1 in 96 billion, 1 in 340 billion, or any number in between, as the likelihood of a random match with another person." Race is an irrelevant legal concept when assessing criminal guilt based on genetic analysis. Probability estimates relying on a general population database are sufficiently accurate to eliminate any need for a supposedly more accurate estimate using race. Simply put, a random match probability estimate relying on race does not reasonably make the identification of the perpetrator any more probable or assist the trier of fact.

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# Race-Coded DNA – Case Solves

**Race-coding of DNA would not survive an enhanced *Daubert* analysis**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

Probability estimates of genomic frequency interpreted through the lens of race simply provide no relevant information to the finder of fact. The lack of a reliable methodology to racially classify DNA sample, combined with irrefutable scientific evidence that race has no genetic component, are further grounds for inadmissibility. Racial probability estimates also introduce an unnecessary risk of unfair prejudice at trial by cultivating racial bias and reifying biological folk theories of race. The continued judicial acceptance of racial DNA probability estimates not only serves to reinforce racial hierarchy, but also runs counter to basic evidentiary principles concerning the admission of scientific evidence.

# Eugenics Impact Ext 1/3

**The broad spectrum reverence of race-based DNA evidence inscribes the beliefs of biological racism and race difference into the justice system**

**Khan 2008**. Jonathan Kahn (Associate Professor of Law at Hamline University School of Law). Race, Genes, and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials. Brooklyn Law Review. Dec. 2008. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707819/

There is no easy answer to this question. I suggest that there is an inertial power to race in American society that propels the continued use of race long after any original rationale for its introduction may have faded. In particular, I consider three possible dynamics contributing to the persistent use of race in the presentation of forensic DNA evidence even after current technology has obviated the need for race-specific databases: 1) the persistent conceptualization of race as genetic; 2) the confusion of statistical significance with forensic significance; and 3) the deep-seated American identification of violent crime and race. First, with respect to genetics, in spite of decades of efforts on the part of social and natural scientists to sever the ties between race and biology, large segments of American society continue to conceptualize race primarily in genetic terms.194 The rise of modern genomics was supposed to resolve the dispute.195 Upon the completion of the first draft of the human genome in 2000, President Clinton declared, “After all, I believe one of the great truths to emerge from this triumphant expedition inside the human genome is that in genetic terms all human beings, regardless of race, are more than 99.9% the same.”196 At the same press conference, Dr. J. Craig Venter, president and CEO of Celera Genomics, reinforced Clinton’s message, asserting that “the concept of race has no genetic or scientific basis.”197 Yet, ironically, since this iconic press conference, genetic conceptualizations of race seem to have reemerged with a vengeance. As anthropologist Sandra Lee has noted, the current trajectory of genomic research is increasingly focused on the 0.01 per cent genetic difference that is believed to separate one individual from another. The search for functional genetic variability is increasingly taken up in populations that are identified by conventional notions of race. This trajectory is the result of a confluence of factors, including a growing infrastructure of research materials that are racially categorized through the creation of biobanks. Such sorting practices reflect the ongoing conflict over the meaning of ‘race’ in science and medicine. In the emerging era of the new genetics, in which super-computer technology has given way to an explosion of human genetic data, biobanks that utilize taxonomies of race in the classification, storage and distribution of DNA samples become racializing technologies that promote notions of racial biology in research protocols designed to discover group difference.198 Sociologist Troy Duster has further argued that “new claims that DNA analysis of crime scene data will assist criminal investigations” have led to a “molecular reinscription of race in the biological sciences.”199 The same technology underlying the creation of racialized forensic DNA databases is also being used for drug development200 and to market new genetic ancestry tracing services.201 Thus, there have emerged both structural and commercial incentives to continue to use race in relation to genetics. This dynamic undergirds the inertial power of race in forensic DNA analysis by providing a broader context in which race is understood, somehow, to be naturally or logically connected to genetics. This dynamic is further reinforced by the tendency of forensic DNA experts, as discussed above,202 to take race as an obvious, unproblematic category that does not require the same care and analysis as genetic data.

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# Eugenics Impact Ext 2/3

**Racial DNA classification results in trial classification of criminal defendants by race – it’s equivalent to the archaic use of “race science” to prove white supremecy**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

Race was once understood as a scientifically meaningful taxonomic structure for human society. Science--whether in the guise of taxonomy, biology, anthropology, anthropometrics, anatomy, medicine, eugenics, or physiognomy--was utilized to define racial boundaries and groupings, as well as to empirically demonstrate supposedly innate and immutable differences among the "races" in intelligence, sexuality, morality, and other physical and mental human characteristics. Unsurprisingly, science played a pivotal role in reinforcing and legitimizing folk beliefs of white superiority and non-white inferiority, thus maintaining a rigid system of racial oppression and hierarchy. The pseudo-scientific theories of white racial superiority became applied science during the racial eugenics movement in the United States and Germany. Following the horrific and coldly technical application of unsound scientific theories of race by Nazi Germany in World War II, the world flatly rejected biological conceptions of race and advocated a perception of race as a social and historical construction. Part I of this Article thus briefly reviews the role that science played in the historical development of the concept of race. This section will also analyze the American legal acceptance of scientific racial theories through time, noting that "race science" was once freely admissible in American courts, but was ultimately displaced by modern sociological theories of race. Notwithstanding the scientific and heretofore legal understanding that race is strictly a social construct, there has been an increased willingness of late to understand race in terms of biological difference. Genetic ancestry testing is now widely available, purporting to trace an individual's genetic ancestry to geographic regions that serve as misleading proxies for race: Africa, Europe, Asia, and "Native America." Additionally, pharmaceutical companies have developed drugs designed for specific races and ethnicities, while medicine increasingly views race as a valid biological entity for epidemiological study. The judiciary has similarly fallen victim to accepting unfounded scientific notions that race has a genetic basis. The forensic analysis of crime scene genetic samples--such as blood, hair, and bodily fluids--has long been a staple of law enforcement. Scientific advancements in the understanding of genetic differentiation and DNA analysis, however, have encouraged law enforcement to develop DNA profiles of criminal suspects that are racial in nature. The Federal Bureau of Investigation, for instance, maintains a large database of genetic profiles of DNA samples that are classified in part by race. During a criminal investigation, the crime scene sample of genetic material is compared with the suspect's DNA sample. The discovery of a match between the crime scene sample and the suspect's DNA means that suspect is a potential, but not the only possible, contributor of the genetic material found at the crime scene. The next step in the DNA identification process involves the development of a probability estimate of the chance that someone other than the criminal suspect could have contributed the crime scene sample. A statistical estimate may be generated by comparing the tested samples with the DNA profiles present in the general population; for instance, an estimate that there is one-in-a-million chance that another person in the United States could have contributed the crime scene DNA sample. However, criminal prosecutors are increasingly relying on expert comparisons of the tested DNA samples with the DNA profiles present in a specific racial group. It is now commonplace for courts to admit probabilistic estimates that, for instance, there is only a 1-in-41-million chance that another "Hispanic" person contributed the genetic material found at a crime scene.

# Eugenics Impact Ext 3/3

**The classification of DNA by race uses the same logic as eugenicists resulting in a biologically-reductionist view of race**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

The meaning of "race" has been vigorously contested throughout history. Early theories of race assigned social, intellectual, moral and physical values to perceived physical differences among groups of people. The perception that race should be defined in terms of genetic and biological difference fuelled the "race science" of the eighteenth and nineteenth centuries, during which time geneticists, physiognomists, eugenicists, anthropologists and others purported to find scientific justification for denying equal treatment to non-white persons. Nazi Germany applied these understandings of race in a manner which shocked the world, and following World War II the concept of race increasingly came to be understood as a socio-political construction with no biological meaning. Modern theories thus understand race as a social grouping of persons necessary to preserve unbalanced relationships of power. Nonetheless, there has been an increased willingness of late to understand race in terms of biological difference. In particular, federal and state courts in the United States have largely embraced the use of distinct racial DNA databases to form expert opinions on racial genomic probability. Race, however, remains a purely social construct. Scientific evidence that claims the ability to biologically discern race should therefore be rejected by courts as irrelevant, unreliable and unfairly prejudicial. This Article argues that the prevailing socio-political understanding of race is being threatened by an ascendance of modern "race science," and advocates a conception of race that accounts for the teachings of modern genetics, while avoiding a biologically reductionist view of race.

# Eugenics – Terminal Impact Ext. 1/2

**State racism manifested through biological methods justifies elimination of difference – unending war and genocide**

**Elden 02** (Stuart Elden, Professor of Political Theory and Geography at University of Warwick and Monash Warwick Professor at Monash University., “The War of Races and the Constitution of the State: Foucault's «Il faut défendre la société» and the Politics of Calculation”, Boundary 2, Volume 29, Number 2, 2002)

The reverse side is the power to allow death. **State racism** is a recoding of the old mechanisms of blood through the **new procedures of regulation**. Racism, as **biologizing**, as tied to a state, takes shape where the procedures of intervention ‘‘at the level of the body, conduct, health, and everyday life, received their color and their justification from the mythical concern with protecting the purity of the blood and ensuring the triumph of the race’’ (VS, 197; WK, 149).37 For example, the old anti-Semitism based on religion is reused under the new rubric of state racism. The integrity and purity of the race is threatened, and the state apparatuses are introduced against the race that has infiltrated and introduced noxious elements into the body. The Jews are characterized as the race present in the middle of all races (FDS, 76).38 The use of medical language is important. Because certain groups in society are conceived of in medical terms, society is no longer in need of being defended from the outsider but from the insider: the abnormal in behavior, species, or race. What is novel is not the mentality of power but the technology of power (FDS, 230). The recoding of old problems is made possible through new techniques. A break or cut (coupure) is fundamental to racism: a division or incision between those who must live and those who must die. The ‘‘biological continuum of the human species’’ is fragmented by the apparition of races, which are seen as distinguished, hierarchized, qualified as good or inferior, and so forth. The species is subdivided into subgroups that are thought of as races. In a sense, then, just as the continuum of geometry becomes divisible in Descartes,39 the human continuum is divided, that is, made calculable and orderable, two centuries later. As Anderson has persuasively argued, to suggest that racism has its roots in nationalism is a mistake. He suggests that ‘‘the dreams of racism actually have their origin in ideologies of class, rather than in those of nation: above all in claims to divinity among rulers and to ‘blue’ or ‘white’ blood and breeding among aristocracies.’’40 As Stoler has noted, for Foucault, it is the other way around: ‘‘A discourse of class derives from an earlier discourse of races.’’41 But it is a more subtle distinction than that. What Foucault suggests is that discourses of class have their roots in the war of races, but so, too, does modern racism; what is different is the biological spin put on the concepts.42 But as well as emphasizing the **biological, modern racism** puts this another way: to survive, to live, **one must be prepared to massacre one’s enemies**, a relation of war. As a relation of war, this is no different from the earlier war of races that Foucault has spent so much of the course explaining. But when coupled with the mechanisms of mathematics and medicine in bio-power, this can be conceived of in entirely different ways. Bio-power is able to establish, between my life and the death of the other, a relation that is not warlike or confrontational but biological: ‘‘The more inferior species tend to disappear, **the more**

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# Eugenics – Terminal Impact Ext. 2/2

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**abnormal individuals can be eliminated,** the less the species will be degenerated, the more I— not as an individual but as a species—will live, will be strong, will be vigorous, will be able to proliferate.’’ The death of the other does not just make me safer personally, but **the death of the other**, of the bad, inferior race or the degenerate or abnormal, makes life in general healthier and purer (FDS, 227–28). ‘‘The existence in question is no **longer of sovereignty, juridical**; but that of the **population, biological**. If **genocide** is truly the **dream of modern powers**, this is not because of a return today of the ancient right to kill; it is because power is situated and exercised at the level of life, the species, the race, and the large-scale phenomena of population’’ (VS, 180; WK, 136). ‘‘If the power of normalization wishes to exercise the ancient sovereign right of killing, it must pass through racism. And if, inversely, a sovereign power, that is to say a power with the right of life and death, wishes to function with the instruments, mechanisms, and technology of normalization, it must also pass through racism’’ (FDS, 228). This holds for indirect death—the exposure to death—as much as for direct killing. While not Darwinism, this biological sense of power is based on evolutionism and enables a thinking of **colonial relations,** the **necessity of wars**, **criminality**, phenomena of madness and mental illness, class divisions, and so forth. The link to colonialism is central: This form of modern state racism develops first with colonial genocide. The theme of the political enemy is extrapolated biologically. But what is important in the shift at the end of the nineteenth century is that war is no longer simply a way of securing one race by eliminating the other but of regenerating that race (FDS, 228–30). As Foucault puts it in La volonté de savoir :

Wars are no longer waged **in the name of a sovereign** who must be defended; they are waged on **behalf of the existence of all**; entire populations are mobilized for the purpose of wholesale slaughter in the name of life necessity. **Massacres** have **become vital** [vitaux— understood in a dual sense, both as essential and biological]. It is as **managers of life and survival**, **of bodies and the race**, that so many regimes have been able to wage so many wars, causing so many men to be killed. (VS, 180; WK, 136)

# Minority Report Add-On

**Something...something...DNA leads to the Minority Report movie**

**Mercer and Gabel 2019**. Stephen Mercer (Adjunct Professor of Law, University of the District of Columbia David A. Clarke School of Law and Chief Attorney, Forensics Division, Maryland Office of the Public Defender) and Jessica Gabel (Associate Professor of Law, Georgia State University College of Law). ARTICLE: SHADOW DWELLERS: THE UNDERREGULATED WORLD OF STATE AND LOCAL DNA DATABASES, 69 N.Y.U. Ann. Surv. Am. L. 639, 686-87 (2019)

A DNA sample taken for fingerprinting purposes can, in principle, be used for a lot more than merely proving identity: it can tell you a lot about me - whether I carry mutations for disorders like cystic fibrosis, sickle-cell disease, or Tay-Sachs disease. Some time in the not so distant future, it may even tell you whether I carry the genetic variations predisposing me to schizophrenia or alcoholism - or traits even more likely to disturb the peace. Might the authorities, for instance, one day subject me to a more intensive scrutiny than would otherwise be the case simply because I have a mutation in the monoamine oxidase gene that reduces the activity of the enzyme? Some research suggests that this mutation may predispose me to antisocial behavior under certain circumstances. Could genetic profiling indeed become a new tool for preemptive action in law enforcement? Philip K. Dick's 1956 story (which inspired the 2002 movie) "The Minority Report" may not be such far-fetched science fiction as we like to imagine. [312Link to the text of the note](https://advance.lexis.com/search/?pdmfid=1000516&crid=4a627f62-303d-4892-8a3b-2df3b1767121&pdsearchterms=69+n.y.u.+ann.+surv.+am.+l.+639&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdstartin=&pdpsf=&pdqttype=and&pdquerytemplateid=&ecomp=y7d59kk&earg=pdsf&prid=c2b70d93-065a-4699-86fa-530642d23ca9&srid=8fff005e-3136-4e31-9d90-0b62771a8a50)

In his provocative book, The Anatomy of Violence, Adrian Raine details how the scientific community is indeed now returning to a paradigm of human behavior - and in particular criminal behavior - that includes biological roots. [313Link to the text of the note](https://advance.lexis.com/search/?pdmfid=1000516&crid=4a627f62-303d-4892-8a3b-2df3b1767121&pdsearchterms=69+n.y.u.+ann.+surv.+am.+l.+639&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdstartin=&pdpsf=&pdqttype=and&pdquerytemplateid=&ecomp=y7d59kk&earg=pdsf&prid=c2b70d93-065a-4699-86fa-530642d23ca9&srid=8fff005e-3136-4e31-9d90-0b62771a8a50) Raine argues that the study of the biological roots of criminal behavior, or "neurocriminology," will lead to "effective" techniques, such as preventive detention, that will reduce crime. [314Link to the text of the note](https://advance.lexis.com/search/?pdmfid=1000516&crid=4a627f62-303d-4892-8a3b-2df3b1767121&pdsearchterms=69+n.y.u.+ann.+surv.+am.+l.+639&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdstartin=&pdpsf=&pdqttype=and&pdquerytemplateid=&ecomp=y7d59kk&earg=pdsf&prid=c2b70d93-065a-4699-86fa-530642d23ca9&srid=8fff005e-3136-4e31-9d90-0b62771a8a50) History is full of examples where science has been used to justify heinous mistreatment of groups of individuals. In the late 1800s, the Italian criminologist Cesare Lombroso proposed that criminals were evolutionary throwbacks who could be identified by primitive features like sloping foreheads and large jaws, and he went on to propose an evolutionary hierarchy of the races, with northern Italians at the apex. [315Link to the text of the note](https://advance.lexis.com/search/?pdmfid=1000516&crid=4a627f62-303d-4892-8a3b-2df3b1767121&pdsearchterms=69+n.y.u.+ann.+surv.+am.+l.+639&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdstartin=&pdpsf=&pdqttype=and&pdquerytemplateid=&ecomp=y7d59kk&earg=pdsf&prid=c2b70d93-065a-4699-86fa-530642d23ca9&srid=8fff005e-3136-4e31-9d90-0b62771a8a50) Such ideas inspired Mussolini's racial laws in the 1930s and are at the core of some of the ugliest social movements of our time - including forced sterilization of "imbeciles" in the United States through the 1970s. [316Link to the text of the note](https://advance.lexis.com/search/?pdmfid=1000516&crid=4a627f62-303d-4892-8a3b-2df3b1767121&pdsearchterms=69+n.y.u.+ann.+surv.+am.+l.+639&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdstartin=&pdpsf=&pdqttype=and&pdquerytemplateid=&ecomp=y7d59kk&earg=pdsf&prid=c2b70d93-065a-4699-86fa-530642d23ca9&srid=8fff005e-3136-4e31-9d90-0b62771a8a50) As[[\*689]](https://advance.lexis.com/search/?pdmfid=1000516&crid=4a627f62-303d-4892-8a3b-2df3b1767121&pdsearchterms=69+n.y.u.+ann.+surv.+am.+l.+639&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdstartin=&pdpsf=&pdqttype=and&pdquerytemplateid=&ecomp=y7d59kk&earg=pdsf&prid=c2b70d93-065a-4699-86fa-530642d23ca9&srid=8fff005e-3136-4e31-9d90-0b62771a8a50)  the pendulum continues to swing back to a biological basis for criminal behavior, the notion of a database of DNA from criminals is entirely foreseeable and will become an irresistible source of data to study for correlations between genes and criminal behavior. [317Link to the text of the note](https://advance.lexis.com/search/?pdmfid=1000516&crid=4a627f62-303d-4892-8a3b-2df3b1767121&pdsearchterms=69+n.y.u.+ann.+surv.+am.+l.+639&pdtypeofsearch=searchboxclick&pdsearchtype=SearchBox&pdstartin=&pdpsf=&pdqttype=and&pdquerytemplateid=&ecomp=y7d59kk&earg=pdsf&prid=c2b70d93-065a-4699-86fa-530642d23ca9&srid=8fff005e-3136-4e31-9d90-0b62771a8a50) The potential for misuse of DNA information is heightened when the executive branch is permitted, without legislative oversight or judicial approval, to engage in the DNA collection practices at issue in this Article.

# AT: DNA Algorithms Solve

**DNA algorithms are non-transparent and likely replicate old biases**

**Shaer 2016**. Matthew Shaer (NYT writer and Smithsonian Mag correspondent). The False Promise of DNA Testing. June 2016. https://www.theatlantic.com/magazine/archive/2016/06/a-reasonable-doubt/480747/

His critics have a darker view. William Thompson points out that Perlin has declined to make public the algorithm that drives the program. “You do have a black-box situation happening here,” Thompson told me. “The data go in, and out comes the solution, and we’re not fully informed of what happened in between.” Last year, at a murder trial in Pennsylvania where TrueAllele evidence had been introduced, defense attorneys demanded that Perlin turn over the source code for his software, noting that “without it, [the defendant] will be unable to determine if TrueAllele does what Dr. Perlin claims it does.” The judge denied the request. But TrueAllele is just one of a number of “probabilistic genotyping” programs developed in recent years—and as the technology has become more prominent, so too have concerns that it could be replicating the problems it aims to solve. The Legal Aid Society of New York recently challenged a comparable software program, the Forensic Statistical Tool, which was developed in-house by the city’s Office of the Chief Medical Examiner. The FST had been used to test evidence in hundreds of cases in the state, including an attempted-murder charge against a client of Jessica Goldthwaite, a Legal Aid attorney. Goldthwaite knew little about DNA typing, but one of her colleagues at the time, Susan Friedman, had earned a master’s degree in biomedical science; another, Clinton Hughes, had been involved in several DNA cases. The three attorneys decided to educate themselves about the technology, and questioned half a dozen scientists. The responses were emphatic: “One population geneticist we consulted said what the [medical examiner] had made public about the FST read more like an ad than a scientific paper,” Hughes told me. Another called it a “random number generator.”

# AT: DNA Databases

**DNA databases are misused by police, which causes faulty reporting and prevents victims from coming forward**

**Mercer and Gabel 2019**. Stephen Mercer (Adjunct Professor of Law, University of the District of Columbia David A. Clarke School of Law and Chief Attorney, Forensics Division, Maryland Office of the Public Defender) and Jessica Gabel (Associate Professor of Law, Georgia State University College of Law). ARTICLE: SHADOW DWELLERS: THE UNDERREGULATED WORLD OF STATE AND LOCAL DNA DATABASES, 69 N.Y.U. Ann. Surv. Am. L. 639, 641 (2019).

To do her part to help law enforcement, a Louisiana rape victim voluntarily provided her DNA so that her genetic information might help bring her attacker to justice. After all, DNA saves lives and helps solve crimes. Much to her horror, her DNA did not lead law enforcement to her rapist; rather, her DNA sample led to her brother's conviction for a separate string of crimes. In Louisiana, DNA profiles from victims and suspects remain warehoused in local DNA databases indefinitely. As a result, this woman essentially became a genetic informant on her brother. At arguably her most vulnerable point, this rape victim felt betrayed, because the police "did everything behind [her] back." Her brother's attorney cautioned that "such cases might make rape victims think twice before reporting an attack.

# AT: DNA Databases

**AT: DNA databases - Most DNA databases are unregulated local databases with bad quality DNA samples**

**Mercer and Gabel 2019**. Stephen Mercer (Adjunct Professor of Law, University of the District of Columbia David A. Clarke School of Law and Chief Attorney, Forensics Division, Maryland Office of the Public Defender) and Jessica Gabel (Associate Professor of Law, Georgia State University College of Law). ARTICLE: SHADOW DWELLERS: THE UNDERREGULATED WORLD OF STATE AND LOCAL DNA DATABASES, 69 N.Y.U. Ann. Surv. Am. L. 639, 641-42 (2019).

Louisiana and Maryland are not the exception, but rather the norm. The more than 190 public DNA laboratories that participate in the FBI's CODIS program also maintain databases at the state or local level that may contain DNA from known persons or crime scenes that cannot be entered into the national databank. The FBI closely regulates the categories of DNA profiles that can be entered into the national databank, but not the categories that participating laboratories can store and search in databases at the local and state levels, creating a gap in regulation.

Precisely because of this regulatory gap, police may expand underregulated local and state CODIS databases using DNA samples from crime victims, individuals who voluntarily provide elimination samples to aid an investigation, or samples collected from persons pursuant to a court order or warrant. Police may also expand underregulated databases using crime scene DNA samples that do not meet the FBI's quality standards for inclusion in the national databank.

# AT: DNA Databases

**AT: DNA databases - Unregulated local DNA databases empirically collect poor quality data that has been used to convict innocent people of crimes**

**Mercer and Gabel 2019**. Stephen Mercer (Adjunct Professor of Law, University of the District of Columbia David A. Clarke School of Law and Chief Attorney, Forensics Division, Maryland Office of the Public Defender) and Jessica Gabel (Associate Professor of Law, Georgia State University College of Law). ARTICLE: SHADOW DWELLERS: THE UNDERREGULATED WORLD OF STATE AND LOCAL DNA DATABASES, 69 N.Y.U. Ann. Surv. Am. L. 639, 674-76 (2019)

The underregulation of state and local DNA databases also means that low-quality DNA profiles developed from crime scene samples that cannot be uploaded to the national DNA databank are placed in state and local databases. The risk of misidentification increases when degraded, partial, or irrelevant crime scene profiles are stored in databases. DNA analysis of low amounts of DNA, called "low-copy number DNA," often fails to detect a complete profile and can add erroneous information. In addition, state and local DNA databases are now being expanded to include other poor-quality DNA samples like "touch" DNA, driven by the increasing sensitivity of DNA analysis and an insatiable demand for DNA testing in a wide array of cases from property and drug crimes to quality-of-life offenses. The number of partial crime scene profiles that matched multiple persons in Great Britian's national DNA databank illustrates the scope of the concern. Between May 2001 and September 2006, 182,612 crime scene profiles were matched. A single suspect was reported for 132,178 of these match groups; for the remainder of matches (nearly 50,000), a list of potential suspects was produced. In its annual report, the agency overseeing the database explained that "the identification of more than one potential suspect as the source of the DNA at some scenes is largely due to the significant proportion of crime scene sample profiles that are partial." The existence of a database that contains low-quality DNA profiles developed from crime scene samples means that individuals whose profiles are contained in the database, and their family members, may be falsely connected to criminal investigations. Whereas FBI regulations exclude these poor-quality samples from the U.S. national databank in an attempt to ensure the quality of investigative leads generated from a "hit" to an individual in the convicted offender or arrestee indices, many state and local databases may include them. Furthermore, while the FBI audits the profiles that local and state laboratories upload to the national databank to further ensure the quality of its investigative leads and ensure compliance with its upload standards, these audits do not extend to profiles contained in the local and state laboratories. When there is uncertainty about the number of contributors to a crime scene DNA sample and whether all of the data is complete, a forensic analyst's interpretation of the data to identify profiles of the contributors becomes prone to subjective assessments, bias, and error. In a 2011 study, seventeen qualified DNA analysts from accredited crime laboratories were asked to evaluate DNA data that had actually been used to prove a Georgia man guilty of participating in a gang rape. The analysts were provided with the scientific data necessary to interpret the results, but they were not provided with any contextual information about the facts of the case. Twelve of the analysts concluded that the DNA profile of the Georgia man excluded him as a possible contributor, four found the data to be uninterpretable, and only one found that he was a contributor to the forensic mixture of DNA. The wide variation of results "demonstrates that DNA mixture interpretation has subjective elements and may be susceptible to bias and other contextual influences."

# AT: Empiricism

**The notion of “empiricism” was a justification for enlightenment-era rcism**

**Sundquist 2009**. Christian B. Sundquist (Associate Professor of Law @ Albany School of Law). Beyond the Final Frontier: A "Post-Racial" America?: The Obligations of Lawyers, the Legislature, and The Court: Science Fictions and Racial Fables: Navigating the Final Frontier of Genetic Interpretation, 25 Harv. BlackLetter J. 57 (2009).

The philosophies of empiricism and rationality espoused during the Enlightenment period undoubtedly facilitated further scientific investigation of racial difference. Against a backdrop of widespread belief in the Aristotelian notion of a "great chain of being," the development of independent scientific fields, such as biology and anthropology, encouraged precise description of racial categories and tabulation of human difference: Empiricism encouraged the tabulation of perceivable differences between peoples and from this it deduced their natural differences. Rationalism proposed initial innate distinctions (especially mental ones) to explain the perceived behavioural disparities… . The emergence of independent scientific domains of anthropology and biology in the Enlightenment defined a classificatory order of racial groupings - subspecies of Homo sapiens - along correlated physical and cultural matrixes. The focus on empiricism and rationality during the Enlightenment thus facilitated a shift from a pre-modern understanding of human difference in terms of religion and noble lineage to a "scientific" view of human difference rooted in race. Scientific investigation of racial difference after the Enlightenment increasingly came to be relied upon as a tool to validate folk notions of "white" racial superiority while preserving structures of racial hierarchy. The chattel enslavement of Africans in the United States during the seventeenth, eighteenth, and early nineteenth centuries, for instance, spawned a regrettable expansion of "race science." While slavery in the United States was initially justified in terms of economic necessity and religious difference, science was soon invoked to provide an irrebuttable defense of the "peculiar institution." Purportedly objective studies based in biology, anatomy, and anthropology--as well as in pseudo-disciplines such as phrenology and anthropometrics--maintained that Africans were biologically inferior to whites, and that slavery thus "improved blacks 'in body, mind, and morals.'"

# Solvency – DNA Admissibility Hearings

**DNA admissibility hearings are crucial - beyond scientific reliability, the evidence could be contaminated or fraudulent**

**Cino 2017**. Jessica Gabel Cino (Associate Professor of Law, Georgia State University College of Law). ARTICLE: TACKLING TECHNICAL DEBT: MANAGING ADVANCES IN DNA TECHNOLOGY THAT OUTPACE THE EVOLUTION OF LAW, 54 Am. Crim. L. Rev. 373, 54 Am. Crim. L. Rev. 373, 384 (2017). Lexis.

As laboratories implemented established standards and protocols for DNA testing, the legal challenges to the evidence dwindled. If we are to believe the company hyping its LCN DNA testing product, then "Frye and Daubert admissibility hearings have become a thing of the past, with attorneys and DNA analysts settling into fairly routine presentations of DNA test results and conclusions to juries and the court." We should not be so alacritous to accept this claim because, first, there are many issues surrounding DNA evidence that could be litigated which have little to do with the science itself, such as contamination, fraud, and other laboratory errors and omissions. Second, there don't seem to be any statistics attached to what is otherwise a marketing claim.

# Solvency – DNA Admissibility Hearings

**Admissibility hearings are the only way to protect civil liberties from faulty DNA science**

**Land 2005**. Garrett E. Land (JD; Associate with Bales Weinstein). ARTICLE: JUDICIAL ASSESSMENT OR JUDICIAL NOTICE? AN EVALUATION OF THE ADMISSIBILITY STANDARDS FOR DNA EVIDENCE AND PROPOSED SOLUTIONS TO REPRESS THE CURRENT EFFORTS TO EXPAND FORENSIC DNA CAPABILITIES, 9 Mich. St. J. Med. & Law 95 (2005)

Judges, not juries, should make the difficult determinations, namely, ones that are likely prevent defendants from being subjected to highly prejudicial evidence. Currently, however, some judges are too relaxed and admit generally accepted scientific methods into the court, without assuring that the proper methods were applied and were applied properly. If the results are not reliable, due to the weight given by jurors to such type of evidence, caution must fall on the side of not admitting evidence, because the judge is both required to and in a better position than the jury to assess the reliability of such evidence. Education and training programs need to be the foundational building block because they would help reduce the amount of time spent in pre-trial conferences. But the resulting efficiencies should not cause juries to substitute their rationale in place of a judge's mandated gate keeping functions. DNA materials collected and not used should be destroyed, and there should be legislation to mandate such a procedure. If we keep someone's DNA profile long enough, with the advances of science, we will surely be able to convict them of something before they die. But is this what we want to become of our legal system? Absolutely not! The past decade has seen the proliferation of admission and admissibility issues regarding scientific evidence. "Yet, several important questions have received little in the way of careful consideration. As stated at the outset, despite their novelty, some of these issues admit of relatively clear answers. In other cases, though, their resolution will demand a sophisticated balancing of competing public policy considerations. If the criminal justice system is to realize the full potential of DNA technology while maintaining its essential fairness, the system must come to grips with these issues in short order. The echoes of past solutions must reverberate into the future in order to assure more consistent resolutions of DNA matters, but more importantly, to guarantee our civil liberties are not superseded by the expansion of DNA capabilities. My intention is not that criminals receive increased protections. Rather, my hope is that the judiciary, legislature, and executive branches, as well as all of society are cognizant of and take steps to assure that our the civil liberties are not unjustly infringed upon, inside or outside of the courtroom.

# Solvency – 14th Amendment Grounds

**The Supreme Court’s ruling would be based on the 14th amendment – this makes it a constitutional ruling**

**Cino 2016**. Jessica G. Cino (associate professor at Georgia State University College of Law). 2016 FLAWED FORENSICS AND INNOCENCE SYMPOSIUM: AN UNCIVIL ACTION: CRIMINALIZING DAUBERT IN PROCEDURE AND PRACTICE TO AVOID WRONGFUL CONVICTIONS, 119 W. Va. L. Rev. 651 (2016).

In particular, some objections to the use of Harper touch on the unconstitutionality of applying a different standard to criminal defendants than the standard applied to civil parties. Many of the objections made by criminal defendants articulate that the different standards violate the Equal Protection Clause of the Fourteenth Amendment. Put simply, for the purposes of this Article, the Equal Protection Clause provides that states cannot deny persons equal protection under the law. Today, this is understood to mean the government will treat similar individuals in a similar manner. Notably, the government is still allowed to classify individuals as long as it is rationally based. But a rational basis generally requires a legitimate government end or must advance a legitimate government purpose. In Mason v. Home Depot U.S.A., Inc., the Georgia Supreme Court held that criminal and civil litigants are not similarly situated; therefore, a different standard between the two is not unconstitutional. This holding was based on the idea that to be similarly situated, litigants must be charged with the same offense or cause of action. Justice [Carol W. Hunstein](https://advance.lexis.com/document/?pdmfid=1000516&crid=5bbf3537-6682-44c6-ab61-ce10cb113753&pddocfullpath=%2Fshared%2Fdocument%2Fanalytical-materials%2Furn%3AcontentItem%3A5N3Y-81W0-00CV-W1HC-00000-00&pdcontentcomponentid=144928&pdteaserkey=sr5&pditab=allpods&ecomp=kxdsk&earg=sr5&prid=01584cc3-9651-4e27-8c61-c2b083fb980e) dissented to this holding, stating that civil and criminal litigants are similarly situated and "no rational basis exists for treating them differently." The dissent notes that the Georgia General Assembly made a point to require expert testimony in civil cases "be the product of reliable principles and methods applied reliably to the facts of the case." But where is this qualification for criminal cases? Instead of applying the Daubert principles to both civil and criminal cases, the Georgia General Assembly left the door wide open with Georgia Code section 24-7-707 in criminal cases. Justice [Hunstein](https://advance.lexis.com/document/?pdmfid=1000516&crid=5bbf3537-6682-44c6-ab61-ce10cb113753&pddocfullpath=%2Fshared%2Fdocument%2Fanalytical-materials%2Furn%3AcontentItem%3A5N3Y-81W0-00CV-W1HC-00000-00&pdcontentcomponentid=144928&pdteaserkey=sr5&pditab=allpods&ecomp=kxdsk&earg=sr5&prid=01584cc3-9651-4e27-8c61-c2b083fb980e) astutely observed that, just because the court had found other civil and criminal parties not similarly situated in other cases, this finding does not make them never similarly situated. Beyond Georgia, no rational reason exists for civil cases to receive the luxury of "opinion testimony that is the product of reliable principles and methods applied reliably to the facts of a case." In the federal system, having Daubert apply to criminal cases in name but not practice sets up a disproportionate structure. Some judges will apply Daubert in the criminal context, but many do not. Consequently, individuals charged with the same crimes do not have equal opportunities to challenge the evidence against them. Civil and criminal litigants are "equally situated when it comes to the need for qualified, reliable expert opinion testimony at trial." Instead, Harper and Georgia Code section 24-7-707 create the "untenable situation where the same evidence proffered by the same expert witness for the same purpose may be allowed in criminal trials but excluded in civil trials." Taking these principles and applying them to similar civil and criminal claims reveals the flaws in relation to different expert standards. For example, assume that an individual is charged with murder in Georgia and is also civilly sued by the victim's family for wrongful death. The case hinges on bite mark evidence. The plaintiffs in the civil action also retain the bite mark expert used in the criminal prosecution. The expert employs the same scientific tests and procedures for both trials in his testimony, and the quality of the data analyzed in both trials is equal. Even though the evidence is identical, except for the actual pattern of the bite marks, the expert's testimony is deemed admissible in the criminal trial, but inadmissible in the civil trial. This happened because, at the civil trial, the expert's testimony underwent a Daubert analysis and at the criminal, the expert's testimony underwent a Harper analysis. The Daubert analysis likely revealed the bite mark determination was inadmissible and unreliable. Alternatively, the criminal court, through a Harper hearing, found the evidence reliable because the judge had the authority to consider whether the evidence reached a "scientific stage of verifiable certainty." The same could also be said of an outcome in a Frye state where the civil action proceeds federally. Bite mark analysis is a good example of this predicament because it has been heavily scrutinized in recent years. The guidelines to analyzing bite marks fail to indicate "the criteria necessary for using each method to determine whether the bite mark can be related to a person's dentition and with what degree of probability." Further, most bite mark analysis is made by comparing a mold made of a consenting individuals mouth and comparing it to the bite mark, as opposed to comparing the bite mark to multiple individual's mouths. This conclusion automatically calls reliability into question because "there is no established science indicating what percentage of the population or subgroup of the population could also have produced the bite." Daubert disallows evidence like this because Daubert specifically looks for reliability and testability, which are clearly called into question with bite mark analysis. This treatment flies in the face of a "full and fair trial." All litigants should be similarly situated when it comes to the admissibility of reliable evidence. No greater need for reliable evidence exists in civil cases than criminal cases. This "violates the equal protection clause of the United States" because "there is, and can be, no legitimate, rational reason to distinguish between the nature of the litigation when it comes to the admissibility of the same testimony by the same expert witness." Simply put, there is no rational reason to provide criminal defendants with separate but equal expert standards.

# Util Bad – Immoral 1/2

**Utilitarianism is a non-applicable model-only defaulting to certainty of impacts presents the most ethical model**

**Williams 1963**-Bernard- was an English moral philosopher. His publications include Problems of the Self, Ethics and the Limits of Philosophy, Shame and Necessity, and Truth and Truthfulness, “Most Common Criticisms of Utilitarianism” https://www.utilitarian.org/criticisms.html

The third most common criticism is that it is too difficult to apply - that we cannot calculate all the effects for all the individuals (either because of the large number of individuals involved, and/or because of the uncertainty). The principle of utility is, essentially, a description of what makes something right or wrong - so in order for it to fail, someone must give an example of something which is useful but obviously wrong. The principle does not imply that we can calculate what is right or wrong - completely accurately, in advance, or at all! It does not harm the principle of utility at all merely to comment that it is difficult for us to work out what is right - it is merely a lament against the human condition. The idea of practicality is often used to suggest a problem exists in the theory, when it fact it does not. For example: "how far does one, under utilitarianism, have to research into the possibilities of maximally beneficent action, including prevention?" [[3](https://www.utilitarian.org/criticisms.html#note3)] The answer is simple, and entirely obvious: as far as it is useful to do so! That is, far enough so that we get the optimal trade-off between planning and implementing, so that we maximize our effectiveness as agents. The does imply that, in some cases, it may not be best to apply the felicific calculus at all: if the problem is one that we have faced many times before, and always reached the same conclusion; or if the case presents itself as an emergency, and isn't open to extended consideration; we can forego the calculus and act immediately.

**Util Bad – Immoral 1/2**

**Utilitarianism justifies inequality on the basis of “morality”**

**Skeet** Aug 1, **2014**-Ann is the Markkula Center's Director of Leadership Ethics, a position that directs the Center's work in business ethics and nonprofit ethics, and considers the unique ethical concerns of those in leadership positions. "Calculating Consequences: The Utilitarian Approach to Ethics," Santa Clara University, https://www.scu.edu/ethics/ethics-resources/ethical-decision-making/calculating-consequences-the-utilitarian-approach/

While utilitarianism is currently a very popular ethical theory, there are some difficulties in relying on it as a sole method for moral decision-making. First, the utilitarian calculation requires that we assign values to the benefits and harms resulting from our actions and compare them with the benefits and harms that might result from other actions. But it's often difficult, if not impossible, to measure and compare the values of certain benefits and costs. How do we go about assigning a value to life or to art? And how do we go about comparing the value of money with, for example, the value of life, the value of time, or the value of human dignity? Moreover, can we ever be really certain about all of the consequences of our actions? Our ability to measure and to predict the benefits and harms resulting from a course of action or a moral rule is dubious, to say the least. Perhaps the greatest difficulty with utilitarianism is that it fails to take into account considerations of justice. We can imagine instances where a certain course of action would produce great benefits for society, but they would be clearly unjust. During the apartheid regime in South Africa in the last century, South African whites, for example, sometimes claimed that all South Africans—including blacks—were better off under white rule.

# Util Bad – Immoral 1/2

**Utilitarianism ignores inequality**

**Nussbaum 92** --- American philosopher and the current Ernst Freund Distinguished Service Professor of Law and Ethics at the University of Chicago (Martha C. Nussbaum, "Human Functioning and Social Justice: In Defense of Aristotelian Essentialism," Sage Publications, JSTOR, May 1992, <http://www.jstor.org/stable/3791516)//lyss>

Even if this problem were to be removed and the utility theorist were able to operate with a sophisticated view of corrected preferences, the Aristotelian would still have a number of serious questions to raise about the whole idea of utility as a basis for public policy. If utility is understood as a single thing, as in some vague sense it usually is, then the theory is implicitly committed to the commensurability of values and to the idea that for any two distinct ends, we can always imagine trade-offs in purely quantitative terms. The Aristotelian is profoundly opposed to this idea. The account that she gives of the basic human functionings shows a rich plurality of distinct items, each of which must be represented in a fully human life. You cannot pay for the absence of one function by using the coin of another."9

Furthermore, the usual pretense of economic utilitarianism - that all this can be modeled by attaching a monetary value to the relevant human functionings -is, to the Aristotelian, especially repellant. The Aristotelian holds that money is merely a tool of human functioning and has value in human life only insofar as it subserves these functionings. More is not always better, and in general, the right amount is what makes functioning best.' To treat the functions themselves as commodities that have a cash value is to treat them as fungible, as alienable from the self for a price; this implicitly denies what the Aristotelian asserts: that we define ourselves in terms of them and that there is no self without them. To treat deep parts of our identity as alienable commodities is to do violence to the conception of the self that we actually have and to the texture of the world of human practice and interaction revealed through this conception. As Marx put it, "Assume the human being to be the human being and its relation to the world to be a human one, then you can exchange love only for love, trust for trust, etc.""6'

Finally, utilitarianism, neglecting as it does the inalienability of certain elements of the self, neglects also the ethical salience of the boundaries between persons. As a theory of public measurement, utilitarianism is com- mitted to the aggregation of satisfactions. Individuals are treated as centers of pleasure or pain, satisfaction or dissatisfaction, and the fact of their separateness one from another is not given special weight in the theory, which proceeds by summing. But in the world we actually inhabit, it is a highly relevant fact that my pain is not yours, nor yours mine. If trade-offs between functions are problematic where a single life is concerned, they are all the more problematic when they cross the boundaries of lives, purchasing one person's satisfaction at the price of another's misery. It is easy to see what consequences this can have for policy. For **the utilitarian is frequently willing to tolerate huge inequalities for the sake of a larger total or average sum**. The Aristotelian's fundamental commitment, by contrast, is to bring each and every person across the threshhold into capability for good functioning. This means devoting resources to getting everyone across before any more is given to those who are already capable of functioning at some basic level. **If all cannot be brought across the threshhold, to this extent the ends of public policy have not been met.**

# Topicality – DNA

**Forensic science includes DNA and crime scene investigation**

Robert M. **Sanger 2019** (Professor of Law and Forensic Science, Santa Barbara College of Law); ARTICLE: FORENSICS: EDUCATING THE LAWYERS, 43 J. Legal Prof. 221, 225-27; Lexis (Spring 2019)

In these and other case, there may be an issue of quantifying the results by way of frequentist, random match probability, likelihood ratios, Bayesian analysis, conditional probability tables, or even more complex analyses such as Bayesian networks or acyclic graphical probability models. The National Institute of Science and Technology (NIST) has established five committees and twenty five subcommittees representing the areas of scientific inquiry likely to be involved in forensic analysis. They are: The Biology/DNA Committee, including subcommittees for Biological Data & Reporting, Biological Methods, and Wildlife Forensics; the Chemistry/Instrumental Analysis Committee, including subcommittees for Fire Debris & Explosives, Geological Materials, Gunshot Residue, Materials (Trace), Seized Drugs, and Toxicology; the Crime Scene/Death Investigation Committee, including subcommittees for Anthropology, Crime Scene Investigation, Disaster Victim Identification, Dogs & Sensors, Fire & Explosion Investigation, Medicolegal Death Investigation, and Odontology; the Digital/Multimedia, Digital Evidence Committee, including subcommittees for Facial Identification, Speaker Recognition, and Video/Imaging Technology & Analysis; and the Physics/Pattern Interpretation Committee including subcommittees for Bloodstain Pattern Analysis, Firearms & Toolmarks, Footwear & Tire, Forensic Document Examination, and Friction Ridge. And, there are new, nuanced and ever-expanding areas in which forensic science will continue to enter the courtroom.

# AT: State Courts Counterplan

**1. Perm Do Both**

**2. Perm Do The Counterplan**

**3. The counterplan doesn’t solve federal courts, which is a massive solvency deficit of almost 10,000 appellate cases annually**

**U.S. Courts 2018**. Federal Judicial Caseload Statistics 2018. https://www.uscourts.gov/statistics-reports/federal-judicial-caseload-statistics-2018

U.S. Courts of Appeals Filings in the 12 regional courts of appeals fell 16 percent to 49,363 (down 9,588 appeals) in 2018. Most of this decrease stemmed from fewer filings of original proceedings and miscellaneous applications, which offset increases in U.S. prisoner petitions, other U.S. civil appeals, and bankruptcy appeals. Civil appeals declined by 145 cases to 27,926. U.S. prisoner petitions grew 10 percent. Other U.S. civil appeals rose 5 percent. Private prisoner petitions fell 6 percent, and other private civil appeals dropped 2 percent. Criminal appeals decreased 7 percent to 9,670, largely because of declines in appeals related to drug offenses (down 13 percent) and immigration offenses (down 15 percent). Seventy-five percent of criminal appeals involved four offense categories: drugs, immigration, firearms and explosives, and property (including fraud).

**4. 50 state courts fiat is unfair. Fifty identical test cases is not real world and courts don’t model policy because court cases across state lines are not binding precedent. Also unpredictable and lacks limits because it fiats hundreds of judges across fifty distinct legal systems, including Louisiana whose courts follow the Napolionic code, not common law.**

**5. State supreme courts are modeling federal judicial notice rules , not the other way around**

**Giannelli et al 2020**. Paul C. Giannelli (Distinguished University Professor of Law, Case Western Reserve University School of Law); Edward L. Imwinkelreid (Edward L. Barrett, Jr. Professor of Law and Director of Trial Advocacy, University of California at Davis School of Law); Andrea Roth (Assistant Professor of Law, University of California at Berkeley School of Law); and Jane Campbell Moriarty (Carol Los Mansmann Chair in Faculty Scholarship, Professor of Law and Associate Dean for Faculty Scholarship, Duquesne University School of Law). Scientific Evidence, Fifth Edition, § [sec. no.] (Matthew Bender) 2020. Lexis

The Illinois Supreme Court has gone to the length of declaring that a trial judge may judicially notice the general reliability of the electrophoretic procedure which, as previously stated, is employed in RFLP DNA identification analysis. The Court of Appeals for the Second Circuit, the West Virginia Supreme Court, and the Kentucky Supreme Court are in accord. Given those decisions, Professor Moenssens has predicted that in the future, most courts will judicially notice the general validity of RFLP DNA typing. Chapter 6 of the 1992 N.R.C. report asserts that at this point in the evolution of the technology, courts should judicially notice the propositions that: The analysis of DNA polymorphism is a reliable method of comparing samples; with the exception of identical twins, each person’s DNA is unique; and the then current laboratory procedure for analyzing DNA (“specifically single-locus probes analyzed on Southern blots without evidence of band shifting”) was “fundamentally sound.”

# AT: Law Schools Counterplan

**1. Perm do both**

**2. Timeframe for solvency is way too long – assuming the counterplan is implemented immediately, it will take three years for any graduates to learn. From there, it can take 10-20 years for any of them to become judges.**

**3. Extend the 1AC’s Cino 2016 and Cino 2017 evidence – there are still structural problems in the way that DNA evidence is treated in courts that the CP doesn’t solve.**

**4. Law school education won’t solve because classes are theoretical and don’t really teach people how to be lawyers.**

**Wilkins 2017**. Stephanie Wilkins, Teaching You What Law School Doesn’t. Above the Law. May 27, 2017. https://abovethelaw.com/2017/05/teaching-you-what-law-school-doesnt/

Despite three long years of cold calling, outlines, and exams, any attorney will tell you that law school doesn’t actually train you be a practicing lawyer. Indeed, we have written about this more than on a few occasions. The bar exam is arguably even less on-point when it comes to learning what you really need to know to be a successful associate. For decades, associates have been wishing there was something that would train them to enter the workforce prepared for the job of actual lawyering. Thanks to the folks at Associate Advantage, that wish is now coming true.

# AT: Court Clog – Link Turn

**Turn: Kicking out inadmissible DNA evidence at pretrial hearings is faster than letting it get to a jury**

**Land 2005**. Garrett E. Land (JD; Associate with Bales Weinstein). ARTICLE: JUDICIAL ASSESSMENT OR JUDICIAL NOTICE? AN EVALUATION OF THE ADMISSIBILITY STANDARDS FOR DNA EVIDENCE AND PROPOSED SOLUTIONS TO REPRESS THE CURRENT EFFORTS TO EXPAND FORENSIC DNA CAPABILITIES, 9 Mich. St. J. Med. & Law 95 (2005)

The time currently spent by courts handling DNA issues is enormous. When a court holds that issues of DNA testing go to the weight and not admissibility of the evidence (in essence, taking judicial notice of the reliability of that evidence without the benefit of review), the jury and not the judge evaluates the evidence. Judges may be inclined to take the judicial notice route, because they believe it will save them time spent in pretrial hearings. Conversely, this practice will only increase the amount of time spent in trial.