Forensic DNA has become a powerful tool for determining who is

implicated in a crime, but its rapidly growing use poses numerous and thorny issues pertaining to privacy.

BY LARRY GETLEN

old cousin you never met, who lives halfway across the country, steals a candy bar from a newsstand. He is given com- between individual privacy and collective security. munity service and released, and the incident will be wiped

from his record in several years. This minor crime, committure of many criminals. Throughout the spring of 2003, for ted by someone you don't even know, will cause your family's example, five rape-murders in Baton Rouge, Louisiana, went from everyone who is arrested for these crimes? Or, as some DNA—and, by extension, yours—to be subjected to a comunsolved until frustrated local police investigated Derrick puterized search every time a serious crime is committed in Todd Lee for a separate and unrelated case. When his DNA this country for the rest of your life. matched the DNA from the crime scenes, Lee was arrested A dark Orwellian fantasy or an all-too-likely scenario? No and convicted of all five murders. In 1986, Debbie Smith into the lives of real people. Police in Truro, Massachusetts, one can say for sure, but David Lazer '88 argues that the adwas abducted from her home and raped, and spent the next a small, rural village on Cape Cod, had been investigating vent of forensic DNA technology is changing the criminal nine years living in fear until police happened to enter a new prisoner's DNA in their database. It matched the DNA taken without success. They then asked the town's male populajustice system in unpredictable ways. The use of DNA evidence has grown dramatically over the from the crime scene. The man got life without parole, and past few years, and the ramifications are startling. Forensic Ms. Smith could fall asleep without worrying about her as-DNA evidence is reinventing law enforcement, giving police sailant still at large.

and attorneys an invaluable new tool for identifying perpetrators of violent crime, proving guilt or innocence. To date, more than 150 death row inmates have been exonerated due to DNA testing, and many rapists and murderers who would otherwise have remained free have been caught and convicted. The storing of personal DNA information, however, can give authorities intimate knowledge about each and every one of us, knowledge that has the potential for abuse and could trample on our right to privacy.

Lazer, associate professor of public policy at Harvard University's Kennedy School of Government, is the editor of the just-released DNA and the Criminal Justice System: The A forensic medical assistant prepares test tubes filled with Technology of Justice (MIT Press), a compendium of essays material for DNA testing such as threads of clothing. about the use of DNA in our criminal justice system and what it means for the future of law enforcement and civil liberties. The book evolved from a conference that Lazer organized in DNA evidence, says former Attorney General Reno, is "ex-2000, featuring among the speakers Supreme Court Justice traordinarily helpful for the immediate detection of suspects and confirmation of their guilt." She calls it "a useful tool with, they retained the DNA," says Lazer. "But if you're just a Stephen Breyer, former Attorney General Janet Reno, and Nobel Prize winner James D. Watson, co-discoverer of the that prevents law enforcement from having to go down dead guy at the post office and they asked to swab your cheeks to structure of DNA. ends, and allows innocent people to be excluded."

Lazer's interest in the issue stemmed from a desire to types of evidence. Many felons who were later exonerated due So there's a whole set of difficult issues around what is done study the integration of new technology into society. "I got involved in this early on in my time at the Kennedy School," to DNA evidence were convicted based on eyewitness testihe says. "The use of DNA in the criminal justice system mony, a prosecutorial tool that has historically proved to be consented to that." seemed like an opportunity to watch the system emerge and remarkably ineffective. Other identification tools, including to understand how it emerged, as opposed to looking at tech- hair-matching technology, fingerprinting, even confessions, nologies that were already in place." are now known to be less reliable than previously thought.

A child of two Long Island academics, Lazer considers underscore the growing importance of this issue and stimu- surround the establishment and use of DNA databases. As waiting to be tested, sweeps only exacerbate the problem.

Sometime in the future, a 14-year-



late public debate. The principal question, in his view, is not of now, every state in the country has one, but they have difwhether we use DNA evidence but where we draw the line ferent standards for who gets included and in what form, raising significant questions about what procedures should There is no doubt that DNA evidence has led to the capbe established and applied. Should law enforcement officials collect DNA only from people convicted of serious crimes, or believe, should there be a universal database, with all of our identifying DNA information collected at birth?

> These unresolved issues are not just theoretical; they play the murder of journalist Christa Worthington for three years tion for DNA samples since DNA evidence showed that Ms. Worthington had sex several hours before her murder, and her partner had never come forward. Instead of setting up formal procedures, however, the police simply stood in front of the town's post office, grocery, and garbage dump requesting swab samples from men going about their normal business, making it clear to those who refused that they would be closely watched.

In response, Lazer co-wrote an op-ed for the Provincetown Banner titled "DNA Sweep Must Be Accompanied by Informed Consent" that said, "With such investigative power comes great responsibility. Without individualized suspicion and a bench warrant, contribution of DNA should be non-coercive, completely voluntary and well informed." (A suspect in Worthington's slaving, a 33-year-old garbage collector, was arrested April 15, 2005, on Cape Cod.)

Another troubling issue is the fate of DNA samples after they're screened. People told their samples will be destroyed might be shocked to learn that often samples are instead placed in storage. "In most of the DNA dragnets I'm familiar help investigate this crime, you may not have meant to have DNA technology has highlighted inadequacies in other your DNA searched against all crime scenes in the future. with your sample once they've collected it, and whether you

Aside from the clear civil liberties violations, Lazer considers the sweep method ineffective. The chance of a perpetrator contributing a sample is virtually nil, and the expense As the use of DNA evidence becomes widespread, certain involved is not a prudent use of scarce resources. Given the himself "the apple that fell between the trees." He hopes to troubling and complex issues have evolved. Major questions backlog of more than 500,000 criminal case samples still

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A universal database would make dragnets a thing of party." the past and would allow law enforcement to compare DNA evidence from a crime scene against the entire popula- as one's imagination. Lazer raises the specter of powerful to uncover a culprit. But it is not unheard of: In the U.K., a tion. The benefit of this system is obvious and enormous. The chance of capturing criminals shortly after they com- confidential—who has illegitimate children, for instance. detected until the year 2000, when, while perusing evidence mit their crimes would skyrocket. The number of unsolved DNA evidence could also, if not adequately safeguarded, be from unsolved murders, police scoured the crime scene and cases could plunge, as could the number of innocent people used to plant biological evidence to implicate someone. "You found specks of blood that allowed them to create a DNA investigated, arrested, and convicted for crimes they did not wouldn't want the DNA lab technicians being told, 'Well, commit.

are tremendous, so are the potential abuses. With the ability those kinds of technical decisions from the political process." to test all DNA found in a location, law enforcement could To remove this from the realm of conspiracy theory, he cites ing, in March 2003, to a confession from his uncle. When conceivably track our movements. "We leave DNA various the case of Frederick Zain, a West Virginia State Police foren- the murder occurred, the 15-year-old whose crime eventually places. You can go somewhere and pick up cigarette butts or sics expert who was found to have faked a slew of evidence— led to the solving of the case was not yet born. swab a water glass, and say who was in that room. Some of including DNA evidence—during his ten years as the state's just because I happen to have left my DNA there, I become innocent people. subject to investigation. For example, let's say there's a rape in a hotel room, and there is a bedspread in the room with cate civil liberties is a process known as familial searching.

One function of DNA databases that may further compli- ial searches in the next ten or 20 years.

indicating that the perpetrator is a relative. The technology The potential abuses of a universal database are as vast is at an early stage, and it is still rare for familial searching politicians gaining access to information that should be man who stabbed a prostitute to death in 1988 escaped unprofile. The DNA did not match anyone in the U.K.'s DNA it would be really good for the D.A.'s political career if you database, but police did find a familial match with a boy who While the potential benefits of a universal DNA database found a match here'," he says. "It's very important to buffer was in the database due to a minor auto-related crime. The police did DNA swabs on the boy's relatives, eventually lead-

Lazer emphasized that in that case, the murderer had a those DNA may be unrelated to a particular crime scene, but crime lab director, leading to the convictions of hundreds of very unusual genetic marker that facilitated his capture, but also says that technology should allow for much wider famil-

This could mean that even if a universal DNA database semen stains on it. The police test the stains and get profiles. When law enforcement checks DNA from a crime scene runs into legislative or other roadblocks, we can still have You could imagine not being involved in that crime, but that against DNA from an individual, it is possible to rule that a de facto universal database thanks to what we can call resulting investigation being a little awkward for an innocent person out as a suspect, but also notice genetic similarities the "Six Degrees of Separation" factor. We will eventually

<David Lazer says the size of DNA databases is going up, while th cost of analyzing DNA is headed down.

have enough people in the database for each of us to have at DNA samples are kept. A biological sample—that is, taking least one distant relative there. Through the use of familial a blood sample or DNA swab and keeping it—unlocks much searching, that will leave every one of us open to investiga- of the personal information that people think of when they tion, whether we're in the database or not. think of DNA. But forensic DNA databases examine "a very "Two trends will come together," Lazer says. "One is that limited part of the DNA," one that only serves to identify us, the database size will go up and up. Right now, we have two not to reveal our innermost biological secrets. "In the U.S., million people in the database, from some states where you we only look at 13 areas of the DNA, and they were selected have virtually no one, to states like Virginia, which has about because they can't tell us things like skin color, predisposition to disease, etc.," says Asplen. "Once you've identified those, one in 15 men. But the capacities are growing enormously. The second trend is that it is getting much cheaper to ana- the profiles are digitized and put into a computer. So the only lyze DNA. In future years, we'll be able to extract magnitudes things in a DNA database are digitized representations, just more genetic information from samples than we can now. In numbers. If you then destroy that swath of blood, it's gone. ten, 20 years, it will not be difficult to go beyond first-degree You can't go back and test for other factors." He believes that relatives—siblings, parents, and children—to uncles and universal databases are inevitable, but that original samples aunts and cousins and the like." should be destroyed.

While civil libertarians are bristling at the prospect of this To prevent widespread abuse of DNA technology, Lazer type of perpetual surveillance—the ACLU, for example, has believes that society must be fully engaged in the discussion. lobbied hard for the government to only store DNA from "It's a balancing act, and we have choices to make. We have violent convicted felons—Frederick R. Bieber, a professor of the technical capacity to do things we couldn't do a generapathology at Harvard Medical School and Lazer's op-ed co- tion ago, but just because we have the capacity doesn't mean author, argues that failure to use every crime-fighting tool we should do it. We may decide to constrain our capacity for available raises ethical questions of its own. "It's hard to look familial searching, for example, saying we'll only do it in a victim or victim's family in the face and say, 'We could have serious cases. For murders, we'll do familial searching, but prevented your daughter's rape and murder had we done on other cases we won't. There are certain scenarios where familial searching, but instead we ignored a tool that could I think most would agree we should pull out all the stops. If you're investigating the possibility of a nuclear bomb in have found the perpetrator.' It's unconscionable." Christopher Asplen, former director (under Attorney Manhattan, then you might be a little bit more aggressive."

General Reno) of the National Commission on the Future of In the coming years, how DNA is used and managed is an issue that will affect us all, and Lazer hopes to move the discussion forward. "We have a set of choices around the use of DNA in the criminal justice system, and they pose different balances between individual rights and society's interest "We already take biological samples and do genetic testing in security. I think we need to seriously engage the issue of tential to solve many crimes, but that it can also reveal things

DNA Evidence and the man who recruited Lazer to coordinate the 2000 conference, believes that much of the controversy will be irrelevant, since many of the objectionable aspects of universal databases are already part of our society. of all babies at birth," Asplen points out. "Clearly, in every exactly where we want to strike that balance. If I had to put state in the country, the cost benefit and legal analyses have out a 40,000-foot message to the general public, that is the determined that it is appropriate, it is in the public good, to message: People have to understand that DNA has the potake DNA from newborn children to make sure they don't have certain diseases." Asplen also cites footprints taken at about people who haven't committed crimes." birth of an example of how unique identifiers are already kept on every American citizen. "That footprint is exactly Larry Getlen is a freelance writer living in New York City the same as a forensic DNA profile. You can't tell anything else about the person other than for identification purposes. If we understand what a forensic DNA profile is, and what's contained therein, the analogy to a footprint we take when a Do you have an opinion about this topic? child is born is pretty easy to make." Please write us at letters@wesleyan.edu.

Which brings up the unresolved matter of exactly what

Sundance Success



The New York Times reports that viewers at the Sundance Film Festical leapt to their feet, "many in tears," following the showing of After Innocence, a new feature documentary directed and produced by Jessica Sanders '99. The film, which won the Special Jury prize at Sundance, tells the story of the exonerated—innocent men wrongfully imprisoned for decades and then released as a result of DNA evidence. Sanders follows the seven men, chronicling their emotional journeys back into society, their efforts to rebuild their lives, and their work to help other innocent victims of a broken systerm.