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DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS OVERSIGHT

HEARING

BEFORE THE

SUBCOMMITTEE ON CRIME, TERRORISM, AND HOMELAND SECURITY

OF THE

COMMITTEE ON THE JUDICIARY
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

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DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS OVERSIGHT

THURSDAY, SEPTEMBER 18, 2008

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON CRIME, TERRORISM,
AND HOMELAND SECURITY
COMMITTEE ON THE JUDICIARY,
Washington, DC.

The Subcommittee met, pursuant to notice, at 11:36 a.m., in room 2237, Rayburn House Office Building, the Honorable Robert C. "Bobby" Scott (Chairman of the Subcommittee) presiding.

Present: Representatives Scott, Weiner, Gohmert, and Coble.

Staff present: Bobby Vassar, Majority Chief Counsel; Ameer Gopalani, Majority Counsel; Jesselyn McCurdy, Majority Counsel; Mario Dispenza (Fellow) BATFE Detailee; Veronica Eligan, Professional Staff Member; Kimani Little, Minority Counsel; and Kelsey Whitlock, Minority Staff Assistant.

Mr. SCOTT. The Subcommittee will now come to order, and I am pleased to welcome you today to the oversight hearing before the Subcommittee on Crime, Terrorism, and Homeland Security, the Department of Justice, Office of Justice Programs.

The mission of the Office of Justice Programs, or OJP, is to increase public safety and improve the fair administration of justice across the United States. To accomplish this mission, OJP provides information, conducts research and development, publishes statistics, and conducts training—all of which is geared toward helping the justice community meet its public safety goals through local decision-making.

Since enhancing public safety is OJP's objective, the success or setbacks affect the quality of life for all Americans. The Subcommittee's oversight is therefore critical to ensure that OJP is fulfilling its mission and that Congress is providing OJP with the resources it needs.

Today we will focus the oversight on the OJP component organizations, the Bureau of Justice Assistance, the Bureau of Justice Statistics, the National Institute of Justice, the Office of Victims of Crime, and the Office of Juvenile Justice and Delinquency Prevention.

OJP has been successful in many areas. For example, the Bureau of Justice Assistance funds critical programs such as the Byrne Justice Assistance Grant program, or the Byrne JAG, that assists States and local governments in improving their criminal justice system.

The National Institute of Justice funds state DNA efforts, particularly in trying to reduce the large backlog of untested DNA evidence samples in the Nation's forensic labs.

The Office of Juvenile Justice and Delinquency Prevention funds programs and funds training of community leaders and model programs for keeping youth productive, in school, and away from crime, which is probably the part—away from crime is perhaps the best policy of all.

However, the Office of Justice Programs has encountered a number of challenges and criticisms within these successful endeavors. For example, the Byrne JAG program, when used appropriately, can fund a range of crime-fighting approaches incorporating law enforcement education, community programs, drug treatment, technology improvement, and victim and witness programs. But the current funds have not always been used appropriately.

Advocacy groups have criticized some States for using the funding for drug task force to target low-level drug users or other poorly-chosen objectives that do not reduce overall crime. The Subcommittee will inquire about what steps VJA has taken to ensure that such mistakes do not occur.

Further, the NIJ's forensic evidence program may need enhancement. That program has made great strides in aiding local forensic labs, which are now receiving DNA samples from crime scenes and convicted offenders faster than they can examine and enter them into the State and local databases.

The increased sample collection has resulted in an enormous backlog of untested evidence, and the agency has funded State and local law enforcement agencies to test nearly 104,000 DNA cases from 2004 to 2007. And it has funded 2.5 million convicted offender and arrestee samples.

Yet these efforts have not significantly reduced the Nation's backlog. So we must continue to assess this issue and possibly increase support for DNA initiatives. However, concerns have been raised by OJP customers that the heightened funding for DNA technology has neglected the vast majority of forensic science, creating an even larger backlog of non-DNA evidence.

Although critical, DNA evidence only represents approximately 9 percent of crime lab backlogs, because DNA is not the type of evidence that police collect in examining most crime scenes. Evidence such as fingerprints, fibers, ballistics, and many other kinds of evidence comprise the other 91 percent of the evidence backlog in police labs needing Federal support.

The Paul Coverdell National Forensic Sciences Act of 2000 supports States in general development and maintenance of their criminal forensics science program, but it has never been funded. Thus, congressional support requesting DNA assistance may be incomplete, and the Subcommittee will discuss whether this is indeed the case and how to correct it, and why NIJ has not been advocating for stronger funding and support for non-DNA forensic evidence testing.

Another concern for the Office of Juvenile Justice and Delinquency Prevention programs is the core juvenile justice objective. Critics maintain that over the past several years, OJJDP has con-

ducted less research into juvenile delinquency prevention than is warranted, suggesting disengagement in this area.

The agency was created through the Juvenile Justice and Delinquency Act of 1974 with a mandate to research juvenile justice issues and to provide information to provide effective juvenile justice policies. Therefore, if the criticism is accurate, we should ascertain why it has occurred and how to refocus the agency's efforts.

Underlying each challenge has been decreased funding. The Byrne JAG funding has been reduced from over $560 million in fiscal year 2007 to just over $170 million this fiscal year. Funding for assisting victims of crime has also been dramatically reduced, and the OJJDP appropriation has plummeted from almost $7 million in fiscal to 2001 to only $700,000 in fiscal year 2008. Yet the administration has asked for further decreases in funding for the next upcoming fiscal year, when there remains great concern about crime.

The prospect of continued decreased funding for the criminal justice system is troubling. It is important to know how OJP plans to address its customers' needs.

Finally, the Subcommittee will discuss potential NIJ research projects that may have far-reaching effects in the criminal justice system. In January 2008 the Columbia Law Review article, entitled "Judging Innocence" by Professor Brandon Garrett of the University of Virginia Law School, leveled serious criticisms of forensic science. After reviewing the first 200 cases in which DNA evidence exonerated a wrongfully convicted defendant, Professor Garrett concluded that in 57 percent of those cases, forensic evidence was introduced against the defendant at trial, and that forensics was questionable from a scientific point of view and was given undue weight at the trial.

In July 2008, John Collins and Jay Jarvis of the Crime Lab Report, an organization that provides media and public policy analysis for the forensic science community, published "The Wrongful Conviction of Forensic Science." The authors of the report also evaluated the first 200 wrongful convictions that were overturned through DNA evidence and came to a different conclusion.

Although they concluded that in some instances evidence based on poor scientific principles contributed to the wrongful convictions, it was far less common than Professor Garrett has concluded. They found that although 57 percent of the first 200 wrongful convictions did indeed employ forensic evidence against defendants, it was not the case that in each of these cases, that evidence was the fault for the wrongful conviction, but other factors, such as poor defense lawyering and ethical violations by prosecutors played a more significant role.

Forensic science has taken an increased role in criminal trials, and the extent of its accuracy and the proper context for presentation must be clear to the jury for the jury to render a legitimate verdict. As the Department of Justice's research arm for criminal justice, NIJ is in the best position to study this issue and report its findings to bolster the fairness of criminal trials.

Another area warranting study is the decreased death rates in the Nation's prisons and jails and the impact that this oversight in general and the Deaths in Custody Reporting Act of 2000 has had in the decreasing death rate. Since the enactment of the Deaths in

Custody Reporting Act, BJS has compiled a number of statistics regarding prisoner deaths, and the statistics show that oversight works.

The latest BJS report, August 2005, shows that since the oversight emerged in the mid-1980's, there has been a 64 percent decline in suicides and 93 percent decline in homicide rates in prison. The Deaths in Custody Reporting Act thus appears to be successful in the—oversight, keeping prisoners safer, and the ability of statistics has proven useful in shedding light on a potential problem.

In fact, recently The Washington Post ran an article about excessive death rates from violence in the Prince George County, Maryland, jail. The Washington Post used statistics published on the BJS website which were compiled through the Deaths in Custody reporting requirement. However, there are no NIJ studies to support whether the reporting requirements have enhanced safety and no studies to detail the best practices for prisoner safety. Such studies would be important evidence for developing policy in the future.

It is now my pleasure to recognize the esteemed Ranking Member of the Subcommittee, the gentleman from Texas, the Honorable Judge Gohmert.

Mr. GOHMERT. Thank you, Chairman Scott.

I appreciate this hearing. I have a statement that I would ask unanimous consent that it be submitted in writing for the record so that I won't review that and waste further time with Acting Assistant Attorney General Sedgewick. But I would like, if that is——

Mr. SCOTT. Without objection.

[The prepared statement of Mr. Gohmert follows:]

PREPARED STATEMENT OF THE HONORABLE LOUIE GOHMERT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS, AND RANKING MEMBER, SUBCOMMITTEE ON CRIME, TERRORISM, AND HOMELAND SECURITY

Thank you, Mr. Chairman,

Today, the Crime Subcommittee is holding an oversight hearing on the activities of the Department of Justice Office of Justice Programs (OJP).

Exercising oversight of the federal agencies within this subcommittee's jurisdiction is part of our jobs as Members of Congress. Conducting oversight hearings is a responsible use of our time and I commend the Chairman for holding this one.

The Office of Justice Programs has the mission to increase public safety and improve the fair administration of justice across America through innovative leadership and programs. OJP disseminates information, training, coordination, and innovative strategies for effective law enforcement to federal, state, local and tribal agencies.

OJP oversees a number of components that have important law enforcement roles and responsibilities. Among those components are the Bureau of Justice Assistance, the National Institute of Justice, the Office for Victims of Crime, and the Office of Juvenile Justice and Delinquency Prevention.

The Bureau of Justice Assistance (BJA) provides leadership and assistance to state and local law enforcement officials. BJA has the goals to reduce and prevent crime, violence, and drug abuse and to improve the way in which the criminal justice system functions.

BJA is probably best known as the component that administers the Byrne JAG Grant program, which allows states and local governments to support a broad range of activities to prevent and control crime. Byrne JAG funding has diverse uses including multi-jurisdictions drug task forces, alternatives to incarceration like drug and community courts, and equipment purchases for cash-strapped law enforcement officials.

The National Institute of Justice (NIJ) is the research, development, and evaluation component of OJP. NIJ is dedicated to researching crime control and criminal

justice issues. NIJ also produces print and electronic publications, tools, and training materials about crime and justice.

The Office for Victims of Crime (OVC) has the mission to enhance the country's capacity to assist crime victims. OVC also provides leadership in changing attitudes, policies, and practices to promote justice and healing for all victims.

Each year, OVC provides funding for some 5,500 victim assistance programs serving 4 million crime victims. OVC also supports state compensation programs that serve an additional 180,000 victims.

The Office of Juvenile Justice and Delinquency Prevention (OJJDP) provides national leadership, coordination, and resources to prevent and respond to juvenile delinquency and victimization.

OJJDP's mission is to support states and communities in their efforts to develop and implement effective and coordinated prevention and intervention programs. OJJDP also works to improve the juvenile justice system so that it protects public safety, holds offenders accountable, and provides treatment and rehabilitative services tailored to the needs of juveniles and their families.

This is first Crime Subcommittee oversight hearing on this important DOJ agency and its components in the 110th Congress. In fact, we have not held an oversight hearing on OJP since 2002.

Although this hearing comes towards the end of this session, I believe that the Subcommittee's Members will benefit from hearing testimony about OJP's mission and activities, as well as the challenges it faces.

I welcome Acting Assistant Attorney General Sedgewick to our subcommittee. I look forward to your testimony and the testimony of the other witnesses.

I yield back the balance of my time.

Mr. GOHMERT. And then I would like to mention that I am glad we are having this hearing; I appreciate your calling this hearing. This is the first hearing, since I have been in Congress, of oversight in this area. And it is an important thing to have.

Some of the figures that we have just heard, though, trouble me. I think it is difficult for anyone to come in and say 57 percent of any number of convictions have been wrongful convictions. I will bet that if we had a trial of whoever came up with 57 percent exactly of convictions being wrongful, we could probably convict him of giving an inappropriate percentage, but—because I am familiar with trials and know how hard it is to come in and say "this was wrongful, this wasn't," when you have had a jury come in and find beyond reasonable doubt that someone was appropriate to convict.

I have also seen cases—one, for example, in my court—where the forensics and the DNA evidence all pointed to the guilt of the defendant having had sexual relations with an under-aged child, his own. It turns out it was planted and he was not actually guilty. But that would probably have been one that would have gone on as a part of the 43 percent that was an accurate conviction, when it would not have been at all.

So anyway, this is such a difficult area. But it is important that we have funding to assist in appropriate programs. It is also hard for me to say that we overfunded this important DOJ area if funds were wasted. I wouldn't want to extend more funds to an area where it is wasted.

So it is quite important we have this oversight—find out where it has been effective and we need more funding to be more effective; find out where it has been wasted, where we can cut and put that in more effective areas.

So with that, I yield back the balance of my time and look forward to hearing from the acting assistant attorney general.

Mr. SCOTT. Thank you.

We have two panels of distinguished witnesses with us today to discuss OJP's mission, accomplishments, and challenges. The first witness is Mr. Jeffrey Sedgwick, Acting Assistant Attorney General for the Office of Justice Programs. He is responsible for providing overall management and oversight of OJP. He has held this position since January 2008, and in April President Bush nominated him to be the Assistant Attorney General. He has an A.B. degree from Kenyon College, a master's degree and PhD from the University of Virginia. After earning his PhD, Mr. Sedgwick joined the University of Massachusetts faculty and is presently on leave from that position.

Mr. Sedgwick, your written statement will be made part of the record in its entirety. I would ask you to summarize your testimony in approximately 5 minutes or less, if you can. To help you stay within that time, there is a lighting device at the table that will go from green to yellow when 1 minute is up, and then to red when the 5 minutes are up.

We look forward to your testimony.

STATEMENT OF JEFFREY L. SEDGWICK, ACTING ASSISTANT ATTORNEY GENERAL, OFFICE OF JUSTICE PROGRAMS (OJP), U.S DEPARTMENT OF JUSTICE, WASHINGTON, DC

Mr. SEDGWICK. Thank you, Mr. Chairman.

Thank you, Ranking Member Gohmert, and Members of the Subcommittee.

I am pleased to have this opportunity to discuss our efforts to continuously improve the operations and management of the Office of Justice Programs. We appreciate the Subcommittee's continued interest in eliminating duplication and waste, as well as improving the operations of Federal grant programs.

As the Acting Assistant Attorney General, I am responsible for the overall management and oversight of OJP. This includes setting policy, ensuring that OJP programs reflect the priorities of the President, the attorney general, and the Congress, and promoting coordination among the OJP offices and bureaus.

OJP provides approximately $2 billion annually to the criminal justice community and State, local and tribal law enforcement to help develop the Nation's capacity to prevent and control crime, improve justice systems, increase knowledge about crime and related issues, and assist crime victims.

Today, Mr. Chairman, I would like to highlight some of OJP's recent accomplishments, our work to improve the transparency and management of grants, how we measure the effectiveness of the programs, as well as our efforts to implement the Department of Justice Reauthorization Act of 2005 that established our Office of Audit, Assessment and Management.

As Acting Assistant Attorney General, I also have the pleasure to serve as the national Amber Alert coordinator. Since the AMBER Alert program became a federally coordinated effort, we have expanded our base of partners and continue to work with States and communities to strengthen plans. Today, all 50 States have AMBER Alert plans, and we expanded the network into Indian Country. We partnered with the wireless industry to distribute AMBER Alerts through voluntary text messages, and these

accomplishments have assisted in the recovery of over 400 children. We continue to look for ways to improve this system.

In fiscal year 2008, our Office for Victims of Crime awarded more than $480 million to State crime victim assistance and compensation programs. The States use these funds to award some 5,000 victim assistance grants annually to domestic violence shelters, rape crisis centers, child abuse programs, and victim service units and law enforcement agencies, prosecutors' offices, hospitals and social service agencies. In fiscal year 2007, States reported providing direct services to over 4 million crime victims using OJP funds.

To understand why an increasing number of girls are entering the juvenile justice system and to better understand how to prevent and intervene in girls' delinquency, OJP's Office of Juvenile Justice and Delinquency Prevention convened a girls' study group. The group made significant progress in understanding patterns of offending among adolescents and how these patterns differ between girls and boys, risk and protective factors associated with delinquency, including gender differences, and the importance of these issues when developing effective prevention and intervention programs.

In May 2008, OJJDP released "Violence by Teenage Girls: Trends and Context," the first in a series of bulletins based on the findings of the study group. OJP provides support and funding for law enforcement and criminal justice initiatives nationwide. In fiscal year 2008, our Bureau of Justice Assistance administered $466 million through approximately 1,700 grant programs.

One of BJA's most significant accomplishments is the Targeting Violent Crime Initiative. Through TVCI, BJA administers 106 grants to 103 State, local and tribal law enforcement agencies.

Since February of this year, TVCI agencies have reported more than 5,000 violent felony arrests, more than 2,700 guns seized, nearly 400 gangs disrupted, and 50 gangs dismantled. The TVCI is designed to create immediate support for jurisdictions suffering increases in violent crime, while encouraging adaptation of intelligence-led policing.

In addition to BJA's activity, the Bureau of Justice Statistics plays a critical role in supporting criminal justice programs through the improvement and sharing of criminal justice information. In 2008, BJS awarded over $8 million to 35 jurisdictions to support the National Criminal History Improvement Program, or NCHIP. NCHIP provides grants to States to improve the accuracy, completeness and availability of the Nation's criminal history records, which are used for criminal justice and non-criminal justice background checks.

In 2008, BJS also made 13 awards to States totalling almost $3 million for the Stalking and Domestic Violence Record Improvement Program. This program provides grants to States to improve processes for entering criminal justice data regarding stalking and domestic violence into local, State and national crime information databases.

The National Institute of Justice has also found ways to make a relatively small investment benefit law enforcement agencies nationwide. One example is the National Missing and Unidentified Persons initiative, or NamUS, launched in 2007. When fully oper-

ational in 2009, NamUS will provide a powerful tool for law enforcement, medical examiners and coroners, victim advocates and the general public to search for matches between missing persons and unidentified human remains records.

NamUS will be the first national on-line repository for missing persons and unidentified dead cases. It will also provide central access to information from other websites, State clearinghouses, and other important resources.

Exonerating the innocent is a key component of the President's DNA initiative, and in August 2008, NIJ awarded five grants under the post-conviction DNA testing assistance program. NIJ has also undertaken several new initiatives to increase understanding of and to assist States in obtaining the resources they need to address those conviction issues.

Our Community Capacity Development Office, or CCDO, is another OJP component that helps States and local communities make the most out of limited resources. CCDO's strategic three-pronged approach is comprised of direct grant assistance, training and technical assistance, and program development through promotion of partnerships and best practices. This approach provides a broad return on investment of Federal dollars that is unlike any other Federal criminal justice program.

CCDO's flagship program, the Weed and Seed Initiative, is a community-based, comprehensive, multi-agency approach to public safety. There are currently 320 neighborhoods across the country where Weed and Seed is being implemented. The Weed and Seed strategy brings together Federal, State and local crime-fighting agencies, social service providers, representatives of public and private sectors, prosecutors, business owners, and neighborhood residents under the shared goal of weeding out violent crime and/or gang activity while seeding in social services and economic revitalization.

In fiscal year 2008, $28 million for new Weed and Seed sites will be awarded.

Finally, OJP's newest office, the Sex Offender Sentencing, Monitoring, Apprehending, Registering and Tracking office, also known as the SMART office, recently established the Support for Adam Walsh Act implementation grant program to assist communities in developing and/or enhancing programs designed to implement the requirements of the Sex Offender Registration and Notification Act, SORNA, which is Title I of the Adam Walsh Act.

In fiscal year 2007, the SMART office awarded more than $11 million to support various projects across the United States. In fiscal year 2008, the SMART office will provide more than $4 million in direct grant assistance to further these efforts, along with continued support through training and technical assistance.

On July 1st of this year, we released the final guidelines for SORNA. These guidelines provide direction and assistance for jurisdictions in their efforts to meet the minimum standards of the SORNA. The guidelines detail who must register as sex offenders, how long they must register, the type of information they must disclose, how frequently and under what circumstances they must update that information, and how these requirements should be enforced.

OJP is committed to ensuring that our Federal funds for all of these worthy programs are spent wisely and have a maximum impact on our community, which brings me to the vital importance of our grant selection process and grant monitoring.

OJP has concentrated on becoming more results-oriented, more efficient, and more effective, so that we can provide Federal leadership in preventing and controlling crime to promote our Nation's security. To that end, OJP is committed to an ongoing analysis of what works and what doesn't, so criminal justice policy makers at all levels of government can better decide how to invest limited public dollars.

As you know, OJP administers both formula and discretionary grants. While we make every effort to process grant applications promptly, all applications must satisfy rigorous grant financial management standards to ensure that OJP fulfills its fiduciary responsibility to the American taxpayer. Every application passes through a multi-stage process to ensure that all applicable requirements are satisfied.

In fiscal year 2008, OJP increased its emphasis on measuring the results of the programs funded through OJP and focused our resources on the most effective programs. In an effort to improve transparency during the grant application and selection processes, we combined the peer review support contract of each individual OJP office into a single OJP-wide contract to streamline and standardize the peer review process.

In addition, any grant award decisions this year that varied from peer reviewed are fully documented, including the reasons why such decisions were made. Further, we instituted a grant monitoring tool, known as GMT, which grant managers use to monitor grants and cooperative agreements consistently across our program offices. The GMT requires grant managers to review all grants against a set of 22 standard review categories to determine administrative and financial compliance with grant management policies, procedures and regulatory requirements, as well as to evaluate the programmatic progress and success of efforts funded through the grant.

The GMT is helping us increase the oversight of our grant program by ensuring that the funds awarded to grantees are being properly managed and that grant objectives are being met.

To further enhance the grants management process, we have developed better grant management skills and capabilities for our staff. For example, we revised the OJP grant manager's manual to document policies and procedures for administration and management of all OJP grant programs. To ensure these policies are implemented, OJP held training for over 400 grant managers, staff accountants, and other OJP employees.

[The prepared statement of Mr. Sedgwick follows:]

PREPARED STATEMENT OF JEFFREY L. SEDGWICK

Department of Justice

STATEMENT OF

JEFFREY L. SEDGWICK
ACTING ASSISTANT ATTORNEY GENERAL
OFFICE OF JUSTICE PROGRAMS
UNITED STATES DEPARTMENT OF JUSTICE

BEFORE THE

SUBCOMMITTEE ON CRIME, TERRORISM AND HOMELAND SECURITY
COMMITTEE ON THE JUDICIARY
U.S. HOUSE OF REPRESENTATIVES

CONCERNING

"THE DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS OVERSIGHT"

PRESENTED

SEPTEMBER 18, 2008

Mr. Chairman, Ranking Member Gohmert and Members of the Subcommittee: I am pleased to have the opportunity to discuss the Department of Justice's (DOJ) efforts to improve the operations and management of the Office of Justice Programs (OJP). We appreciate this Subcommittee's continued interest in eliminating duplication and waste to improve the operations of federal grant programs.

My name is Jeff Sedgwick and I am the Acting Assistant Attorney General for OJP. As the Acting Assistant Attorney General, I am responsible for the overall management and oversight of OJP. This includes setting policy; ensuring that OJP policies and programs reflect the priorities of the President, the Attorney General, and the Congress; and promoting coordination among the OJP offices and bureaus.

Today, Mr. Chairman, I would like to describe OJP's efforts in selecting quality grant applications to fund, how we measure the effectiveness of the programs we fund to ensure the wise investment of taxpayer dollars, and our efforts to implement the provisions of the Department of Justice Reauthorization Act of 2005. Our efforts to improve the management and selection of grants are reflected in some of OJP's accomplishments this year which I will discuss at the end of my testimony.

The OJP Grant Process

The mission of OJP is simple: increase public safety and improve the fair administration of justice across America through innovative leadership and programs. While most of the responsibility for crime control and prevention rests with our Nation's State and local

governments, OJP works in partnership with federal, State, local and tribal government officials to support the justice system of the United States. OJP's partnerships provide actionable plans to all levels of government to improve the administration of justice.

Achieving our mission also requires coordination and cooperation among OJP's components which include the Bureau of Justice Assistance (BJA), the Bureau of Justice Statistics (BJS), the Community Capacity Development Office (CCDO), the National Institute of Justice (NIJ), the Office for Victims of Crime (OVC), the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and the Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering and Tracking (SMART).

As you know, Mr. Chairman, there are two general types of grants administered by OJP: formula and discretionary. Discretionary grants are generally awarded, most often on a competitive basis, to eligible recipients at the discretion of the awarding agency. Some discretionary grants to organizations may be awarded on a non-competitive basis and may be based on congressional direction.

Formula grants are awarded on the basis of a specific, defined formula. They are awarded directly by OJP to eligible recipients as authorized by statutes or appropriations from Congress. For a formula grant program, statutes or appropriations language specify how the funds will be allocated among the eligible recipients, as well as the method by which an applicant must demonstrate its eligibility for that funding. The award amount is calculated by a formula, and may vary among programs. Formula grant programs can be either for a specific

purpose such as, assisting juvenile offenders, activities to prevent and control crime and to improve the criminal justice system, or related to public safety in general.

The OJP grant application review process generally consists of four steps which are application review, programmatic review, financial review and award notification. During application review the application is submitted to OJP and reviewed for registration information and completeness, and to ensure the applicant meets the basic eligibility requirements defined in the solicitation. During the programmatic review, the grant manager reviews the application to make sure the information presented is reasonable, understandable, measurable, and achievable, as well as consistent with program or legislative requirements as stated in the solicitation. For competitive discretionary solicitations, this step may also include a peer review of the application. Peer Review is the process of using non-federal independent evaluators, and/or in-house or other federal agency personnel who are subject matter experts to assess the merits of an application or concept paper for federal funding. The results of programmatic review are provided to grant decision makers, who use that review along with other relevant factors to assess applications, and make ultimate funding decisions.

During the financial review stage, the Office of the Chief Financial Officer (OCFO) conducts a financial review of all discretionary awards and cooperative agreements to evaluate the fiscal integrity and financial capability of applicants, examine proposed costs to determine if the budget and budget narrative accurately explain project costs, and determine whether costs are reasonable, necessary, and allowable under applicable federal cost principles and agency regulations.

Finally, during the award notification stage OJP notifies an applicant that it will receive a grant award no later than the end of the fiscal year. Additionally, OJP issues a rejection letter to unsuccessful applicants thereafter.

While we make every effort to process grant applications promptly, all applications must satisfy these rigorous grant and financial management standards to ensure that OJP fulfills its financial stewardship obligations to America's taxpayers. Every grant application received by OJP, including congressionally mandated awards, passes through this multi-stage process to ensure that all applicable requirements are satisfied.

This year, in an effort to improve the transparency of the grant selection process, any grant award decisions that vary from peer reviewers recommendations will be fully documented, including the reasons why such a decision was made.

Measuring Effectiveness

In 2001, President Bush created the President's Management Agenda (PMA), a plan to improve the management and performance of the federal government. Since the PMA was rolled out, OJP has concentrated on becoming more results-oriented, more efficient and more effective. OJP is committed to these efforts to ensure that we continue to provide federal leadership in preventing and controlling crime to promote our Nation's security.

Part of that vision was an increased emphasis on measuring the results of the programs funded through OJP and focusing our resources on the most effective programs. OJP is committed to increased analysis of what works and what does not so that criminal justice policy makers at all levels of government can better decide how to invest limited public dollars.

We are committed to continuing to use the results of research and evaluation to measure the effectiveness of the programs we fund and to ensure that federal taxpayer dollars are invested both wisely and well. NIJ has conducted evaluations of OJP programs. One example is a five year study of drug courts currently underway. The preliminary results have been very encouraging, showing that offenders in drug courts received more intensive treatment, and reported less drug use than other similar offenders. The final results are expected at the end of 2009.

NIJ is also in the final stages of a five-year evaluation of the Serious and Violent Offender Reentry Initiative (SVORI). Here too, the preliminary results have been very encouraging. The ex-offenders who participated in SVORI were better able to find employment and less likely to use drugs than other ex-offenders. The final results should be ready by the end of 2008.

Another example of how research is used to better inform funding decisions is the Strategic Approaches to Community Safety Initiative (SACSI). Through SASCI, U.S. Attorneys coordinated multiagency efforts to clamp down on juvenile homicide and gun-related crime. Ten cities implemented the SACSI strategy. In each of these ten sites, local researchers helped

analyze problems and develop solutions. These researchers were involved in every stage of the planning and assessment. An evaluation that NIJ released this past April showed that the SACSI strategy was effective. The sites showed dramatic decreases in the crimes they targeted. The SACSI strategy became the basis of the Project Safe Neighborhoods Initiative, which is now operating in all 94 judicial districts.

If we are to hold our grantees accountable for their spending, OJP also must be held to high standards of accountability regarding the stewardship of public funds. In addition, Mr. Chairman, OJP focuses its grants on measuring outcomes not outputs. Our emphasis is not on measuring process, but on determining impact and results.

To that end, OJP's ability to measure the effectiveness of grant dollars was enhanced when, in January 2006, Congress passed and the President signed into law the Department of Justice Reauthorization Act of 2005.

Department of Justice Reauthorization Act of 2005/Grant Monitoring

As you know, the Department of Justice Reauthorization Act established the OJP Office of Audit, Assessment, and Management (OAAM). This office works to improve operating efficiency and effectiveness, as well as to enhance programmatic oversight for grant-making agencies. OAAM has three critical missions: (1) Ensure financial grant compliance and auditing of OJP's internal controls to prevent waste, fraud, and abuse; (2) Conduct programmatic assessments of DOJ grant programs; and (3) Act as a central source for grant-management

policy. To accomplish the missions above, OAAM is divided into three divisions: Audit and Review Division, Program Assessment Division, and Grants Management Division.

In January 2007, OJP published its first Monitoring Plan. This plan was jointly developed by OJP offices, OAAM, the OCFO, and the Office of Community Oriented Policing Services (COPS), and it included scheduled programmatic and fiscal monitoring site visits for Fiscal Year (FY) 2007. The plan was created to hold program offices accountable for oversight of their grant programs, as well as to ensure that each office has the information and tools needed to coordinate monitoring activities to the maximum extent possible. Since then, OJP has conducted quarterly reviews of the OJP/COPS Monitoring Plan to evaluate monitoring progress against the Plan, as well as to assess site visit report quality. In addition, in FY 2007, OJP program offices conducted on-site programmatic monitoring of 1,026 grants for a total of $1.9 billion in open award funding monitored. When coupled with financial reviews conducted by OJP's OCFO, OJP monitored over 1,400 grants in FY 2007, for a total of $2.7 billion in award funds monitored.

Also in FY 2007, we rolled out the Grant Assessment Tool, which provides a common, organized framework and methodology for systematically and objectively assessing risk associated with grants and/or grantees. The monitoring assessment process involves assigning a monitoring priority level to individual grants based on a standard set of criteria. This tool helps OJP grant managers prioritize monitoring activities based on potential vulnerabilities and with consistency across our bureaus and offices. In FY 2007, OJP assessed over 4,000 awards using this tool and will once again assess its open grants in September 2008.

To further enhance OJP's grant monitoring efforts, in FY 2008, we instituted a Grant Monitoring Tool (GMT), which grant managers use to monitor grants and cooperative agreements consistently across offices while preserving the flexibility to monitor diverse programs and grant types effectively. The GMT requires grant managers to review all grants against a set of 22 standard review categories to determine administrative and financial compliance with grant-management policies, procedures, and regulatory requirements, as well as to evaluate the programmatic progress and success of efforts funded through the grant. The GMT will help OJP increase oversight of its grant programs by ensuring that the funds awarded to grantees are being properly managed and that grant objectives are being met.

While improvements to grant-management and monitoring strategies are critical to improving oversight capabilities and enhancing grant performance, individual grant review is only one component of performance-based management. Effective program management also requires a cumulative view of grants and projects to assess the aggregate impact of federal funding for public safety and criminal justice programs and initiatives at the State and local levels. OJP provides this view through the OAAM program assessment function.

Program assessment, or performance review, is a systematic, methodological approach to collecting, integrating, and analyzing programmatic information to measure performance against intended outcomes. In creating a program assessment function, OAAM serves as an institutional vehicle for studying programs and providing vital programmatic information and feedback to decision-makers and stakeholders. Using grantee-generated reporting, grant monitoring documentation, performance measurement data, and other primary data sources, OAAM

conducts a variety of analyses, such as cost-benefit analyses and trend analysis to assess program performance and grantee compliance. This analysis also generates critical performance information which will inform future policy, budget, and funding decisions.

To further enhance the OJP grants management process, we have developed better grant-management skills and staff capabilities. For example, we developed the OJP Grant Manager's Manual (GMM), which documents policies and procedures for the administration and management of all OJP grants and grant programs. Additionally, the OJP Financial Guide provides grant recipients and subrecipients with financial management requirements to aid them in fulfilling their fiduciary responsibility to safeguard grant funds and ensure that funds are used for the purposes for which they were awarded. To ensure the new policies reflected in the GMM were effectively communicated to OJP staff and therefore implemented, OJP held GMM training for over 400 grant managers, staff accountants and other OJP employees.

Additionally, we developed an OJP-wide order to coordinate activity for grantees that may be designated as high risk. The Order outlines the responsibilities of grant-management personnel in addressing high risk grantees to ensure a coordinated and consistent approach. In FY 2009, OJP will put into practice a tiered high-risk system for grantees in which corrective actions can be taken based on the nature of identified issues. OJP responses to grantee issues may range from increased monitoring and oversight requirements, to an office-wide freezing of funds for more egregious cases of grantee non-compliance.

In FY 2008, OJP drafted a model Grant Manager Performance Work Plan (PWP). The PWP addresses all critical elements outlined in the GMM and establishes specific, measurable, achievement-based criteria for effective grants management by which performance of OJP grant-management staff are evaluated. The PWP is intended to increase accountability of staff and improve team and organizational performance by creating a results-oriented work environment for those individuals responsible for oversight of federal grant dollars.

OJP further developed its commitment to developing grant-management skills and capabilities by providing a two-day course on basic grant-management principles and effective monitoring techniques. This on-going training program is designed to provide grants management staff with the knowledge, skills, tools, and resources needed to successfully perform grant-management job functions.

DOJ is also committed to providing leadership in improving our grant-management business processes. In order to complete this goal, OJP convened teams to evaluate existing business processes and develop recommendations for improving the efficiency and standardization of those processes. For each process, deliverables included developing a document outlining the as-is process, a recommendation document on how to improve the process, and when appropriate, a functional requirements document detailing the computer needs of internal/external users. To date, OJP has utilized seven OJP-wide teams to effectively change and improve grant-related functions.

Many of OJP's bureaus and program offices have also taken additional steps to improve grant monitoring. For example, each Fiscal Year, BJA State Policy Advisors (SPA) travel to their assigned states to monitor State Administering Agencies (SAA). The contiguous 48 states and the District of Columbia are monitored annually; Alaska, Hawaii, and the five U.S. territories are monitored approximately every 18 months. When conducting these week-long onsite SAA monitoring visits, BJA staff help to ensure fiscal, programmatic and administrative integrity and accountability of all grant files, including subgrant files; and conduct a number of onsite subgrant monitoring visits with SAA staff to help assess progress and ensure grantee and subgrantee compliance with rules and regulations.

BJA also helps to ensure that the SAA monitors programs funded through its State and local sub-awards. Each SPA is in frequent contact with the SAA, providing technical assistance on a range of issues. BJA also conducts annual regional conferences where grantees attend workshops on critical grant-management skills and responsibilities. SAA grantees submit quarterly financial reports and regular programmatic performance reports that are reviewed by BJA's Programs Office.

Additionally, BJA helped develop a reporting tool for Multijurisdictional Drug Task Force performance measures and to provide technical assistance services to the task forces. The reporting tool is designed to assist SAAs in gathering data from BJA-funded multijurisdictional drug task forces. The tool was developed with extensive guidance and input from the field through a series of focus group meetings which included SAA representatives,

Multijurisdictional Drug Task Force representatives, and representatives of the National Narcotic Officers' Associations' Coalition.

In addition, OJJDP has made significant progress in expanding, implementing, and collecting performance measures to determine the effectiveness of funded programs. OJJDP's performance measures require grantees to collect data about the percentage of youth who offend or reoffend and who exhibit a desired change in behavior. The performance measures also require grantees to provide information about whether or not they are using evidence-based programming.

Not only has DOJ made strides in improving grants management skills, capabilities, and monitoring activities, but we have also made significant enhancements to improve service to the grantee community. For example, OJP's Grants Management System (GMS) is a fully-automated, web-based, end-to-end paperless grants management system which allows OJP grantees to process and manage their grants effectively and accurately. In order to meet the needs of our grantee community, OJP developed the GMS on-line computer based training tool. Deployed in May 2007, the tool provides grantees with a comprehensive curriculum to assist in managing their awards through GMS. The training provides step-by-step instructions on how to complete various tasks such as modifying the scope of their awards and submitting progress reports. To date, the GMS on-line training tool has had over 100,000 hits.

In FY 2007, we deployed the Grant Closeouts module in GMS. The closeout module ensures that OJP grants are closed out effectively and efficiently and that any remaining funds

are deobligated within 180 days of the grant's end date. This year, GMS was modified to prohibit grantees from drawing down funds after the end of the 90-day closeout period, if the grant has not already been closed.

To encourage OJP grantees to report programmatic progress in a timely fashion, in FY 2007 we implemented the funding freeze functionality within the GMS Progress Report module. The module temporarily freezes payments to an award recipient who fails to submit a timely progress report. After the award recipient submits a progress report and OJP approves it, the GMS module makes the funds available for drawdown. This new GMS feature, which complements the funding freeze for late financial status reports, has led to increased grantee accountability and compliance with grant program reporting requirements.

OJP also is working closely with the Office of Management and Budget and the Grants Management Line of Business (GMLOB) Consortium Service Providers. OJP continues to explore with the Department of Education, one of the GMLOB Consortium Providers, opportunities to partner and collaborate on shared services. We are hopeful that sharing system services will result in cost savings.

OJP Accomplishments

The goal of the grant selection process and monitoring is to ensure that our federal funds are spent wisely and have maximum impact. As you are aware, OJP provides approximately $2 billion annually to the criminal justice community and State, local and tribal law enforcement to help develop the Nation's capacity to prevent and control crime, improve justice systems,

increase knowledge about crime and related issues and assist crime victims. Over the last year, OJP has experienced many successes and I would like to highlight just a few for the Subcommittee.

OVC continues to play a critical role in supporting services and rights for crime victims through its administration of the Crime Victims Fund (CVF). The Fund is supported not by tax dollars but by fines and penalty assessments collected from convicted federal offenders. This funding supports lifeline services to hundreds of thousands of crime victims annually though formula grants to the States and territories for victim assistance and victim compensation. Currently all States, the District of Columbia, the U.S. Virgin Islands, and Puerto Rico have established compensation programs for crime victims and provide funding to support State and local organizations that provide direct services to crime victims. Funds awarded under OVC's victim compensation formula grant program supplement State efforts to compensate crime victims. Funding under OVC's victim assistance formula grant program helps States support direct services to crime victims such as, crisis intervention, emergency shelter, criminal justice advocacy, emergency transportation, and information and referrals. In FY 2008, OVC awarded more than $480 million to State crime victim assistance and compensation programs. The States use their victim assistance funds to award some 5,000 victim assistance grants annually to domestic violence shelters, rape crisis centers, child abuse programs, and victim service units in law enforcement agencies, prosecutors' offices, hospitals, and social service agencies. In FY 2007, States reported providing direct services to over 4,116,600 crime victims using OVC funds.

To further the goal of long-term organizational capacity building for the victim services field, OVC initiated and administers two innovative programs called Helping Outreach Programs to Expand Grant Programs (HOPE). HOPE I and HOPE II, which are aimed at faith-based and community victim service providers and coalitions. HOPE I was launched in November 2002 after a series of nation-wide roundtable meetings among OVC, crime victims, and victim advocates. OVC became aware of a growing body of grassroots, nonprofit, community- and faith-based victim service organizations and coalitions that were not linked to mainstream victim service programs.

Additionally, since 2002 OVC has administered funding specifically appropriated by Congress to address the scourge of human trafficking within our own borders. Beginning in 2004, OVC has worked closely with BJA to provide grant funding for comprehensive services and legal assistance for these victims and to catalyze the development of anti-human trafficking law enforcement task forces to identify and rescue these victims at the local and State levels, with close involvement of federal law enforcement. In this fiscal year alone, OVC will award over $5 million to support service provision in three new jurisdictions, and to continue services in existing locales. OVC also transferred over $1 million to its Training and Technical Assistance Center in FY08 to support the development and provision of state-of-the-art training and technical assistance to both OVC-fund human trafficking victim service providers and BJA-funded law enforcement task forces. OJP's anti-human trafficking strategy is a complex one, exemplifying the need for victim-centered multi-disciplinary, multi-jurisdictional responses to address this emerging global crime.

In addition to OVC activities, OJJDP awards millions of dollars in formula, block, and discretionary grants that support State and community efforts to prevent and respond to delinquency and child victimization and strengthen the juvenile justice system. One such program is the Internet Crimes Against Children (ICAC) Task Force Program. The ICAC program has created a network of State and local law enforcement cyber units that investigate cases of child exploitation. Currently, all 50 states now have at least one ICAC task force and there are 59 ICAC task forces nationwide. The ICAC task forces also work with other law enforcement agencies within their States, so the impact of the program has spread way beyond our grantees.

In June 2008, OJJDP sponsored the National Youth Gang Symposium, which offered innovative and successful gang prevention and intervention programs and strategies and provided the latest information on youth gang activities and trends from top national experts. At the National Youth Gang Symposium, OJJDP released *Best Practices To Address Community Gang Problems: OJJDP's Comprehensive Gang Model* which provides communities with critical information to guide their gang prevention efforts.

We have enhanced the tools law enforcement officers have to recover missing children. One example of this is the AMBER Alert system. As the National AMBER Alert Coordinator, we expanded our base of partners and continue to work with States and communities to strengthen plans. Today, all 50 states have AMBER Alert plans, and we expanded the network into Indian Country. We partnered with the wireless industry to distribute AMBER Alerts

through voluntary text messages. These accomplishments have assisted in the recovery of over 400 children and we continue to look for ways to improve the system.

OJP's BJA also provides support and funding for law enforcement and criminal justice initiatives nationwide. In FY 2008, BJA administered $466 million through approximately 1,700 grant awards. One of BJA's most significant accomplishments is the Targeting Violent Crime Initiative (TVCI). Through TVCI, BJA administers 106 grants to 103 State, local, and tribal law enforcement agencies. Since February 2008, TVCI agencies have reported 5,034 violent felony arrests; 2,751 guns seized; 374 gangs disrupted; and 50 gangs dismantled. The TVCI is designed to create immediate support for jurisdictions suffering increases in violent crime while encouraging adaptation of intelligence-led policing (ILP).

ILP, while a relatively new concept in the United States, was an outcome of British efforts during the late 1990s to manage law enforcement resources efficiently and to respond effectively to serious crime and is an example of how OJP is using research and statistics to inform grant making decisions and assist the criminal justice community. ILP does not replace the previous concepts of problem-solving policing, or community involvement and neighborhood maintenance theories, nor police accountability and information sharing practices. It builds on these concepts to keep pace with changes in society, technology, and criminal behavior. Incorporating research findings and advances in information and communication technology, ILP encourages greater use of criminal intelligence, attends to offenders more than offenses, and offers a more targeted, forward-thinking, multijurisdictional and prevention point of view to the business of policing.

Some BJA ILP-related services, training, demonstration, and technical assistance activities include:

- BJA provides support for six Regional Information Sharing Systems (RISS). RISS provides law enforcement with a crucial, secure venue for intelligence sharing as well as a wide range of training, technical assistance, and equipment activities.

- BJA provides terrorism prevention training and technical assistance to State and local law enforcement agencies through its State and Local Anti-Terrorism Training Program. Services under this program range from individualized briefings to 4-day intelligence/investigation courses.

- Through the Department of Justice Global Justice Information Sharing Initiative (Global), BJA offers guidance on a wide range of information sharing policy issues. The *National Criminal Intelligence Sharing Plan* and the *Privacy Policy Development Guide* are two examples of Global's work that directly support the ILP approach. These documents and others are available at www.it.ojp.gov/global.

- Technology standards, such as the Global Justice XML Data Model, National Information Exchange Model, Justice Reference Architecture, and CAD/RMS Functional Specifications, provide a common vocabulary and framework for the

justice system to share information over a variety of programs. For more information on BJA's information technology initiatives, visit www.it.ojp.gov.

- In accordance with the *National Criminal Intelligence Sharing Plan* and the *National Strategy for Information Sharing*, BJA, in partnership with DOJ's Global Justice Information Sharing Initiative, the Criminal Intelligence Coordinating Council, the U.S. Department of Homeland Security, the Program Manager for the Information Sharing Environment, and the Major Cities Chiefs Association, has developed recommendations to be used by law enforcement agencies to improve the process of identifying, documenting, and analyzing of suspicious activity reports and the sharing of that information with designated fusion centers.

- The National Criminal Intelligence Resource Center (NCIRC) website, which is sponsored by BJA, contains information regarding law enforcement intelligence operations and practices and provides criminal justice professionals with a centralized resource information bank to access a multitude of criminal intelligence resources. NCIRC is a secure website meant to serve as a "one-stop shop" for local, State, tribal, and federal law enforcement communities to keep up with the latest developments in the field of criminal intelligence

Another example of how research is used to better inform funding decisions is the Strategic Approaches to Community Safety Initiative (SACSI). Through SASCI, U.S. Attorneys coordinated multiagency efforts to clamp down on juvenile homicide and gun-related crime. Ten

cities implemented the SACSI strategy. In each of these ten sites, local researchers helped analyze problems and develop solutions. These researchers were involved in every stage of the planning and assessment. An evaluation that NIJ released this past April showed that the SACSI strategy was effective. The sites showed dramatic decreases in the crimes they targeted. The SACSI strategy became the basis of the Project Safe Neighborhoods Initiative, which is now operating in all 94 judicial districts.

BJA also plays an important role in Project Safe Neighborhoods (PSN) Initiative by administering some funding and training. National PSN training and technical assistance partners have trained nearly 33,000 individuals in over 300 nationally-sponsored training events across the nation who work to make our communities safer. Local PSN programs have organized training for many thousands more. Overall, the Department has devoted approximately $2 billion to PSN since its inception in 2001.

In 2008, BJA led several PSN Anti-Gang training sessions which provide comprehensive anti-gang prevention, enforcement, and prisoner reentry training for State and local law enforcement and related organizations. Approximately 160 law enforcement officers and criminal justice practitioners attended the pilot training program in September 2007, which was delivered by DOJ law enforcement agencies and other criminal justice professionals. Intervention, prevention, suppression, and reentry strategies were presented, as well as a briefing on national and regional gang trends, a community gang problem assessment, and tips for working with cooperating witnesses and confidential informants. Due to the success of the pilot program and the positive feedback and suggestions received from attendees, 12 Anti-Gang

training sessions will be offered throughout 2008 and into 2009 at various locations across the country. To date, DOJ and its federal and national partners have completed Anti-Gang training for 1,851 sworn and non-sworn personnel.

In addition to BJA's activity, BJS plays a critical role in supporting criminal justice programs. For example, BJS plays a critical role in sharing criminal justice information. In 2008, BJS awarded over $8 million to thirty-five jurisdictions to support the National Criminal History Improvement Program (NCHIP). The NCHIP provides grants to States to improve the accuracy, completeness and availability of the Nations' criminal history records which are used for criminal justice and non-criminal justice background checks.

In 2008, BJS made thirteen awards to States totaling almost $3 million for the Stalking and Domestic Violence Record Improvement Program. This program provides grants to States to improve processes for entering criminal justice data regarding stalking and domestic violence into local, State, and national crime information databases.

The work of BJS goes far beyond grants. In 2008, BJS released information on criminal justice topics in more than 15 reports or updates to statistical tables on the website. BJS plans to release an additional 20 topical studies by year-end.

In 2008, BJS also continued to implement the national data collection requirements of the Prison Rape Elimination Act of 2003. BJS released *Sexual Victimization in Local Jails Reported by Inmates, 2007* and *Sexual Violence Reported by Juvenile Correctional Authorities, 2005-*

2006. In 2008, BJS completed a study of mortality in local jails based on seven years of national data collected under the Deaths in Custody Reporting Program, covering over 7,000 inmate's deaths. Findings are expected to be released later this year.

NIJ has also found ways to make a relatively small investment benefit law enforcement agencies nationwide. One example is the National Missing and Unidentified Persons Initiative (NamUs) www.namus.gov, which NIJ launched in 2007. When fully operational in 2009, NamUs will provide a powerful tool for law enforcement, medical examiners and coroners, victim advocates—and the general public—to search for matches between missing persons and unidentified human remains records. NamUs is the first National online repository for missing persons and unidentified dead cases. It will also provide central access to information from other Web sites, State clearinghouses, and other important resources.

In June 2008, NIJ released the results of a five-city field study that looked at the efficacy of performing DNA analysis on biological evidence collected from property crime scenes. The DNA Field Experiment was a collaboration between NIJ and local law enforcement agencies—police, crime labs and prosecutors—in five communities. The study found that when DNA evidence was collected at property crime scenes suspect identifications and arrests doubled. Further, the study found that DNA arrestees had double the number of prior arrests and double the prior convictions as those arrested through traditional investigations.

In August 2008, NIJ awarded five grants under the Postconviction DNA Testing Assistance Program. The States receiving funding are Arizona, Kentucky, Texas, Virginia, and

Washington. However, we are looking for the impact to go beyond these five states, as exonerating the innocent is a key component of the President's DNA Initiative. NIJ has undertaken several new initiatives to increase understanding of and to assist States in obtaining the resources they need to address postconviction issues. These include a rigorous review of the exonerations of the wrongly convicted to better understand how eyewitness testimony, false confessions, forensic science, investigative practices and other issues relate to wrongful convictions; a workshop for law enforcement, prosecutors and defense attorneys, crime laboratories and innocence-project advocates to help states understand how to apply for post-conviction DNA funding; and an evaluation of post-conviction programs in two states to develop "best practices" and assist in efficient post-conviction reviews and DNA analysis.

In June 2008, NIJ released an interim report from a blue-ribbon panel convened to study in-custody deaths reported to be connected to the use of a conduced energy device (CED), such as, but not limited, to the TASER®. In the report – *Study of Deaths following Electro Muscular Disruption Interim Report* – the panel found that while the use of a CED is not risk free, there is no conclusive medical evidence that indicates a high risk of serious injury or death from their direct effects. Consequently law enforcement agencies should not refrain from using CED's, so long as they are used in accordance with accepted national guidelines.

In July 2008, NIJ released a new performance standard for body armor, which includes more rigorous testing and methods that expose body armor to temperature, humidity, and wear and tear, prior to testing the performance. Performance standards ensure that commercially available body armor, such as bullet resistant vests, provide a minimum level of protection. NIJ

has published standards for both ballistic and stab resistance of personal body armor for law enforcement and corrections officers. The new standard is a major component in the Department's 2003 Body Armor Safety Initiative, established in response to concerns from the law enforcement community about the effectiveness of body armor then in use.

CCDO is another OJP component that helps States and local communities make the most out of limited resources. CCDO's strategic three-pronged approach is comprised of direct grant assistance, training and technical assistance, and program development through promotion of partnerships and best practices. This approach provides a broad return on investment of federal dollars that is unlike any other federal criminal justice program.

CCDO's flagship program, the Weed and Seed initiative, is a community-based, comprehensive multi-agency approach to public safety. There are currently 320 neighborhoods across the country where Weed and Seed is being implemented. The Weed and Seed strategy brings together federal, State, and local crime-fighting agencies, social service providers, representatives of the public and private sectors, prosecutors, business owners and neighborhood residents under the shared goal of weeding out violent crime and/or gang activity while seeding in social services and economic revitalization. During FY 2008, $28 million dollars for new Weed and Seed sites will be awarded.

In addition to providing direct funding for sites, CCDO also formally designates Graduated Sites through an annual certification program. Now in its third year, there are currently 88 certified graduated sites across 25 states and the Virgin Islands. Forty-six of these

communities were newly certified during FY 2008. Graduated status is awarded to Weed and Seed communities that wish to continue implementing their Weed and Seed strategy through self-sustaining efforts. Although the sites no longer receive funds from CCDO, they maintain their official affiliation with CCDO and receive advanced training and technical assistance. In exchange, sites agree to continue reporting on their activities and outcomes. This data provides CCDO with a rich source of information regarding program performance and successes beyond the federal funding cycle.

Finally, OJP's newest office, the SMART Office, recently established the Support for Adam Walsh Act Implementation Grant Program in FY 2007 to assist communities in developing and/or enhancing programs designed to implement the requirements of the Sex Offender Registration and Notification Act (SORNA) which is Title I of the Adam Walsh Act. In FY 2007, the SMART Office awarded more than $11 million to support various projects across the United States. In FY 2008, the SMART Office will provide more than $4 million in direct grant assistance to further these efforts along with continued support through training and technical assistance.

Also in FY 2007, the SMART Office helped develop several web-based software resources to assist jurisdictions in implementing the registry requirements of SORNA. These resources were made available to jurisdictions in July 2008 and include the National Sex Offender Public Registry Exchange Site; mapping and geo-coding in which jurisdictions will have free services that will allow them to geo-code addresses to enable SORNA-required geographic radius searches for sex offenders; a Community E-mail Notification System; E-mail

Address Search System; and templates which tribes and federal territories can use to create a unique tribe/territory-specific sex offender registry web site.

On July 1, 2008, the Attorney General released the final guidelines for SORNA. These guidelines provide direction and assistance for jurisdictions in their efforts to meet the minimum standards of the SORNA. The guidelines detail who must register as sex offenders, how long they must register, the type of information they must disclose, how frequently and under what circumstances they must update that information and how these requirements should be enforced.

Conclusion

Through these and other efforts, Mr. Chairman, OJP is working to ensure the effective use of grant funds, prevent fraud and abuse and measure the impact of the programs we fund. This concludes my statement, Mr. Chairman. I would welcome the opportunity to answer any questions you or Members of the Subcommittee may have.

Mr. SCOTT. Mr. Sedgwick, we have had votes that are called, so we are going to have to ask you to suspend at this point so we can go vote. We will be back as soon as we can. There are two votes, so it will be about 10 or 15 minutes.

The Subcommittee stands in recess.

[Recess.]

Mr. SCOTT. The Subcommittee will come back to order.

Mr. Sedgwick, do you have a concluding comment?

Mr. SEDGWICK. Let me begin by thanking you for your forbearance, as I violated your time guidelines. I have got about a page left, but I would happily have that read into the record and use the Committee's time——

Mr. SCOTT. Okay.

Mr. SEDGWICK [continuing]. To address the questions that you have.

Mr. SCOTT. Okay. Thank you very much. I now recognize myself for 5 minutes of questions.

What have you published in terms of best practices and most cost-effective approaches to juvenile crime?

Mr. SEDGWICK. The issue of juvenile crime is obviously one of growing importance. I just noticed during your break that today there is a news report on the declining age at which juveniles become involved in violent crime. It is an issue that has taken considerable attention for us in OJP.

One of the things that we have discovered and studied quite a bit since 2006, when I was fortunate enough to be part of the 18-city tour that went around the United States examining why crime is increasing in some communities and decreasing in others—one of the principal things that we learned was that for those communities that are experiencing increases in crime, it seems to be concentrated among youth.

So this is a very serious issue that we have identified and are focusing on with a great deal of interest. There is clearly something going on out there in our communities that has led a number of people, at decreasingly young ages, to cross the line from committing property crimes into violent crimes. And that is an issue that we are currently working on with a great deal of attention and emphasis.

Mr. SCOTT. Do you have research to show what works and what doesn't work to reduce violent crime amongst juveniles?

Mr. SEDGWICK. Amongst juveniles? As I mentioned in my opening comments, we have done extensive work recently in the Office of Juvenile Justice and Delinquency Prevention to identify the causes and correlates of increased violence, particularly among young girls, juvenile girls.

Do we have a sufficient level of knowledge of what is causing the changing nature of crime in the United States at this point? I would have to say to you, "no, we don't." But that is a prime issue on our research agenda to continue to look at, because quite frankly this is a moving target. This is something that is changing under our feet as we speak.

Mr. SCOTT. Do you have a list of initiatives that work and don't work?

Mr. SEDGWICK. We have a number of best practices in terms of gang violence, which predominantly occurs among juveniles. Those have grown out of, for example, our funding programs and our work in both the Bureau of Justice Assistance and the Office of Juvenile Justice and Delinquency Prevention.

BJA, of course, we have our G.R.E.A.T. program. And through juvenile justice we have a variety of programs and studies of best practices to reduce juvenile——

A number of initiatives that are dealing with gang violence, a number of programs that are dealing with—prevention programs to try to defer or delay the entry of juveniles into violence.

Mr. SCOTT. Do prevention programs reduce juvenile violence?

Mr. SEDGWICK. There are prevention programs that do work, yes.

Mr. SCOTT. Do we reduce juvenile violence by trying more juveniles as adults? Or do we increase juvenile violence by trying more juveniles as adults? Not try some juveniles, try more juveniles.

Mr. SEDGWICK. I think that is a very difficult question to answer as kind of a generalization. There very well may be types of crimes and juveniles at particular ages that are still classified as juveniles that are——

Mr. SCOTT. Most of the studies that I have seen have concluded that if you try more juveniles as adults, violent crime will go up.

Mr. SEDGWICK. I would be happy to review the state of the research on that question and get back to you on that.

Mr. SCOTT. You mentioned sex offense registry. Does your sex offense registry differentiate between who has to register and for how long based on the seriousness of the crime?

Mr. SEDGWICK. Right now as I understand it, the SORNA guidelines are an attempt to bring a very wide variety of disparate sex registry standards among the States up to a common Federal level. And make sure that those sex offender registries are available across State jurisdictions, so that an offender cannot escape accountability or scrutiny by moving from one jurisdiction where the offense was committed to another jurisdiction.

The actual particulars of what goes into getting one onto a sex offender registry is a matter, as I understand it, of State law. And so I can't give you a jurisdiction-by-jurisdiction characterization of how each jurisdiction operates its registry or operates the criterion by which a person gets onto a sex offender registry.

Mr. SCOTT. And just very quickly, because my time is expiring, the Deaths in Custody Act, have you subjected the information we have gained from the Deaths in Custody Act to research to find out what we can do to reduce deaths in custody?

Mr. SEDGWICK. The primary work that we have done at OJP on deaths in custody has been the data collection effort, which has, as you noted in your opening comments, identified where the characteristics of—what are the characteristics on deaths in custody and where they tend to happen most frequently. But also, on what the nature of those deaths is.

You quite correctly identified that what we know now is a declining incidence of violent deaths in custody, particularly in prison and jail. We are continuing to push forward on our attempt to get better data from law enforcement on deaths that occur in the process of taking persons into custody, which of course presents some

unique challenges, as you and I have had the opportunity to discuss previously.

And I think one of the gratifying things about the collection of data that we have done through OJP, and particularly through the Bureau of Justice Statistics, is we have seen declining death rates, except through illness.

Mr. SCOTT. You haven't had research to help target why the reduction occurred or what we can do to continue the reduction?

Mr. SEDGWICK. Well, beginning to know where to do that research depends on knowing what the nature of the——

Mr. SCOTT. And we haven't done this research yet, is that true?

Mr. SEDGWICK. Yes.

Mr. SCOTT. Okay. Thank you.

Mr. Gohmert?

Mr. GOHMERT. Thank you.

Appreciate, Mr. Sedgwick, your being here. Appreciate your testimony. There is no need for you to apologize for going over the allotted time. We have the 5-minute rule and actually, when the bell went off for us to go vote, my thought was, okay, we have got time for him to do his 5-minute statement, and Chairman Scott and I both get our questions in, and you will be done before we get to voting. But when you went over twice as long for your allotted time, it kind of ensured you had to come back—— [Laughter.]

And it also ensured that there would be more chances for other Members to get here and have time to ask you questions. So I am not the one that is being punished for you going overtime.

But I would like to ask you—you know, you spent time talking about the formula—we know the formula and discretionary awards. Can you tell me specifically the manner in which the formula is calculated for the formula grants?

Mr. SEDGWICK. Well, it would depend on the program. Some formula grants distribute funds according to the incidence and prevalence of particular types of crimes in a jurisdiction. And——

Mr. GOHMERT. How is the formula arrived at?

Mr. SEDGWICK. Well, the formula is very often specified in legislation. And then what happens is, the Bureau of Justice Statistics cooperates with the grant-making agency. Let's use as an example a program where funds are distributed on the basis of the crime rate in a particular jurisdiction.

In cases like that, typically what happens is, let's say the Bureau of Justice Assistance will go to the Bureau of Justice Statistics and say, you are statisticians, you guys know what the crime rate is in particular jurisdictions or you can get access to that data through the FBI's UCR program. So please go and calculate for us what the crime rate is by jurisdictions that are eligible to apply for funds——

Mr. GOHMERT. Okay, but that goes into how you get the factors to plug into the formula. I am still going back to the formula itself. It seems that there is discretion even when the formula is specified in legislation, that there is still discretion in how you go about arriving at the information on exactly how to interpret the formula itself to gather that information.

Mr. SEDGWICK. Yes, though depending on how narrowly the statute is drawn, the discretion that we have to kind of come up with a formula is more or less restricted. By and large——

Mr. GOHMERT. Who actually makes that decision? Does the secretary him or herself actually make that decision, or is it submitted from a certain level within the department?

Mr. SEDGWICK. Typically when it is a question of the formula, that precise definition of the formula, we don't get directions for the formula from outside of OJP. What we typically do is we will read the legislation very carefully, the Office of General Counsel will look through the legislation. And then the precise definition of the formula is typically done by the agency that has responsibility for administering the formula program.

So there are formula grants that are distributed, for example, by the Office of Victims of Crime. They are responsible for coming up with the formula. There are formula programs that are administered by the Bureau of Justice Assistance. The director of the Bureau of Justice Assistance would actually—in consultation with the Office of General Counsel—come up with the specific characteristics of the formula that is applied, and so on.

So this is not a matter of someone outside the administering agency saying, this is the formula you will use.

Mr. GOHMERT. Well, in deciding an award of competitive grants, discretionary grants, does OJP look at how well States use their formula funding before awarding those discretionary grants?

Mr. SEDGWICK. I am thinking about—being very close to the end of the process of making grants for fiscal year 2008, I can't think of a situation where, in judging the appropriateness of a discretionary grant, we would look or we have looked at a State's experience with formula grants, for this reason: Very often, discretionary grants are going to a different recipient than the formula grants would go to.

So certainly we are concerned, when we make a discretionary grant, the history of the recipient of that grant in terms of using Federal funds appropriately. As far as formula grants go, which are—what I am getting at is the question of how carefully we monitor the use of formula awards or whether we simply kind of say, "Well, the formula says we give these guys this much money," we give it to them and move on to other tasks. I want to reassure you that we take the proper use of even formula awards quite seriously and attach to formula grants special conditions that assure that they are used appropriately.

Because there has been concern about the use of formula awards in the past in ways that violate civil rights, we routinely to each of our formula awards, as to all of our awards, include a letter from our Office of Civil Rights about the expectations and the requirements of the proper use of Federal funds.

And on top of that, we also use grant monitors from our offices that administer formula awards to visit the jurisdictions that receive formula awards and make sure that those funds are used appropriately.

Mr. GOHMERT. Well, that is touching on my concern. My time has expired, though. Let me just finish by saying that is part of my concern. But part of my concern also, having been involved in a

number of aspects of the judicial system and justice system, is that sometimes the reason entities need funding is because they use it so very badly.

And that there are indicators, perhaps, in formula funding use that may be indications, yeah, it looks like they sure need discretionary grants, because they blow their money and they waste it, whether intentionally or negligently, use it inappropriately. And that is a concern I continue to have and hope will be better monitored.

Thank you. Yield back.

Mr. SCOTT. Thank you.

The gentleman from New York. Mr. Weiner?

Mr. WEINER. Thank you, Mr. Chairman.

What is the backlog of untested DNA kits in the Nation right now?

Mr. SEDGWICK. I don't have that specific information at my fingertips, but I would be happy to get back to you with our current count of——

Mr. WEINER. NIJ released some data on it in 2003. We haven't heard much since. Do you have any sense of whether another report is going to be forthcoming?

Mr. SEDGWICK. I believe there is another report forthcoming, and I will try to get you the information on when you can expect that.

Mr. WEINER. Does any of your staff have it handy, by any chance?

Mr. SEDGWICK. I don't believe anybody would have it with them today.

Mr. WEINER. We recently, in the House, we authorized that they be sent back and some language was included by Chairman Scott requiring that we get that information more frequently. Part of the problem with the backlog challenge is that localities and sheriffs' departments, police departments, are reluctant to reveal it because, frankly, it is not a great thing to be telling your citizens—we have a lot of evidence that we haven't had the opportunity, haven't had the funds, haven't had the technology to analyze.

So I think if your office and NIJ don't do it, frankly, it would be very hard for anyone else to do it and make it very hard for us to tackle the problem, notwithstanding the amount of money that has gone into it.

Do you have any proof that points to the premise that the Federal effort to reduce the backlog, to get grants out into the States, has been a success? I mean, do you have some data showing where that money has gone, showing how many kits have been able to get done? If you were to say—I mean, I think it is one of the successes of Federal involvement in helping solve local crimes.

What would be some of the things you have, notwithstanding your not having the number of outstanding rape kits? Are there other things you can point to to say that hey, this is an example of how we have gotten the Federal role in reducing the DNA backlog and how it has worked in number of crimes solved, number of kits you get in, anything like that?

Mr. SEDGWICK. I can tell you that in terms of the Coverdell program grants, which are primarily focused on precisely the issue that you have outlined, is funding State forensic capabilities so

that we reduce the backlog, while also at the same time maintaining the kind of quality and integrity of forensic evidence that is used not only to convict or hold accountable the guilty, exonerate the innocent, but also increasingly using DNA evidence to address the very natural anguish that families have over missing family members.

Since fiscal year 2002, we have put out in the field $80 million in funds through the Coverdell program, precisely to build capacity and reduce backlog at the State and local level in forensic science. I would like to get back to you with what the backlog was at the beginning of the Coverdell program and what progress we have been able to make in terms of reducing that backlog with the $80 million.

Mr. WEINER. And also, I would be interested, and maybe you know this: Is it getting cheaper? Is it getting less expensive, is technology making it possible to do more DNA tests per dollar?

Is it making it—are there advances that are going on as the Federal money primes the pump as there is more demand? Is it getting less expensive—do you have some data on that, as well?

Mr. SEDGWICK. I will look into that for you and get back to you.

Mr. WEINER. That would be great. I think in one of the areas of crime and law enforcement where people really do look at programs through the lens of their own experience and certainly come to different conclusions, when it comes to DNA testing, the libertarians see it as you have explained it, as a place to make sure that those who are innocent of crimes are freed.

Those of us who believe very strongly in tough penalties for crime, DNA is the way to get it done. For families, they look at DNA testing as a way to try to solve cases and find justice for ones that they haven't had.

And we have had good consensus around here for the idea that we need to increase the Federal role. The missing parts, though, you have in your possession to some degree—you know, being able to quantify.

And also being able to get to the next place, which are reticent police departments and police agencies who we need to use carrots and stick to say, you know what? You might not want to share your data, but you have to now. Or here are some examples of best practices that are used in one area that are not used in others, we are going to require them.

In order to take that next step beyond just the funding, we need some data to work with. And frankly, it has been very hard to come by, and your office is marginally the only place that we are really going to be able to get that kind of data.

Thank you, Mr. Chairman.

Mr. SCOTT. Thank you.

And thank you, Mr. Sedgwick. We may have additional written questions for you that we didn't get to, and we will forward them to you so that you can respond in writing.

Mr. SEDGWICK. Thank you very much, Mr. Chairman.

Mr. SCOTT. Thank you.

Mr. SEDGWICK. Members of the Committee.

Thank you.

Mr. SCOTT. If our next panel will come forward.

The next panel is a group of expert witnesses who work with the beneficiaries of OJP's programs, and they are here to give us their perspective and recommendations for improving OJP performance.

Our first witness will be Mr. Bill Piper, director of national affairs for Drug Policy Alliance Network, an organization committed to reducing problems associated with both drugs and punitive drug policies. He is the author of a recent report, "A Four Pillars Approach to Methamphetamines: Policies for Effective Drug Prevention Treatment, Policing, and Harm Reduction."

His organization is experienced in the Byrne JAG program, and the Drug Policy Alliance Mexico office received a $500,000 Byrne discretionary grant in 2007 to conduct a statewide youth methamphetamine prevention program. He has a bachelor's degree in economics and political science from Indiana University.

The next witness will be Pete Marone, chair of the Consortium of Forensic Science Organizations. He is a member of the forensic educational program accreditation commission for the American Academy of Forensic Sciences and the National Academy of Sciences committee on identifying the needs of the forensic science community. He is also the director of the Virginia Department of Forensic Science. He has a bachelor's degree and master's degree in chemistry, each from the University of Pittsburgh.

The next witness will be Mr. Ronald Brooks, the national president of the Narcotics Officers Association Coalition, representing 44 State narcotics officers' associations with a combined membership of over 60,000 law enforcement officers around the Nation. He is a 32-year California law enforcement veteran, with 24 of those being in drug, gang, and violent crime enforcement. He has been the primary investigator, supervisor or manager for thousands of enforcement operations and has written policies and procedures for managing undercover operations and for managing informants.

Next will be Mary Lou Leary, former executive director, National Center for Victims of Crime. During her career Ms. Leary has held numerous positions with the Department of Justice, including acting assistant attorney general for the Office of Justice programs from February 2000 to September 2001. She now oversees the National Center for Victims of Crime, which works directly with victims and with over 15,000 grassroots organizations to help victims receive the information, support and resources they need to rebuild their lives. She has a bachelor's degree from Syracuse University, a master's degree from Ohio State, and a juris doctorate from Northwestern.

The next witness will be Mr. Shay Bilchik, who is the research professor at Georgetown Public Policy Institute, the former administrator of the Office of Juvenile Justice and Delinquency Prevention, and the founder and director of the Center for Juvenile Justice Reform at Georgetown University. He participates in public forums and teaches courses on juvenile justice policy and practice to students at Georgetown Public Policy Institute. He has a bachelor of science degree from the University of Florida and a juris doctorate from the University of Florida Holland Law Center.

And our final witness will be Mr. Charlie Sullivan, from Citizens United for the Rehabilitation of Errants, or CURE. CURE is a grassroots organization dedicated to reducing crime through reform

of the criminal justice system. CURE was instrumental in passing a deaths in custody reporting act in the state of Texas in 1983 and has worked with Members of Congress toward a national reporting deaths in custody bill which became the Deaths in Custody Reporting Act of 2000. He has a bachelor's degree from St. Mary's College and a master's degree from Notre Dame Seminary, New Orleans, Louisiana.

As I stated to the previous witness, all the witness statements will be made part of the record in their entirety. I would ask each of the witnesses to summarize their testimony in 5 minutes or less, and you have the timing device at the table.

I understand, Mr. Bilchik, you have a time problem. So——

Mr. BILCHIK [continuing]. Flight at 2:20.

Mr. SCOTT. So we will take you first, out of order, so that you can testify and make your plane, hopefully.

TESTIMONY OF SHAY BILCHIK, RESEARCH PROFESSOR, GEORGETOWN PUBLIC POLICY INSTITUTE, WASHINGTON, DC

Mr. BILCHIK. Thank you.

Good afternoon, Chairman Scott and Ranking Member Gohmert.

I appreciate the opportunity to be before you today to testify at the oversight hearing for the Office of Justice Programs and the Office of Juvenile Justice and Delinquency Prevention, in particular.

As the founder and director of the Center for Juvenile Justice Reform at Georgetown University and former Administrator of the Office of Juvenile Justice and Delinquency Prevention, I have a tremendous amount of interest in OJJDP's leadership role on Federal juvenile justice matters. In the testimony I submitted for today's hearing, I highlight six main areas of improvement for OJJDP:

One, realigning focus on the Juvenile Justice and Delinquency Prevention Act, which I will call "the Act" from this point forward, and its core protections; focusing on assistance to States; restoring the comprehensive nature of the agency; engaging the juvenile justice field; increasing transparency; and six, developing the juvenile justice workforce.

In my oral testimony I will focus on the core protections, field engagement, and transparency.

OJJDP was created by the Act. Its purpose is to assist State and local governments in preventing and encouraging accountability for juvenile delinquency, as well as providing technical assistance, research, training, evaluation, and the dissemination of information on effective programs for combating juvenile delinquency.

The juvenile justice field and communities around the country count on OJJDP to serve as a leader in supporting their efforts to prevent and address delinquency. Unfortunately, in recent years there has generally been a decreased level of activity and information from OJJDP, including the amount of research created by the agency and the number of conferences and convenings and trainings focused on juvenile justice issues.

This lack of activity has been particularly concentrated around issues surrounding the Act and its implementation. In this regard, the office has shifted away from its core mission as established by the Act to such a significant degree that it has effectively disengaged from the field it is charged with serving.

OJJDP first needs to refocus its efforts on youth at risk of becoming involved or who are already involved in the juvenile justice system and the Act's core protections. The agency also must better support States in their efforts to come into compliance with the Act's core requirements, including regularly updating regulations through a rulemaking process designed to obtain feedback from the States and other interested parties on specific implementation issues.

Second, provide States with an updated compliance guide with practical, specific information on what the Act's provisions means for the States.

Third, train individuals in State agencies to implement the Act.

And fourth, provide specific assistance and policy models to overcome State barriers to implementing certain portions of the Act.

With regard to these duties, the office's efforts have been less than fully effective. First, although the office recently updated its compliance guide, it is incomplete and it does not include provisions on the most recent legislative iteration of the disproportionate minority contact core protection that was updated back in 2002.

Second, there seems to be a diminished capacity within OJJDP to work with States to train individuals and help guide State compliance efforts.

Finally, the office has issued major policy changes in executive memos that do not abide by the Federal rulemaking standards. As the sole Federal agency providing leadership in the juvenile justice arena, it is also critical that the office have the capacity to perform a comprehensive set of functions, including gathering data; conducting and disseminating research; identifying and disseminating best practices; leading demonstration projects; providing training and technical assistance; and promoting the expansion of effective practices.

However, in recent years the office has declined in both capacity and in stature. The agency has experienced a dismantling of its functions over the past 8 years, along with significant decline in staff and funding levels. For example, much of the research previously conducted by the office is now conducted by the National Institute of Justice.

The juvenile justice field expressed great concern to OJJDP and OJP about this change, with good reason. The change has resulted in a less robust and targeted effort to develop new knowledge and disseminate new research findings to the juvenile justice field. I encourage both Congress and the department to work to restore the comprehensive nature of the agency, including a significant increase in resources to bolster expertise and capacity within the office.

An additional area of concern is the office's apparent unwillingness to actively engage the field and juvenile justice stakeholders across the Nation, including youth, parents, families, advocates, researchers, policy makers, practitioners, and State and local governments, including State legislatures and governors' offices. Open and honest engagement with each of these groups is critically important, not only to promote forward movement in the juvenile justice community, but also to help develop expertise and align and formulate priorities at the Federal level.

This type of engagement has not taken place under the current administration. While OJJDP has reached out to certain groups within the juvenile justice field, its outreach has been too narrow and has excluded much of the field from the work of the office.

For example, the office frequently formulates positions and priorities at the Federal level without consulting with this more broadly defined field. As a result, individuals or groups with significant expertise in the field who have opposing views or differing priorities do not have input into these decisions. And the opportunity for the office to make fully informed decisions for the broader field of juvenile justice is lost.

In addition, over the past several years, the office has had limited interaction with the juvenile justice field through the grant-making process. Under the prior administration, grants from OJJDP frequently went to knowledgeable and well-respected content experts in the juvenile justice field. Some of those people still get those grants. However, in recent years, many of these very knowledgeable experts and organizations have seemingly been cut out of the grant-making process.

OJJDP is in a unique and critically important position of being able to work collaboratively with juvenile justice stakeholders in identifying issues facing juvenile justice systems and formulating nationwide efforts to address them. However, in order to be able to carry out these tasks, the office must be in contact with the very diverse group of stakeholders representing the juvenile justice field, and it is not.

Complicating the situation is that the current OJJDP leadership has shown a lack of transparency in how it carries out its responsibilities. Over the past 8 years, information from OJJDP has been difficult to obtain on a variety of issues—from which States are utilizing certain exceptions under the Act, to the office's current priorities.

This lack of transparency was evident in the most recent OJJDP grant-making process, where several highly ranked and long-time productive office grant applicants were passed over for lower ranked applicants without a proven track record. It was and remains unclear why the office selected lower-ranked applicants, and on June 19th of this past year, the House Committee on Oversight and Government Reform held an oversight hearing on this issue.

While the administrator has a certain amount of discretion in managing the office, I believe it is the administrator's duty to be candid and clear about the priorities of the office and the criteria being used to distribute taxpayers' dollars through its grant programs. This lack of information, including failing to file an annual report since 2005, and lack of clarity and transparency has made it difficult for OJJDP to effectively engage States, subject matter experts, and other stakeholders.

Members of the Committee, I would be glad to answer any questions.

[The prepared statement of Mr. Bilchik follows:]

PREPARED STATEMENT OF SHAY BILCHIK

Good morning Chairman Scott, Ranking Member Gohmert, and members of the House Judiciary Committee's Subcommittee on Crime, Terrorism, and Homeland Security. Thank you for inviting me here today to testify at this oversight hearing

on the Office of Justice Programs and the Office of Juvenile Justice and Delinquency Prevention (OJJDP).

My name is Shay Bilchik and I am the Founder and Director of the Center for Juvenile Justice Reform at the Georgetown University Public Policy Institute. Prior to my current position, I served as President and CEO of the Child Welfare League of America, the oldest and largest association of agencies that directly help abused, neglected, and otherwise vulnerable children and their families. Prior to my tenure at CWLA, I served as the Administrator of the Office of Juvenile Justice and Delinquency Prevention ("OJJDP") at the U.S. Department of Justice.

BACKGROUND

OJJDP is the agency established by the Juvenile Justice and Delinquency Prevention Act of 1974 (JJDPA) to lead the effort to address the public safety issues of juvenile justice and child and youth victimization. In place since 1974, OJJDP is one of several offices under the Office of Justice Programs (OJP) within the U.S. Department of Justice (DOJ). Let me begin by noting that the focus of my testimony today will be on those youth[1] whose behavior has brought them to the attention of the justice system and not on children and youth who are victims of abuse, neglect, or exploitation. While OJJDP has a significant role in preventing and ameliorating child and youth victimization, and has maintained an effective focus on this area, that focus has not been adequately maintained on issues related to juvenile delinquency, including efforts to prevent the involvement of youth in the juvenile justice system. Unfortunately, this drift in OJJDP's focus comes at a critically important juncture for the juvenile justice field and an opportunity to drive juvenile crime to lower levels is being lost.

First, the good news: today, youth crime and delinquency in the United States remain near the lowest levels seen in the past three decades.[2] In addition, youth commit only a small portion of the nation's crime.[3] These numbers are contrary to the dire predictions of many "experts," whose ominous warnings of a coming generation of "super-predators" shocked many state legislators into abandoning the core principles that have guided juvenile justice systems across the country for the last century. Those principles, separating delinquent juveniles from hardened criminals, treating youth as developmentally different from adults, and viewing young people as being inherently malleable and subject to positive change in a rehabilitative setting, are still fundamentally sound.

In addition, in the past decade we have learned a tremendous amount about what works to prevent and reduce juvenile delinquency. From the growing body of research on the development of the adolescent brain, to knowledge of effective, evidence-based programs and practices, we now know significantly more about what works in turning these young lives around and correcting their behavior than we did a decade ago. Additionally, we have increasingly recognized the importance of evaluating programs in order to enhance their effectiveness and foster replication, and ensure that programs that don't work are no longer funded.

While we celebrate these significant and positive developments, the juvenile justice field also faces urgent challenges, such as the over-reliance on detention and incarceration as a response to juvenile crime; the continued detention of status offenders despite federal prohibitions; pervasive racial disparities in the justice system; and the increased placement of children at risk of abuse, sexual assault and suicide in adult jails, despite the JJDPA's intent to recognize the difference between youth and adults involved in the justice system. Every year, juvenile courts handle an estimated 1.6 million delinquency cases and the daily census of youth under age 18 who are incarcerated is 97,000. Many of these confined youth have committed non-violent offenses and are highly amenable to the benefits of rehabilitative services and supports provided in non-institutional home and community-based settings. Additionally, some researchers estimate as many as 200,000 youth have their cases processed in adult criminal court each year. As a result of increased prosecution of youth in adult criminal courts in the states, the number of youth in adult jails has increased so that, on any given day, an estimated 7,500 youth under the age of 18 are inmates in adult jails. This data represents both the lost opportunity to build on the gains described above and the adoption of policies that according to the Centers for Disease Control and Prevention and OJJDP have actually contributed to increases in crime.

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[1] The term "youth" is used in this testimony to describe an individual under the chronological age of 18 years.

[2] Recent data show a dramatic reduction in the rate and seriousness of juvenile delinquency over the past ten to twelve years with juvenile arrests dropping a staggering 24%.

[3] According to the FBI, youth under age 18 accounted for only 15.4% of all arrests.

In my testimony today, I will highlight six main areas of improvement that OJJDP should pursue: 1) realigning the agency's focus to the JJDPA and its core protections, 2) focusing on assistance to States, 3) restoring the comprehensive nature of the agency, 4) engaging the juvenile justice field, 5) increasing transparency, and 6) developing the juvenile justice workforce.

REALIGNING THE AGENCY'S FOCUS TO THE JJDPA AND ITS CORE PROTECTIONS

OJJDP was originally created by the JJDPA, which was first passed in 1974 and most recently reauthorized in 2002. The purpose of the JJDPA, as outlined in the legislation, is to assist State and local governments in preventing and encouraging accountability for juvenile delinquency, as well as addressing juvenile delinquency by providing "technical assistance, research, training, evaluation, and the dissemination of information on effective programs for combating juvenile delinquency."

These purposes are carried out through several grant programs to States overseen by the Administrator. Under Title II of the JJDPA, each State receives formula grant money to support activity undertaken pursuant to the JJDPA and to comply with its four core protections—jail removal, sight and sound separation, disproportionate minority contact, and the deinstitutionalization of status offenders. If States are not in compliance with any one of the four core protections, a portion of the federal funding they receive can be withheld. In order to ensure the appropriate distribution of these federal funds, OJJDP monitors the States' compliance with the core protections.

The focus of the JJDPA was intended to highlight issues facing youth who are at risk for becoming involved in or already involved in the juvenile justice system. Recognizing the difference between youth and adults, the JJDPA also created OJJDP as a separate agency to deal with issues facing youth involved in the juvenile justice system. Although the focus of the JJDPA is on the four core protections mentioned above, it also establishes OJJDP as the lead federal agency on issues being confronted by the juvenile justice field. These include, for example, providing guidance on research-based programs to prevent delinquency, conditions of confinement in juvenile facilities, combating substance abuse, and identifying and redirecting youth with mental health disorders to appropriate agencies.

The current OJJDP has shown some focus on these types of issues. For example, in the next several weeks, an OJJDP grantee is holding a think tank to evaluate establishing a national recidivism measure. Unfortunately, over the past eight years, there has generally been a decreased level of activity and information from OJJDP in this regard, including the amount of research created by the Agency and the number of conferences and convenings focused on juvenile justice issues. This lack of activity has been particularly concentrated around issues surrounding the JJDPA and its implementation.

As I believe any Administrator must do, OJJDP has chosen to focus on certain issues facing the juvenile justice field more than others. This prioritization is only natural given the Administrator's wide range of responsibilities. However, OJJDP has shifted away from its core mission as established by the JJDPA to such a significant degree that it has effectively disengaged from the field it is charged with serving. OJJDP needs to refocus the efforts of the office on youth at risk of becoming involved, or already involved in the juvenile justice system, and the core protections provided under the JJDPA.

FOCUSING ON ASSISTANCE TO STATES

One of OJJDP's major duties is to partner with the States in implementing the various provisions under the JJDPA. In addition to the broader support and engagement of the juvenile justice field I address below, OJJDP does this in two ways.

First, OJJDP is to work with States to come into compliance with the JJDPA's core requirements. This process is to include 1) regularly updating regulations through a rule-making process designed to obtain feedback from States and other interested parties on specific implementation issues, 2) providing States with an updated compliance guide with practical, specific information on what the Act's provisions mean for States, 3) training individuals in State agencies to implement the Act, and 4) providing specific assistance and policy models to States to overcome State barriers to implementing certain portions of the Act.

With regard to these duties, OJJDP's efforts have been less than fully effective. First, although OJJDP recently updated its compliance guide, neither the compliance guide nor the agency's regulations include provisions on the most recent legislative iteration of the Disproportionate Minority Contact core protection, which was last updated in 2002. Second, there seems to be a diminished capacity within OJJDP to work with the States to train individuals and help guide State compliance

efforts. Finally, OJJDP has issued major policy changes in executive memos that do not abide by federal rule-making standards. For example, OJJDP recently issued guidance on changes as to who could be considered an adult inmate, which restricted States from keeping youth convicted in adult court in juvenile facilities up to the State's permitted extended age of juvenile jurisdiction. This guidance came to States in memo form and gave States three years to comply, yet there was no public notice or dialogue between the agency and the States.

OJJDP's second duty related to the JJDPA is to work with the States to ensure they remain in compliance with the JJDPA. In this light, OJJDP should be partnering and working closely with the States to ensure that compliance monitors are in place in each State with the capacity to effectively determine the State's compliance with the conditions placed on receiving juvenile justice funding—and address problems as they arise. This need for compliance is especially important for the youth served by the JJDPA. For example, the jail removal core protection requires that youth in the juvenile justice system be kept out of adult jails and lockups except in very narrow circumstances. One of the reasons for this provision is that youth are 36 times more likely to commit suicide in an adult jail than in a juvenile detention facility, particularly when they first arrive at an adult facility.

OJJDP should also be clear and timely in informing States when they are out of compliance with the Act. Unfortunately, in this realm, OJJDP again falls short in assisting States. Compliance monitors are currently required to visit sites or facilities that fall under the JJDPA at least once every three years, but are not required to monitor each facility or site every three years. This pattern can, and does, result in a nine-year gap between visits to a particular facility—the time for a youth to go from age 10 to 19. Additionally, it is not always clear—either to States or to the public—which States are or are not in compliance with the JJDPA and which States are meeting de minimus requirements or going above and beyond the requirements listed in the Act. Finally, OJJDP has in two ways been inconsistent in determining whether States are in compliance with the Act. First, the responsibility for determining State's compliance has been changed frequently. Second, as these staff changes have taken place, the criteria used and how the compliance determination is made, has also changed. This has left some States in the difficult situation of making a good-faith effort to comply with the Act, but having to meet changing standards of what constitutes compliance.

Some of the difficulties OJJDP has experienced in helping States comply with the Act stem from a lack of resources. In the last 7 seven years, federal juvenile justice funding has decreased by 60% and the OJJDP operating budget has been reduced 90%—from $7 million in FY01 to only $700,000 in FY08. This decrease in juvenile justice appropriations is a major concern, but its impact has been exacerbated by OJJDP not directing a more significant portion of its remaining resources towards the compliance needs of the States. I would strongly urge OJJDP to more actively partner with the States around compliance issues and make providing support to the States as they work to implement the provisions of the JJDPA a more significant priority—and request the appropriations it needs to fulfill the purposes on the Act.

RESTORING THE COMPREHENSIVE NATURE OF THE AGENCY

As the sole federal agency providing leadership in the juvenile justice arena, it is critical that OJJDP have the capacity to provide a full range of services needed to carry out the roles discussed above. This requires that OJJDP be able to perform a comprehensive set of functions, including conducting research and gathering data, identifying and disseminating best practices and relevant information, leading demonstration projects, providing training and technical assistance, and promoting the expansion of effective practices in the field. Empowering OJJDP with the ability to perform these functions is essential within an organizational entity as diverse in focus as those found within DOJ as a whole.

However, in recent years OJJDP has declined in both capacity and stature. The Agency has experienced a dismantling of its functions over the past eight years, along with a significant decline in both staff and funding levels. This change has been reflected in many of the areas in which OJJDP formerly had expertise being moved to other agencies within OJP. For example, much of the research previously conducted by OJJDP is now conducted by the National Institute of Justice. The juvenile justice field expressed great concern to OJJDP and OJP about this change. That concern has proven to be well founded, as it has resulted in a less robust and targeted effort to develop new knowledge and disseminate new research findings to the field.

Finally, the past several Presidential budgets have called for the consolidation and significant reduction of funding for juvenile justice programs supported by the federal government. If enacted, this approach would create a single, discretionary grant program providing less support to the states and local communities than currently provided. This is yet another example of how the current OJJDP has turned away from both the young people and the field it was created to serve. This consolidated grant program would also take money from specific grant programs designed to address a range of critical, but specific issues and allow these grants to be distributed for use in targeting a wide variety of issues. This goes directly against the authorization and creation of these specific grant programs, which were designed to address specifically identified juvenile justice issues of importance to the juvenile justice field.

I encourage both Congress and the Department of Justice to work to restore the comprehensive nature of the agency, including investing significant resources to bolster expertise and knowledge in the agency itself. This investment would help to solve many of the issues identified above by reinvigorating the office and rebuilding the capacity that established OJJDP in previous years as a pre-eminent federal agency—one well equipped to serve juvenile justice stakeholders and the public.

ENGAGING THE JUVENILE JUSTICE FIELD

An additional area of concern is OJJDP's apparent unwillingness to actively engage the field and juvenile justice stakeholders across the nation. When I refer to the juvenile justice field, I am referring to a broad range of groups, including youth, parents, families, advocates, researchers, policymakers, practitioners, and State and local governments, including State legislatures and Governor's offices. The open and honest engagement with each of the groups is critically important—not only to promote forward movement in the juvenile justice community, but also to help develop expertise and align and formulate priorities at the federal level.

This type of engagement has not taken place under the current Administration. While OJJDP has reached out to certain groups within the juvenile justice field, this outreach has been too narrow in nature. In essence, the current Administration has redefined the juvenile justice field in such a limited way, that much of it has been excluded from the work of the office. For example, OJJDP frequently formulates positions and priorities at the federal level without consulting with this more broadly defined field. As a result, individuals or groups with significant expertise in the field who have opposing views or differing priorities do not have input into these decisions and the opportunity for OJJDP to make fully informed decisions is lost.

In addition, over the past several years, OJJDP has limited interaction with the juvenile justice field through the grant-making process. Under the prior Administration, grants from OJJDP frequently went to knowledgeable and well respected content experts in the juvenile justice field. These organizations were entrusted to provide research and other forms of support to OJJDP, assisting it in moving the juvenile justice community forward. These relationships, if reestablished, would help to re-grow the expertise of this critically important office. However, in recent years, many of these very knowledgeable experts and organizations have seemingly been cut out of the grant making process.

OJJDP is in the unique and critically important position of being able to work collaboratively with juvenile justice stakeholders in identifying issues facing juvenile justice systems and formulating nation-wide efforts to address them. However, in order to be able to carry out these tasks, OJJDP must be in contact with a very diverse group of stakeholders representing the juvenile justice field. That work should have been ongoing over the past eight years. It must certainly be renewed immediately.

INCREASING TRANSPARENCY

As indicated above, a major concern under the current OJJDP leadership is the lack of transparency in how the office carries out its responsibilities. Over the past eight years, information from OJJDP has been difficult to obtain on a wide variety of issues—from which States are utilizing certain exceptions under the JJDPA to OJJDP's current priorities. For example, last year, OJJDP began working on a juvenile justice initiative focusing on the health needs of youth in the juvenile justice system. In partnership with the U.S. Surgeon General's office, OJJDP invited experts for an all-day program on March 9, 2007 to discuss this issue and explore ways to improve the system. Throughout this meeting the Surgeon General expressed concern about the issue and made a commitment to determine ways to better provide health care for youth in the system. However, OJJDP later issued a document stating that health care in juvenile justice facilities was not an issue of con-

cern. This document clearly contradicted both the results of the summit and the Surgeon General's commitment to address this issue.

This lack of transparency also was evident in the most recent OJJDP grant making process, where several highly ranked and long-time, productive OJJDP grant applicants were passed over for lower-ranked applicants without a proven track record. Throughout the process, it was unclear why OJJDP selected lower-ranked applicants and on June 19, 2008, the House Committee on Oversight and Government Reform held an oversight hearing to examine the entire process.

While I understand that the Administrator has a certain amount of discretion in managing OJJDP, I believe it is the Administrator's duty to be candid and clear about the priorities of the office and the criteria being used to distribute taxpayer's dollars through its grant programs. This lack of information, clarity and transparency has made it difficult for OJJDP to effectively engage States, subject matter experts, and other stakeholders, thereby limiting the input they otherwise would provide.

Finally, under the JJDPA, the OJJDP Administrator is required to submit an annual report to Congress. This report must contain annual data on youth involved in the juvenile justice system, as well as how the funds under the Act are being spent, whether the State's plan is in compliance with the Act, and an evaluation of the programs funded under the JJDPA and their effectiveness in reducing the incidence of juvenile delinquency, particularly violent crime, committed by juveniles. However, since 2005, OJJDP has not issued this annual report. The failure of the office to provide this annual "status report" has inhibited the ability of Congress and other interested parties to understand and assess the activities and priorities pursued by OJJDP over the past year.

I strongly encourage the OJJDP Administrator to take immediate and concrete steps to increase the agency's transparency. These steps could include making documents such as JJDPA State plans and OJJDP's grant making documents publicly available on the agency's website. In addition, Congress should conduct oversight to ensure that OJJDP submits its required annual report.

DEVELOPING THE JUVENILE JUSTICE WORKFORCE

The final area of focus I encourage OJJDP to pursue, is the juvenile justice workforce. It is this workforce that carries out the intent of the JJDPA and the work undertaken each day with our youth in the system. It is a group of dedicated, but too frequently poorly supported workers—intake, caseworker, court, probation and parole, detention and correctional facility, as well as legal and judicial staff. This workforce is spread across public and private agencies (private agencies contract with states and localities to carry out the state and local public agencies' responsibilities).

We have seen a poor track record in the recruitment and retention of this staff, similar to what we have seen in other child serving areas, such as child welfare. They too often are paid too little, inadequately trained, given too few of the tools they need to do their work, poorly supervised and given unreasonably high workloads. Efforts need to be made through the JJDPA to further support and professionalize this workforce. This can de done through adoption of programs that support workforce development in partnership with the states, as is done in child welfare through Title IV-E. This would allow for the development of State agency/university partnerships to be partially federally supported in providing entry level and in service training for juvenile justice staff. It would also allow for recruitment partnerships between state agencies and universities to help identify and support the development of a career track for students interested in working with youth and families involved in the juvenile justice system. This career track would include internship experience and tuition subsidies for any student who commits to work in a juvenile justice agency within the state for a minimum period of time. Time and again we hear from young people in the juvenile justice system who succeed in turning away from crime, that what made the difference was a connection to a person in the system—a caseworker, probation officer, lawyer, or judge, who had a profound impact on their life. While the juvenile justice system certainly needs to utilize research-based programs and practices, it also needs a strong workforce to implement those programs in order to be successful. This workforce, plagued by heavy workloads and high turnover rates, needs to be better supported to do its life changing work. When we think of the severe problems recently plaguing the juvenile correctional system, e.g. in Texas, California and Indiana, we can better understand how strengthening the workforce is a key strategy to safeguarding our youth.

SUMMARY OF RECOMMENDATIONS

In summary, I provide the following recommendations related to the operations of OJJDP:

- Enhance OJJDP's focus on the implementation of the JJDPA and its core requirements;
- Significantly increase OJJDP's support to States to come into and stay in compliance with the JJDPA, including the provision of additional training and technical assistance;
- Restore the expertise and capacity of OJJDP to carry out the broad range of tasks it is required to perform;
- Actively engage the wide range of individuals, organizations, and entities with expertise in the juvenile justice field to support OJJDP in establishing its positions and priorities and in carrying out its responsibilities;
- Significantly increase the transparency of OJJDP with the juvenile justice field and the public;
- Take concrete steps to strengthen the juvenile justice workforce so it is better equipped to serve the youth in its care and provide for the public's safety.

The adoption of these recommendations would contribute significantly to strengthening OJJDP and improving our nation's juvenile justice system. The improvements that would flow from them would not only provide much-needed help to youth and families struggling in the system every day, but benefit society as a whole by helping to reduce juvenile delinquency and putting our most challenged and challenging young people on a path to becoming law abiding and contributing members of our society. Ensuring that these recommendations are adopted, therefore, is essential—and doing so will require strong leadership at OJJDP and oversight from Congress.

Chairman Scott, Ranking Member Gohmert, and Members of the Committee, thank you again for the opportunity to provide input on the operation of this vitally important federal agency. I look forward to working with the Committee through the Center for Juvenile Justice Reform at Georgetown University as your work proceeds.

Mr. SCOTT. Thank you.

Do you have any questions you would like to ask Mr. Bilchik at this point?

Mr. GOHMERT. Well, I am curious. I agree with you, there needs to be a good deal more transparency. But I am curious. I mean, you come down pretty hard on the agency, and yet you note in your own statement that delinquency in the U.S. remains near the lowest levels in three decades. Do they get any credit at all, any modicum of——

Mr. BILCHIK. Sure they do. I think they have done a lot of good work. The problem I have, Mr. Gohmert, is that I am looking at taking juvenile crime down even lower. And so, when we hit 2000, 2001, we had seen this tremendous decrease in juvenile crime. We had a chance, if the office kept its eye on the ball, of driving it even lower. And it has just taken its eye off the ball.

It has moved its focus in different directions and hasn't listened to the field and said, "Wait a second. We have gotten good results. Why wouldn't we continue them?"

Mr. GOHMERT. Your statement obviously—your written statement is a lot longer and you give us more information. But is there something you could point to specifically where they have had success, so maybe that is an area we can build as well?

Mr. BILCHIK. Sure. I would like to comment on that.

I think in the area of gangs, I think the office has stayed focused. I think they have tried to build on the prior research and the demonstration programs that took place. And I think the office should be commended for that kind of work.

I think they are trying to convene some work around measurements of recidivism, and that is also good work. But we need to take that and multiply it about 20-fold to get the kind of robust agenda this office should reflect in representing the juvenile justice field.

Mr. GOHMERT. Anything else you would like to add? With regard to the transparency, you see the difficulty we have in a hearing like this, where we get 5 minutes to ask questions. And it is not exactly a difficult grilling when you are limited to 5 minutes.

Mr. BILCHIK. I agree with you.

Mr. GOHMERT. We appreciate any further written input you might have, suggestions, and——

Mr. BILCHIK. I found, Mr. Gohmert, that when I was appearing as a witness, the best way that you got information from me when I was in charge of the office was through your follow-up questions. Because it gave you a chance to explore these issues in greater depth and really cultivate that kind of dialogue with the office.

Mr. GOHMERT. You are talking about questions in writing——

Mr. BILCHIK. Yes.

Mr. GOHMERT. I agree. It is our most effective way of getting information. If we get responses.

Mr. BILCHIK. I guarantee you I responded very promptly to those questions with the—fear of God.

Mr. SCOTT. Professor Bilchik, is there a consensus in the juvenile justice community as to appropriate strategies to reduce gang violence?

Mr. BILCHIK. I think there is a growing consensus around gang prevention and gang intervention. And it really is reflecting a balanced approach. I think there have been some very good efforts undertaken—in Boston a number of years ago, recently in Chicago—balancing a crime suppression approach with a prevention approach.

So if we are going to lock up the gang leaders, we need to pull away the middle-range, lower-range gang members into positive activity. You don't have to have that balance in attacking gangs—and this is what the research has shown—there was a great work in Boston done 8, 9 years ago through the 10-Point Coalition.

Go into the street. Make sure you are working with law enforcement, U.S. attorneys, local prosecutors. Lock up the gang leaders. But give those other gang members something to turn to.

And then the wannabes at the front end of the system, give them prevention programs that they can turn to. Gangs turn a positive youth development frame on its head. They give skills; they give opportunities to use skills; and they give recognition and safety. We as a society need to do that for our youngest members of the community who might turn to gangs.

Mr. SCOTT. Within the community, I am sure the community recognizes that we already lock up more people in the United States than anywhere on earth, and some communities it is 10, 20 and 40 times higher than the international average. Is there any other people in the juvenile justice community that think we are not locking up enough people?

Mr. BILCHIK. I imagine there are an isolated few who believe we should be locking up more. The consensus opinion is that we are

locking up too many, that we are locking up mid-level offenders who do not need to be put into institutions and could be treated in community-based programs. And we should be saving those institutional beds for the very worst offenders.

This goes back to your question, Mr. Scott, about transfers, and the thought that somehow if we transferred enough kids who were the bad kids into the criminal justice system, we would reduce crime.

And the research is clear—from the Centers for Disease Control and, a recent report issued by OJDDP itself, another thing for them to be commended about—that if you transfer young people into the criminal justice system, you will accelerate recidivism, it will happen with more serious crime and more frequent. This is the trifecta of bad criminal justice policy. That is strong research with clear findings.

Mr. SCOTT. And if we increase the number, we would be talking about the marginal ones that are not now treated as adults, which would be a virtual certainty that you would increase the violent crime rate.

Mr. BILCHIK. I believe so. I sit here as an ex-prosecutor for 16 years. I know what those most horrific offenders look like, and I know that we need to protect our communities from them. But there are far too many people in those beds.

Mr. SCOTT. And in just about every community already, those kinds of offenders are already treated as adults.

Mr. BILCHIK. Many of them are treated as adults, Mr. Scott, and yet then the juvenile justice system in many communities has been set up in a way with extended jurisdiction to also work with those young people.

Mr. SCOTT. Thank you.

Mr. GOHMERT. You had mentioned the security, safety training that so many in gangs get from the gangs, and I have heard in so many criminal cases when you get down to sentencing, "This is my family. I have no father. They took me in. They made me feel like I had a family." So aren't there other socioeconomic factors that come into play that are not necessarily addressed by the Justice Department or any agency below that?

I know 40-plus years ago, Congress felt sorry for poor single women trying to raise kids with deadbeat dads. So we started giving them checks. And so for 40 years we paid people to just have as many kids as you can out of wedlock, and it seems that there are conditions there that we have helped spurn that perhaps might need looking at as well.

Mr. BILCHIK. I think you raise a really excellent point. One of the hallmarks of the office in the 1990's and continuing to a certain degree more recently is the work around risk and protective factors, and the cause and correlates research that the prior witness talked about. You can't attack this problem in a silo. You need to be working with—and the office has worked with the educational system, the child welfare system, the social services system—that all those systems have to use that approach and work together.

The office, through its Title V program and through that cause and correlates research, traditionally has invested resources in how

to use that multi-system stakeholder group in attacking those issues way upstream. The office is to be credited for that.

But as we mention the cause and correlates, when I talk to the cause and correlates researchers, they are telling me that their resources from the office are being diminished, that they are being phased out. And that is taking the eye off the ball and not getting the work done the right way.

Mr. GOHMERT. Thank you, Professor.

Thank you, Chair.

Mr. BILCHIK. Thank you.

I apologize to people for hijacking the agenda here and going first.

Mr. SCOTT. We resume with Mr. Piper.

STATEMENT OF BILL PIPER, DIRECTOR, OFFICE OF NATIONAL AFFAIRS, DRUG POLICY ALLIANCE NETWORK, WASHINGTON, DC

Mr. PIPER. Thank you.

I would like to talk broadly about some of the structural and institutional problems with the Byrne JAG program. The Byrne program is set up in a way that unintentionally rewards failure. Byrne grants are distributed to States in part based on whether or not their crime rates are increasing.

Now this makes sense intuitively, because it is based on need, but it also turns a merit on its head. States that fail to enact effective crime prevention policies are actually rewarded with more money the following year, while States that adopt effective policies that reduce crime are punished by losing Federal aid.

Moreover, many of the program's performance measures are inadequate, measuring largely bureaucratic statistics, such as how many specialized gang units are in operation, how many warrants are being served, how many people are being arrested, et cetera. And this ignores effectiveness and creates incentives for States just to play a numbers game.

This is especially the case when it comes to drug law enforcement, where law enforcement officers can be placed under enormous pressure to arrest as many people as possible, as quickly as possible, even if it is just for minor drug offenses. Or incentive structures combined with pressure from elected officials creates an environment in which focusing on major traffickers is difficult, while focusing on lower-level or non-violent drug offenders is encouraged.

Additionally, counter-productive performance measures can lead some officers to cut constitutional corners. We have seen scandal after scandal of good officers doing bad things, in part to meet formal or informal warrant and arrest quotas. Fabricating—raiding homes to false evidence, lying to judges, planting evidence—for instance, the rush to make a quick arrest and seizure led to the shooting death of 92-year-old Katherine Johnson in Atlanta last year. I know the Subcommittee had hearings on that scandal earlier this year.

Now, this incentive structure is troubling where talking about city, State and Federal law enforcement. It is especially troubling when it comes to regional narcotics tasks forces. Their cross-juris-

dictional operations and ability to perpetuate themselves through acts of forfeiture and Byrne funding make them less accountable to local taxpayers and governing bodies.

The most notorious Byrne task force-related scandal, of course, is the Tulia, Texas scandal, where dozens of African American residents were arrested and wrongfully sentenced to decades is prison, even though the only evidence against them was the uncorroborated testimony of one white undercover officer with a history of lying.

In Herne, Texas, the judge found that a regional narcotics task force that was Byrne-funded routinely targeted innocent African Americans as part of an effort to drive Blacks out of the majority White town. Both of these scandals are somewhat dated, but they remain powerful symbols of a Byrne grant system that is yet to be reformed, and also both subjects of major motion pictures that will be in theaters soon.

In the wake of numerous Byrne-related scandals, Texas implemented a set of reforms that are models for Federal reform. The State eliminated all Byrne grant funding to a regional narcotics task force, passed legislation prohibiting anyone from being convicted of a drug offense based solely on the uncorroborated word of an undercover informant, and adopted new statewide performance measures.

Instead of grading narcotics officers on how many warrants they serve and how many people they arrest, Governor Peary is grading them on how well they disrupt and dismantle dangerous crime organizations. Gathering intelligence and building connections takes a precedent over arresting low-level offenders.

The Texas Department of Public Safety reports that drug arrests have fallen by more than 40 percent, but their drug seizures have more than doubled. Congress should work with the Office of Justice programs to develop similar performance measures for Byrne-funded operations. I would recommend that it also pass H.R. 253, the No More Tulias Act, which would encourage States to adopt some of the Texas reforms.

At a minimum, Congress should require any local or State law enforcement entity receiving Byrne money to document its arrests and traffic stops by race and ethnicity. But also it would be extremely useful to researchers if Congress created a searchable public database detailing where exactly Byrne grant money is going and what it is being used for. This could be similar to the earmark database that Congress has created.

Finally I would just add that Congress should set a new bottom line for U.S. drug policy more broadly. One way of doing that would be requiring Federal agencies to set short and long-term objectives to reduce the problems associated with both drugs and punitive drug policies. So to get at looking at both reducing drug use and drug overdoses and HIV AIDS from injection drug use, but also get at reducing racial disparity, the number of people who can't vote because of felony conviction, etc.

Thank you.

[The prepared statement of Mr. Piper follows:]

PREPARED STATEMENT OF BILL PIPER

INTRODUCTION

The Edward Byrne Memorial Justice Assistance Grant Program was created in 1988 in a slightly different form, and under a slightly different title, to provide federal crime prevention grants to states. It was named in memory of Edward Byrne, a New York City police officer gunned down by thugs. The program has provided billions of dollars to local and state law enforcement, as well as drug courts, juvenile justice programs, and other crime prevention initiatives. In recent years, however, the Byrne Grant Program has been criticized from groups across the political spectrum.

Sentencing reform advocates have accused it of fueling the rapid growth in the number of nonviolent Americans behind bars, and note that as long as states do not have to pay the full cost of their criminal justice system they will never have to consider alternatives to incarceration. Civil rights leaders warn that the Byrne Grant Program is perpetuating racial disparities and civil rights abuses. A growing number of critics on both the left and right question why the federal government is paying for day-to-day local law enforcement activities that states could pay for themselves while other federal needs, such as health care and border security, go underfunded.

Dozens of civil rights and criminal justice reform groups have urged Congress to reform the Byrne Grant Program, including the ACLU, the Brennan Center, the National Association of Blacks in Criminal Justice, the National Black Police Association, NAACP, and National Council of La Raza. At least four leading conservative organizations want to go further and completely eliminate the program, including the American Conservative Union, Americans for Tax Reform, Citizens against Government Waste, and the National Taxpayers Union.

The Bush Administration has been extremely successful in cutting funding to the program, slashing it by hundreds of millions of dollars. There is a bipartisan consensus in Congress, however, that these cuts have been far too steep and come far too quickly, and momentum is building to completely restore funding to the program. Given the state of the federal budget, it may be impossible to significantly increase funding to the program any time soon. In any event, it is imperative that Congress pass legislation fixing the program's many faults. Because of the size of the Byrne Grant program and the number of local and state law enforcement agencies that depend on it, Congress has an enormous opportunity to use the program to bring about change across this country.

GENERAL PROBLEMS WITH FEDERAL LAW ENFORCEMENT SUBSIDIES TO THE STATES

Some of the Byrne Grant Program's problems stem from inherent problems with federal subsidies to local and state law enforcement. For instance, a recent report by the Justice Policy Institute (JPI), titled "The Vortex: The Concentrated Racial Impact of Drug Imprisonment and the Characteristics of Punitive Counties", found that the more money counties had to spend on law enforcement the more nonviolent drug offenders they imprisoned, and the more likely it was that those imprisoned were disproportionately people of color.

Greater county jail admission rates for drug law offenses were associated with how much was spent on policing and the judicial system, higher poverty and unemployment rates, and the proportion of the county's population that is African American. These relationships were found to be independent of whether the county actually had a higher rate of crime or drug use. For example, although Rockingham County, NH, has a larger percent of its population reporting illicit drug use, Jefferson Parish, LA, sent more people to prison for a drug offense at a rate 36 times that of Rockingham.

Phillip Beatty, co-author of the JPI study, concluded: "Laws—like drug laws—that are violated by a large percentage of the population are particularly prone to selective enforcement. The reason African Americans are so disproportionately impacted may, in part, be related to social policy, the amount spent on law enforcement and judiciary systems, and local drug enforcement practices."

The United States ranks first in the world in per capita incarceration rates, with 5% of the world's population but 25% of the world's prisoners. The U.S. locks up more of its citizens on a per capita basis than China, Cuba, Mexico, Russia or any other country in the world. The racial disparities are even more startling. Black Americans are incarcerated at a rate approximately six times greater than that of whites. The U.S. now incarcerates more black men on a per capita basis than South Africa at the height of Apartheid. Congress should have hearings examining what role, if any, federal funding has played in driving overincarceration, and how federal

grant programs can be used to encourage alternatives to incarceration and reduce racial disparities.

STRUCTURAL PROBLEMS WITH THE BYRNE JUSTICE ASSISTANCE GRANT PROGRAM

There are at least three structural and institutional problems with the Byrne Grant Program:

Creating an Unhealthy Culture of Dependence

The program was established to provide four-year grants to encourage innovation. For example, Dallas' first drug court was paid for with a Byrne grant; then the county took over the funding of the program when the grant ran out. Narcotics task forces, however, were never subject to the four-year limit, and the limit was eliminated for all programs in the last Congress. It is worth investigating whether that was a good idea. Criminal justice decisions on which crimes to prioritize and which crime prevention strategies to utilize should be based on what is best for public safety and not what is needed to continue receiving federal money.

Rewarding Failure

Byrne grants are distributed to states, in part, based on whether or not crime rates are increasing. This has intuitive appeal because it is based on need, but it turns merit on its head. States that fail to enact effective crime prevention policies are rewarded with more money, while states that adopt effective policies that reduce crime are punished by losing federal aid.

Perpetuating Poor Performance Measures

The performance measures the Office of Justice Programs uses to judge the Byrne Grant Program are troubling and in many ways counter-productive. Some make sense, like computing how many offenders successfully complete alternative to incarceration programs. Most, however, measure bureaucratic statistics like how many new gang units are in operation, how many warrants are being served, and how many people are being arrested. These criteria not only fail to measure effectiveness, they provide dangerous incentives for states to play a numbers game.

This is especially the case when it comes to drug law enforcement. Because the amount of funding that narcotics task forces receive is often formally or informally based on how many people they arrest, individual officers are under enormous pressure to make a large number of arrests, even if they are just for minor offenses. In fact, narcotics task forces that focus on major traffickers actually risk losing federal funding because they have fewer arrests to report than those that focus on low-level offenders who are easier to catch and far more plentiful.

The FBI's 2007 Crime in the United States Report, released this week, found that law enforcement made more than 1.8 million drug arrests last year. 83% of those arrests were for simple possession. 775,000 were for nothing more than possession of small amounts of marijuana for personal use. These arrests pad the official reports, but do nothing to stop major traffickers or reduce the problems associated with substance abuse.

This perverse incentive structure also encourages law enforcement officers and informants to cut constitutional corners. We see in scandal after scandal good officers doing bad things to meet warrant and arrest quotas. Fabricating informants, raiding homes on false evidence, lying to judges, and planting evidence—anything to increase the numbers.

For instance, look at the recent shooting death of 92-year-old Kathryn Johnston in Atlanta. Blinded by misinformation that her house contained illegal drugs, police officers fabricated evidence to obtain a warrant, shot and killed her in a botched military-style raid, and then planted drugs when they realized she was innocent. Federal prosecutor David Nahmias told *The New York Times:*

> "The [Atlanta] officers . . . were not corrupt in the sense that we have seen before. They are not accused of seeking payoffs or trying to rob drug dealers or trying to protect gang members. Their goal was to arrest drug dealers and seize illegal drugs, and that's what we want our police officers to do for our community. But these officers pursued that goal by corrupting the justice system, because when it was hard to do their job the way the Constitution requires, they let the ends justify their means."

Corrupting the justice system, however, is what happens when policymakers tie budgets, promotions, and salaries to statistics like arrests and seizures. As the plea agreement in this case made clear, the Atlanta officers cut corners in order to "be considered productive officers and to meet [the agency's] performance targets." This is a story one hears in state after state. It is not publicly known if Atlanta used

federal Byrne Grant money to pay for the raid, but bad performance measures have become widespread and are generally instituted from the top down.

REGIONAL NARCOTICS TASK FORCES

In addition to looking at structural problems with the Byrne Grant Program, Congress should look at the problems associated with some of the entities it funds. In particular, it should hold hearings on the program's funding of hundreds of regional narcotics task forces around the country. These task forces, which lack very little state or federal oversight and are prone to corruption, are at the center of some of our country's most disturbing law enforcement scandals. Connecting these task forces to HIDTAS or other regulated entities might significantly reduce the problems associated with them.

The most notorious Byrne-funded scandal occurred in 1999 in Tulia, Texas where dozens of African-American residents (representing nearly half of the town's adult black population) were arrested, prosecuted and sentenced to decades in prison, even though the only evidence against them was the uncorroborated testimony of one white undercover officer with a history of lying and making racial epithets. The undercover officer worked alone, and had no audiotapes, video surveillance, or eyewitnesses to corroborate his allegations. Suspicions arose after two of the defendants were able to produce firm evidence showing they were out of state or at work at the time of the alleged drug buys. Texas Governor Rick Perry eventually pardoned the Tulia defendants (after four years of imprisonment), but these kinds of scandals continue to plague the Byrne grant program.

In another Byrne-related scandal, a magistrate judge found that a regional narcotics task force in Hearne, Texas routinely targeted African Americans as part of an effort to drive blacks out of the majority white town. For the past 15 years, the Byrne-funded task force annually raided the homes of African Americans and arrested and prosecuted innocent citizens. The county governments involved in the Hearne task force scandal eventually settled a civil suit, agreeing to pay financial damages to some of the victims of this discrimination.

While both of these Texas scandals are somewhat dated, they remain powerful symbols of a failed system that has yet to be reformed. They are also both subjects of major motion pictures that will soon be in theaters across the country. Oscar-winning actress Halle Berry is starring in a feature film based on the Tulia, Texas scandal, currently being produced by Lionsgate Films. Uncommon Productions recently completed a feature film titled "American Violet" that is loosely based on the Hearne scandal, and stars Oscar-nominated Alfre Woodard.

These scandals are not the result of a few "bad apples" in law enforcement; they are the result of a fundamentally flawed bureaucracy that is prone to corruption by its very structure. Byrne-funded regional narcotics task forces are federally funded, state managed, and locally staffed, which means they do not really have to answer to anyone. In fact, their ability to perpetuate themselves through asset forfeiture and federal funding makes them unaccountable to local taxpayers and governing bodies.

The Criminal Jurisprudence Committee of the Texas House of Representatives is one of the few governing bodies to examine Byrne-funded regional narcotics task forces and why they are so engulfed in scandals. After comprehensive hearings, the Committee concluded that the state should cut off all state and federal funding to the task forces because they are inherently prone to corruption. The Committee reported, "Continuing to sanction task force operations as stand-alone law enforcement entities—with widespread authority to operate at will across multiple jurisdictional lines—should not continue. The current approach violates practically every sound principle of police oversight and accountability applicable to narcotics interdiction."

A 2002 report by the ACLU of Texas identified seventeen scandals involving Byrne-funded anti-drug task forces in Texas, including cases of falsifying government records, witness tampering, fabricating evidence, stealing drugs from evidence lockers, selling drugs to children, large-scale racial profiling, sexual harassment, and other abuses of official capacity. Recent scandals in other states include the misuse of millions of dollars in federal grant money in Kentucky and Massachusetts, false convictions based on police perjury in Missouri, and making deals with drug offenders to drop or lower their charges in exchange for money or vehicles in Alabama, Arkansas, Georgia, Massachusetts, New York, Ohio, and Wisconsin.

THE TEXAS REFORM INITIATIVE

In the wake of numerous Byrne-related scandals, the Texas Legislature and Texas Governor Rick Perry (R) implemented a set of reforms that are reducing racial dis-

parities, police corruption, and the number of nonviolent offenders behind bars, while attacking major crime and making Texas safer. The state banned racial profiling, reformed its asset forfeiture laws, established alternatives to incarceration, eliminated Byrne Grant funding to regional narcotics task forces, passed legislation prohibiting anyone from being convicted of a drug law offense based solely on the uncorroborated word of an undercover informant, and adopted new statewide performance measures for judging the effectiveness of drug law enforcement.

Instead of grading narcotics officers on how many warrants they serve and how many people they arrest, the Perry Administration is grading them on how well they disrupt and dismantle dangerous crime organizations. Gathering intelligence and building connections takes precedent over arresting low-level offenders. Drug arrests have fallen by more than 40%, but drug seizures have more than doubled. The state is reportedly moving closer to its goal of taking down the top Texas "gatekeepers" to the major drug cartels.

Testifying in front of this subcommittee in 2007, Texas Department of Public Safety representative Patrick O'Burke described the Texas Reform Initiative this way: "To define success by measuring only the sheer volume of arrests would mean that more arrests would equate with greater achievement. This clearly does not move towards the goal of crime reduction. Arrest numbers also do not attach any quality to that work product when the arrest of one drug user equals the arrest of one drug 'kingpin'."

The new drug law performance measures adopted by the Perry Administration are relatively simple. The state defined a drug trafficker as a person who works to illegally sell drugs with profit or income as the primary motivation. A Drug Trafficking Organization (DTO) was then defined as five or more drug traffickers who work to illegally sell drugs outside of their immediate conspiracy. Narcotics officers are required to assess the number of DTOs working in their area and are then graded on the number of DTOs that are dismantled.

Texas narcotics officers are also required to compute the percentage of arrests that are "End Users", defined as a person who is the intended user of illegal drugs and generally motivated by addiction. Under the Perry Initiative, impacting the behavior of an End User may involve law enforcement activities, but it is generally assumed that treatment and mental health services are better equipped to deal with those problems. As such, narcotics officers that waste time and resources investigating and arresting drug users are negatively graded.

FEDERAL REFORM

The Texas Reform Initiative is a good model for federal reform.

First, Congress should pass H.R. 253, the No More Tulias: Drug Law Enforcement Evidentiary Standards Improvement Act of 2007. This legislation, introduced by Rep. Sheila Jackson Lee, would use the Byrne Grant program to encourage states to emulate many of the Texas reforms. It would prohibit states from funding regional narcotics task forces with Byrne Grant money unless they have enacted a law preventing people from being convicted of a drug law offense based solely on the uncorroborated eyewitness testimony of just one law enforcement officer or informant. This protection has prevented numerous innocent people from being wrongly convicted in Texas.

The No More Tulias Act would also require local and state law enforcement agencies receiving federal Byrne Grant money to document their arrests by race and ethnicity. This provision is essential to ensuring that federal money is not being used to facilitate racially disparate enforcement. The Drug Policy Alliance recommends expanding this provision to also require the documentation of traffic stops and searches by race and ethnicity. Such information should be available to Congress, the U.S. Attorney General and the public.

Congress should also pass legislation setting new performance measures for the Byrne Grant Program and state and federal drug law enforcement in general. The groundbreaking performance measures adopted by Texas are a good place to start. Drug law enforcement agencies should be graded on their ability to break up crime networks and apprehend violent offenders. Arrests and seizures should be strategies for achieving these goals, not measurement criteria to judge success or failure. A recent book by the American Enterprise Institute explains this strategy:

> "Retail-level drug enforcement should focus on what it can accomplish (reducing the negative side effects of illicit markets) and not on what it can't achieve (substantially raising drug prices). Thus, instead of aiming to arrest drug dealers and seize drugs—the mechanisms by which enforcement seeks to raise prices—retail drug enforcement should target individual dealers and organizations that engage in flagrant dealing, violence, and the recruitment of juveniles. Arrests

and seizures should not be operational goals, but rather tools employed, with restraint, in the service of public safety." (An Analytic Assessment of U.S. Drug Policy, February 2005)

Instead of grading law enforcement operations on how many search warrants were issued, how many arrests were made, how many officers were solely dedicated to gang interdiction activities, and other Vietnam-like "body count" performance measures currently utilized by the Office of Justice Assistance, Congress should establish more meaningful criteria. Such criteria could include whether or not local crime rates are falling because of effective policies or how close law enforcement agencies are to dismantling major crime syndicates.

The formula by which Byrne Grant funding is distributed should also be changed. At a minimum, the Office of Justice Programs should prioritize funding according to demonstrated reductions in crime. Cities and states that adopt effective policies should be rewarded, not punished. The Byrne Grant Program should be used to promote evidence-based crime prevention strategies, not to fund cities and states year after year.

One tool that would enhance the ability to measure performance and increase transparency would be the creation of a searchable public database that lists where Byrne Grant money is going and what it is being used for. This database would not only be invaluable to Congress, it would aid efforts by researchers and criminal justice experts to document ineffective spending and determine where Byrne Grant money is tied to corruption. It could be similar to the public database that tracks earmarks.

Finally, Congress should pass legislation setting a new bottom line for U.S. drug policy more generally. The failed drug war policies of the last 30 years persist in part because of ineffective evaluation and assessment. There are three problems. First, the key measurements—drug seizures, arrests and annual surveys of drug use—tell us little of importance and mostly distract from more important criteria. Second, the Office of National Drug Control Policies (ONDCP) is statutorily obligated to set objectives for reducing drug use and availability, but not obligated to set objectives for reducing the public health threats associated with drug abuse (overdose fatalities, the spread of HIV/AIDS), or the harms associated with the war on drugs (the number of nonviolent Americans behind bars, racial disparities in the criminal justice system). Finally, drug war programs persist even in the face of overwhelming evidence that they are failing to meet their own stated objectives.

Legislation to set a new bottom line in U.S. drug policy could take many forms. It might take the form of requiring the Office of National Drug Control Policy (ONDCP) to report annually on the impact of federal policies on the number of nonviolent drug offenders in prison, HIV transmission rates, and overdose fatalities, and to commission independent cost-benefit analyses of federal drug policy expenditures. Or requiring federal agencies to provide annual reports on how many people are penalized by federal drug policies, such as the number of people denied student loans, housing, food stamps, and the right to vote because of a drug conviction.

At a minimum, federal agencies should be required to set short- and long-term goals for reducing the problems associated with both drugs and punitive drug policies. ONDCP is already statutorily required to set national goals for reducing drug use and drug availability. Why not also require the agency to set goals for reducing overdose deaths, the spread of HIV/AIDS from injection drug use, racial disparities in the criminal justice system, the number of Americans who cannot vote because of a felony conviction.

The urgent need to overhaul the Edward Byrne Memorial Justice Assistance Grant Program provides Congress with a great opportunity to evaluate drug and crime prevention more broadly.

Mr. SCOTT. Thank you.

Mr. Brooks?

STATEMENT OF RONALD E. BROOKS, PRESIDENT, NATIONAL OFFICERS' ASSOCIATION COALITION, SAN FRANCISCO, CA

Mr. BROOKS. Thank you, Mr. Chairman, Judge Gohmert, Members of the Subcommittee.

I want to thank you for inviting me to share my perspectives on the Office of Justice programs.

For years I have worked closely with the Office of Justice programs, primarily the Bureau of Justice Assistance, as a public pol-

icy partner, program beneficiary and grant recipient. Our communities are safer today because OJP and its bureaus play a critical role in providing much-needed assistance to law enforcement agencies through its training, grant funding, policy development, and technical assistance programs.

I have some specific ideas related to OJP grant management, but first I want to highlight the most important OJP program from the perspective of America's narcotic officers: the Byrne Justice Assistance Grant, or JAG formula program.

Byrne JAG is the cornerstone of multi-jurisdictional drug and gang enforcement in America. It provides incentives for State and local agencies to pool resources, share information, and pursue organizational targets in gang, firearm, money laundering and drug trafficking investigations.

This program is essential, and yet the White House has zeroed it out in the past four budgets. Funding has declined dramatically, but thanks to bipartisan actions in this Subcommittee, Byrne JAG reauthorization passed the House in June and President Bush signed the bill into law.

The administration's actions toward this program should be tested against a few simple questions: Is the drug trade dangerous to America's communities and families? Is drug production and smuggling interstate and international in nature? Does the Federal Government have a responsibility to help State and local law enforcement when it fails to secure our borders and ports through which the majority of drugs are shipped?

To me the answer is clear. The Federal Government must share responsibility to contribute to task force efforts that will make our communities safer. Last year Byrne was cut from $520 million to $170 million, and this is down from $1.1 billion in 2004. Supported by the coalition of more than 30 organizations representing more than a million members throughout the country, bipartisan majorities in the House and Senate urged emergency supplemental funding to restore the cut.

We were certainly disappointed when the administration and congressional leadership agreed to include more than $670 million in emergency funds for foreign law enforcement agencies around the world, but nothing for Byrne JAG. I am hopeful that Congress will remedy this oversight by ensuring that program in one of its Federal funding packages.

While the Byrne JAG program is indispensable, I share the Subcommittee's concern over the program's measurement. OJP needs to act, but we don't want to see the administration or Congress throw the baby out with the bathwater. Proposing a system of grant review and approval, basically on a scoring system subject to the bias of a few individuals, is a poor substitute for accountability. It doesn't measure the real impact that these programs have in their communities.

Two years ago I approached OJP and suggested they develop performance measures for Byrne-funded task forces. BJA took our suggestion and commissioned a study to develop performance measurement possibilities. The report was provided to BJA; however, no action was taken. Whether it was OMB or other components of the

administration that prevented it, this valuable tool never saw the light of day. And as a result, JAG has continued to go unmeasured.

Some have suggested that horrific events like those that occurred in Tulia, Texas and other places demonstrate that Byrne JAG is not working and that law enforcement across the country is abusing Federal assistance. What happened in Tulia was shameful. However, it was not representative of Byrne-funded task forces. If anything, Tulia demonstrates the urgency of ensuring that training and performance management be instituted as soon as possible.

In addition to performance measures and training, information sharing is critical to successful task force management. The regional information sharing system, RISS, is indispensable. It allows officers to deconflict case information and maintain a culture of collaboration while protecting privacy and civil liberties.

In OJP's global justice initiative, it has developed the much-needed policies and guidelines critical to creating a robust information-sharing environment that will support intelligence-led policing. The Center for Task Force Training is a BJA-funded program that provides training for task force managers to help them understand safe and effective practices. Tragedies like Tulia can be avoided if this training, which emphasizes a culture of integrity, risk management, and safety during enforcement operations, is well funded and widely available throughout the country.

I would suggest that OJP consider taking three actions with regard to the Byrne JAG program. The first is to commit to developing a performance measurement system and ensure that BJA has the resources necessary for that system. The second, to ensure that BJA works with stakeholders to develop realistic measures. And finally, to ensure that training and information-sharing are available to everyone as part of the Byrne JAG strategy.

I want to thank you for inviting me to testify today. And Chairman Scott, I want to thank you, Ranking Member Gohmert, full Committee Chair Mr. Conyers, and certainly Congressman Johnson for all the efforts that you have led to support Byrne reauthorization and refunding of the Byrne program.

Thank you.

[The prepared statement of Mr. Brooks follows:]

PREPARED STATEMENT OF RONALD E. BROOKS

Ronald E. Brooks
Statement for the Record
House Judiciary Committee, Subcommittee on Crime
"Oversight of the Office of Justice Programs"
Thursday, September 18, 2008

Mr. Chairman, Members of the Subcommittee:

Thank you for inviting me to share my perspective and suggestions for the Office of Justice Programs within the Department of Justice. My name is Ron Brooks and I am president of the National Narcotic Officers' Associations' Coalition, also known as the NNOAC. I represent 44 state narcotic officers associations with a membership of more than 69,000 law enforcement officers nationwide. I also wear several other hats, including serving as the Director of the Northern California High Intensity Drug Trafficking Area (HIDTA), Director of the Northern California Regional Intelligence Fusion Center, and Vice Chairman of the Criminal Intelligence Coordinating Council and Global Intelligence Working Group, both federal advisory committees that advise the Attorney General on information and intelligence sharing policies. I also serve on the Narcotics and Dangerous Drugs Committee of the International Associations of Chiefs of Police (IACP), and I am on the Board of Directors of the National HIDTA Directors' Association. I retired as Assistant Chief at the Bureau of Narcotics Enforcement in the California Department of Justice after 32 years of service.

Throughout my career I have worked closely with the Office of Justice Programs, primarily with the Bureau of Justice Assistance, as a public policy partner, program beneficiary, and grant recipient. OJP and its subordinate bureaus play a critical role in translating federal policies down to the state and local levels through the grant programs it administers. Many of these programs provide much needed assistance to state, tribal, and local law enforcement agencies through training, grant funding, policy development and technical assistance programs. Because of OJP grants and other assistance, the state, local and tribal law enforcement officers that according to the National Institute of Justice (NIJ) account for 98% of all arrests and prosecutions in America have increased resources and

are able to work more effectively. In short, our communities are safer today because of the assistance provided through the many programs and grants supported by OJP.

Critics of OJP have suggested that there is room for improvement. With most government-run programs, there is always room for improvement; however, as an end user of OJP's service, I can tell you that the many successes that law enforcement has achieved with the assistance of OJP far outweigh the negative aspects of the program. I have some specific suggestions for improving OJP but first, I first want to highlight the most important OJP program from the perspective of America's narcotic officers: the Byrne Justice Assistance Grant, or JAG program.

Edward Byrne Justice Assistance Grant (JAG) Program

Byrne JAG is the cornerstone of multi-jurisdictional drug and gang enforcement in America. It provides incentives for state and local agencies to work together, pool resources, share information, and pursue larger organizational targets in gang, firearm, money laundering and drug trafficking investigations. Without multi-jurisdictional taskforces, where agencies have the ability to share resources and information, law enforcement would revert to working within their own stovepipes and arresting targets of opportunity rather than focusing on organizational targets that have a disproportional impact on the problem. Drug enforcement would revert back to the days when I first started working narcotics in 1978 when because of a lack of resources and training, we worked within our own teams without cooperating or using intelligence to lead us in drug trafficking investigations.

It is essential, and yet it is threatened. The White House has zeroed it out in the President's budget the past four years. To the credit of many members of this subcommittee and this House, Congress has resisted each time. Last year Congress' will was tested and we sustained a major blow, but we are confident that many of you understand the unintended consequences of the cuts, and we are hopeful that the FY 2009 agreement will be favorable. And – thanks entirely to this subcommittee and the full committee chair Mr. Conyers – Byrne JAG reauthorization passed the House in June and

President Bush signed the bill into law in July. On behalf of the members of the NNOAC, I want to thank you for your leadership on this, Mr. Chairman, Ranking Member Gohmert, and members of the subcommittee.

The Office of Justice Programs has a tough job. The programs it administers are large and multi-purpose. Grantees are numerous and geographically dispersed. And it must do it all over again every 12 months, often with varying funding levels. It is a real management challenge, and yet given the number of balls in the air, I think OJP has managed to function very well.

While discussing OJP reform from the perspective of a narcotic officer, central to any consideration of improvement must be measurement - meaning quantifiable and defensible performance measures. How are the funds that are administered by OJP spent through various programs? Are reasonable and useful measures being tracked? Are those measures being analyzed and reported? And are improvements being made based on the analysis? I will give you my thoughts through the lens of the Byrne JAG program, since it is one of the largest and most important programs the office administers.

From the point of view of my organization – the NNOAC – and many of our colleagues in public safety, substance abuse prevention and treatment, and criminal rehabilitation, the Byrne JAG formula program is the cornerstone of OJP. I want to emphasize to the subcommittee – and to the whole Congress – that the ***Byrne JAG program is a formula program***. The Byrne Discretionary program is not the same thing – it is nearly all earmarked. The Byrne JAG program is the one that can be measured over time, and it should be the focus of any performance measurement effort.

Let me also emphasize that I and many others in the community share the concern of the subcommittee with regard to the need to improve performance measurement within the Byrne JAG program. In fact, three years ago I approached OJP suggesting that they develop performance measures for the largest portion of Byrne JAG funds: multi-jurisdictional task forces. Members of my association know the results the program generates, yet we have been frustrated for years that the results have not been

systematically collected, analyzed, and reported. Subsequent to that meeting, we convened several focus groups with major stakeholders in the Byrne JAG program to discuss the development of performance measures.

OJP, through the Bureau of Justice Assistance, took our suggestion, commissioned a research organization to conduct significant research and analysis on measurement possibilities and related issues, and a report was provided to OJP. I don't know what happened with that report, but I do know that it was never acted upon. It is quite possible that the White House, the Office of Management and Budget (OMB) or other senior leadership in the administration stopped this project so that we would not be able to demonstrate the effectiveness of Byrne JAG-funded task forces. After all, why would the administration want to institute performance measures that demonstrate the effectiveness of a program that it is trying to kill?

Measuring law enforcement effectiveness – particularly drug enforcement, and even more specifically federally funded drug enforcement task forces – is not new. As a HIDTA director, I participated in an effort to develop performance measures specific to the HIDTA program three years ago in response to efforts by the administration to dismantle the program. The effort was tough and time consuming, but we now have an active, successful performance measurement system employed throughout the HIDTA system. The information from the HIDTA performance measurement program has been used extensively by members of the House and Senate to support the program. The end result of that performance measurement project is the program annually reports on metrics that matter to ONDCP, our federal agency partners, and the Congress. The measures helped lead to the reauthorization and increase in FY 2008 funding for HIDTA. I would encourage the committee members and staff to review this performance measurement system by visiting your nearest HIDTA.

The White House and others - including the pro drug-legalization movement - believe that the federal government shouldn't be in the business of financially supporting state and local law enforcement or drug enforcement efforts – one of the main reasons the

administration has tried to eviscerate the Byrne JAG Program for the past four years. But the administration's actions toward this mature, proven program should be tested against a simple question – is the drug trade not dangerous to America's communities, workplaces, families, and individuals? Is the drug problem – including production and drug-smuggling - not intra-state and international in nature? Does the federal government not have a responsibility to help state and local law enforcement when it fails to secure borders and ports through which the majority of drugs are transshipped? To me it is clear that the federal government ***does*** share the responsibility to contribute to true multi-jurisdictional enforcement efforts - Byrne JAG is the primary program that does that. It is absolutely critical to maximize its support.

An example of how the drug problem in America is an international problem is highlighted by the federal focus on methamphetamine in recent years. Due in large part to the federal focus on methamphetamine, busts of meth labs and meth super labs – those labs that produce 10 lbs or more of methamphetamine – have decreased dramatically over the past several years. However, methamphetamine use and supply hasn't declined. Why? Because the drug traffickers have adapted to the increase in enforcement by moving meth super labs into Mexico for mass production of the drug, then transport the finished meth through our porous southern border into America's interstate highway system. As long as our international borders remain as a revolving door for drug traffickers, the federal government will bear some responsibility for helping state and local authorities.

Byrne funds multi-jurisdictional task forces that don't replace state and local funds, but rather provide the incentive for local agencies to cooperate, communicate, share information, build good cases, and pursue organizational and regional targets rather than just the individual pushers that local agencies typically deal with. Both enforcement targets are valid and necessary, but without Byrne, law enforcement would revert to catching street-level dealers. We would go back to working within our own stovepipe without regard for working cooperatively and using intelligence to lead us in investigating drug trafficking organizations. I started working narcotics enforcement in 1978 when drug law enforcement was hampered by mistrust, the inability to share information and a lack of

understanding of how best to target organizations. We have come along way since then, but those hard earned improvements in our profession will vanish if federal resources are not available to help continue the multi-jurisdictional task force model and the concept of intelligence-led policing.

Even as Byrne JAG stakeholders and OJP were mulling JAG performance measures late last year, we were all thrown against the wall in December by a massive and unjustified cut in last-minute omnibus negotiations between leadership and the White House. Byrne JAG was cut from $520 million to $170 million in the dark of night. The field responded. A coalition of more than 30 organizations – from the National Sheriffs' Association to the Drug Courts, from the National Association of State Alcohol and Drug Abuse Directors to the Legal Action Center – quickly weighed in to urge restoration of funds.

A bipartisan majority of the House – 218 members – and a bipartisan majority of the Senate – 56 senators – sent letters to appropriators and leadership to urge emergency supplemental funding to restore the cut. In the first effort by Congress to restore the funding earlier this summer, the funding didn't make it to the final bill - yet the administration and Congressional leadership agreed to include more than $675 million in emergency funds for ***foreign*** law enforcement agencies around the world! Not a single law enforcement officer in this land understands why leadership in the Congress and the White House decided to take resources away from domestic law enforcement and give them to foreign countries.

This month Congress has an opportunity to remedy the situation. I urge you to support America's 870,000 law enforcement officers, who place their lives on the lines each day to protect our communities and who serve as our primary line of defense against violent crime, gangs and terrorism even at the cost of their own lives. Please show that support not only to our nation's cops but to the citizens they protect by standing up to the White House, standing behind the public safety and service provider communities, and ensuring that JAG funding is restored through FY 2008 emergency funding.

We all can agree that the program could benefit from real performance measures. What we do not want to see happen is for Congress or the administration to throw the baby out with the bathwater. I can tell you that people across the country in multiple areas of public safety – not just law enforcement – are very concerned about this. We all want accountability, but imposing a system of grant review and approval based on a numerical scoring system subject to the bias of a few individuals is a poor substitute for accountability. It doesn't take into account the real impact the programs are having on the ground over time. This is the heart of the matter – if performance measures were in place, OJP would have a much better handle on what to fund and what not to fund. They would know what is working.

We are very confident that the measures ultimately put in place will show success. We are so confident because we see these successes every day. We can give anecdote after anecdote of successes enabled by Byrne JAG. I am back here in Washington time and time again talking about the importance of programs like Byrne JAG and of the importance of drug law enforcement as part of a comprehensive strategy to reduce drug use and drug related crime. I can tell you that until we have a performance measurement program as part of the culture and routine practice at the OJP-DOJ level, we will continue to have to fight year-round to justify programs that we know can withstand the rigors of measurement and review. Now maybe that's what some of the panelists here at the table want. Maybe they – like the Bush administration – would prefer to kill any meaningful effort to institute performance measures because they know effective measurement will show that the program is generating important and powerful results across the country.

On March 7, 2008, the National Alliance of State Drug Enforcement Agencies (NASDEA), in partnership with the National Narcotics Officers' Associations' Coalition (NNOAC) announced the arrests of 4,220 individuals on drug-related charges following a national one-day operation conducted by 41 states. The operation, called *Operation Byrne Blitz* was a coordinated effort led by NASDEA to focus on drug related crimes and to stress the importance of the federally-funded Byrne-JAG program.

In addition to the arrests, the operation yielded the seizure of 20,851 pounds of marijuana, 2,886 marijuana plants, 1,749 pounds of cocaine, 120 pounds of methamphetamine, 6,973 pharmaceutical pills, 13,244 ecstasy pills and a variety of other drugs. Also seized were 105 methamphetamine labs, 666 firearms and $13,463,832 in U.S. currency. In addition, 228 children were determined to be endangered and those cases were referred to the appropriate child protection agencies.

These results are real. They are quantifiable. They are defensible. And they indicate the power of using Federal dollars to leverage massive state and local investment in public safety. They also demonstrate what types of results can be measured by OJP if a proper measurement infrastructure was created and implemented.

Now, many on this panel disagree with these results and many believe that we are fighting a pointless drug war. To counter this argument, I would flip the issue around and challenge the naysayers to show how Byrne JAG is NOT working. They will suggest that horrific events like those that occurred in Tulia, Texas, Atlanta, Georgia and a handful of other places demonstrate that the program is not working and that law enforcement across the country is running amok and abusing federal assistance. What happened in Tulia was disgusting and shameful; however, it was not representative of 99.9% of Byrne JAG beneficiaries. If anything, Tulia demonstrates the importance and urgency of ensuring that proper training, clear communication of expectations, and meaningful performance management are instituted as soon as possible.

I realize that it is pointless to debate the effectiveness of a program that is not objectively measured. The way to deal with the issue is to task OJP with an effort to develop performance measures for some or all of the authorized uses under Byrne JAG. I would strongly suggest that they start with task force measurement because OJP did start with that component two years ago until the project ended unexpectedly and abruptly. I pledge my organization's support in any way we can be helpful, and also pledge my

organization's participation in a stakeholder coalition effort to identify and evaluate possible performance measures for the program.

Training and Information Sharing Programs

In addition to – and possibly as part of – performance measures for Byrne JAG, training and information sharing are critical to successful task force management. Together with task forces, these programs support and often enable each other - so if you hit one, you hit the entire function. The Regional Information Sharing System, or RISS, is absolutely indispensable to multi-jurisdictional task forces. This program assists law enforcement in effectively sharing information regarding criminal conduct and assists us with connecting the dots. RISS allows law enforcement officers across the country to deconflict case information, and build and maintain a culture of collaboration among disparate state and local law enforcement agencies while protecting privacy and civil liberties because of the safeguards that are mandated for the program by 28 CFR part 23.

The information sharing capabilities that began with the RISS program are being enhanced and refined by yet another successful OJP program, the Global Information Sharing Initiative. Through Global, especially the work of the Global Intelligence Working Group (GIWG) and the Criminal Intelligence Coordinating Council (CICC), much has been accomplished to improve criminal intelligence and information sharing capacity to allow more effective gathering and sharing of criminal intelligence between state and local law enforcement agencies and our federal law enforcement partners. Beginning with the publication of the National Criminal Intelligence Sharing Plan (NCISP) by BJA and Global, there has been a constant stream of outstanding publications and policies that have been offered for adoption by the Department of Justice, the Department of Homeland Security and state, local and tribal law enforcement agencies throughout the nation. The Global Justice Initiative and BJA have developed and published the Fusion Center Guidelines and are working on the development of baseline capabilities for information sharing fusion centers. Global has also worked closely with BJA on updating 28 CFR part 23, the federal regulations that govern information sharing for many federally

funded programs. The goal of the work on this project by members of the Global committee has been to ensure the protection of civil liberties and privacy while improving the information sharing environment.

The Center for Task Force Training (CenTF) - another OJP-funded program - provides the high-level training for task force managers to help them understand effective task force management. It helps ensure that procedures are followed, ethics are upheld, and risks are minimized. During my law enforcement career there have been many times when I have seen cops make honest mistakes - some leading to tragic results. I have made some of those mistakes myself. But rarely have I seen police officers intentionally set out to commit improper acts that would endanger the public or bring discredit to our profession. With few exceptions, the mistakes that I have seen were made under the difficult and fast-paced environment that requires police officers to make split-second decisions. While I won't try and justify any wrongdoing by my colleagues, I can tell you that many of those regrettable mistakes could have been avoided had we provided adequate sample policies for agencies to adopt and training that emphasized a culture of integrity, risk management and the safety of citizens and cops during enforcement operations. Through the CenTF program, OJP has successfully presented training that embraces those concepts to thousands of law enforcement officers across the country and has made that training available free of charge to encourage attendance even by officers from agencies that might otherwise not have the resources to attend training.

If you cut Byrne JAG, RISS or CenTF, you have attacked a system that has been in place for many years and has improved the fight against drugs and gangs while improving officer safety and allowing law enforcement to efficiently target criminal organizations rather than the low hanging fruit. Without funding and support for each of these programs, the others are less effective. The result is that you lose law enforcement information sharing, you lose opportunities to improve professional management of multi-jurisdictional task forces, and you even lose the task forces themselves. If what you want to do is weaken the ability of police officers and prosecutors to do their jobs, then this is what you want to do. If, on the other hand, you want to see these people work effectively, then do

the opposite: support task force funding as well as funding and policies for training and information sharing.

I think that my colleagues on this panel would agree that there are many worthy programs funded by Byrne JAG. We can't throw the baby out with the bathwater. Instead, I would suggest that the subcommittee consider taking four actions with regard to the Byrne JAG program: 1) decide once and for all to measure those components of the program that can be measured; 2) ensure that OJP/BJA has the resources necessary to develop and manage a performance measurement system; 3) ensure that OJP/BJA works with stakeholders to develop measures that are realistic; and 4) ensure that training and information sharing resources are available to JAG-funded task force managers. I've watched it work with the HIDTA program. It has the buy-in of many of the major stakeholders. OJP has already gotten a head start. It's time to move forward with this and we would greatly appreciate this subcommittee's support in this effort.

Another issue of concern to my organization's membership relates to the Public Safety Officers Benefits (PSOB) program. This critical program provides benefits to the families of police officers, firefighters, and emergency medical personnel who die or become permanently disabled in the line of duty. The Bureau of Justice Assistance has worked diligently over the years to ensure that claimant public safety officers or their survivors receive the benefits which the law confers upon them. But we are concerned about a proposed new "rule" that the Department of Justice issued on July 10, 2008. This proposed rulemaking contains language that is unclear and could potentially change the conditions under which survivors would qualify for benefits. I would encourage the subcommittee to request further clarity from the Department of Justice on what the proposed rule would mean in real terms to ensure consonance with congressional intent. DOJ should not issue final rules without these issues addressed.

Thank you again for inviting me, and I look forward to working with the committee to explore these and other ideas that will improve the effectiveness of the Office of Justice Programs in the years ahead.

Mr. SCOTT. Thank you.
Ms. Leary?

STATEMENT OF MARY LOU LEARY, EXECUTIVE DIRECTOR, NATIONAL CENTER FOR VICTIMS OF CRIME, WASHINGTON, DC

Ms. LEARY. Thank you, sir. Thank you very much.

Good morning, Chairman Scott, Ranking Member Gohmert, Members of the Subcommittee.

I am Mary Lou Leary, the executive director of the National Center for Victims of Crime. That is a national non-profit organization that has, for almost 25 years now, worked to secure rights and resources to victims of crime or types of crime across this country. We do this through advocacy, direct services, technical assistance and training, and public outreach from public education.

I am here today to try to lend some understanding to how grant funding through the Office of Victims of Crime at OJP benefits crime victims nationwide. OVC was established to enhance America's response to crime victims, to enhance assistance to crime victims. And people across the country, and people in this field, look to OVC to play a leadership role in changing attitudes, changing policies, changing practices—to promote justice and healing for crime victims.

One of OVC's functions in this regard is to administer formula grants for crime victim compensation and victim assistance under the Victims of Crime Act fund, better known as the VOCA fund. That is made up of criminal fines that are collected from Federal offenders.

I can tell you, these funds are the lifeblood of victim assistance across this country. They fund criminal justice agencies, as well as non-profit organizations that serve almost four million victims every single year. It is absolutely critical to maintain services to victims in America.

We want to recognize the Members of this Subcommittee who have really worked so hard over the years to make sure that VOCA funds continue to be available for victim compensation and assistance.

The other primary role of OVC is in discretionary grant-making, where I will focus my remarks today. You know there is a statutory formula by which OVC gets a percentage of the VOCA distribution every year for discretionary grants. And these grants should be combined where they can service the field with information about promising practices. They should be fostering learning and collaboration among a host of organizations.

This year, unfortunately, there was a combination of circumstances that resulted in VOCA funds being reduced to a level that was lower than what Congress had intended. More than $30 million was diverted for management and administration costs within OJP. And additional money was taken from VOCA to fund the management and administration of—the setup, actually—of the Department of Justice's Office of Audit, Assessment and Management, a new office.

So these two reductions cut that funding by one-third in 2008, and it reduced the formula grants also that States rely on to help

crime victims. I understand that this issue will be addressed in the 2009 legislation, and we are glad to hear that.

Let me share with you just a few of the highlights of the National Center for Victims of Crime's experience and work as an OVC grantee. OVC funding over the last 20 years and the number of grants to the National Center have helped us to bring victim advocates and professionals from a whole variety of fields together so that we can find new ways to address pressing challenges that face victims and those who serve victims.

One example of this kind of project is one called "Focus on the Future: A Systems Approach to Prosecution and Victim Assistance." In the early 1990's, prosecutors were facing a real challenge in implementing crime victims' rights statutes that had been passed. I was a prosecutor at that time, and I can tell you it was not an easy thing to figure out how to take on all the proposed provisions and do it right.

And the National Center stepped up to the plate and collaborated with Mothers Against Drunk Driving, American Prosecutors Research Institute, and others to develop training, assistance—and it really led the way to coordinate on victims' issues and victims' services among a whole host of criminal justice agencies and community groups. And today, if you walk into any prosecutor's office in this country, you will almost always see that victims' services are now an integral part of prosecutor offices.

OVC funding enabled us to do similar work in the corrections system. There was virtually no activity within the corrections field regarding victims' services. You would have parole hearings, people didn't get notified, there weren't victim impact statements allowed—they didn't really have a notion of, "Hey, maybe we share in this responsibility, too. Maybe we should be doing something about victims' services through the correction services."

So the National Center collaborated with a whole group of national and California state criminal justice agencies to develop a whole protocol and program for correction to integrate victims' services into their work. And today, just about every State corrections system has a victims' services component, and we are very proud of that.

We are always looking for new ways to address emerging challenges, to help policy makers and legislators address the need for victims and particularly, in order to foster systemic change, we work with OVC funding to help them write laws that will benefit victims. And one of our most recent projects is called VictimLaw, and I would encourage any and all of you and your staff to use VictimLaw. It is a very user-friendly database created by the National Center. It includes all local, Federal and tribal laws that have anything to do with victim rights.

And if you are in a State legislature and you want to know, "what kind of a law should I draft in order to cover these new technology tools that are using to victimize people? I would like to know what they are doing in other places that worked, and I would like to know what kind of challenges have been brought to those laws." You can use VictimLaw to accomplish that and to create policies and to craft laws that will actually do the job in your community.

So we are very grateful to OVC for funding and for leadership on initiatives like this, initiatives like serving the needs of special populations and under-served populations, folks with disabilities, teenagers, elderly, et cetera.

So I hope, in conclusion, that—you can read my testimony and see more of the kinds of examples of what OVC grant-making can accomplish to lend some light to the broad impact that targeted discretionary funding can have in terms of improving our response to victims. And I will say, crime victims in this country deserve nothing less than top-level leadership from OVC and from the Department of Justice.

Thank you.

[The prepared statement of Ms. Leary follows:]

PREPARED STATEMENT OF MARY LOU LEARY

TESTIMONY OF MARY LOU LEARY
Executive Director, National Center for Victims of Crime

Before the
Subcommittee on Crime, Terrorism, and Homeland Security
Committee on the Judiciary
United States House of Representatives

The Department of Justice Programs
Oversight

September 18, 2008

"Supporting Crime Victims through Federal Funding"

Good morning, Chairman Scott, ranking member Gohmert, and members of the Subcommittee. My name is Mary Lou Leary, and I am executive director of the National Center for Victims of Crime. The National Center is a nonprofit resource and advocacy organization that has championed the rights and interests of victims of crime for more than twenty years. The National Center's activities include national and regional trainings, technical assistance to service providers and policy makers, direct response to victims through our National Crime Victim Helpline, and more.

We are here today to lend some understanding to how grant funding through the Office for Victims of Crime (OVC) benefits crime victims nationwide. One primary OVC function is to administer formula grants for crime victim compensation and victim assistance under the Victims of Crime Act (VOCA) Fund. Congress created the VOCA Fund to comprise criminal fines collected from federal offenders. These funds are the lifeblood of state and local victim assistance activities, funding victim support personnel in criminal justice agencies as well as nonprofit organizations that serve victims of rape, child abuse, homicide, domestic violence, drunk driving, and other crimes. I have attached to my written testimony a report of our survey of VOCA recipients, conducted earlier this year. This report clearly shows the great importance of this funding source to the day-to-day work of victim response. We want to recognize the many members of this Subcommittee who have worked over the years to ensure the continued availability of VOCA Funding for victim compensation and assistance.

OVC's discretionary grant making

I will focus my remarks today on OVC's discretionary grant-funding activities, as experienced by our organization. As you may know, by statutory formula, OVC receives a percentage of each year's VOCA distribution to fund demonstration projects, program

evaluation, compliance efforts, and training and technical assistance services to eligible crime victim assistance programs.[1] These grants advance the victim services field, informing the front-line service providers about promising practices and fostering learning and collaboration opportunities among victim service providers and allied professionals.

It is important to note that a combination of circumstances reduced the VOCA funds available in FY 2008 to a level lower than Congress had intended. More than $30 million was diverted for management and administration costs within the Office of Justice Programs (OJP) during FY 2008. Additional money was taken from VOCA to fund the Department of Justice's Office of Audit, Assessment and Management (OAAM). These two reductions within OJP cut OVC's discretionary grant funding by one-third in FY 2008 and reduced the formula grants that states rely on to serve crime victims. We understand this issue will be addressed in the appropriations bills for FY 2009.

The National Center's experience as an OVC grantee

The National Center for Victims of Crime has been awarded a number of grants from OVC over the past two decades. Many of these grants have brought victim advocates and allied professionals together to collectively advance the treatment of crime victims.

One important example was a project titled *Focus on the Future: A Systems Approach to Prosecution and Victim Assistance*. In the early 90s, prosecutor offices across the country were struggling to implement the victims' rights laws that had been passed requiring them to keep victims informed and assist them in exercising their rights to be present and heard during the criminal justice process. *Focus on the Future* involved a collaboration among the National Center, Mothers Against Drunk Driving, and the American Prosecutors Research Institute, an affiliate of the National District Attorneys Association. This training and technical assistance project for prosecutors, police, and prosecutor-based victim assistants helped them develop programs, work with special victim populations, and form relationships with other criminal justice agencies regarding victim services. This project included a set of sample forms and letters on a computer disk, a major innovation at the time. Today, victim services are an integral part of prosecutor offices.

A similar grant funded a multiphase project, begun in 1990, to integrate victim services into corrections. Working with the National Organization for Victim Assistance, the American Correctional Association, the American Probation and Parole Association, the California Department of Corrections, and the California Youth Authority, this training and technical assistance project helped correctional agencies begin or enhance their victim services, provide victim notification, collect victim restitution, incorporate the use of victim impact statements at release hearings, and protect victims from intimidation and harassment. That project included a national conference, the development of resources, and trainings held in more than 35 states. Today, nearly every state correctional system has an active victim assistance program.

"Looking Back/Moving Forward," another program funded by OVC in the early 90s, established the concept of coordinated community response to victims of sexual assault. This project was itself a collaboration between the National Center, the American Prosecutors Research Institute, and the Police Foundation. It brought together a number of other nationally-recognized experts to create a community model incorporating all agencies that interact with victims of sexual assault: law enforcement, prosecution, crime victim services, and the medical community. Today, a coordinated response is the preferred approach for serving sexual assault victims.

In the mid-90s, OVC funded the National Center's project to address HIV/AIDS and sexual assault victims, an issue facing victim service providers across the country. That project involved creating a training manual to address the crucial medical, counseling, and treatment issues relating to sexual assault victims and their concerns about HIV/AIDS. We conducted training in nine communities, distributed thousands of copies of the manual, and facilitated new collaborations and cross-training between victim service and HIV/AIDS care providers. That project also led to an article in the *Journal of the American Medical Association*.

Each of these projects significantly advanced the nation's response to victims of crime by bringing together victim advocates and allied professionals to develop recommendations for victim services and to work together to educate our constituencies.

Recent activities

As the field of victim services has evolved, so have our grant-funded activities. More recent projects funded by OVC involve special issues or the adoption of new technologies to educate victim service providers and allied professionals.

Teen victims

Statistics show that teens are twice as likely as others to be victims of violent crime.[2] We also know this population has not been adequately served by existing victim programs, which typically serve adult or child victims. OVC funded the National Center and the National Council for Crime Prevention to develop Youth Outreach for Victim Assistance (YOVA), a youth-led, multi-site project to educate teens on the dynamics of victimization and provide information on where they can turn for help and support. Thirty-two youth-adult teams around the nation were selected and supported as they created unique outreach events, materials, and advertising to reach teen crime victims in their local communities. Much of this work was truly extraordinary, from teens who took on the issue of sexual abuse of males in Maryland to teens in Oregon tackling the "unmentionable" problem of hate crimes in their community. One of the most effective elements of this multiyear project was the use of certain exceptional YOVA sites from the first years of the project as mentors to sites formed in later years.

That same grant also funded the development of several significant publications, most recently *Chart a Course: Policies That Affect Victim Services for Teens.* This four-part guidebook for victim advocates helps answer difficult questions about mandated reporting of suspected child abuse, teen victims' confidentiality rights, boundaries in teen victim services, and partnering with schools to address teen victimization.

We have also been funded to provide Web trainings on teen victimization, which have included such topics as: *Understanding and Responding to Teen Victimization, Engaging Marginalized Youth, Stalking and Teens, Victimization of Teens Living with Disabilities, and Addressing School-based Victimization and Victim Safety.* A total of 488 participants received these trainings, which were also archived on our Web site for later viewing.

OVC's support of this work is helping to reshape the nation's response to teen victims.

Victims with disabilities

OVC funding has played a significant role in providing services to victims in marginalized communities. One such victim population is crime victims with disabilities. A grant from OVC is funding the National Center, together with the Joint Center on Violence and Victim Studies (JCVVS), to hold a National Training Conference on Responding to Crime Victims with Disabilities. In addition to JCVVS and the National Center, the conference planning committee includes partners essential to meeting the needs of victims and developing lasting change: the Institute on Disabilities at Temple University, the National Council on Independent Living, the National Sheriffs' Association, the Pennsylvania Coalition Against Rape/National Sexual Violence Resource Center, and the Wyoming Institute for Disabilities. This conference, planned for 2009, will highlight current research and promote best practices in meeting the needs of victims with disabilities.

VictimLaw

OVC also funded us to create and maintain *VictimLaw*, a comprehensive, online database of federal, state, and tribal crime victims' rights laws. *VictimLaw* represents a revolution in crime victims' rights accessibility and education. Prior to *VictimLaw*, there was no single place to obtain the most up-to-date information on state and federal laws and tribal codes related to victims' rights.

The thousands of people who now use *VictimLaw* include victim advocates, victims, policymakers, criminal justice students and professors, and others interested in crime victims' rights. More than 2,000 other Web sites link to *VictimLaw*, including those of federal and state government agencies, attorney generals' offices, law enforcement agencies, libraries, private organizations, and domestic violence and sexual assault programs.

One of *VictimLaw*'s most significant capacities is its ability to convey a broad understanding of a jurisdiction's crime victims' rights in the national context. *VictimLaw* enables advocates and policymakers alike to see how the laws in their jurisdiction compare to those of their neighbors.

National Crime Victims' Rights Week resource guide

Grassroots victim service agencies and local criminal justice agencies are constantly working to increase public awareness of the services they offer victims. For the past three years, the National Center has received funding to develop public awareness materials for National Crime Victims' Rights Week, held annually in April. This past April, more than 13,000 kits were distributed to victim advocates in nonprofits and criminal justice agencies nationwide, with additional materials downloaded from the OVC Web site. These materials include a sample proclamation, sample news release, appropriate quotations, a black-and-white theme poster, a Crime Clock, public awareness posters, a historical overview, an information and referrals contact list, an online resources list, and crime victim statistics. Some of these materials, including posters, were displayed and made available in 15,000 Post Offices across the country. While these materials are most widely used during National Crime Victims' Rights Week for local public awareness events, recipients report using them throughout the year, for purposes such as National Night Out in August; Domestic Abuse Awareness Month; the opening of a safe home; college courses, law enforcement academy trainings, and presentations at local elementary schools; Day of Remembrance events for homicide victims in September; long-term displays in police and prosecutor waiting rooms; and public speaking events throughout the year. By providing high-quality outreach materials, this grant helps agencies reach and serve more victims of crime.

Conclusion

Our experience as a recipient of OVC grant funds should provide a clear illustration of the way that federal funding for competitive grant programs can provide significant leadership and development regarding issues of national importance. Targeted funding can have a broad impact, inspiring and educating people across the country who respond every day to victims of crime.

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[1] 42 U.S.C. 10603(c) (2008).

[2] Madeline Wordes and Michell Nunez, *Our Vulnerable Teenagers: Their Victimization, Its Consequences, and Directions for Prevention and Intervention*, (Washington, DC: National Center for Victims of Crime and National Council on Crime and Delinquency, 2002), 2.

THE NATIONAL CENTER FOR
Victims of Crime

VOCA FUNDING
Victim Advocates Speak Out

In January of 2008, the National Center for Victims of Crime surveyed crime victim advocates across the country about their use of VOCA funds and the effect of recent cuts in that funding. We polled nonprofit organizations serving victims of child abuse, domestic violence, sexual assault, drunk driving, or survivors of homicide victims, as well as victim assistance units in criminal justice agencies, such as police departments, prosecutor offices, and corrections departments. More than 1,000 responded.

The message was clear: VOCA funds are vital to all forms of crime victim services.

Background

The Victims of Crime Act, passed in 1984, created the Victims of Crime Act Fund, or VOCA Fund, as a protected and dedicated source of funding for crime victim programs. The VOCA Fund does not depend on taxpayer dollars—it is derived from fines and penalties on offenders at the federal level. Each year, the bulk of VOCA dollars distributed goes to states to support two important types of programs: crime victim compensation programs, which pay many of the out-of-pocket expenses incurred by victims as a result of crime, and victim assistance programs, which provide victims with support and guidance in the aftermath of crime. Nearly 4 million victims a year are served by the more than 4,000 local and state victim service agencies funded by VOCA.

Because the Fund comprises offender penalties and fines, the amount in the Fund fluctuates from year to year. For the last several years, Congress has created a special reserve of VOCA dollars for use in leaner years by placing a cap on the Fund distribution and saving the amount collected over the cap to ensure the stability of the Fund. In recent years, the cap has been set at $625 million.

In the Fiscal Year 2008 Omnibus Appropriations bill, VOCA funding was cut by $35 million, despite higher than expected deposits into the Fund the previous year. In addition, the Department of Justice is considering tapping the VOCA allocation to cover shortfalls in management and administration expenses, potentially doubling the loss of funding to local service programs.

The VOCA Fund has proved an effective funding source for more than twenty years. Currently, the VOCA Fund has an estimated balance of $1.7 billion.

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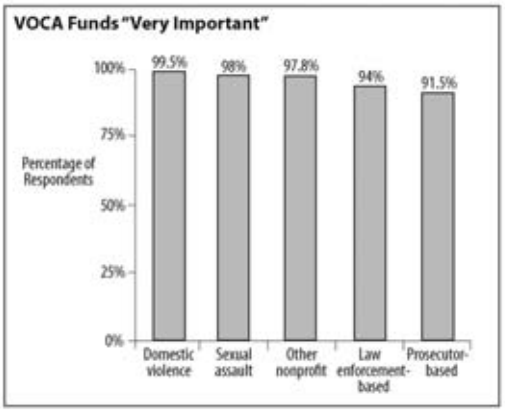
For more information, please contact Susan Howley, director of public policy.

Importance of VOCA Funding

We asked victim service providers to rate the importance of VOCA funding to their programs. Overwhelmingly, respondents told us VOCA funding was "very important."



From the Field

"We have three over-worked victim advocates; two of them are totally paid for with VOCA Funds."
–Prosecutor-based service provider (GA)

"VOCA covers almost all of the counseling staff for our women's shelter and sexual assault program."
–Nonprofit service provider (VA)

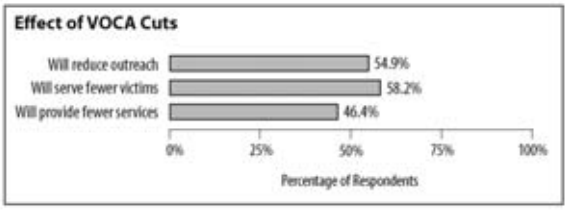
"This is often the only real source of monies that will put a victim advocate on the ground where law enforcement and the victims are."
–Law enforcement-based service provider (SC)

"VOCA funding is the life-blood of an agency like ours dedicated solely to helping child victims of felony sexual and physical abuse crimes and their non-offending family members."
–Nonprofit service provider (AL)

"We are a bare-bones operation.... VOCA funding for staff and services is the only way most of our poor and homeless clients ever get assistance."
–Nonprofit service provider (TX)

Effect of VOCA Cuts

We also asked victim service providers about the likely effect of the recent VOCA cuts on their programs. The clear message was that the funding cuts would have an immediate and significant impact.



Many agencies indicated they would have to reduce the types of services they offer, no longer having the staff or volunteers to accompany victims to the hospital or court. Others stated that more victims would be wait-listed for counseling or shelter. Many said they would be forced to cut training, including training for volunteers, further reducing their ability to provide direct services to victims.

From the Field

"We will have to reduce our services to victim notification only."
–Prosecutor-based service provider (GA)

"Our crisis counselor and victim advocate may be forced to reduce the court preparation for children and may not be available to accompany them to court—a service which greatly reduces the trauma to children and families and enhances their ability to testify."
–Nonprofit service provider (MI)

"Many victims would be placed on waiting lists and be required to wait up to three months for therapeutic services for sexual abuse.
–Nonprofit service provider (OK)

"We will have to cut one or two advocate positions. As a result, victims will not be provided an advocate in three of our four main court precincts. [It would also affect] the volunteer program, not allowing us the extra money to train [them]."
–Prosecutor-based service provider (AZ)

"We will cancel plans to provide two full-time crisis staff at our hospital emergency department.... The sex crimes unit has asked for our collaboration in contacting victims of cold case files. The funding reduction will affect our ability [to work with them]."
–Law enforcement-based service provider (MI)

Our survey revealed that the VOCA cuts will hit rural areas particularly hard. Agencies spoke of trying to serve up to 10 counties, or requiring victims to travel 3 or 4 hours to receive services. Many respondents said they would have to close satellite offices—even when the space provided was free—because they could no longer pay the transportation expenses of their staff.

Closing a satellite office does not simply mean that victims will have to travel further for services. It also means that victim programs will lose their visibility within the community, leaving more victims isolated.

"Due to our cutbacks we closed our satellite office and have not been able to reach out to rural poor in our community. There is no public transportation within our county, with the exception of a transit system that travels within a ten mile radius of the county seat limited times of the day. There is no taxi service. There are many people unable to reach us, and we do not have the staff or resources to reach them. This is a small rural county; many simply go unserved."
–Nonprofit service provider (PA)

"Without a regular presence in the frontier rural communities, victims do not know where to turn when they need help. Our partners (law enforcement, prosecutors) forget that we serve their area. This past year we had to cut back two rural advocates in our outlying areas and this is what we are experiencing."
–Nonprofit service provider (ID)

Need to Release Additional VOCA Funds

There is a great need to release additional VOCA Funds. Eighty percent of respondents said there were victims they were not currently reaching that could be served with additional VOCA funds.

From the Field

"We have child victims who disclose abuse and cannot get an appointment with a therapist for at least a month, sometimes longer. By the time they are seen, they often have suffered additional trauma and stress."
–Nonprofit service provider (GA)

"We already turn away many people who have emergency needs as a direct result of their victimization because of limited funding."
–Nonprofit service provider (SC)

"We are approaching the 'blood from a turnip' stage. All costs and expenses are going up. We have good community support but due to the state of the economy the community cannot provide more support than it already provides."
–Nonprofit service provider (ID)

"The situation in economically-devastated Michigan cannot be overemphasized as a contributor to our concern over VOCA funding. For many of us, VOCA keeps core services alive."
–Nonprofit service provider (MI)

How Service Providers Would Use Additional Funds

If more VOCA moneys were made available, programs would put the funds to immediate use. Many spoke of plans to increase services to elderly victims, teen victims, tribal victims, victims with disabilities, human trafficking, and homicide victims. Others spoke of very specific plans:

"We would have funds to reinstitute our free transportation program for indigent clients; we would expand our education and outreach program; we could implement an enhanced victim advocacy program for victims going to court."
–Nonprofit service provider (AL)

"Our community serves a large Hispanic group of child victims. If additional funds were available, we would be able to contract with a Spanish-speaking therapist for this population."
–Nonprofit service provider (GA)

"Right now families have to drive up to 5 hours at times to reach our services. If more funds were available for outreach or satellite services we would easily be able to increase our referrals 50% or more."
–Nonprofit service provider (ND)

"More VOCA funds for outreach, satellite facilities (for isolated rural areas) and specially trained staff (multi-lingual, therapeutic, legal, etc.) would definitely help reach more victims."
–Nonprofit service provider (CA)

"We serve older victims of domestic abuse. We need to reach more victims and let them know there is specialized help for them."
–Nonprofit service provider (MA)

"We would provide Trauma Focused Cognitive Behavioral Therapy to children having post traumatic stress symptoms. This is evidenced-based treatment that is proven to actually help children recover from abuse and go on to live productive lives. There is no one in the community that provides this service."
–Nonprofit service provider (ID)

"A funding increase would mean we could travel to outlying areas, including three Native American reservations, to introduce victim services [for victims of drunk drivers], identify those needing assistance and begin providing support group and court accompaniment to those victims. We would be able to do a better job of victim outreach to ensure that victims in the outlying areas know what their rights are and that there may be compensation funding available."
–Nonprofit service provider (AZ)

Conclusion

Approximately $1.7 billion is currently on balance in the VOCA Fund—money that has been collected from federal criminal offenders to meet the needs of crime victims. Congress has an opportunity to make a significant difference in the lives of crime victims nationwide by releasing additional VOCA funds in FY09.

"VOCA funding is vital in providing services to those who, through no fault of their own, have become victims of the most vicious of crimes. If this funding were not available, these victims would go without advocacy, medical, mental health, and/or legal services, which is crucial in a victim's healing process."
–Nonprofit service provider (WV)

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National Crime Victim Helpline 1-800-FYI-CALL (TTY 1-800-211-7996) • gethelp@ncvc.org

Mr. SCOTT. Thank you. Thank you, Ms. Leary.

Mr. Marone?

STATEMENT OF PETER MARONE, CHAIRMAN OF THE CONSORTIUM OF FORENSIC SCIENCE ORGANIZATIONS, RICHMOND, VA

Mr. MARONE. Thank you, Mr. Chairman, Ranking Member Gohmert.

It is certainly a pleasure to be here before you today. I testify not as a director of the Department of Forensic Science in Virginia, but as chairman of the Consortium of Forensic Science Organizations. The CFSO was founded in 2000 and represents members of the forensic science community, which are comprised of the American Academy of Forensic Scientists, the American Society of Crime Laboratory Directors, the International Association for Identification, National Association of Medical Examiners, the American Society of Crime Laboratory Directors—Laboratory Accreditation Board, and Forensic Quality Services. Our goal is to educate the public and policy makers on the truth of how the forensic community works and what our needs and requirements are.

But I would like to bring to your attention today two things: First, the lack of funding that the forensic community is receiving in disciplines other than DNA, and second, the problems that our labs are working under with restrictions in funding and turnaround expectations.

Our community has clearly grown to a technological revolution that has been singularly focused. While the use of forensic science dates back nearly 100 years in the U.S., our community has not prospered from the benefit of many of the technological advancements except in the discipline of DNA, primarily due to the lack of funding and visibility, as well as the newness and the impact of that particular science.

As I stated, there are numerous examinations our labs perform, such as processing of controlled substances, firearms and tool marks, latent prints, trace evidence, toxicology and computer science crimes, just to name a few. In fact, these disciplines have a larger backlog and we receive more of these types of cases than we do with DNA cases.

According to the 2005 Bureau of Justice statistics report which was released in 2008, our country's 389 State and local crime labs received 2.7 million cases in 2005 and ended that year with a backlog of 435,879 versus 252,810 at the beginning of the year. Of that backlog, the largest number was not DNA. DNA was the third largest backlog discipline and the fourth largest discipline in case receptions.

Some of that can be attributed to the fact that with the increased visibility of this particular since, we received DNA samples on an increased number of crimes, such as touch evidence on packaging of drugs and firearms. That is why DNA is higher than it has been. It is increasing.

To provide perspective, the median number of forensic requests each laboratory received in 2005—and I wanted to qualify that by saying the median number laboratories will go in size from a lab-

oratory of—our Richmond laboratory is 150 examiners. We have got a lot of laboratories with two and three-person examiners.

So a median is not necessarily a true number of what the output is or the reception is for any particular laboratory. But the median number for that group were 2,716 for controlled substances. I get that much in a month. For toxicology, 909 for latent prints, 358 for biology screening, 337 for DNA analysis, and 257 for firearms and tool marks.

Now, this is going to differ—the numbers of these in the different sections is going to differ from laboratory to laboratory, depending on what the reception is. Our backlog numbers show similar relative statistics. Controlled substances remains the largest for the median backlog, accounting for 51 percent of the backlog of the cases, with latent fingerprint identification 16 percent, and as Chairman Scott noted himself, DNA being 9 percent.

Yet the funding we receive from the government to process these cases—I am talking Federal Government—consistently remained at 100 percent funding for DNA requested by the Department of Justice. Fortunately Congress, particularly the U.S. Senate, funded the Paul Coverdell Act, which allows crime labs the flexibility to apply funds where they have the most need.

However, that need has never been funded fully by Congress more than $20 million a year, and that has never been requested by the Department of Justice in their budget.

Mr. Chairman, we support the funding of DNA initiatives and have been very excited by the continued advances in this particular science. But we can't support it to the exclusion of all the other disciplines. We are not saying get rid of the DNA, or put DNA for the other disciplines. We need additional funding for those other disciplines.

There are still many crimes that do not have DNA involved, and those victims also deserve to have their cases done on a priority basis. Solving crimes means more than solving cases with DNA. We need to address all the disciplines of forensic science. On the many occasions that we have discussed this with the Department of Justice, we have heard responses ranging from "there is no data to support your claims"—and to their defense, when you look at the publications, the 2002 census was published in 2005, the 2005 census was published in 2008—or that only DNA had the political support.

As a result, our association requested a commission to examine needs and requirements of all the disciplines. We are very pleased that the Senate Appropriations Committee asked the National Academy of Science to conduct this study. We eagerly await its release and findings later this year—probably the beginning of next year. We hope that this Committee will take that study and work toward comprehensive forensic legislation that gives us resources to complete the processing of all untested evidence on a priority basis.

However, with the dawn of DNA, we have seen a revolution occur that has changed the way we had to work at potentially all the cases. Realistic expectations from both the judicial system, the attorneys, and the juries expecting capabilities that just aren't there. Some call it the CSI effect, if you will. A lot of people really

think that we can do things in 47 minutes. In point of fact, the turn-around time in many instances takes days or weeks.

I can give you one particular example in toxicology. It is very simple with a one-drug application, an individual maybe has an overdose of a particular drug, or DUI. But there are a lot of instances where an individual—it is unfortunate that we have this term—we are looking at a drugstore, where the individual may have dozens of drugs. And they have to spend time, first looking for those drugs, maybe identifying all of them, and then having to quantitate them to find out if there is a therapeutic level, an overdose, or what have you.

And so this is not something that can be done in a moment's notice. They are sequential in how you have to apply them. It takes personnel, financial resources, and an environment that permits an understanding of what we face and what our requirements are to ensure timely processing of evidence. Not all labs have the same capabilities, and not all of the numbers and types of cases each month. However, we are seeing our funding having onerous restrictions placed on them that some labs don't even apply for them.

Quite often, requirements and solicitations for DNA funding changes annually, which requires laboratories to reprioritize their case approach to comply with the requirements. Now, I will say that this has changed in the last year, where they have become a little less specific, giving the laboratories the ability to adjust their protocols less and actually apply for more of those grants.

Requirements for the Bloodsworth Act were such that even the few agencies which did apply were told they didn't meet the requirements. The requirements were later changed, but with a delay of almost a year. And you heard Mr. Sedgwick announce that those Bloodsworth grants were just recently awarded.

Mr. Chairman, we would like to work with this Committee to shape the funding from Congress so that it is representative of the needs of laboratories and not reflective of what the perceived needs are from the outside influences.

I thank you for your time, and I will answer your questions.

[The prepared statement of Mr. Marone follows:]

PREPARED STATEMENT OF PETER MARONE

Mr. Chairman and Members of the Committee, thank you for inviting me to testify before your Committee today. I testify today not as the Crime Lab Director for the Commonwealth of Virginia but as the Chairman of the Consortium of Forensic Science Organizations. The CFSO was founded in 2000 and represents members of the forensic science community which are comprised of the American Academy of Forensic Sciences, The American Society of Crime Laboratory Directors, the International Association for Identification, the National Association of Medical Examiners, the American Society of Crime Laboratory Directors/Laboratory Accreditation Board, and Forensic Quality Services. Our goal is to educate the public and policymakers on the truth of how the forensic community works and what our needs and requirements are.

What I'd like to bring to your attention today are two things. First the lack of funding that we are receiving in disciplines other than DNA and second, the problems that our labs are working under with increased restrictions on our funding and unrealistic turnaround expectations.

Our community has clearly gone through a technology revolution but it has been singularly focused. While the use of forensic science dates back nearly 100 years in the U.S., our community has not prospered from the benefit of many of the technological advancements, except in the discipline of DNA, primarily due to lack of funding and visibility as well as the "newness" and impact of the science. As I stated

earlier, there are numerous examinations that our labs perform such as the processing of controlled substances, firearms and toolmarks, latent prints, trace evidence, toxicology, and computer crimes to name a few. In fact, these disciplines have a larger backlog and we receive more of these types of cases than we do cases with DNA.

According to the 2005 Bureau of Justice Statistics Report, which was released in 2008, our country's 389 State and Local crime labs received 2.7 million cases in 2005 and ended the year with a backlog of 435,879 cases versus 252,810 at the beginning of the year. Of that backlog the largest number was not DNA. DNA was our third largest backlogged discipline and fourth largest discipline in case receptions. Some of that can be attributed to the fact that with the increased visibility of this science we have received DNA samples on an increased number of crimes, such as touch evidence on packaging of drug evidence and firearms. To provide perspective, the **median** number of forensic requests each lab received in 2005 were 2,716 for controlled substance, 1,234 for toxicology, 909 for latent print, 358 for Biology screening, 337 for DNA analysis, and 257 for firearms and toolmarks. Our backlog numbers showed similar relative statistics. The controlled substances discipline was the largest with a median backlog accounting for 51% of our backlog, with latent print identification being 16% and DNA analysis being 9%.

Yet the funding we have received from the government to process these cases has consistently remained at 100% for DNA requested by the Department of Justice. Fortunately, Congress, particularly the US Senate, has funded the Paul Coverdell Act which allows the Crime Labs the flexibility to apply the funds where they have the most need. However, that has never been funded by the Congress for more than $20 million a year and has never been requested by the Department of Justice in their budget.

Mr. Chairman, we support the funding of the DNA initiatives and have been very excited by the continued advances in the science, but we cannot support this to the exclusion of the other disciplines. There are still many crimes that do not have DNA involved and those victims also deserve to have their cases be a priority. Solving crimes means more than solving cases with DNA. We need to address all of the disciplines of forensic science. On the many occasions that we have discussed this with the Department of Justice we have heard responses ranging from "there is no data to support your claims of backlog in other disciplines", to, "only DNA has political support". As a result, our association requested a Commission to examine the needs and requirement of all the disciplines. We were very pleased when the Senate Appropriations Committee asked the National Academy of Sciences to conduct this study and we eagerly await its release and findings later this year. We hope that this Committee will take that study and work toward comprehensive forensic legislation that give us resources to complete the processing of all untested evidence a priority.

However, with the dawn of DNA, we have also seen a revolution occur and it has changed the way we can solve and potentially prevent crimes. BUT what has come with that are unrealistic expectations from the public and the government as to what our capacity and capabilities are and ever changing rules put upon us by the policy makers. We have found ourselves in a situation of increased visibility due to the dawn of popular television series, like CSI. Many expect that we can have a turn-around of a case in the hour it takes for CSI to air their show. In fact, it can take us from days to weeks, depending on the number of samples and the types of examinations to process evidence. But it takes personnel, financial resources, and an environment that permits an understanding of what we face and what our requirements are to ensure timely processing of evidence. Not all labs have the same capabilities and the number and types of cases vary each month. However, we are seeing our funding having such onerous restrictions placed on them that some labs do not even apply. Quite often, requirements in solicitations for DNA funding change annually which require laboratories to reprioritize their case approach to comply with the requirements. Requirements for the Bloodsworth Act were such that even the few agencies which applied were told they did not meet the requirements. These were later changed, but with a delay of almost a year. Mr. Chairman, we would like to work with this Committee to shape the funding from Congress so that it is representative of the needs of the laboratories and not reflective of what the perceived needs are from outside influences.

Again, I thank you for inviting me to speak and I look forward to your questions.

Mr. SCOTT. Thank you.

And Mr. Sullivan?

STATEMENT OF CHARLIE SULLIVAN, NATIONAL CURE, WASHINGTON, DC

Mr. SULLIVAN. Mr. Chairman, Congressman Gohmert.

CURE began in Texas in 1972, and we started with the bus service for families to the State prison in East Texas—so we are very familiar with Texas. Then we were a State organization. We became a national organization in 1985. Back then I attended meetings of the—in the 1970's in Texas in the State criminal justice planning agency, which was funded by then the Law Enforcement Assistance Administration.

As you know, LEAA was the forerunner of the Office of Justice Programs. At these Texas meetings, I pointed out that LEAA funding neglected rehabilitation. Even LEAA nationally recognized this omission by creating a new grant funding section called Part E.

And I remember—and I think, Mr. Gohmert, you probably knew our district attorney, Henry Wade, of Dallas County actually defended this Part E on rehabilitation to me 30, 35 years ago.

But 30 years later, I still feel that its successor, OJP, places too little emphasis in supporting evidence-based adult corrections. I think in 35 years—we are a prison reform group that works with families of prisoners, former prisoners—we have never received a call from OJC to do a research project.

And let me explain further. From 1996 until 2001, almost $3 billion was given by the Bureau of Justice Assistance of OJP to States to build or expand prisons and jails. And this was the result of a Democratic administration and a Democratic Congress passing the Violent Offender Incarceration and Truth in Sentencing incentive program in the crime bill of 1994.

Half of the funding was formula grant. But a condition of the other half was that States were encouraged to abolish parole. And I feel a strong case can be made that this program is one of the reasons why the United States, with only 5 percent of the world's population now has 25 percent of the people in prison in the world.

Also, by removing the flexibility of parole, violent offenders would actually be released earlier under this no-parole policy. Neither during the crime bill debate nor in the 6-year implementation of this massive prison building program did I see much information communicated to Congress by OJC regarding how this would dramatically increase our national incarceration rate.

In my opinion, OJC basically went along to get along. Only after the intense criticism by a few members of both parties in Congress did this prison grant program open up the funds to alternatives and other correctional needs. But by then, however, the damage had been done. Many States were willing to build prisons even if they were not needed, and OJC knew this was wrong, and sadly, they kept quiet.

This prison grant program came about when the Democrats controlled the executive and Congress. In the same way, the recently passed Adam Walsh Act also became law when the White House and leadership on Capitol Hill were of the same party. But this time, it was in Republican hands. And similar to what happened a dozen years earlier in the crime bill, the Adam Walsh Act, in my opinion, can be characterized as the political tail wagging the policy dog.

Basically, the Act perpetuates three myths. One: the recidivism rate for sex offenders is high. In fact, a study by OJC's Bureau of Justice Statistics shows that recidivism rates for sex offenses are among the lowest of all types of crimes. The lowest, I think, is murder.

Most sex offenses are committed by strangers. Again, a BJS report states that most sex offenses occur in families, and a 2000 study points out that 93 percent of victims of child sexual abuse knew the perpetrator.

Three: treatment does not work. On the contrary, national respected programs, like Dr. Fred Berlin's in Baltimore, have a success rate of near 90 percent. And I have visited that program. Although there are token mentions of treatment in the act, the SMART office created in OJP by the bill doesn't even include treatment, rehabilitation, or even management in its acronym.

Like the prison grant program, there will probably be an amelioration down the road on the Adam Walsh Act. In the meantime, however, the country is spending precious resources, and many people—especially the young—will have already been ruined for life by having criminal records that are based on sin, not crime. Not committing crime, but sin.

In both these examples, OJ's staff knew these policy decisions were wrong. But no one spoke up. I suspect that was because of staff allegiance to those who hired or appointed them. Thus, firstly, I would suggest that there be a bipartisan leadership at the top of OJP similar to the Federal Communications Commission or the Equal Economic Opportunity Commission, EEOC or FCC.

In fact, LEAA, back when it was in the 1970's, had a bipartisan structure. Although this will not completely eliminate politics from OJP decisions, it will go a long way toward reducing the extremism that occurred in the prison grant program and is going on now in the Adam Walsh Act.

In addition, there must be an independent advisory committee that is also bipartisan and reaches out to grassroots organizations like ours. Most groups like ours—and there are many, based on the Second Chance Coalition—have no idea what OJP is and what it is doing with its $2.4 billion budget.

Secondly, I would recommend that before we rush to judgment, a new policy on a national scale, we should pilot the program. The program should have an appraisal conducted by an impartial party which must not in any way have a conflict of interest. That means—to me this is very important—absolute prohibition on receiving any money from OJP in the future or even in the past.

In summary: I strongly recommend bipartisanship in decision making; an advisory committee where liberal and conservative organizations provide advice that is taken seriously; and the creation of robust pilot programs. If this is done, I think that the Office of Justice Programs will substantially improve its most important evidence-based crime reduction policies, and be in a much better position to communicate objective information—not subjective, but objective information to legislative and executive decision makers.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Sullivan follows:]

PREPARED STATEMENT OF CHARLES SULLIVAN

For the past 35 years I have co-directed a grassroots criminal justice reform organization, Citizens United for Rehabilitation of Errants or CURE. CURE's members are families of people in prison, people in prison, people formerly in prison and other concerned individuals.

When CURE began in Texas in the 70s, I attended meetings of the Texas state criminal justice planning agency which was funded by the Law Enforcement Assistance Administration (LEAA). As you know, LEAA was the forerunner of the Office of Justice Programs.

When I had the opportunity to testify at these Texas meetings, I always pointed out that LEAA funding neglected rehabilitation. Even LEAA nationally recognized this omission by creating a new grant funding section called Part E. I remember then the well-known Dallas County prosecutor Henry Wade pointed this out to me at a hearing. This Part E in LEAA funding helped somewhat. But, 30 years later, I still believe that its successor, OJP, places too little emphasis in supporting evidenced-based adult corrections.

POLITICS MUST BE REMOVED FROM POLICY-MAKING

Let me explain. In 1985, CURE expanded to a national organization and we moved to Washington. Since being here, I have been extremely upset by the politics within OJP in regard to two major initiatives. These are The Truth in Sentencing Prison Grants and the Adam Walsh Act.

I believe that policy initiatives of this sort occur when members of Congress are near elections and a sure vote-getter is being perceived as "hard on crime". Another contributing factor is that the OJP does not encourage the involvement of grassroots or nonprofit agencies. At least in our case, we tried but we had no input with the sponsors during the congressional debate on both theses landmark bills.

PAROLE WAS ABOLISHED AND PRISONS BECAME PORK

From 1996 until 2001, almost three billion dollars was given by the Bureau of Justice Assistance of OJP to states to build or expand prisons and jails. This was the result of a Democratic Administration and Democratic Congress passing the Violent Offender Incarceration and Truth-in-Sentencing Incentive Program in the Crime Bill of 1994.

Half of the funding was formula grants but a condition of the other half was that states were encouraged to abolish parole. A strong case can be made that this program is one of the reasons why the United States with only 5% of the world's population now has 25% of the people in prison in the world. Also, by removing the flexibility of parole, violent offenders would actually be released earlier under this new no-parole system.

Neither during the Crime Bill debate nor in the six-year implementation of this massive prison building program, did I see much information communicated to Congress by OJP regarding how this would dramatically increase our national incarceration rate.

In my opinion, OJP basically went along to get along! Only after intense criticism by a few members of both parties in Congress did this prison grant program open up the funds to alternatives and other correctional needs. By then, however, the damage had been done! Many states were willing to build prisons even if they were not needed and OJP knew this was wrong. Sadly, they kept quiet.

ADAM WALSH ACT: USING A SLEDGEHAMMER WHEN A HAMMER IS NEEDED

The VOI/TIS grant program came about when the Democrats controlled the executive and Congress. In the same way, the recently passed Adam Walsh Act (AWA) also became law when the White House and leadership on Capitol Hill were of the same party. But this time. it was in Republican hands. And similar to what happened a dozen years earlier in the Crime Bill, AWA, in my opinion, can be characterized as the political tail wagging the policy dog.

Basically, AWA perpetuates three myths 1) The recidivism rate for sex offenders is high. In fact, a study by OJP's Bureau of Justice Statistics shows that recidivism rates for sex offenses are among the lowest of all types of crimes.

2) Most sex offenses are committed by strangers. Again, a BJS report states that most sex offenses occur in families and a 2000 study points out that 93% of victims of child sexual abuse knew the perpetrator.

3) Treatment does not work. On the contrary, nationally respected programs like Dr. Fred Berlin's in Baltimore have a success rate of near 90%. Although there are

token mentions of treatment in AWA, the SMART Office created in OJP by AWA doesn't even include treatment, rehabilitation or management in its acronym.

OJP again failed to communicate this most important information in the AWA debate in Congress and now in its implementation of the Act. Because of these failures and because of the violation of civil liberties, AWA has been described as falling apart at its seams. Daily we read about the courts ruling against it.

Like the prison grant program, there will probably be an amelioration down the road. In the meantime, the country is spending precious resources and many people, especially the young, will have already been ruined for life by having criminal records based on sin not crime.

SOLUTION 1: BIPARTISAN LEADERSHIP AND ADVISORY COMMITTEE

In both these examples, OJP staff knew these policy decisions were wrong. But, no one spoke up. I suspect that was because of staff allegiance to those who hired or appointed them. I would suggest that there be bipartisan leadership at the top of OJP similar to the Federal Communications Commission or the Equal Economic Opportunity Commission.

In fact, LEAA had a bipartisan structure. Although this will not completely eliminate politics from OJP decisions, it will go a long way toward reducing the extremism that occurred in the prison grant program and is going on now in the Adam Walsh Act.

In addition, there must be an independent advisory committee that is also bipartisan. In my opinion, the Reporting of Deaths in Custody legislation is a model of what OJP can do. This bill has always had strong bipartisan leadership. Staff of the Bureau of Justice Statistics, which implements this reporting bill, has met with myself and even made a presentation at a national CURE convention.

In effect, they have reached out to a grassroots organization like us and I can say we have a real partnership. This is somewhat true too with a few past and present staffers of the National Institute of Justice, the research arm of OJP. But, being on a first name basis with OJP is an exception not the rule. Thus, most organizations like ours have no idea what OJP is and what it is doing with its 3 billion dollar budget.

SOLUTION 2: UTILIZE PILOT PROGRAMS

Criminal justice policy is much more complicated than many people realize. It tends to be an emotion-charged subject involving millions of unique people, millions of unique crimes, and thousands of unique communities. Many communities are fiscally strapped.

It seems obvious to me that, before we rush to implement a new policy on a national scale, we should pilot the program. Any pilot should begin with clear expectations and should include an appraisal of problems and successes conducted by an impartial party which must not in any way have a conflict of interest. This means an absolute prohibition on receiving any money from OJP in the future or in the past. In my opinion, this did not happen before Congress passed the Truth in Sentencing Prison Grant Program in '94 nor in the Adam Walsh Act two years ago.

In summary, I strongly recommend bipartisanship in decision-making, an advisory committee where liberal and conservative organizations provide advice that is taken seriously, and the creation of robust pilot programs. If this is done, I think that the Office of Justice Programs will substantially improve its most important evidence-based crime-reduction policies and be in a much better position to communicate objective information to legislative and executive decision-makers.

Mr. SCOTT. Thank you, Mr. Sullivan.

We have votes pending, so I will recognize the gentleman from Texas. We have a few minutes we can ask questions.

Mr. GOHMERT. Ms. Leary, how many States, if you know, have a victims' fund which is funded by fees by defendants that have to pay into the fund and/or State budgets financing as well?

Ms. LEARY. Well, VOCA, the Federal, is completely comprised of fines from criminal offenders on the Federal level.

Mr. GOHMERT. Right, but on the State level, do you happen to know how many States have that same type of program?

Ms. LEARY. I know that Texas has one.

Mr. GOHMERT. I know that.

Ms. LEARY. You know, we will get the information for you about other States——

Mr. GOHMERT. I would be curious about that.

Ms. LEARY [continuing]. That have about that, yes.

Mr. GOHMERT. I do like to help States and people that are willing to help themselves.

Ms. LEARY. Sure.

Mr. GOHMERT. Also, Mr. Sullivan, you have mentioned that you never got a call for one of those studies. Has CURE applied for grants?

Mr. SULLIVAN. We are an advocacy organization; we are not a service. We don't get into it—that is where we can be objective.

Mr. GOHMERT. Oh, okay. Thank you.

Let's see.

Let me ask Mr. Marone. You know, we have had hearings on the DNA backlogs and had a lot of testimony over that issue. And we passed the Debbie Smith Bill to help address the problem. One of the concerns I have had is that it seems some labs are very efficient, do a terrific job, and have worked like crazy to reduce their backlogs. I am concerned that some that are not as efficient, don't do as good a job, don't have as good a work product, are the ones that end up screaming they need more money than anybody else because they have got the bigger backlog.

Do you know of anything presently that may deal with that issue to try to encourage better efficiency and less inefficiency in the award of those type of grants?

Mr. MARONE. Well, one of the things we have to do is determine what the actual backlog is. I know a number of issues with laboratories is, someone will ask the question, how many cases are backlogged? And that is really not the number that the lab made. They ask the police department. They may have a particular number, and they are giving anything that is in the inventory, when in point of fact some of those cases might be cases that are there, but——

Mr. GOHMERT. Our time is limited, but if you could. I understand the problems with getting to a number. I am just talking about the process that may encourage inefficiency and discourage efficiency.

Mr. MARONE. Well, certainly one of the big-ticket items as far as—from an increase in productivity standpoint, is not just throwing more people at it. What some laboratories do is they just add more people to do the same operation, and that then spirals to more equipment, meaning more space, meaning everything.

Mr. GOHMERT. Well, the laboratories——

Mr. MARONE. What we really need to do is move to robotics and that type of application, where you can actually have the same number of people doing more work.

Mr. GOHMERT. But I guess what I am really asking from you would take more time if it is done right. Would you mind submitting suggestions in writing to this Committee——

Mr. MARONE. Absolutely.

Mr. GOHMERT [continuing]. On ways that we could encourage more efficiency by the awarding of grants and discourage less efficiency.

Mr. MARONE. Sure.

Mr. GOHMERT. If you wouldn't mind, because of your specialty, that would be a huge help.

Mr. MARONE. Absolutely.

Mr. GOHMERT. Thank you.

Mr. SCOTT. The gentleman yields back, and we just have a couple of minutes before we have to leave.

So let me ask Mr. Marone. As chairman of the Consortium of Forensic Science Organizations, do you have a recommended level of funding or what we could do?

Mr. MARONE. Mr. Scott, I remember you asked me that question before. And the answer is, I don't have a particular number. What we need to do is, we need to assess actually what the numbers are, what the requirements are. As I said before, we need to really get a good number as to what we are talking about.

We need to ask the right question when we are asking for those surveys as to what is a case, what is a sample. Laboratories don't use that same terminology, and that is part of the problem.

Mr. SCOTT. And Mr. Sullivan, you mentioned the abolition of parole. Has there been a study to ascertain whether or not that has reduced crime or not?

Mr. SULLIVAN. Mr. Scott, I looked for that on the web. And basically what I saw evaluating the entire prison grant program were in-house studies promoting it. I never saw any study that actually looked at the prison grant program, whether abolishing parole, did this help in general?

We, like I say, placed $3 billion into it, but it was all either promoting it, saying that it has worked and what it has been, but nothing really objective. And that would certainly seem to me would be one of the things OJP would have contracted out and making sure they don't give it to someone who is getting money from this.

Mr. SCOTT. Well, as you have heard, we have to get to the floor just about immediately. So I would like to thank the witnesses for their testimony. Members undoubtedly will have additional questions in writing which we will forward to you and ask that you answer as promptly as you can so that your answers may be made part of the record.

Without objection, the hearing record will remain open for 1 week for the submission of additional materials.

And without objection, the Subcommittee stands adjourned.

[Whereupon, at 1:48 p.m., the Subcommittee was adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

PREPARED STATEMENT OF THE HONORABLE SHEILA JACKSON LEE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS, AND MEMBER, SUBCOMMITTEE ON THE CONSTITUTION, CIVIL RIGHTS, AND CIVIL LIBERTIES

Thank you, Mr. Chairman, for convening this oversight hearing on Department of Justice Office of Justice Programs (OJP). I look forward to hearing from and questioning Acting Assistant Attorney General Jeffrey Sedgewick of OJP regarding OJP and its component's missions, accomplishments, and its challenges. I also look forward to hearing testimony and questions our witnesses from organizations that represent the interests of OJP's customers and will provide their assessment of OJP's accomplishments and challenges.

This hearing will examine the mission of OJP. The mission of OJP is to increase public safety and improve the fair administration of justice across America through innovative leadership and programs. The agency seeks to accomplish its mission by providing and coordinating information, research and development, statistics, training, and support to help the justice community, meet its public safety goals, and embrace local decision-making, while encouraging local innovation through national policy leadership. OJP implements is methods through the specific missions of its constituent organizations including, among others, the Bureau of Justice Assistance, the Bureau of Justice Statistics, the National Institute of Justice, the Office of Victims of Crime and the Office of Juvenile Justice and Delinquency Prevention.

OJP serves a crucial role in supporting the Nation's criminal justice systems and as such its programs affect eth quality of life for all Americans. OJP's successes are many. However, OJP has also incurred a number of controversies, which the subcommittee will explore by examining testimony about programs its administers. The following sections detail the areas of OJP responsibility where the Subcommittee would like to concentrate.

I look forward to hearing from the many representatives from the Bureau of Justice Assistance; the National Institute of Justice; the Office of Juvenile Justice and Delinquency Prevention.

The Bureau of Justice Assistance provides leadership and assistance to local criminal justice programs that improve and reinforce the nation's criminal justice system. BJA's goals are to reduce and prevent crime, violence, and drug abuse and to improve the way in which the criminal justice system functions.

To accomplish its goals, BJA administers numerous grant programs intended to support the nation's criminal justice systems. Many of these programs have enjoyed success with little controversy such as the Public Safety Officers' Benefits Program, which provides death benefits, educational opportunities and other assistance to survivors of fallen law enforcement officers, firefighters, and other first responders. There are programs that have also had serious setbacks, we will explore those programs in this hearing. Some of those will include Byrne-JAG and other grants. Byrne-JAG is important because it has experienced serious cutbacks. There have been serious backlogs and problems with DNA samples.

The National Institute of Justice is the research, development, and evaluation agency of the Department of Justice and is dedicated to researching crime control and justice issues. The Subcommittee will question NIJ officials about the number of criminal justice issues that the agency has researched and evaluated. In addition, the Subcommittee will discuss as to NIJ's plans for researching future issues.

Forensic Science is one of NIJ's most important research and funding areas. It has been affected give the President's cuts on DNA and because of changes to programs like the Debbie Smith Act.

The Office of Juvenile Justice and Delinquency Prevention provides national leadership, coordination, and resources to prevent and respond to juvenile delinquency

and victimization. It's mission is to support states and communities in their efforts to develop and implement effective and coordinated prevention and intervention programs. Also, its mission is to improve the juvenile justice system so that it protects public safety, holds offenders accountable, and provides treatment and rehabilitative services tailored to the needs of juveniles and their families.

Thank you, Mr. Chairman. I welcome today's witnesses. I yield back the balance of my time.

Congressional Fire Services Institute / International Association of Arson Investigators / International Association of Fire Chiefs / International Association of Fire Fighters / International Fire Service Training Association / International Society of Fire Service Instructors / National Fallen Firefighters Foundation / National Fire Protection Association / National Volunteer Fire Council / North American Fire Training Directors / Sergeants Benevolent Association

September 8, 2008

Hope Janke
Counsel to the Director
Bureau of Justice Assistance
Office of Justice Programs
810 7th Street, NW
Washington, DC 20531

RE: (RIN 1121-AA75; OJP Docket No. 1478) Comments on Proposed Rulemaking Regarding the Public Safety Officers' Benefits Program,

Dear Ms. Janke:

We, the undersigned organizations representing law enforcement officers, firefighters, and other first responders, submit these comments in response to the Notice of Proposed Rulemaking relating to the Public Safety Officers' Benefits Program ("PSOBP") that the U.S. Department of Justice, Office of Justice Programs ("OJP") published in the Federal Register on July 10, 2008 ("Proposed Regulation").

We support several of the goals OJP notes in the preamble to the Proposed Regulations that it hopes to accomplish through this rulemaking, such as to remove ambiguities in the current regulation and to counter any suggestion that claims filed under the Hometown Heroes Survivors Benefits Act of 2003 ("HHSBA") are not regular PSOB death-benefit claims, and we applaud OJP's continued commitment to improving this important program. We are concerned, however, that contrary to these stated goals, some of the changes OJP has proposed could unintentionally constrict the classes of individuals eligible to receive benefits under the PSOBP and impose unnecessary, unduly burdensome procedural requirements on PSOBP claimants. Such results would run counter to what Congress intended when it enacted the Public Safety Officers' Benefits Act ("PSOBA") and related laws, including the Hometown Heroes Survivors Benefits Act.

As the Court of Federal Claims has repeatedly counseled, the PSOBA "is remedial in nature and thus should not be applied grudgingly, but rather should be construed liberally to avoid frustration of its beneficial legislative purposes." *See, e.g., Wimuk v. United States*, 77 Fed. Cl. 207, 215 (2007); *Bice v. United States*, 72 Fed. Cl. 432 (2006); *Demutiis v. United States*, 48 Fed. Cl. 81, 86 (2000), *aff'd as modified*, 291

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F.3d 1373 (Fed. Cir. 2002). *See also Baltimore & Philadelphia S.B. Co. v. Norton,* 284 U.S. 408, 414 (1932) (remedial laws "are deemed to be in the public interest and should be construed liberally in furtherance of the purpose for which they were enacted and, if possible, so as to avoid incongruous or harsh results"). Certain provisions of the Proposed Regulations run afoul of these important admonitions, and thus are not unlike OJP's initial regulations governing the HHSBA. Those initial regulations led to the denial of nearly all heart attack and stroke claims filed under the Act within their first year of operation, and necessitated the issuance of clarifying directives in October 2007. Given the problems which OJP encountered as a result of the agency's initial interpretation of the Hometown Heroes Act, it should not proceed precipitously in issuing Final Regulations regarding this important program unless and until it has fully considered the potential effects of these amendments on claimant public safety officers or their survivors, and consulted with the public safety community.

Our specific comments on the Proposed Regulation are as follows:

1. OJP Should Define, Clarify or Eliminate Certain Terms in the Definition of "Authorized Commuting," 28 CFR § 32.3.

The PSOBA provides for the payment of benefits when a public safety officer is killed or disabled in the line of duty. *See* 42 U.S.C. §§ 3796 and 3796d. OJP has interpreted that Act as providing that an injury is sustained in the line of duty, and thus qualifies for benefits, only if it is sustained in the course of the performance of a line of duty activity, a line of duty action or *authorized commuting*, or if convincing evidence demonstrates that such injury resulted from the injured party's status as a public safety officer. 28 C.F.R. § 32.3. The term "authorized commuting," which does not appear in the statute itself, nor did it become part of the regulations until the 2005-2006 PSOBP rulemaking, is presently defined as travel by a public safety officer "[i]n the course of actually responding to a fire, rescue, or police emergency…" *Id.* The Proposed Regulation would revise the definition so that authorized commuting is defined as travel by a public safety officer "[i]n the course of actually responding (as authorized) to a fire-, rescue-, or police emergency, or to a particular and extraordinary request (by the public agency he serves) for that specific officer to perform public safety activity, within his line of duty…." *See* Proposed Regulation at 39635. Taken as a whole OJP's proposed amendments to the term "authorized commuting" may create significant uncertainty, inconsistent application by the courts and/or PSOB determining officials, and is not in keeping with the Agency's stated goal to "remove ambiguities" in the current regulations. *See* Proposed Regulation at 39634. As such, it is not unlike OJP's original interpretation of "non-routine stressful or strenuous physical activity" in the 2006 regulations implementing the HHSBA. This interpretation generated no end of confusion, was a factor in a number of adverse determinations over the course of the first year that these regulations were in effect, and necessitated clarification in the BJA Director's October 2, 2007 policy directive. As described by the Director, this clarification was necessary "to ensure future consistency" in how BJA would consider this term.[1]

[1] See statement of Director Domingo Herraiz, Bureau of Justice Assistance, before the Senate Committee on the Judiciary, October 4, 2007.

There are several problems with the proposed change. The proposed definition of "authorized commuting" involves a phrase which expands the existing definition to include travel when a public safety officer is responding to "a particular and extraordinary request (by the public agency he serves) for that specific officer to perform public safety activity, within his line of duty...." The issue is that the word "extraordinary" is undefined. Does "extraordinary" mean that the request simply is not commonplace? Or is "extraordinary" instead a reference to dangerous circumstances? Or does "extraordinary" mean something else altogether? The Proposed Regulation does not say.

More fundamentally, the inclusion of the word "extraordinary" seems unnecessary. Consistent with Congress' intent, benefits should be triggered *whenever* a public safety officer suffers permanent disability or death as a result of an injury sustained while traveling pursuant to a specific request made by his or her agency to perform a "public safety activity within his [or her] line of duty." If a public safety officer has suffered disability or death resulting from an injury sustained while traveling to perform a "public safety activity within his line of duty" at his agency's specific request, the PSOBA very clearly provides for benefits. 42 U.S.C. § 3796(a) (where the BJA "determines ... that a public safety officer has died as the direct and proximate result of a personal injury sustained in the line of duty, the [BJA] *shall* pay a benefit ...") OJP reached a similar conclusion with respect to the meaning of the term "authorized commuting" in the preamble to the August 10, 2006 PSOBP regulations. The agency noted that "[i]n the case of officers who are commuting to or from work with other modes of transportation, the ordinary line of duty analysis would apply: Where it can be shown that they were injured while engaging in line of duty activities or action, or that they sustained the injury as a result of their status as public safety officers, they would be considered as acting in the line of duty." 71 FR 46033. Fairly construed, the PSOBA simply imposes no additional requirement that the officer's agency's particular request be "extraordinary."

To avoid uncertainty and to honor Congress' intent, the OJP should at the very least define "extraordinary" in a manner that is keeping with the intent of Congress. Absent this, we recommend OJP eliminate the words "and extraordinary" from the proposed revision to the definition of "authorized commuting" so as to avoid any undue confusion. Congress clearly wished to provide benefits in *all* situations where a public safety officer suffers permanent and total disability or dies as a result of an injury sustained while traveling pursuant a particular request made by his agency to perform a public safety activity within the line of duty.

Secondly, the proposed definition of "authorized commuting" is that it contains a new term, "public safety activity," which the Proposed Regulation defines as being limited to "(1) Law enforcement; (2) Fire protection; (3) Rescue activity; or (4) The provision of emergency medical services." *See* Proposed Regulation at 39637. While this definition would seem sufficient, due to the nature of public safety, this definition could inadvertently exclude certain emergency response activities that do not fall neatly into one these four categories. To ensure that the definition is sufficiently comprehensive, consistent with the intent of the PSOBA, the OJP should: **(i)** delete the

"or" between "Rescue activity;" and (4); and **(ii)** after the phrase "The provision of emergency medical services," insert the following: "; or (5) any emergency response activities an agency is authorized to perform."

2. OJP Should Not Adopt Certain Provisions in the Proposed Definition of "Certification" in 28 C.F.R. § 32.3.

Certifications are prerequisites to establishing eligibility for benefits under the PSOBP. 28 C.F.R. § 32.15 specifically provides that no claim for benefits shall be approved unless the following certifications are filed: (i) a certification from the public safety officer's agency that the officer died as a direct and proximate result of a line of duty injury and that the agency either has paid the officer's survivors the maximum death benefits it can legally pay or is not legally authorized to pay such benefits;[2] and (ii) a certification by the claimant listing every individual known to him who is or might be the officer's child, spouse, or parent.

The Proposed Regulation includes, for the first time, a definition of "Certification" in 28 C.F.R. § 32.3. This proposed definition would impose on PSOBP claimants a number of new procedural requirements that will make filing claims more cumbersome. OJP does not articulate any justification for adding these requirements. Among other things, the proposed definition would: (i) require certifications to be "expressly intended to be relied upon by the PSOB determining official in connection with the determination of a claim specifically identified therein" and "expressly directed to the PSOBP determining official"; (ii) require certifications to contain express declarations that they are legally subject to prosecution for false statements and perjury and to the statutory provision governing declarations under the penalty of perjury; (iii) require certifications to be executed by a person who has, and declares that she has, knowledge of the assertions made and legal authority to make such assertion; and (iv) allow the Director of the Bureau of Justice Assistance ("BJA"), in his discretion, to impose additional "form" requirements. In addition, the proposed definition might make it more challenging for claimants to have their claims considered, even if their certifications are otherwise technically compliant. Specifically, a provision in the proposed definition of "certification" permits the PSOB determining official to reject a certification if, in his own view, it is not "unambiguous, precise and unequivocal." These are terms that, on their face, lend themselves to subjective determinations.

We do not object to OJP's endeavoring to establish guidelines for what the certifications required under the PSOBP must contain. But OJP must not make the certification requirements so technical and so cumbersome (particularly without any legitimate, articulated justification) that it elevates form over substance and renders agencies and claimants effectively unable to comply with them without the assistance of counsel. It is our concern that, with some of the proposed requirements, OJP is doing precisely that. We therefore oppose the inclusion of such proposed requirements:

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[2] 42 U.S.C. § 3796c-1 contains a similar certification requirement for cases in which beneficiaries choose to seek expedited benefits in connection with a death- or disability-causing line-of-duty injury sustained while preventing or responding to a terrorist attack.

a. By newly requiring certifications to be both "expressly intended to be relied upon by the PSOB determining official in connection with the determination of a claim specifically identified therein" and "expressly directed to the PSOB determining official," OJP is erecting for eligible PSOBP beneficiaries unnecessary procedural hurdles that appear to serve little purpose other than to permit the BJA to deny potentially meritorious PSOBP claims on technical grounds. Indeed, these proposed requirements are a clear effort to override a judicial decision in which the Court of Federal Claims explicitly criticized the BJA Director as having acted "narrow minded[ly]" and "arbitrar[il]y," and as having improperly elevated form over substance, for denying the PSOBA claims of the father of a volunteer firefighter who gave his life attempting to rescue victims of the terrorist attacks of September 11, 2001. *Winuk v. United States*, 77 Fed. Cl. 207 (2007) (holding that BJA Director acted arbitrarily in denying claim on grounds that, *inter alia*, certification letters were not expressly directed to BJA). In other words, the proposed requirements are an effort to *restore* a "narrow-minded" and "arbitrary" interpretation of the PSOBA that values form over substance. They should not be permitted to go into effect.

If, in connection with a claim, a PSOBP claimant and/or relevant agency provides to the BJA the requisite certifications that, *in substance*, contain the necessary information (*e.g.*, that the officer died as the direct and proximate result of a line-of-duty injury and that the survivors received the maximum allowable benefits from the officer's agency), such certification is sufficient to meet the certification requirement. Consistent with the ruling in *Winuk*, that is so whether or not the certifications are "*expressly* intended to be relied upon by the PSOB determining official in connection with the determination of a claim *specifically* identified therein" and whether or not they are "*expressly* directed" to the PSOB determining official. In the end, what matters is whether the certifications get into the hands of the determining official, not how they are intended or addressed. Subparagraphs (1) and (2) of the proposed definition of "certification" should be deleted.

b. It is unnecessary to require certifications to contain: (i) a *formal* declaration from the executing individual that he or she has knowledge of the assertions made in the certification and the legal authority to make them; or (ii) a *formal* declaration that the assertions made in the certification are subject to prosecution for false statements and perjury and to the statute governing declarations under penalty of perjury. Both are already implicit in any certification an agency or individual submits. As to (i), the signature on a certification plainly implies that the signatory has knowledge of and authority to make the assertions in the certification.[3] As to (ii), it is a given that an individual who signs a statement (*e.g.*, a certification) and provides it to federal officials is subject to federal criminal prosecution if the statement is false. There is thus no sound reason – and OJP gives none – to require formal declarations regarding these matters. This is especially so given that there are other provisions in the proposed definition of "certification" that guarantee the trustworthiness of PSOBP certifications. These include

[3] If the fact that the executing individual has personal knowledge of the assertions made in the certification cannot be gleaned from the contents of the certification – an unlikely scenario – the PSOB determining official can simply return the certification to the agency or claimant and ask the executing individual to make it clear. No formal declaration need be required.

the provision that requires certifications to be "true, complete and accurate" (*see* subparagraph (6)), and the language making explicit that the individual executing a certification may be punished under the criminal law for making false statements (*see* subparagraph (3)).

Requiring formal declarations regarding the assertions made in PSOBP certifications would, again, elevate form over substance and potentially result in the improper rejection of certain claims on non-substantive, technical grounds. Subparagraph (4) of the proposed definition of "certification" should be deleted, as should the words "and expressly declares the same to be so" in subparagraph (3).

c. The proposed provision permitting the BJA Director to alter the certification requirements from time-to-time is objectionable. While it arguably provides the BJA Director with flexibility to alter the form of the requisite certifications as needed, it provides absolutely no limits on what the Director may do. Giving the Director unfettered discretion to change the form of the certifications literally permits the Director to elevate form over substance, authorizing him, without limitation, to impose new technical, procedural requirements on PSOBP claimants outside the rulemaking process. Subparagraph (5) of the proposed definition of "certification" should be deleted.

d. The proposed provision requiring the certifications to be "unambiguous, precise, and unequivocal, in the judgment of the PSOB determining official as to any fact asserted, any matter otherwise certified, acknowledged, indicated, or declared..." is unwarranted. It seeks effectively to reverse the Court of Federal Claims' correct ruling in *Winuk*, which castigated the BJA Director for implausibly determining two certifications to be ambiguous on the question of whether a volunteer firefighter died from injuries sustained in the line of duty. The Court of Federal Claims got it right; the Proposed Regulation gets it wrong. When, as in *Winuk*, a public safety officer's agency certification can be fairly construed to indicate that the officer died from injuries sustained in the line of duty, and when such certification can be fairly construed to indicate that the agency has paid the maximum allowable amount of benefits, the certification requirement is satisfied. It is both unreasonable and contrary to Congress' wishes to hold claimants, who may not be sophisticated and likely are not trained in the law, to an exacting subjective standard that a PSOB determining official (like the BJA Director in *Winuk*) might interpret as requiring a near-impossible-to-attain level of precision. Subsection (7) of the proposed definition of "certification" should be deleted.

3. OJP Should Adopt a More Precise Definition of "Commonly Accepted" in 28 CFR § 32.3.

OJP has the authority to deny a claim if a public safety officer who died from a heart attack precipitated by line-of-duty conduct engaged in intentional "risky behavior," which is defined to include a number of things "commonly accepted" to be a substantial health risk. 28 C.F.R. § 32.13. The Proposed Regulation would define "commonly accepted" to mean "generally agreed upon within the medical profession." Proposed Regulation at 39636.

Our objection to this definition is that the phrase "generally agreed upon within the medical profession" is too imprecise and is therefore subject to misapplication. Fifteen (15) years ago, the U.S. Supreme Court rejected a similar standard, which had governed the admissibility of scientific evidence in federal courts for decades, and replaced it with a more comprehensive standard that focuses on the reliability and relevance of proffered scientific evidence. Under this more comprehensive standard, the non-exclusive list of factors for assessing reliability includes:

- whether the scientific theory or technique can or has been tested
- whether the scientific theory or technique has been subjected to peer review and publication
- the known or potential error rate of the technique when applied
- the existence and maintenance of standards and controls
- the general acceptance of the theory or technique in the relevant scientific community

Consistent with how federal and many state courts now determine the admissibility of scientific evidence, and to ensure that PSOB determining officials do not erroneously deny claims by interpreting the definition of "risky behavior" more broadly than is appropriate, the OJP should define "commonly accepted" to mean: "based on a theory or technique that is scientifically reliable, such scientific reliability being established on the grounds that the theory or technique: (i) can be or has been tested; (ii) has been subjected to peer review and publication; (iii) has a known or potential error rate; (iv) features the existence and maintenance of standards and controls concerning its operation; and (v) is generally accepted within the medical profession."

4. OJP Should Not Limit the Kinds of Training Programs that Trigger PSOPB Benefits Eligibility.

a. <u>OJP Should Not Limit the Kinds of Training Programs that Qualify as "Line of Duty Activity or Action" under 28 CFR § 32.3, as the Proposed Regulation Provides.</u>

The PSOBA provides that BJA should pay benefits if a public safety officer "has died as the direct and proximate result of a personal injury sustained in the line of duty." 42 U.S.C. § 3796(a). The PSOBA regulations currently provide that officers who participate in "training programs" are considered to be acting "in the line of duty." 28 CFR § 32.3. OJP proposes to revise the definition of "line of duty activity or action" so that it instead entails participation in "any official training programs of his public agency." Proposed Regulation at 39636.

We recommend amending this definition by striking "his public agency" and replacing it with "a public agency." This will keep the definition uniform with that of "official training program of a public agency" found later in the proposed rule and clarify any confusion over whether or not an officer can participate in a program offered by any

organization or agency other than his own when the officer's agency approves their participation.

b. OJP Should Not Narrow the Definition of "Participation in a Training Exercise" in 28 CFR § 32.13.

Under the PSOBA, as amended by the HHSBA, benefits eligibility may be triggered by a death resulting from a heart attack caused by, *inter alia*, on-duty "participation in a training exercise" that involves nonroutine stressful or strenuous physical activity. 42 U.S.C. 3796(k). The current definition of "participation in a training exercise" reads: "A public safety officer participates (as a trainer or trainee) in a training exercise only if it is a formal part of an official training program whose purpose is to train public safety officers in, prepare them for, or improve their skills in, particular activity or actions encompassed within their respective lines of duty." 28 CFR 32.13. OJP proposes to revise this definition to read, "A public safety officer participates (as a trainer or trainee) in a training exercise only when actually taking formal part in *a mandatory, structured activity* within an official training program *of his public agency*." Proposed Regulation at 39638 (emphasis added).

By requiring that the training be "mandatory," the new definition, by its plain language, could be interpreted to exclude officers who, *even with their agencies' approval*, participate in voluntary training programs to enhance their knowledge and skills.

We recommend OJP define the term "mandatory" as it applies to training exercises and ensure that the definition does not exclude voluntary training programs intended to enhance knowledge and skills. Failing this, OJP should not adopt the new definition of "participation in a training exercise" set forth in the Proposed Regulation, inasmuch as it is unclear and could inadvertently restrict the kinds of training programs that public safety officers could participate in.

5. OJP Should Revise the Proposed Definition of "Heart Attack" in 28 CFR 32.3.

In the existing regulations, "heart attack" is defined as "myocardial infarction or sudden cardiac arrest." 28 C.F.R. § 32.3. OJP proposes revising the definition as follows:

Heart attack means--

(1) A myocardial infarction; or

(2) A cardiac-event (i.e., cessation, interruption, arrest, or other similar disturbance of heart function), not included in paragraph (1) of this definition, that is--

(i) Acute; and

> (ii) Directly and proximately caused by a pathology (or pathological condition) of the heart or the coronary arteries.
>
> (Proposed Regulation at 39636-37).

While appropriately broader than the current definition of "heart attack," the proposed definition still fails to include, as it should, situations in which the heart stops due to chest trauma. For example, under the proposed definition, a public safety officer who, while acting in the line of duty, receives a lethal, heart-stopping blow to his chest during the few hundredths of a second between when the heart contracts and starts again would not be considered to have suffered a heart attack because an autopsy would reveal no cardiac pathology. OJP should revise the proposed definition of "heart attack" to include sudden trauma to the heart that causes the heart to stop, resulting in death. Our organizations specifically propose that OJP amend subsection (2) of the definition so that it reads as follows:

> (2) A cardiac-event, (including, but not limited to, cessation, interruption, arrest, or other similar disturbance of heart function), not included in paragraph (1) of this definition, that is--
>
> (i) Acute, and directly and proximately caused by a pathology (or pathological condition) of the heart or the coronary arteries; or
>
> (ii) Directly and proximately caused by a trauma to the heart that causes the heart to stop.

6. OJP Should Revise the Proposed Regulation Regarding "Competent Medical Evidence to the Contrary" in 28 CFR § 32.14.

The HHSBA contains a presumption that death from stroke or heart attack occurring within 24 hours of non-routine stressful or strenuous "law enforcement, fire suppression, rescue ... or other emergency response" activity or training exercise is a benefits-eligible, line-of-duty injury. 42 U.S.C. § 3796(k). The presumption may be overcome, however, by "competent medical evidence to the contrary." *Id.* As the Proposed Regulation explains, the BJA issued a memorandum in October 2007 that clarifies what the BJA should, and should not, consider to be "competent medical evidence to the contrary." OJP now purports to incorporate this memorandum into the implementing regulation by adding a new provision, 28 C.F.R. § 32.14(c). The new provision reads as follows:

> (c) In connection with the determination of the existence of competent medical evidence to the contrary, pursuant to a filed claim—
>
> (1) Where there is an affirmative suggestion under paragraph (c)(2) of this section, which indicates the existence of a potential ground for denial of the claim, the PSOB Office shall serve the claimant with notice thereof, to request that he file such documentary, electronic, video, or other non-

physical evidence (such as medical-history records, as appropriate) and legal arguments in support of his claim as he may wish to provide;

(2) There is an affirmative suggestion within the meaning of paragraph (c)(1) of this section, where the evidence before the PSOB Office affirmatively suggests that—

(i) The public safety officer actually knew or should have known that he had cardio-vascular disease risk factors and appears to have worsened or aggravated the same through his own intentional and reckless behavior (as opposed to where the evidence affirmatively suggests merely that cardio-vascular disease risk factors were present); or

(ii) It is more likely than not that a public safety officer's heart attack or stroke was imminent; and

(3) The PSOB Office shall not request medical history records to supplement a filed claim, unless the criteria in paragraphs (c)(1) and (2) of this section are satisfied; and

(4) Any mitigating evidence provided under paragraph (c) of this section will be considered by the PSOB Office.

For two reasons, this new provision falls short of OJP's stated goal of fully and successfully incorporating the October 2007 memorandum. First, the mutual cross-references between subsections (c)(1) and (c)(2) make the proposed provision cumbersome and confusing and therefore potentially subject to misapplication. Second, the proposed provision does not expressly convey one of the central tenets of the October 2007 memorandum – namely, that cardio-vascular disease/risk factors must *not* be considered in the absence of certain evidence in the claim file. There is no reason why it should not do so.

OJP should revise the proposed regulation regarding "competent medical evidence to the contrary" to read as follows:

(c) In connection with the determination of the existence of competent medical evidence to the contrary—

(1) Where the evidence submitted to the PSOB Office affirmatively suggests that (i) the public safety officer actually knew or should have known that he had cardio-vascular disease risk factors and appears to have worsened or aggravated the same through his own intentional and reckless behavior (as opposed to where the evidence affirmatively suggests merely that cardio-vascular disease risk factors were present) or (ii) it is more likely than not that a public safety officer's heart attack or stroke was imminent, the PSOB Office shall serve the claimant with notice thereof, to request that he file such documentary, electronic, video, or other non-physical evidence (such as medical-history records, as appropriate) and legal arguments in support of his claim as he may wish to provide;

(2) In determining whether the evidence submitted to the PSOB Office affirmatively suggests the existence of any of the criteria set forth in paragraph (c)(1) of this section, the mere presence of cardiovascular disease risk factors (even extremely severe) shall not be considered;

(3) The PSOB Office shall not request medical history records to supplement a filed claim unless the criteria set forth in paragraph (c)(1) of this section are satisfied; and

(4) Any mitigating evidence provided under paragraph (c)(1) of this section shall be reviewed by the PSOB Office in favor of the claim.

* * *

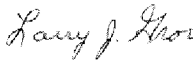
The PSOBP is a critical program designed to recognize and honor the invaluable public service performed by those who sacrifice their lives to protect our communities. It is imperative that OJP administer the PSOBP in a way that enables the PSOBP's intended beneficiaries to obtain the assistance Congress has provided without having to satisfy requirements that run counter to the PSOBP's broad remedial purposes. Accordingly, we urge OJP to take action consistent with the foregoing comments when revising the PSOBP regulations.

Thank you for your consideration. If you would like to discuss any of our comments further, please contact Sean Carroll, CFSI's Director of Government Affairs, at 202-371-1277.

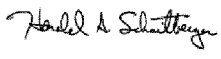
Sincerely,

Dr. William Jenaway
President, Congressional Fire Services Institute

Ken Finley
President, International Association of Arson Investigators



Chief Larry J. Grorud, CFO, MIFireE
President, International Association of Fire Chiefs



Harold A. Schaitberger
General President, International Association of Fire Fighters

Chris Neal
President, International Fire Service Training Association

Chief W. Edward Buchanan , Jr.
President, International Society of Fire Service Instructors

Chief Dennis Compton
Chairman of the Board, National Fallen Firefighters Foundation

Chief Philip C. Stittleburg
Chairman, National Volunteer Fire Council

Ed Mullins
President, Sergeants Benevolent Association of New York City

James M. Shannon
President, National Fire Protection Association

Rick Mason
President, North American Fire Training Directors

U.S. Department of Justice

Office of Legislative Affairs

Office of the Assistant Attorney General

Washington, D.C. 20530

December 23, 2008

The Honorable Robert C. Scott
Chairman
Subcommittee on Crime, Terrorism, and Homeland Security
Committee on the Judiciary
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

Please find enclosed a response to questions arising from the appearance of then Acting Assistant Attorney General Jeffrey L. Sedgwick before the Committee on September 18, 2008, at a hearing entitled "The Department of Justice, Office of Justice Programs Oversight".

We hope that this information is of assistance to the Committee. Please do not hesitate to call upon us if we may be of additional assistance. The Office of Management and Budget has advised us that from the perspective of the Administration's program, there is no objection to submission of this letter.

Sincerely,

Keith B. Nelson
Principal Deputy Assistant Attorney General

Cc: The Honorable Louie Gohmert
Ranking Minority Member

"The Department of Justice, Office of Justice Programs Oversight"

September 18, 2008

Questions for the Hearing Record

for

Jeffrey L. Sedgwick
Acting Assistant Attorney General
Office of Justice Programs
United States Department of Justice

1. **OJP commissioned a research organization to research and analyze measurement possibilities and related issues relating to the development of performance measures for the Byrne JAG program. We understand that this was completed and a report was provided to the OJP.**

RESPONSE:

The Office of Justice Programs (OJP), through its Bureau of Justice Assistance (BJA), worked with the Institute for Intergovernmental Research (IRR) to develop new performance measures for Law Enforcement Task Forces. Through various meetings in partnership with the National Narcotics Officers' Associations Coalition and others in the law enforcement field, BJA was able to develop more meaningful measurements that included output and outcome measures for law enforcement task forces. The measures were immediately put to use for the new DOJ Targeting Violent Crime Initiative (TVCI). TVCI task force grantees have been submitting performance measure data monthly as part of this grant initiative demonstrating value of this program.

The Byrne JAG program has six fundable categories and various measures for each of these categories. BJA developed a web site for the Center on Evaluation that contains helpful information to grantees when developing their strategies and information necessary to submit performance measures. The website address is http://www.ojp.usdoj.gov/BJA/evaluation/index.html.

Byrne JAG measures are submitted annually to OJP as part of the entire grant progress reporting system.

a. **Has this report been made public, and if not, why not?**

RESPONSE:

No official report was created, however, the measures have been adopted and are widely available and published for grantee use in submitting their data.

b. Could you please provide a copy of the report to this sub-committee?

RESPONSE:

Copies of the performance measure for both TVCI and the Byrne JAG program are attached.

2. In your statement, you discuss Intelligence-led Policing (ILP). Can you describe what this is and how it is a part of OJP? How much grant money is used to promote ILP?

RESPONSE:

Intelligence-led Policing (ILP) is a criminal justice concept that encourages greater use of criminal intelligence to fight crime and offers a more targeted, multi-jurisdictional and preventative point of view to the business of policing. As I mentioned in my written testimony, this is a relatively new concept in the United States and it builds upon the concepts of other criminal justice efforts, such as problem-solving policing, community involvement and neighborhood maintenance, police accountability, and information sharing practices. ILP is an example of how the Office of Justice Programs (OJP) is using research to keep pace with changes in society, technology, and criminal behavior, and to inform grant making decisions that assist the criminal justice community in responding to serious crime issues.

OJP's Bureau of Justice Assistance (BJA) does not receive a direct appropriation specifically focused on ILP. In Fiscal Year (FY) 2007, BJA tied its Targeting Violent Crime Initiative (TVCI) to the ILP concepts, which has proven successful. This initiative made available $75 million to 106 State, local, and tribal law enforcement agencies to address violent crime issues. Since February 2008, TVCI agencies have reported 5,034 violent felony arrests; 2,751 guns seized; 374 gangs disrupted; and 50 gangs dismantled.

OJP's National Institute of Justice (NIJ) provides grant funding for research, development, testing and evaluation in support of ILP. As part of its ILP-related efforts, NIJ supports the creation of tools and technologies for, and fosters new approaches to, the improvement of the overall information-sharing capabilities of State, local, and tribal criminal justice agencies. NIJ does not receive a direct appropriation specifically focused on ILP. ILP research and development activities are funded from the NIJ portion of the Justice Assistance appropriation and other appropriations as appropriate, through open, competitive solicitations.

3. You stated that BJS released two reports "Sexual Victimization in Local Jails Reported by Inmates" (2007) and "Sexual Violence Reported by Juvenile Correctional Authorities" (2005).

a. Did these reports indicate that sexual violence is a problem in our jails?

RESPONSE:

Sexual Victimization in Local Jails Reported by Inmates presents data from the 2007 National Inmate Survey (NIS), conducted in 282 local jails between April and December, with a sample of 40,419 inmates. About 1.6 percent of inmates (12,100, nationwide) reported an incident involving another inmate, and 2.0 percent (15,200) reported an incident involving staff. Inmate-on-inmate victimization occurred most often in the victim's cell (56 percent); staff-on-inmate victimization occurred in a closet, office, or other locked room (47 percent). An estimated 5.1 percent of female inmates, compared to 2.9 percent of male inmates, said they had experienced one or more incidents of sexual victimization. The full report can be found online at http://www.ojp.usdoj.gov/bjs/pub/pdf/svljri07.pdf.

Sexual Violence Reported by Juvenile Correctional Authorities, 2005-06 is based on administrative records of allegations and substantiated incidents in juvenile facilities and should not be compared with self-report data from the National Inmate Survey. State, local, and private juvenile correctional authorities reported an estimated 4,072 allegations of sexual violence involving youth held in juvenile facilities during 2005 and 2006, the equivalent of 16.8 allegations per 1,000 youth held in 2006 and 16.7 allegations per 1,000 youth in 2005. Approximately 1 in 5 of reported allegations of juvenile sexual violence were substantiated. The full report can be found online at http://www.ojp.usdoj.gov/bjs/pub/pdf/svrjca0506.pdf.

b. If so, has OJP awarded any grants, or done anything else, to address this problem?

RESPONSE:

The Department of Justice Review Panel on Prison Rape is in the process of conducting hearings with representatives from jail facilities that ranked both high and low on sexual victimization in the NIS survey. The Panel recently held hearings at the Torrance County, New Mexico, Jail, a facility with a high rate of sexual victimization. We would be glad to provide more information from those hearings as it becomes available.

Also, since 2003, the National Institute for Justice (NIJ) has made nine awards for research projects to address rape in correctional facilities. Three of these projects address, either entirely or in part, sexual victimization in jails.

4. We have had complaints that in fiscal year 2008, states did not receive their VOCA grants until mid-August, and as a result, many victim service providers were forced to lay off staff and reduce services to victims in need. Can you explain the delay and discuss your plans to ensure the timely release of VOCA funds in the future?

RESPONSE:

The amount of funds available from the Crime Victims Fund is set by Congress in the annual Department of Justice appropriations act. The Department's Fiscal Year (FY) 2008 appropriation was signed into law December 26, 2007. The appropriation was accompanied by Congressional report language, which called upon the Department to submit an operational plan to the appropriations subcommittee. The process involved much coordination and discussion between the Department and Congressional appropriations subcommittee staff. As a result, final Congressional review and comments on the operational plan were received on April 22.

Following Congressional review of the spending plan, OJP was able to begin finalizing the grant awards for FY 2008 and did so as expeditiously as possible. OJP processed approximately 4,400 grant applications in FY 2008. OJP's Office for Victims of Crime awarded more than $480 million to State crime victim assistance and compensation programs in FY 2008.

OJP has made significant enhancements to improve the processing of grant applications. For example, OJP's Grants Management System (GMS) is now a fully automated, web-based, end-to-end paperless grants management system that allows OJP grantees to process and manage their grants effectively and accurately. We continually seek to improve our processes, and each fiscal year the grant making procedures are reviewed and updated as necessary.

OJP is also working closely with the Office of Management and Budget and the Grants Management Line of Business (GMLOB) Consortium Service Providers. OJP continues to explore with the Department of Education, one of the GMLOB Consortium Providers, opportunities to partner and collaborate on shared services. We are hopeful that sharing system services will result in cost savings.

5. **Concerned groups have raised concerns about the Public Safety Officers Benefits (PSOB) Programs. In 2006, after nearly three years, the current rules were finalized. Problems with the Department's interpretation of the Hometown Heroes Act provisions led to the denial of the vast majority of claims filed under the Act and a subsequent Inspector General investigation. The Director of the Bureau of Justice issued clarifying policy guidance in October 2007. In July 2008, the OJP proposed numerous changes to the PSOB program. Groups are concerned that this new round of rulemaking could negatively impact the ability of public safety officers and their survivors to receive these benefits.**

   a. Can you address these concerns?

RESPONSE:

Although many of the changes proposed in the rule are significant (mainly for reasons of programmatic transparency and efficiency of claims processing), very few actually are substantive in character; i.e., very few of the proposed provisions would alter the determination of a claim. And the few proposed substantive changes to the regulation would, in general, tend

to make it somewhat easier for affected claimants to establish their claims (see e.g., definition of "Heart attack").

b. What is the purpose of the new regulations?

RESPONSE:

Executive Order 12866 calls upon agencies to examine whether their existing regulations should be modified to achieve the intended regulatory goal more effectively. Prior to 2006, the PSOB regulations had been updated only sporadically and had become considerably disconnected from the day-to-day implementation of the PSOB program. In an effort to provide clear programmatic guidance to both claimants as well as OJP staff administering the program and to conform to several statutory changes to the PSOB Act (including the Hometown Heroes Survivors Benefits Act amendments) and court rulings, the PSOB regulations were comprehensively revised in 2006.

The present proposed changes are a continuation of OJP's effort to ensure that the PSOB regulations are as comprehensive and accurate as possible with regard to the agency's current practice in determining claims (see the definition of "Designation on file," "Official training program," and "Routine," for example) and to correct certain provisions that may be under-inclusive as currently written (see the definitions of "Authorized commuting" and "Heart attack" for example). Many of the changes are simply grammatical and syntactical changes but are still important for the sake of clarity and usefulness of the regulations.

c. Why is there a need to update the existing regulations so soon?

RESPONSE:

The implementation of the presumption created by the Hometown Heroes Survivors Benefits Act (BJA has now processed more than 200 cases) has revealed several substantive and procedural shortcomings in the current rule that the proposed rule will fix. Since 2006 (when BJA began making determinations on Hometown Heroes claims), BJA has adjusted certain internal processing procedures, as well as its interpretations of several regulatory terms, and, in keeping with Executive Order 12866, it is important the PSOB rule, which is relied upon by both claimants and the agency, reflect these recent changes.

d. Were any public safety organizations consulted before the proposed regulations were released in order to gauge how the current regulations were functioning?

RESPONSE:

The Department did not consult with groups previous to issuing the proposed rule. The proposed revision of the PSOB regulations was published in early July and the public comment period extended for sixty days. Many public agency stakeholders submitted comments. In

addition to this standard sixty-day public comment period, the Department hosted a conference call that included several major stakeholder organizations in the public safety community a few days before releasing the proposed rule and a similar conference call after releasing the rule.

e. What is DOJ's timeline for issuing the final regulations?

RESPONSE:

Once the agency proposes a rule, the Administrative Procedure Act requires the agency to afford a reasonable time for public comment (in this case, the standard sixty days were allowed). The comment period ended on September 8, 2008. The draft final rule has been submitted to the Office of Management and Budget for review under Executive Order 12866 as of October 20, 2008. The final regulations will take effect 30 days after their publication in the Federal Register.

6. We've also have received concerns about the proposed amendments to 28 CFR Part 23. This regulation was part of a series of law enforcement reforms to curb widespread abuses of police investigative authorities for political purposes, such as the local "red squads" that amassed detailed dossiers on political officials.

a. What led to OJP's decision to revise these regulations?

RESPONSE:

The purpose of this revision is to clarify and update the regulations in light of the new, post-9/11 information sharing environment and investigative policies aimed at preventing terrorism and other crimes. The existing regulations were last revised in 1993. BJA also received requests from state and local law enforcement and information sharing communities to update the regulation in light of changes in both law enforcement priorities and technology since 1993. BJA worked closely with partners in the Program Managers Office for the Information Sharing Environment and DOJ's Privacy Office to formulate the revisions that were made.

b. What specifically does OJP find problematic about the existing regulations?

RESPONSE:

A detailed, section-by-section analysis of the changes that OJP proposed to the existing 28 C.F.R. Part 23 regulations, and the rationale for these changes, is available in the Notice of Proposed Rulemaking, published in the Federal Register on July 31, 2008 (73 Fed. Reg. 44673). The existing regulations were last revised fifteen years ago, and subsequent changes in law enforcement priorities and operating procedures (especially post-9/11), technological changes (for example, improvements in the security of remote system access technology), and the general obligation of Federal agencies to periodically review and ensure the relevancy of their rules all militated in favor of revising Part 23. Additionally, the proposed changes will require local law enforcement agencies to develop a project privacy policy that will specify the operational steps

being followed to comply with the rule and its privacy protections. Local agencies are not required to have such policies under the current rule.

7. **The Maryland State Police were recently found to have been improperly spying on peace activists and anti-death penalty advocates. Information gathered during these undercover operations was shared with the FBI's Joint Terrorism Task Force, and with the federal government's High Intensity Drug Trafficking Area Task Force. This is exactly the type of improper police intelligence activity the regulation was created to prevent. Aren't you concerned that loosening the language of 28 CFR Part 23 will encourage this type of overzealous collection of information about First Amendment protected activities?**

RESPONSE:

Balancing the need to collect and share criminal intelligence information with the constitutional rights of individuals, including those guaranteed by the First Amendment, is the underpinning of the Part 23 rule. As stated in the Notice of Proposed Rulemaking, one of the primary goals of the Part 23 rule and the proposed changes thereto is to ensure that criminal intelligence systems are not used in violation of the privacy and constitutional rights of individuals.

With regard to the Maryland State Police incident, it is our understanding that Maryland's system was not funded under Title I of the Omnibus Crime Control and Safe Streets Act of 1968, as amended, and therefore was not required to follow Part 23. However, it is important to note that the proposed revisions to Part 23 retain the "reasonable suspicion" threshold and thus will not in any way loosen the standard with regard to collection of information for those agencies required to follow Part 23.

8. **28 CFR Part 2, as currently written, limits the dissemination of law enforcement intelligence to situations in which "there is a need to know and a right to know the information in the performance of a law enforcement activity." OJP's proposed rule would allow the dissemination of criminal intelligence information "when the information falls within the law enforcement, counterterrorism, or national security responsibility of the receiving agency or may assist in preventing crime or the use of violence or any conduct dangerous to human life or property."**

   a. **What type of information would "fall within the law enforcement"?**

RESPONSE:

The Notice of Proposed Rulemaking provided a detailed explanation of OJP's rationale for the proposed change and opened a thirty-day window for public comment on any aspect of the proposed revisions to 28 CFR Part 23. OJP is currently considering all public comments and may change the final rule (including the portion referred to in the question above) to reflect this input. Given that the rule has not yet been finalized, it would be premature to elaborate on the

specifics of these ongoing deliberations at this time. That said, "within the law enforcement…responsibility" generally refers to information that is necessary for an agency to perform its law enforcement functions as authorized by state or local law. This specific reference, however, is not a departure from the current rule where information that falls within the law enforcement responsibility of the receiving agency can be shared.

b. How do you define information that "may assist in preventing crime"?

RESPONSE:

The Notice of Proposed Rulemaking provided a detailed explanation of OJP's rationale for the proposed change and opened a thirty-day window for public comment on any aspect of the proposed revisions to 28 CFR Part 23. OJP is currently considering all public comments and may change the final rule (including the portion referred to in the question above) to reflect this input. OJP will continue to work closely with partners in the Program Managers Office for the Information Sharing Environment and DOJ's Privacy Office throughout this process. It would be premature to elaborate on the specifics of these ongoing deliberations until the rule is finalized.

c. What was the impetus for broadening the dissemination of this information?

RESPONSE:

The preamble to the proposed rule explains that –

"There is no uniform definition of the information sharing standard. In addition, there is no reference in this provision to disseminating criminal intelligence information for preventative law enforcement, homeland security, or counterterrorism purposes. The attacks of September 11, 2001, have made it clear that the sharing of intelligence information should be maximized, to the extent consistent with applicable law and protection for privacy and civil liberties, among federal, state, and local agencies responsible for law enforcement, preventing terrorism, and securing our homeland. Reducing real or perceived barriers to the sharing of investigative and intelligence information that could aid in law enforcement or in the prevention of crime or terrorism is now a well-recognized priority of federal, state, and local agencies."

OJP's intention was not necessarily to "broaden" dissemination, but to implement a more uniform standard as to the circumstances in which information can be shared. Specifically, OJP has, on several occasions, been asked to clarify what "need to know, right to know" means and to make situational determinations on its applicability. We believe that these types of determinations are barriers to effective information sharing and should not be necessary for agencies to perform the required functions of their jobs.

d. What checks and balances are in the regulations to avoid the illegal collection and dissemination of information?

RESPONSE:

As set forth in the Notice of Proposed Rulemaking, OJP will play an active role in monitoring and ensuring compliance with the provisions of Part 23. OJP's BJA will continue to support training and technical assistance nationwide for law enforcement seeking to follow Part 23. OJP will also be developing additional support materials to assist state and local agencies with the development of required privacy policies and guidelines. OJP is currently considering all public comments and may change the final rule to reflect input on this issue.

9. 28 CFR Part 23 currently permits the dissemination criminal intelligence information to any individual when necessary "to avoid imminent danger to life or property." OJP's proposed rule would amend this provision by removing the word "imminent," meaning information could be distributed without limits even when no emergency existed.

a. Again, why the change?

RESPONSE:

As described in the Notice of Proposed Rulemaking –

"Paragraph (f)(2) creates an exception to the requirement in paragraph (f)(1) allowing the dissemination of 'an assessment of criminal intelligence information to a government official or any other individual, when necessary to avoid imminent danger to life or property.' The term 'imminent' is not defined. Because the provision already requires a determination that the sharing of the information assessment is 'necessary' to avoid danger to life or property, it is proposed that the term 'imminent' be deleted."

As described in the proposed rule, the term "imminent" presents barriers to effective information sharing because in most cases, it is not known that an act of violence is imminent. It is also important to make clear that this exception does, and will, refer to an "assessment" of the intelligence information, and not the actual intelligence. This is consistent with common practices of sharing threat information with industry and other infrastructure officials. OJP is currently considering all public comments and may change the final rule (including the portion referred to in the question above) to reflect this input.

b. Won't removing the "imminence" requirement basically allow the exception to swallow the rule, where information can be distributed to anyone when potential danger is merely possible?

RESPONSE:

No. The section of the rule where "imminent" was proposed for removal does not apply to sharing of the intelligence information itself. Rather, this section deals with the sharing of "assessments" of intelligence information, such as what we typically see in the post-9/11 environment as a "threat assessment." Because this change only relates to the sharing of "assessments" (which generally do not include personally identifiable information), and does not create any exception for sharing actual intelligence outside of law enforcement, this exception cannot possibly "swallow the rule." This proposed change and expected clarification in the final rule actually strengthen the rule by clarifying these circumstances and protecting against unnecessary disclosures.

c. Isn't allowing criminal intelligence to be disseminated outside of law enforcement a huge risk?

RESPONSE:

Neither the proposed rule nor the current rule allows "criminal intelligence" to be disseminated outside of law enforcement. The current rule and the proposed rule provide that the practice of sharing an "assessment" (e.g., "threat assessment") of such information be allowable under certain circumstances. Moreover, to the extent there is "risk" associated with disseminating an assessment outside law enforcement, we feel that the greater risk is in not disseminating "when necessary to avoid danger to life or property." Further, OJP is currently considering all public comments, several expressing concerns nearly identical to that expressed above, and may change the final rule (including the portion referred to in the question above) to reflect this input. It would be premature to elaborate on the specifics of these ongoing deliberations at this time.

August 2008

NASADAD

NATIONAL ASSOCIATION OF STATE ALCOHOL AND DRUG ABUSE DIRECTORS, INC.

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IMPLEMENTING THE SECOND CHANCE ACT: THE ROLE OF STATE SUBSTANCE ABUSE AGENCIES IN FEDERAL OFFENDER REENTRY LEGISLATION

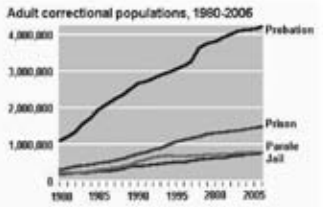
Overview

On April 9, 2008, the Second Chance Act: Community Safety Through Recidivism Prevention, was signed into law by President Bush (P.L. 110-199). The Act authorizes grants to improve offender reentry planning and program delivery and specifically requires extensive involvement of State substance abuse agencies in the implementation of the new grants. Congress is working to provide funding for this program in FY 2009 but no final decision has been made. This Policy Brief informs stakeholders about the core provisions of the Act; highlights specific language pertaining to addiction; and reviews the benefits of working directly with State substance abuse agencies as reentry initiatives are planned, implemented, and evaluated.

Purpose of the Second Chance Act: Addiction Services Represent Key Component

The Act begins with 6 purpose areas. One core purpose is to "break the cycle of criminal recidivism, increase public safety and help States, local units of government, and Indian Tribes, better address the growing population of criminal offenders who return to their communities and commit new crimes." [Sec.3(a)(1)] The importance of addiction services is stated through another core purpose area: "to encourage the development and support of, and to expand the availability of, evidence-based programs that enhance public safety, and reduce recidivism, such as substance abuse treatment, alternatives to incarceration, and comprehensive reentry services." [Sec.3(a)(3)]

> *State Substance Abuse Agency directors, also known as Single State Authorities (SSAs), manage the publicly funded substance abuse prevention and treatment system of the Nation…Given the high rate of substance use disorders among offenders reentering our communities, successful reentry programs require close interaction and collaboration with each Single State Authority as the program is planned, implemented and evaluated.*
>
> *The Second Chance Act: Community Safety Through Recidivism Prevention, P.L. 110-199, Sec.3(a)(13)*



Correctional Surveys, Bureau of Justice Statistics (BJS), Department of Justice (DOJ), 2006

Data on Addiction and Crime

- For every dollar spent on addiction treatment programs, there is an estimated $4 to $7 reduction in the cost of drug-related crimes. With some outpatient programs, total savings can exceed costs by a ratio of 12:1 (NIDA InfoFacts, 2006).
- Over 7.2 million people were in jail or prison, or on probation or parole, in 2006 (Correctional Surveys, BJS, 2006).
- 64.3 percent of Federal prisoners and 69.3 percent of State prisoners regularly used drugs before being incarcerated (Drug Use and Dependence, BJS, October 2006).
- Less than 10 percent of adult offenders and 20 percent of juvenile offenders across all settings receive the treatment they need [Criminal Justice/Drug Abuse Treatment Studies (CJDATS), National Institute on Drug Abuse (NIDA), April 2007].
- In 2006, approximately 40 percent of admissions to the publicly funded substance abuse system were referred by the criminal justice system [Treatment Episode Data Set (TEDS), Substance Abuse and Mental Health Services Administration (SAMHSA), 2008].

About NASADAD

NASADAD represents the nation's State substance abuse agency directors, also known as Single State Authorities (SSAs). NASADAD's mission is to promote effective and efficient State substance abuse service systems. The Association's two component organizations are the National Prevention Network (NPN) and National Treatment Network (NTN).

SECTION 101 – STATE AND LOCAL REENTRY DEMONSTRATION PROJECTS

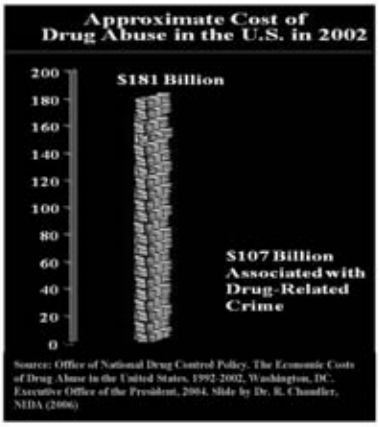
Core Grant Authorization
A large focus of the Second Chance Act is Section 101, the reauthorization of the Adult and Juvenile Offender State and Local Reentry Demonstration Projects program. States, units of local government, territories, Indian Tribes, or a combination are eligible to apply and $55 million is authorized in both FY'09 and FY'10. The grant places a major emphasis on addiction, noting that funds can support "…substance abuse treatment and services (including providing the full continuum of substance abuse treatment services that encompasses outpatient and comprehensive residential services and recovery)." [Sec.101(a)(2)]

Case Study of Collaboration: South Dakota

The Department of Corrections (DOC) and Department of Human Services' Division of Alcohol and Drug Abuse have a Memorandum of Understanding (MOU) outlining the relationship and responsibilities regarding services for offenders. All DOC programs are accredited by the State substance abuse agency director (SSA) and staff providing treatment are SSA employees. All staff providing services inside or outside institutions must be credentialed and the programs they work for must be accredited by the State. The SSA supports coordinators of Transition and Community Services that plan programs for inmates released to parole supervision. In an FY 2006 study of over 2,051 people in publicly funded treatment programs, where 74 percent were referred by the criminal justice system, approximately 50 percent were abstinent one year after treatment. In the year prior to treatment, 75 percent had been arrested; in the year after treatment, 19 percent had been arrested. In the year before treatment, over 30 percent were unemployed; in the year after treatment, less than 10 percent were unemployed. (See http://dhs.sd.gov/ada/)

Application Requirements and Priority Considerations
Application Requirements: The Attorney General may make a grant to an applicant applying for funds under Section 101 only if the application "provides extensive evidence of collaboration" with the State substance abuse agency, among others. [Sec.101(e)(3)]

Priority Considerations: The Act directs the Attorney General to give priority status to applications that "demonstrate effective case assessment and management abilities in order to provide comprehensive and continuous reentry, including…delivery of continuous and appropriate drug treatment…" [Sec.101(f) (3)(C)]



Reentry Plan and Task Force
Applicants for Section 101 grants are required to "develop a comprehensive strategic reentry plan." [Sec.101(h)] The Act requires that the reentry plan be developed in coordination with interested stakeholders, including the substance abuse field. [Sec.101(h)(2)] The Act also requires grantees to establish a Reentry Task Force, and the membership of the Task Force shall be comprised of "relevant State, Tribal, territorial, or local leaders" and others. [Sec.101(i)] SSAs should be considered a valuable leader in any reentry Task Force given the Act's focus on addiction.

Performance Measurement and Outcomes
The Act requires each applicant of Section 101 funding to include in its reentry plan "annual and 5-year performance outcomes…" [Sec.101(h)(1)] One specific goal of the plan shall be to reduce the rate of recidivism by 50 percent over 5 years. The Act then lists eight mandatory "performance outcomes" that must be included in the reentry plan. Two of these measures pertain to addiction: reduction in drug/alcohol abuse and increased participation in substance abuse services. [Sec.101(j)(2)(G)] Finally, DOJ is required to consult with SAMHSA and the National Institute on Drug Abuse (NIDA) on "performance outcome measures and data collection" related to substance abuse. [Sec.101k)(1)(D)]

BENEFITS OF WORKING WITH STATE SUBSTANCE ABUSE AGENCIES

Important Role of SSAs
The Second Chance Act requires the direct involvement of State substance abuse agency directors. The benefits of working directly with the SSA are outlined below:

Achieving Results: SSAs provide the expertise and leadership necessary to ensure the provision of services that achieve results. Through the National Outcome Measures (NOMs) initiative, State substance abuse agencies are already reporting on the positive impact addiction services have on criminal justice involvement; use of alcohol and illicit drugs; employment; and more. State-specific examples of outcomes from SAPT-funded services include:

Hawaii's Division of Alcohol and Drug Abuse reported the following outcomes in State Fiscal Year (SFY) 2006 for a sample of 1,608 adults six months after treatment: 64.1 percent were abstinent from alcohol and other drugs; 48.4 percent were either employed or in school; 79.6 percent had no criminal justice activity; and 86.6 percent had or maintained stable living arrangements.

Michigan's Office of Drug Control Policy reported 72,452 admissions to treatment in SFY 2007 and the following client outcomes at discharge: 60 percent increase in abstinence from alcohol use; 60 percent increase in abstinence from drug use; 39.8 percent reduction in homelessness; and 52 percent decrease in arrests.

Missouri's Division of Alcohol and Drug Abuse reported 48,596 admissions to treatment in SFY 2007 and reported the following outcomes for Calendar Year 2006 for those completing short-term residential services: 68.6 percent were abstinent from alcohol; 49.7 percent were abstinent from drugs; 90 percent gained or maintained stable housing; and 89 percent reported no criminal justice activity.

Pennsylvania's Bureau of Drug and Alcohol Programs reported 92,115 admissions to treatment in SFY 2006/2007. In SFY 2006, the Bureau reported the following client outcomes comparing admission to discharge: 35 percent increase in the number of clients abstinent from alcohol use; 36 percent increase in the number of clients abstinent from drug use; and 41 percent decrease in the number of clients involved in the criminal justice system.

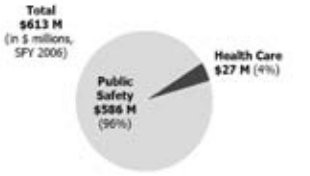
Rhode Island's Division of Behavioral Healthcare Services reported 8,170 admissions to treatment in 2006 and reported the following client outcomes: an 84.3 percent increase in the number of patients abstinent from alcohol; a 74.8 percent increase in the number of patients abstinent from other drugs; an 81.3 percent decrease in the number of patients arrested; and a 23 percent decrease in homelessness.

Promoting and Ensuring Quality Care: SSAs work to ensure that services are of the highest quality through State established standards of care. SSAs are dedicated to continuous quality improvement, participating in such initiatives as the Network for the Improvement of Addiction Treatment (NIATx) that promotes innovative practice improvements. SSAs also improve the quality of care by working directly with lead federal agencies such as SAMHSA, the National Institute on Drug Abuse (NIDA) and the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

Effectiveness Through Planning, Oversight and Accountability: SSAs work with stakeholders to craft and implement plans for Statewide service delivery. SSAs also employ mechanisms to ensure that public dollars are dedicated to programs that work. States use tools such as performance data management and reporting; contract monitoring; corrective action planning; on-site reviews; and technical assistance. States also redirect, redistribute or eliminate support for programs that are not achieving results.

Case Study: Economics of Addiction in Virginia
A June 2008 study found that the adverse effects of substance abuse in Virginia cost approximately $613 million in 2006. Of this amount, $586 million, or 96 percent, related to public safety costs.

Fiscal Impact of Substance Abuse Experienced Primarily by Public Safety Agencies



Virginia's Joint Legislative Audit and Review Commission, June 9, 2008.
(See http://jlarc.state.va.us)

OTHER PROGRAMS AUTHORIZED IN SECOND CHANCE ACT

In addition to the core grants in Section 101, the Second Chance Act authorizes additional programs designed to improve offender reentry. An overview of these programs is included below:

Section 111, State, Tribal and Local Reentry Courts. The Attorney General is authorized to make competitive grants to (1) State, Tribal and local courts, and (2) State agencies, non-profits and others that have agreements with courts to take the lead in establishing a reentry court. Each eligible applicant must certify that the program has been developed in consultation with the SSA. This section authorizes $10 million in both FY '09 and in FY '10.

Section 112, Prosecution Drug Treatment Alternative to Prison Programs. This section authorizes grants to State, Tribal, and local prosecutors to develop, implement or expand qualified drug treatment programs as alternatives to imprisonment in certain cases. The treatment programs must be approved by the State. This section authorizes $10 million in both FY '09 and in FY '10.

Section 113, Grants for Family-Based Substance Abuse Treatment. This section authorizes grants to States, local governments and Indian Tribes to develop, implement and expand comprehensive family-based substance abuse treatment programs. The program must ensure coordination and consultation with the State Substance Abuse Agency. This section authorizes $10 million in both FY '09 and in FY '10.

Section 201, Offender Reentry Substance Abuse and Criminal Justice Collaboration Program. This section authorizes competitive grants to States, local governments, and Indian tribes for the purpose of improving drug treatment programs in prisons, jails, and juvenile facilities and reducing drug and alcohol use by "long-term substance abusers." Grants may support assessments, treatment, case management services, recovery support, and pharmacological drug treatment services as part of any drug treatment program. Each eligible applicant must certify that the program has been developed in consultation with the State substance abuse agency and certify the program is clinically appropriate and provides comprehensive treatment. This section authorizes $15 million in both FY '09 and in FY '10.

Section 211, Mentoring Grants to Non profits. This section authorizes grants to non profit organizations and Indian tribes "to provide mentoring and other transitional services essential to reintegrating offenders into the community." This section authorizes $15 million in both FY'09 and in FY'10.

Case Study of Collaboration: Massachusetts
The Parole Board's Substance Abuse Coordinator (SAC) Program is a collaborative initiative between the Department of Public Health's (DPH) Bureau of Substance Abuse Services (BSAS), the State Parole Board and the Department of Corrections (DOC). In 2007, there were eight full-time Substance Abuse Coordinators from licensed BSAS vendors placed and working at each of the Regional Reentry Centers (RRCs). RRCs serve as the "nucleus" of reentry services for all State offenders released from a correctional facility. The SAC duties include intake, triage and referral functions, providing outreach to service providers and BSAS and tracking and monitoring the progress of clients and treatment providers. The SAC's services target parolees as well as ex-offenders to assist in their reentry to communities across the State. Of the 2,966 clients served by the SACs in 2007, the following outcomes were achieved: 79 percent completed the recommended course of treatment; only 1 percent had to leave the program due to relapse; 51 percent were employed at discharge compared to 11 percent at intake; and only 11 percent were re-incarcerated compared to 21 percent re-incarceration rate for all parolees.

For Additional Information

NASADAD's Section-by-Section analysis of the Second Chance Act: **http://www.nasadad.org**

Contact Information for State substance abuse agencies: **http://www.dasis.samhsa.gov/dasis/SSACONS.Startup**

Network for the Improvement of Addiction Treatment (NIATx): **https://www.niatx.net**

PREPARED STATEMENT OF SUE ELSE, PRESIDENT, NATIONAL NETWORK TO END DOMESTIC VIOLENCE (NNEDV)

Chairman Scott and Ranking Member Gohmert and members of the Subcommittee, thank you for the opportunity to submit written testimony for this hearing on the oversight of the Office of Justice Programs. We are grateful to the subcommittee for your leadership and your ongoing work to improve the safety and well-being of our nation.

The National Network to End Domestic Violence (NNEDV) is a membership and advocacy organization representing the 54 state and U.S. territory domestic violence coalitions. NNEDV is the voice of these coalitions, their more than 2,000 local domestic violence member programs, and the millions of domestic violence survivors who turn to them for services.

The Victims of Crime Act (VOCA) fund state victim assistance grants are a key source of funding for programs that directly assist crime victims, including crisis intervention, assistance with the criminal justice process, safety planning, counseling, support, court accompaniment, and much more. Domestic violence, sexual assault, and general victim services programs all have pressing needs to expand their outreach and service components. Some 4,400 agencies rely on continued VOCA funding to serve over 4 million victims a year.

In a recent survey, over 99% of domestic violence service providers indicated that VOCA funds were a "very important" source of funding.[1] When the FY 2008 Budget cut $35 million from the VOCA Fund, our member programs were understandably shocked and very distraught. They knew that this cut would have a devastating impact on domestic violence service providers, who serve victims and their children who are often fleeing from life-threatening violence.

According to the survey, as a result of the VOCA cuts, over 58% of victim service providers said they would serve fewer victims and over 46% said they would provide fewer services. A clear message from the survey was that funding cuts would have an immediate and significant impact.

Even before the VOCA cuts, domestic violence service providers were already hampered by a lack of funding and resources. The National Census of Domestic Violence Services found that in one 24-hour time period domestic violence programs across the nation served over 53,200 women, men and children. Unfortunately, due to a lack of resources, 7,707 requests for services were unmet during that same day.[2] Funding cuts widen the gap caused by an increased demand for services and declining resources.

These devastating funding cuts were exacerbated by the delay in distributing the VOCA state victim assistance grants. While waiting for VOCA assistance grants to be distributed in June, over 86% of states surveyed indicated that their VOCA funding was in a serious, very serious, or dire situation because of the delay.

Victim service providers serve vulnerable victims with very limited resources. Waiting with uncertainty for an essential and significant funding stream cripples programs' planning processes, jeopardizes staff positions, and, most importantly, endangers victims who rely upon services in times of crisis.

As a coalition of domestic violence advocates and service providers, we know that the services provided by our member programs are critical and life-saving. As the demand for services continues to increase, victim service providers struggle to meet the needs of all the victims who come forward for help. The VOCA state victim assistance grants are essential for victim service providers to keep their doors open and provide services to victims in crisis. Therefore, we urge Congress to continually provide oversight to ensure that the VOCA state victim assistance grants are distributed in a timely manner.

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[1] *VOCA Funding Survey.* (2008). National Center for Victims of Crime. http://www.nnedv.org/docs/Policy/VOCA_SurveyResults.pdf

[2] *Domestic Violence Counts 07: A 24-hour census of domestic violence shelters and services across the United States.* (2008) National Network to End Domestic Violence.

WASHINGTON
LEGISLATIVE OFFICE

August 29, 2008

Michael Dever
Bureau of Justice Assistance
810 7th Street, NW.,
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Re: Comments on proposed amendments to 28 Code of Federal Regulations Part 23 - OJP Docket No. 1473

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TREASURER

Dear Mr. Dever:

The American Civil Liberties Union submits these comments in opposition to the proposed rule to amend 28 Code of Federal Regulations Part 23, which governs the operating policies of criminal intelligence programs that receive federal funding under the Omnibus Crime Control and Safe Streets Act of 1968.[1] The ACLU is a national non-partisan organization with over half a million members dedicated to defending and preserving the individual rights and freedoms guaranteed in the Constitution and the laws of the United States.

THE NEED FOR REGULATION

28 C.F.R. Part 23 was promulgated pursuant to 42 U.S.C. §3789(g)(c) which requires state and local law enforcement agencies receiving federal funding to

> "…collect, maintain, and disseminate criminal intelligence information in conformance with policy standards which are prescribed by the Office of Justice Programs and which are written to assure that the funding and operation of these systems further the purpose of this chapter and to assure that some systems are not utilized in violation of the privacy and constitutional rights of individuals."[2]

The regulation was part of a series of law enforcement reforms initiated in the 1970s to curb widespread abuses of police investigative authorities for political purposes, particularly by local police intelligence units or "red squads," which often amassed detailed dossiers on political officials and engaged in "disruptive" activities targeting political activists, labor unions, and civil rights advocates, among others.

In commentary published during a 1993 revision of the regulation, the Department of Justice Office of Justice Programs (OJP) explained the risks

to civil liberties inherent in the collection of criminal intelligence, and the need for regulation of criminal intelligence systems:

> "Because criminal intelligence information is both conjectural and subjective in nature, may be widely disseminated through the interagency exchange of information and cannot be accessed by criminal suspects to verify that the information is accurate and complete, the protections and limitations set forth in the regulation are necessary to protect the privacy interests of the subjects and potential suspects of a criminal intelligence system."[3]

The police power to investigate combined with the secrecy necessary to protect legitimate law enforcement operations provide ample opportunity for error and abuse, which is why the federal government sought to establish clear guidelines for state and local law enforcement agencies engaged in the collection of criminal intelligence information. The Institute for Intergovernmental Research (IIR), a law enforcement training organization, devotes a website to 28 C.F.R. Part 23 which explains why this decades-old regulation is relevant to today's law enforcement operations:

> The purpose of 28 CFR Part 23 is to ensure the constitutional and privacy rights of individuals. Today's environment of aggressive, proactive information collection and intelligence sharing is very similar to the environment that motivated Congress, in the Justice Systems Improvement Act of 1979, to require the issuance of 28 CFR Part 23 in the first place.[4]

28 C.F.R. Part 23 is designed to ensure that police intelligence operations are properly focused on illegal behavior by requiring that criminal intelligence systems "collect information concerning an individual only if there is reasonable suspicion that the individual is involved in criminal conduct or activity and the information is relevant to that criminal conduct or activity."[5] The "reasonable suspicion" standard is clear, well defined and has been universally accepted by law enforcement agencies around the country as the appropriate standard for regulating the intelligence collection activities of law enforcement officers.

Part 23 also limits the dissemination of law enforcement intelligence to situations in which "there is a need to know and a right to know the information in the performance of a law enforcement activity."[6] Again this is a simple and easy to understand guideline that serves to keep police officers appropriately focused on their law enforcement mission when handling intelligence information.

Finally, the regulation requires data within a criminal intelligence system to be reviewed and re-validated at least every five years to assure that all the information in an intelligence system is relevant and important.[7] Any information found to be "misleading, obsolete or otherwise unreliable" must be destroyed. This simple data management policy would be appropriate for any database, but it is essential for a criminal intelligence system where unreliable information could easily misdirect law enforcement resources, with potentially devastating consequences for innocent individuals improperly subject to

police scrutiny. Intelligence is only valuable if it is valid, reliable and timely. A five year maximum retention period without review and re-validation is more than reasonable.

28 C.F.R. Part 23 has served as a reasonable restraint on police intelligence activities for thirty years. The proposed rule to amend the regulation strikes at the core of these longstanding standards and is both unnecessary and unwise.

THE POST-9/11 INTELLIGENCE SHARING ENVIRONMENT

The proposed rule, which was published on July 31, 2008, states that the purpose of the proposed revisions to 28 C.F.R. Part 23 is to "clarify and update the regulations in light of the new, post-9/11 information sharing environment and investigative policies aimed at preventing terrorism," citing intelligence sharing initiatives conducted by state, local, and regional intelligence fusion centers and Joint Terrorism Task Forces. This statement is troubling because it seems to confirm that the intelligence sharing activities currently taking place within the information sharing environment fail to comply with the existing regulation. Indeed, in 2006 the Departments of Justice and Homeland Security published voluntary guidelines that encourage state, local and regional intelligence fusion centers to broaden their sources of data "beyond criminal intelligence, to include federal intelligence as well as public and private sector data."[8] The ACLU recently released two reports warning that fusion center intelligence operations taking place pursuant to these guidelines appeared to violate 28 C.F.R. Part 23.[9]

State and local law enforcement officers contacted by the ACLU as part of the research effort regarding the operations of intelligence fusion centers universally claimed compliance with 28 CFR Part 23 as the appropriate regulation governing the conduct of their intelligence collection efforts. Some fusion center officials expressed concern regarding federal government efforts to expand law enforcement intelligence activities beyond what they saw as the clear boundaries established by Part 23, observing that discovery of an abusive investigation conducted under such relaxed policies would ultimately lead to even greater legal restrictions on police intelligence operations. The Congressional Research Service reported that "many state and local law enforcement and fusion center staff" expressed concerns regarding sharing law enforcement sensitive information with non-law enforcement personnel including analysts working under contract to the Department of Homeland Security.[10] It appears the push to expand state and local law enforcement intelligence activities beyond traditional boundaries is coming more from the federal intelligence community than from local officials.

In January 2008 the Director of National Intelligence (DNI) published "functional standards" for suspicious activity reports (SAR) produced by state and local law enforcement. The DNI standards actually encourage state and local law enforcement to report non-criminal suspicious activities to the intelligence community by defining the scope of suspicious activity as "observed behavior that may be indicative of intelligence gathering or pre-operational planning related to terrorism, criminal, or other illicit intention."[11] What might constitute "other illicit intention" is not defined in the document but it is clearly something other than "criminal." Moreover, the document fails

to describe what types of behavior might be "indicative of intelligence gathering or pre-operational planning related to terrorism."

This gap was filled in March 2008, when the Los Angeles Police Department released a "special order" compelling LAPD officers to "gather, record, and analyze information of a criminal *or non-criminal nature*, that could indicate activity or intentions related to either foreign or domestic terrorism."[12] The order included a list of 65 behaviors LAPD officials claimed were related to terrorism, such as taking notes, drawing diagrams, using binoculars, taking pictures or video footage, taking measurements, and espousing extremist views. Rather than criticize the LAPD order, which if followed would clearly violate 28 C.F.R. Part 23, the Office of the Director of National Intelligence said the LAPD program "should be a national model."[13] In June 2008 the Departments of Justice and Homeland Security teamed with the Major City Chiefs Association to issue a report recommending an expansion of the LAPD SAR program to other U.S. cities.[14]

In an environment where the federal government encourages state and local law enforcement to violate federal regulations one could expect to see greater abuse of intelligence gathering authorities. In fact, as the Institute for Intergovernmental Research (IIR) warned, the post-9/11 environment of aggressive intelligence gathering and information sharing has already produced evidence of illegal police spying on non-violent political advocacy groups in Colorado,[15] New York,[16] California,[17] Massachusetts,[18] and most recently, Maryland.[19] These incidents are eerily reminiscent of the "red squad" abuses that prompted the federal government to promulgate 28 C.F.R. Part 23 in the first place. Police spying on peaceful political activists did not make us any safer then, and it is not making us safer now; it is only squandering precious law enforcement resources and infringing on the rights of innocent people. Failing to follow a well-established and appropriate regulation is not a proper justification for amending that regulation.

COMMENTS ON THE PROPOSED AMENDMENTS TO 28 C.F.R. PART 23

Section 23.2

The proposed rule suggests amending Section 23.2 to add "domestic and international terrorism, including the material support thereof," to the list of examples of criminal activities cited in this section which require some degree of regular coordination and permanent organization. This change is entirely unnecessary in that the list of criminal activities in this section was never intended to be all-inclusive. The current language already incorporates the qualifying phrase, "including but not limited to." While "domestic and international terrorism" necessarily involves criminal activity, adding this language to the regulation in a climate where the Department of Justice has endorsed the concept that activities as innocuous as drawing diagrams and taking pictures are suspicious behaviors that indicate "activities or intentions related to terrorism," police could easily be drawn to over-collect information where no reasonable law enforcement official would suspect criminal activity.

More problematic, however, is the inclusion of the phrase "and the material support thereof," which will likely lead to confusion among state and local law enforcement officials regarding what behavior can be collected and disseminated. The material support of terrorism prohibition is primarily enforced at a federal level and it is unlikely many state and local police officials will have experience or familiarity with this complex and controversial statute. And because the material support prohibition criminalizes otherwise non-criminal behavior that is often remote from any actual act of violence, adding this language to the regulation would be likely to encourage the over-collection of information no reasonable law enforcement officer would suspect is related to criminal activity. Grave harm can come to innocent people if the police mistakenly brand them as potential terrorists in a criminal intelligence database, as we recently saw when the Maryland State Police improperly designated a well-known peace activist as an anti-government terrorist.[20]

The ACLU recommends that the Department of Justice reject this proposed amendment to Section 23.2. If the addition of "domestic or international terrorism" to Section 23.2 is ultimately determined to be necessary, the phrase "including the material support thereof" should be omitted from the final rule to avoid unnecessary confusion.

Section 23.20(a)

The proposed rule suggests adding new language to Section 23.20(a) to "clarify that criminal intelligence information can be collected and maintained about organizations, as well as individuals." This is a dangerous expansion of authority that will have a negative impact on Americans' First Amendment right to free association. The inclusion of organizations will essentially create "blacklists" and increase the likelihood that individuals associated with such organizations will be branded as criminal suspects not because of their own conduct, but merely due to their association with a designated organization. This proposed amendment should be omitted from the final rule.

Section 23.20(e)

The proposed rule would amend Section 23.20(e) to "establish a uniform standard of permissible purposes for the dissemination of criminal intelligence information, authorizing dissemination when the information falls within the law enforcement, counterterrorism, or national security responsibility of the receiving agency or may assist in preventing crime or the use of violence or any conduct dangerous to human life or property." This proposed language would replace the current standard that allows dissemination "only where there is a need to know and a right to know the information in the performance of a law enforcement activity."

This proposed amendment is an extraordinarily overbroad grant of authority. It would allow practically unfettered dissemination of sensitive and conjectural information about individuals even for the most speculative of purposes, where the dissemination "may" assist in preventing any "dangerous" conduct. These vague terms inject ambiguity into a regulation that requires clarity to be effective.

The amendment could potentially destroy privacy and civil liberties protections for individuals who are only suspected of "dangerous" behavior by authorizing police to disseminate information for other than law enforcement purposes. Criminal intelligence is often fragmented, subjective, accusatory, and unsubstantiated -- authorizing police to disseminate such information for non-law enforcement purposes can reasonably be expected to cause harm to innocent people. Under this proposed standard, a law enforcement official arguably could disseminate criminal intelligence information to an employer or landlord for the purpose of having someone fired from a job as a truck driver or evicted from an apartment in an iconic building because such dissemination "might" assist in preventing "dangerous" conduct. Authorizing the dissemination of criminal intelligence information for non-law enforcement purposes would circumvent the important due process protections in the criminal justice system that allow someone falsely accused to defend him- or herself.

The update to the ACLU's fusion center report details an episode in which law enforcement officers associated with the Los Angeles County Terrorism Early Warning Center (LACTEW), an intelligence fusion center, conspired with military reservists at Camp Pendleton and U.S. Northern Command to steal highly-classified military surveillance records. According to media reports, some of the suspects claimed a "patriotic" motive for this serious criminal activity, alleging that they were sharing the information with law enforcement to improve security against suspected terrorists in Southern California.[21] Criminal prosecutions of these individuals are proceeding. Yet if the proposed amendment passes, this type of criminal activity would not violate Section 23.20(e). This event highlights the danger of expanding the dissemination authority in such a broad manner.

The proposed rule improperly cites the terrorist attacks of 9/11 as justification for amending Section 23.20(e). The intelligence failures documented by the committees and commissions that investigated 9/11 were all failures of the intelligence community to share information with the law enforcement community, not failures by law enforcement officials to properly disseminate criminal intelligence.[22] No state and local law enforcement officials were criticized in these reports. It is simply faulty logic to suggest that 9/11 could have been avoided if the proposed dissemination rules had been in place. In the absence of a logical nexus, no justification exists for this change.

The current standard in Section 23.20(e) is clear, effective and easily understood. Whenever law enforcement officials reasonably believe the dissemination of criminal intelligence is needed to fulfill their mission to protect against criminal or terrorist threats that dissemination would clearly fall within the performance of their law enforcement duties. Moreover, an existing authority under Section 23.20(f)(2) already allows the dissemination of criminal intelligence information "to a government official or any other individual, when necessary to avoid imminent danger to life or property." The existing regulation provides ample authority for law enforcement to disseminate information when necessary to protect their communities and the public at large from both criminal and national security threats.

The ACLU recommends that the Department of Justice reject this amendment to Section 23.20(e) because it will undermine the stated purpose of the regulation in protecting the privacy and civil liberties of individuals. If a standardized definition of the terms "need to know" and "right to know" in the current regulations is deemed necessary, the Department of Justice should issue a proposed rule to clarify these terms. The current proposed rule does not clarify these terms, it only further obscures when and with whom dissemination of criminal intelligence is authorized, which will certainly lead to error and abuse.

Section 23.20(f)(1)

The amendments proposed for Section 23.20(f)(1) expand the dissemination authorities under the regulation, mirroring the rationale for the proposed amendments to Section 23.20(e), and should be rejected for the same reasons outlined above. Guidelines for state and local law enforcement need clarity, not ambiguity. Expanding the authority to disseminate information beyond law enforcement authorities risks obfuscating the mission of state and local authorities in collecting intelligence information in the first place, and essentially turns state and local police into domestic intelligence agents operating on behalf of the federal intelligence community by encouraging the collection and dissemination of domestic intelligence information not related to criminal activity.

A new Executive Order (EO) amending federal intelligence activities authorized under EO 12333 issued last month recognizes the Federal Bureau of Investigation's primary role in the collection, dissemination, and analysis of domestic intelligence information in the United States, and reinforces the role of U.S. Attorney General as the nation's chief law enforcement officer.[23] Since the EO requires the Attorney General "to approve all procedures regarding the collection of information on U.S. persons," it is entirely appropriate for state and local law enforcement officers to disseminate criminal intelligence information they collect in U.S. cities and towns through federal law enforcement authorities such as the FBI and Attorney General, as is allowed under current regulations, rather than directly to agencies or entities that do not have a law enforcement function.[24] Since the Attorney General and the FBI have direct liaison with the DNI and CIA on matters of national intelligence the current arrangement imposes no obstacle to efficient and effective intelligence sharing throughout the intelligence community as appropriate. Maintaining the involvement of the Attorney General and FBI in decisions regarding the collection and dissemination of domestic intelligence demonstrates the importance in maintaining a law enforcement focus when engaging in intelligence collection activities within the United States. The proposed amendments to Section 23.20 (f) would lead to the inappropriate dissemination of criminal intelligence information, and should be rejected.

Section 23.20(f)(2)

The proposed rule suggests amending Section 23.20(f)(2), which currently permits the dissemination of an assessment of criminal intelligence information "to a government

official or any other individual, when necessary to avoid imminent danger to life or property," by removing the word "imminent." Such an amendment to the language of Section 23.20(f)(2) would vastly increase the amount of criminal intelligence information disseminated by allowing dissemination when the potential danger was merely speculative. This provision was intended to serve as authority to release information in an emergency situation to anyone when necessary to avoid harm. Removing the emergency requirement would basically allow the exception to swallow the rule. The ACLU recommends that the proposed amendment to 23.20(f)(2) be rejected.

Section 23.20(g)

The proposed rule suggests amendments to Section 23.20(g) would be required to conform to the proposed amendments to Section 23.20(e), which the ACLU opposes. Without changes to Section 23.20 (e), amendments to Section 23.20(g) are unnecessary.

Section 23.20(h)

The proposed amendment to Section 23.20(h) would extend the retention period for information in criminal intelligence systems without review or re-validation to ten years, doubling the current maximum retention period of five years, and would allow for the tolling of the retention period during a subject's incarceration. Doubling the retention period without review and re-validation would serve no useful purpose, as the data would not be reviewed, and only ensures that more inaccurate, obsolete and otherwise unreliable information is retained in criminal intelligence systems. This change will necessarily reduce the value of criminal intelligence systems as the volume of obsolete and inaccurate information within the system increases.

Tolling the retention period while a subject is incarcerated likewise is a change that will serve no legitimate purpose and will only increase the amount of obsolete and inaccurate information in the intelligence system. The current regulations do not compel the destruction of criminal intelligence while a subject is incarcerated, but only that the information is reviewed and revalidated every five years. Periodic reviews and re-validation of data in criminal intelligence systems are simply good data management practice, regardless of where the subjects of that data happen to be. It is important to remember also that criminal history information is not kept in criminal intelligence systems, so that data is unaffected by this regulation.

CONCLUSION

In accordance with the current regulation, as it has long existed, police are authorized to collect information for an intelligence database when there is a reasonable suspicion that the person is involved in criminal conduct and the information pertains to that criminal conduct, and are able to disseminate that information when necessary to serve a law enforcement purpose or prevent imminent harm. Terrorism is criminal activity, and the police can collect information they reasonably suspect is related to the criminal activity associated with terrorism or violent crime without changing the regulations. Authorizing

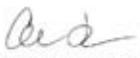
police to disseminate information for other than law enforcement purposes, and other than when necessary, as the proposed amendments allow, risks confusing the core mission of state, local and tribal law enforcement agencies in protecting their communities from criminal threats.

The proposed amendments to 28 CFR Part 23 would encourage the collection and dissemination of domestic intelligence information not related to criminal activity. As current events have revealed and as history has shown, police sometimes mistake political activism with criminal activity. 28 CFR Part 23 is necessary in its current form to protect the privacy rights of individuals by focusing police efforts on criminals, including terrorists, and not on political activists. Altering 28 CFR Part 23 is unnecessary and risks upsetting the balance necessary to keep law enforcement officers focused on legitimate threats to the safety of the communities they serve.

Additionally, information sitting in intelligence databases is useful only if it is timely and accurate. 28 CFR Part 23 recognizes this fact and requires information be purged from intelligence databases after five years, unless the information has been reviewed and re-validated. This reasonable retention policy ensures that law enforcement may retain truly accurate and necessary information, while clearing databases of unused, obsolete, or unreliable information within a reasonable amount of time. To expand the retention period to 10 years without review or re-validation will only ensure that more inaccurate, obsolete and otherwise unreliable information is retained.

The proposed amendments to 28 CFR Part 23 will not only risk the privacy and civil liberties of all Americans, but will also risk their security by distracting the police from their core mission of protecting communities from real threats to safety. The ACLU requests the Department of Justice reconsider the proposed rule to amend 28 CFR Part 23.

Sincerely,



Caroline Fredrickson
Director
Washington Legislative Office

Michael German
Policy Counsel

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[1] Published at 73 Fed. Reg. 44673 (July 31, 2008).

[2] 42 U.S.C.A. §3789(g)(c) (WEST 2007). The provision instructing the Office of Justice Programs to prescribe regulations to assure that criminal intelligence systems are "not utilized in violation of the privacy and constitutional rights of individuals" was added when the Omnibus Crime Control and Safe Streets Act of 1968 was reauthorized and amended by the Justice System Improvement Act of 1979 (*See*, Justice System Improvement Act of 1979, Pub.L. No. 96-157, 1979 U.S.C.C.A.N. (96 Stat.) 1167, 1213, 2471-77, 2539).

[3] *See* Office of Justice Programs, U.S. Department of Justice, *Final Revision to the Office of Justice Programs, Criminal Intelligence Systems Operation Policies, 1993 Revision and Commentary*, 28 C.F.R. Part 23 (1993), at 4, http://www.homeland.ca.gov/pdf/civil_liberties/1993RevisionCommentary_28CFRPart23.pdf.

[4] Institute for Intergovernmental Research, Frequently Asked Questions, http://www.iir.com/28cfr/FAQ.htm.

[5] 28 CFR §23.20(a).

[6] 28 CFR §23.20(e).

[7] 28 CFR §23.20(h).

[8] TODD MASSE, SIOBHAN O'NEIL AND JOHN ROLLINS, CONGRESSIONAL RESEARCH SERVICE, CRS REPORT FOR CONGRESS: FUSION CENTERS: ISSUES AND OPTIONS FOR CONGRESS, 1, n.2 (July 6, 2007), [hereinafter CRS Fusion Center Report].

[9] *See* MICHAEL GERMAN AND JAY STANLEY, WHAT'S WRONG WITH FUSION CENTERS? AMERICAN CIVIL LIBERTIES UNION (Dec. 2007), http://www.aclu.org/pdfs/privacy/fusioncenter_20071212.pdf; MICHAEL GERMAN AND JAY STANLEY, FUSION CENTER UPDATE, AMERICAN CIVIL LIBERTIES UNION (Jul. 2008), http://www.aclu.org/pdfs/privacy/fusion_update_20080729.pdf.

[10] CRS Fusion Center report, supra note 7, at 49.

[11] INFORMATION SHARING ENVIRONMENT (ISE) FUNCTIONAL STANDARD (FS) SUSPICIOUS ACTIVITY REPORTING (SAR) Version 1.0, ISE-FS-200, (Jan. 25, 2008) (on file with authors).

[12] Office of the Chief of Police, Los Angeles Police Department, Special Order No. 11, "Reporting Incidents Potentially Related to Foreign or Domestic Terrorism," Mar. 5, 2008 (on file with authors). A copy of the LAPD Special Order can be found in the Findings and Recommendations of the Suspicious Activity Report (SAR) Support and Implementation Project, June 2008, Appendix B, http://online.wsj.com/public/resources/documents/mccarecommendation-06132008.pdf.

[13] Siobhan Gorman, *LAPD Terror-tip Plan May Serve as Model*, WALL ST. J., Apr. 15, 2008, *available at* http://online.wsj.com/article/SB120821618049214477.html?mod=world_news_whats_news.

[14] DEPARTMENT OF JUSTICE, GLOBAL JUSTICE INFORMATION SHARING INITIATIVE, MAJOR CITY CHIEFS ASSOCIATION AND DEPARTMENT OF HOMELAND SECURITY, FINDINGS AND RECOMMENDATIONS OF THE SUSPICIOUS ACTIVITY REPORT (June 2008), *available at* http://online.wsj.com/public/resources/documents/mccarecommendation-06132008.pdf [hereinafter the Major City Chiefs' report].

[15] AMERICAN CIVIL LIBERTIES UNION OF COLORADO, THE DENVER POLICE SPY FILES (2005), *available at* http://www.aclu-co.org/spyfiles/fbifiles.htm.

[16] Jim Dwyer, *City Police Spied Broadly Before GOP Convention*, NEW YORK TIMES, Mar. 25, 2007, *available at* http://www.nytimes.com/2007/03/25/nyregion/25infiltrate.html.

[17] MARK SCHLOSBERG, STATE OF SURVEILLANCE, AMERICAN CIVIL LIBERTIES UNION OF NORTHERN CALIFORNIA (Jul. 2006), *available at* http://www.aclunc.org/issues/government_surveillance/asset_upload_file714_3255.pdf.

[18] David Abel, *ACLU Queries Harvard's Police*, BOSTON GLOBE, April 15, 2008, http://www.boston.com/news/education/higher/articles/2008/04/15/aclu_queries_harvards_police/.

[19] Lisa Rein, *Police Spied on Activists in Md.*, WASHINGTON POST, Jul. 18, 2008, *available at* http://www.washingtonpost.com/wp-dyn/content/story/2008/07/17/ST2008071702080.html.

[20] American Civil Liberties Union of Maryland press release, *ACLU of Maryland Lawsuit Uncovers Maryland State Police Spying Against Peace and Anti-Death Penalty Groups*, July 17, 2008, *available at* http://www.aclu-md.org/aPress/Press2008/071708_PeaceGroups.html.

[21] Rick Rogers, *Records Detail Security Failure in Base File Theft*, SAN DIEGO UNION-TRIBUNE, May 22, 2008, *available at* http://www.signonsandiego.com/news/military/20080522-9999-1n22theft.html; *See also*, Rick Rogers, *Marine Took Files as Part of Spy Ring*, SAN DIEGO UNION-TRIBUNE, Oct. 6, 2007, *available at* http://www.signonsandiego.com/news/northcounty/20071006-9999-1n6spies.html; Rick Rogers, *2 Marines Charged in Thefts Ring*, SAN DIEGO UNION-TRIBUNE, July 18, 2008, *available at* http://ww.signonsandiego.com/uniontrib/20080718/news_1m18theft.html.

[22] *See*, House Permanent Select Committee on Intelligence & Senate Select Committee on Intelligence, Joint Inquiry Into Intelligence Community Activities Before and After the Terrorist Attacks of September 11, 2001, H. Rep. 107-792, S. Rep. 107-351, at xi; National Commission on Terrorist Attacks, The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks upon the United States, (2004), *available at* http://govinfo.library.unt.edu/911/report/index.htm.

[23] Exec. Order No. 13,470, 73 Fed. Reg. 45,325 (Aug. 4, 2008), *available at* http://www.fas.org/irp/offdocs/eo/eo-13470.pdf.

[24] The White House, Background Briefing by Senior Administration Officials on the Revision of Executive Order 12333, (Jul. 31, 2008), http://www.whitehouse.gov/news/releases/2008/07/20080731-8.html.

CRIME LAB REPORT

Media and public-policy analysis for the forensic science community

The Wrongful Conviction of Forensic Science

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July 16, 2008

EXECUTIVE SUMMARY

Crime Lab Report is an independent research organization that examines media and public policy trends related to forensic science. Past research and commentary published by *Crime Lab Report* have been both supportive and critical of the forensic sciences. The purpose of this study, however, was to examine the accuracy of claims that forensic science is a leading cause of wrongful convictions. To accomplish this, *Crime Lab Report* reviewed public information pertaining to the first 200 DNA exonerations that occurred between 1989 and 2007. The frequencies of "probable systemic failures" extracted from case profiles published by the *Innocence Project* were tabulated and analyzed. As a result of this study, forensic science malpractice, whether fraudulent or not, was shown to be a comparatively small risk to the criminal justice system. When it does occur, however, the risks are best mitigated by competent and ethical trial lawyers dedicated to seeking the truth.

The following is a summary of *Crime Lab Report's* major findings. More specific data and comments are provided on the pages that follow this summary.

1. In the 200 convictions studied, 283 instances of probable systemic failure were identified and isolated from case profiles published by the *Innocence Project*. In many cases, these profiles were either corroborated or clarified by other sources. These failures are ranked as follows:

Rank	Percent	Number	Description
1	54%	153	Eyewitness misidentifications
2	15%	43	False confessions
3	**11%**	**32**	**Forensic science malpractice**
4	10%	27	Government misconduct
5	9%	25	Informant snitches
6	1%	3	Bad lawyering

2. Of the 32 instances of forensic science malpractice shown above, only 1 was found to have occurred in an accredited laboratory. This error did not directly incriminate the defendant.

3. In 36 of the 200 overturned convictions, the existence of forensic testing results favorable to the defendant was confirmed by various sources. This favorable forensic evidence has been largely ignored in public statements made by the *Innocence Project* likely because the results were either not presented at trial or otherwise failed to cause an acquittal.

4. Bad lawyering was found to be a much more pervasive problem than what has been previously estimated by both the *Innocence Project* and a highly publicized study recently published in the *Columbia Law Review*.

5. Forensic science malpractice was identified as the sole systemic failure in only two overturned convictions (1%). Both were associated with the work of Fred Zain.

6. Claims that "faulty forensic science" is a leading cause of wrongful convictions were found to be based on careless and improper statistical expressions resulting from a misuse of available exoneration data.

INTRODUCTION

The purpose of this study was to explore the basis and validity of claims being perpetuated in the public domain that faulty forensic science is a leading cause of wrongful convictions. Many wrongful convictions have been identified and remedied in recent years through post-conviction litigation and DNA testing. Post-conviction litigation is the specialty of an organization called the *Innocence Project* in New York. Its affiliates and supporters comprise what is known as the *Innocence Network* - organizations and advocates dedicated to supporting convicted offenders whose innocence can be proven using modern DNA technology.

The exoneration of truly innocent people is clearly an act of social justice; however, the work of the *Innocence Project* goes far beyond this. Passionately and convincingly they promote the establishment of state oversight commissions to "review the forensic methods that are accepted in state courtrooms and to investigate allegations of misconduct, negligence or error in labs."[1] Superficially, this might seem reasonable. But a rapidly growing number of forensic science laboratories in the United States already subject themselves to rigorous scrutiny through accreditation and other quality-control safeguards that have only recently demonstrated their full potential to monitor work practices and accuracy in the profession of forensic science. For each of these laboratories, the implications associated with being governed by a commission prone to political wrangling and bureaucratic inefficiencies are quite troublesome.

"For years, the *Innocence Project* publicly condemned what it claimed to be the frequent use of erroneous, fraudulent, or unreliable forensic evidence against defendants in criminal trials. And until recently, no authoritative statistical studies had been completed to either support or refute this argument."

For years, the *Innocence Project* has publicly condemned what it claims to be the frequent use of erroneous, fraudulent, or unreliable forensic evidence against defendants in criminal trials. And until recently, no authoritative statistical studies had been completed to either support or refute this argument.

But all this changed with a groundbreaking study published in the January 2008 issue of the *Columbia Law Review*, titled "Judging Innocence." Its author, Brandon Garrett, is an associate professor at the University of Virginia School of Law. Garrett and his team carefully studied the first 200 DNA exonerations that occurred between 1989 and 2007, documenting the types of evidence originally used against the defendants during their trials. Based on his research, Garrett argued in support of special commissions to prevent wrongful convictions. "[R]esearch suggests that procedures such as….oversight of forensic crime laboratories, could have prevented many such costly miscarriages…"[2]

Professor Brandon Garrett is an experienced post-conviction litigator who once served as an associate at Cochran, Neufeld & Scheck LLP in New York City. Peter Neufeld and Barry Scheck are the cofounders of the *Innocence Project* located in Manhattan.[3]

Crime Lab Report editors became intrigued by the work of Professor Garrett when it was learned that his study was presented before a special committee convened by the National Academy of Sciences in Washington, D.C. News reports from various sources, including the *New York Times*, attempted to summarize Garrett's findings, which seemed to indicate that faulty forensic science may very well be a leading cause of wrongful convictions in the United States.

Therefore, *Crime Lab Report* studied the work and findings of Professor Garrett and extracted pertinent data. This information was then cross-referenced with case profiles, media reports, and public comments pertaining to the first 200 convictions overturned by post-conviction litigators armed with modern DNA technology and other scientific evidence.

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Based on this research, a very compelling and contextually honest case can be made for why the conviction of forensic science may be as erroneous as the 200 convictions summarized in this report. Hopefully, future studies seeking to explain the major causes of wrongful convictions may be conducted with more statistical and scientific accuracy.

THE CONVICTION OF FORENSIC SCIENCE

The year 1989 marked the beginning of a long and arduous period in the history of America's criminal justice system. It was then that Gary Dotson and David Vasquez were exonerated and released from prison based on new DNA testing capabilities. Dotson served 10 years in prison for aggravated kidnapping and rape. Vasquez served four years in prison for second-degree murder and burglary. Both men were incriminated by forensic evidence during their original trials.[4]

In 1992, well-known criminal defense attorneys Barry Scheck and Peter Neufeld created the *Innocence Project*, "a national litigation and public policy organization dedicated to exonerating wrongfully convicted people through DNA testing and reforming the criminal justice system to prevent future injustice."[5] As the *Innocence Project* expanded over the next sixteen years, the basic principles of its public policy agenda were advanced through well coordinated and carefully prepared statements that repeatedly called into question the reliability and professionalism of forensic scientists in the United States.

> **"Forensic science has gotten a free ride for the last 50 years, primarily because they made this bogus argument that [they] don't need to be regulated."**
>
> ***Peter Neufeld***
> ***Innocence Project Co-Director***

In a 1996 *USA Today* cover story written by Becky Beaupre and Peter Eisler, *Innocence Project* co-director Peter Neufeld was quoted as saying "There's absolutely no reason that crime laboratories, which routinely make decisions that have life and death consequences for an accused person, should be less regulated than a clinical laboratory utilizing similar tests."[6]

Similar sentiments were expressed in astounding detail by an aggressive team of *Chicago Tribune* reporters who published a stinging series of investigative reports in 2004 that chronicled some of the cases being worked by the *Innocence Project*. The reports, which were released one after another over the course of a week, seemed to intentionally lure even the most educated and thoughtful readers into believing that forensic science laboratories were some of the most corrupt and incompetent organizations in the United States.

The *Tribune* set the stage for its attack on forensic science in the first article published on October 17, 2004. "At the center of this upheaval is the advent of DNA testing, which has injected a dose of truth serum into other forensic tools," argued *Tribune* reporters Flynn Roberts, Steve Mills, and Maurice Possley. "With its dramatic precision, DNA has helped reveal the shaky scientific foundations of everything from fingerprinting to firearm identification, from arson investigation to such exotic methods as bite-mark comparison."[7]

On January 13, 2005, *CNN* aired "Can Crime Labs Be Trusted," a probing investigative report that claimed to uncover profound weaknesses in how America's crime laboratories were being operated. Among the pertinent points delivered by *CNN* was the supposed lack of oversight and accountability to ensure that work is conducted properly. Peter Neufeld was interviewed in the documentary. "Forensic science has gotten a free ride for the last 50 years, primarily because they made this bogus argument that [they] don't need to be regulated."[8]

Then, exactly three years after the *Chicago Tribune* series, the "shaky" scientific methods it brought to light became the subject of another television documentary, this time by *MSNBC*, titled "When Forensics

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Fail," which showcased the troubling stories of innocent persons convicted and imprisoned of crimes that they likely did not commit.[9] One of the cases was that of Ray Krone, who was convicted in 1992 for murder, kidnapping, and sexual assault based largely on a forensic bite-mark identification. DNA collected from the bite-mark was eventually excluded as belonging to Krone.

On October 1, 2007, not long before MSNBC aired its documentary, the *New York Times* published a powerful front-page story about the public policy lessons of post-conviction litigation using DNA. In the article, Peter Neufeld argued that "The legislative reform movement as a result of these DNA exonerations is probably the single greatest criminal justice reform effort in the last 40 years."[10] But what quickly attracted the attention of some in the forensic science community was not the article itself, but the fact that it "coincidently" appeared during the weeklong annual training symposium hosted by the American Society of Crime Laboratory Directors in Orlando, Florida.

Any suspicions that the timing of the aforementioned *Times* article might have been orchestrated by the *Innocence Project* and/or its supporters in the media were nearly confirmed on February 19, 2008 when a similar front-page story about post-conviction DNA exonerations appeared in *USA Today* during the annual meeting of the American Academy of Forensic Sciences, one of the largest annual forensic science conventions in the world. A provocative comment by Peter Neufeld was included in the story.[11]

"If the profession of forensic science is truly guilty of these charges, and if it can be shown that it has failed to establish the checks and balances necessary to prevent junk science and improper testimony from violating the rights of defendants, then the recommended 'sentence' of being subjected to a politically charged and bureaucratic oversight commission would seem well deserved."

So by the time Professor Brandon Garrett published the results of his research in "Judging Innocence," the profession of forensic science had been entirely and completely convicted of being responsible for the imprisonment of innocent citizens and a symbol of decline and incompetence within America's criminal justice system. News outlets across the country bought into what they perceived to be a compelling and disturbing story. Elected officials became more open to the idea that faulty forensic science was running rampant in U.S. courtrooms and might require legislative action to correct. Garrett's work simply provided what appeared to be a long-awaited statistical validation of the rhetoric being disseminated by the *Innocence Project* and its supporters.

In fact, both Brandon Garrett and Peter Neufeld presented the "Judging Innocence" findings on September 20, 2007 to a special committee convened by the National Academy of Sciences, which was charged with the task of identifying the needs of the forensic science community. *Crime Lab Report* obtained a copy of their presentation from the National Academy of Sciences public records office.[12]

Flawed Testimony

Of the 200 exonerations that Professor Garrett examined, he identified 113 cases (57%) where forensic evidence was presented against the defendant during the original trial.[13] According to Garrett, the major problem in wrongful convictions seems to be "improper and misleading testimony regarding comparisons conducted."[14] Such testimony, he argues, tends to bolster questionable evidence that might otherwise have been dismissed as erroneous or unreliable in the eyes of the jury.

Garrett and Neufeld discussed the problem of misleading testimony during their presentation at the National Academy of Sciences in Washington, D.C. In the 113 cases involving the use of forensic evidence against a defendant, 57% of the cases in which trial transcripts were located involved what Garret and Neufeld characterized as improper (but not intentionally so) scientific testimony. An additional seven cases were presented that they claimed to have been tainted by "known misconduct."[15]

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Taken together, 42 cases or 69% of the trial transcripts reviewed were alleged by Garrett and Neufeld to have been tainted by faulty forensic science – a disturbing statistic if found to be true. They also went as far as to list the names of "offending" scientists and laboratories.

In January 2008, the Senate Judiciary Committee convened a hearing to investigate the alleged failure of the Justice Department to enforce forensic-related provisions contained in a bipartisan legislative effort known as the *Justice for All Act of 2004*. Peter Neufeld testified on behalf of the *Innocence Project*:

> "Together, misapplication of forensics and misplaced reliance on unreliable or unvalidated methodologies are the second greatest contributors to wrongful convictions. Despite these demonstrated problems, independent and appropriately conducted investigations – which should be conducted when serious forensic negligence or misconduct may have transpired – have been exceedingly rare."[16]

The Verdict

The final verdict in the case against forensic science may have come from the United States Inspector General, Glenn A. Fine, during his own testimony before the Senate Judiciary Committee. In a statement as devastating as it was simple, Fine agreed that "Negligence and misconduct in forensic laboratories.... have led to wrongful convictions in several states."[17]

If the profession of forensic science is truly guilty of these charges, and if it can be shown that it has failed to establish the checks and balances necessary to prevent junk science and improper testimony from violating the rights of defendants, then the recommended "sentence" of being subjected to a politically charged, bureaucratic oversight commission would seem well deserved.

But a more reliable and honest statistical analysis has now made a compelling case to the contrary.

THE CASE FOR EXONERATION

Although they don't command much attention amidst the fervor surrounding the innocence movement, suspicions that DNA exonerations do not portray an accurate picture of the American criminal justice system have been communicated from various sources.

On April 26, 2007, an op-ed piece authored by Morris Hoffman, a Colorado district court judge and adjunct professor of law at the University of Colorado, was published in the *Wall Street Journal*. Hoffman argued that that innocence movement is prone to exaggeration and a tendency to "stretch their results beyond all statistical sense." The following quote from Hoffman seems to adequately summarize his position:

> "The mythmakers also directly conflate trial error rates with wrongful conviction rates. Studies showing astonishingly high error rates in capital trials have very little to do with the question of the rate at which innocent people are being convicted. I can't remember a single trial over which I have presided – including dozens of homicides – in which, looking back, I didn't make at least one error in ruling on objections. It is a giant leap from an erroneous trial ruling to reversible error, and another giant leap from reversible error to actual innocence."[18]

As *Crime Lab Report* moved forward with its research into claims that faulty forensic science is a pervasive problem in the United States, Hoffman's observations began to take on new meaning. As will be shown in this report, even the most rudimentary analysis demonstrates that the public-policy rhetoric of the *Innocence Project* is being underwritten by statistical expressions and characterizations that collapse under the weight of intellectual scrutiny. While this does not devalue the work of representing convicted felons who have a strong case of innocence (even Judge Hoffman pointed out that such work "is incredibly important and should be celebrated…"), the weight assigned to any public policy or legislative recommendations based on such misrepresentations would seem to warrant either minimal consideration or maximum scrutiny.

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Misinterpretation of Exoneration Data

The statistical evidence used against forensic science was summarized in a *New York Times* editorial published on July 23, 2007. "The leading cause of wrongful convictions was erroneous identification by eyewitnesses, which occurred 79 percent of the time," wrote *Times* legal correspondent Adam Liptak. "Faulty forensic science was next, present in [57] percent of the cases."[19]

The eagerness of the media to harvest these troublesome figures was only magnified by the presentation that Brandon Garrett and Peter Neufeld gave to the National Academy of Sciences in September 2007. The slide show they presented was titled "Improper Use of Forensic Science in the First 200 Post-Conviction DNA Exonerations" and it relied heavily on the data generated by Garrett's research.

But even when summarizing his own research in "Judging Innocence," which was published only months after his appearance at the National Academy of Sciences, Professor Garrett clearly acknowledged that his study did not seek to quantify the ***leading causes*** of wrongful convictions. Instead, he simply sought to identify "the ***leading types of evidence supporting*** wrongful convictions [emphasis added]."[20] This clarification has fallen on deaf ears for reasons that have only been worsened by those in the innocence movement.

Whatever those reasons are, suffice it to say that the public were strongly encouraged to believe that 57% of the 200 overturned convictions were caused by faulty forensic science. This is not even remotely accurate.

"Suffice it to say that the public were strongly encouraged to believe that 57% of the 200 overturned convictions were caused by faulty forensic science. This is not even remotely accurate."

First, it is true that 113 or 57% of the 200 overturned convictions involved the presentation of forensic evidence against defendants during their original trials. But as will be demonstrated later, the fact that 57% of these convictions involved the use of forensic evidence does *not* mean that 57% of all wrongful convictions are caused by faulty forensic science. This erroneous interpretation seems to exemplify the kind of statistical carelessness that Judge Hoffman complained about in his *Wall Street Journal* editorial.

Crime Lab Report carefully studied the *Innocence Project's* case profiles for each of the first 200 DNA exonerations and tabulated the number of cases in which specific "causes" occurred. Because many of the cases have more than one cause associated with them, the combined percentages exceed 100%. The following is a breakdown of these causes ranked from highest to lowest.

CAUSES BY NUMBER AND PERCENT OF CASES

Rank	% Cases	# Cases	Description
1	77%	153	Eyewitness misidentifications
2	36%	**71**	**Unreliable / limited science**
3	22%	43	False confessions
4	14%	27	Government misconduct
5	13%	**26**	**Forensic science misconduct**
6	13%	25	Informant snitches
7	2%	3	Bad lawyering

These numbers come directly from the *Innocence Project's* published information on DNA exonerations, yet the only two causes pertaining to forensic science (unreliable/limited science and forensic science misconduct) account for 97 or 49% of the cases, somewhat lower than what was quoted by the *New York Times*, Brandon Garrett, and Peter Neufeld.

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> **"The overall statistical weight that can be honestly assigned to faulty forensic science is very small."**

The reason for this discrepancy is that 16 of the 113 cases involving forensic evidence were not labeled by Garrett and Neufeld as being problematic, suggesting that some kind of discriminating method was employed to distinguish legitimate forensic evidence from that which was actually faulty. But as *Crime Lab Report* uncovered, this was not the case. In fact, the number of cases involving actual instances of faulty forensic science is far less than the 97 cases tabulated above. And as will be demonstrated in the following section, the overall statistical weight that can be honestly assigned to faulty forensic science is very small.

Tabulation of *Probable Systemic Failures*

Both Brandon Garret and the *Innocence Project* have incorrectly relied on counting the types of evidence used against defendants at trial and then expressing the numbers as a percentage of the total number of cases. The problem with this method is its failure to account for cases where multiple types of evidence were used against the defendant.

For example, in the case against Bruce Godschalk[21], who was convicted of rape and burglary by a Pennsylvania jury in 1987, the *Innocence Project* identified five factors that contributed to the conviction:

1. false eyewitness identification
2. unreliable / limited science
3. false confession
4. government misconduct
5. bad informant/snitch

Admittedly, the serology evidence failed to exclude Godschalk, but it did not conclusively associate him either. By all accounts, the forensic testing was not faulty, just too nonspecific to support an acquittal. Any confusion that might have been introduced by this evidence, however, was dwarfed in significance and weight by the other four instances of failure that directly incriminated Godschalk.

Because five different factors are associated with the Godschalk case, proper statistical sampling does not allow for any one factor to be fully blamed for the conviction. Yet this is exactly what has happened.

Crime Lab Report began to correct this problem by tabulating the total number of ***probable systemic failures*** cited by the *Innocence Project,* which were then expressed as a percentage of the total number of instances. In doing so, a more valuable statistical model was created. The following table illustrates the resulting data:

PROBABLE SYSTEMIC FAILURES ACCORDING TO THE INNOCENCE PROJECT

Rank	Percent	Number	Description
1	44%	153	Eyewitness misidentifications
2	20%	**71**	**Unreliable / limited science**
3	12%	43	False confessions
4	8%	27	Government misconduct
5	7%	**26**	**Forensic science misconduct**
6	7%	25	Informant snitches
7	1%	3	Bad lawyering
		348	

When expressed as a percentage of the total number of instances, not cases, unreliable/limited science occurred 20% of the time while forensic science misconduct occurred only 7% of the time. Collectively,

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this demonstrates that even the most aggressive interpretation of the *Innocence Project's* own published data can only attribute 27% of all probable systemic failures to forensic science, a far reach from the 57% cited by the *New York Times*.

But as the research continued, the data became increasingly favorable to forensic science.

The Case Studies

Crime Lab Report randomly selected and examined the exonerations of Steven Avery, Kerry Kotler, Clyde Charles, William Gregory, and Bruce Godschalk. In each of these cases, forensic evidence was used by the prosecution to demonstrate guilt. As a result, they are included among the 113 cases (57%) cited by the *New York Times* as being caused by faulty forensic science. They also include the 97 (27%) instances of probable systemic failure tabulated by *Crime Lab Report*.

But just how faulty was this evidence?

A review of each of the following cases revealed that the forensic evidence was very nonspecific and could not scientifically or exclusively justify the acquittal of the defendant; however, no indication could be found that the testimony or analyses were faulty. Brief descriptions of the scientific evidence in these cases have been quoted directly from authoritative sources.

Steven Avery – "He was charged with and convicted of [a] brutal attack on [a] beach in Manitowoc County, based almost entirely on eyewitness identification testimony of a single witness. The state also presented microscopic hair examination evidence indicating that a hair found on Avery was 'consistent' with the victim's hair. Avery was sentenced to 32 years in prison in March 1986."[22]

Kerry Kotler – "The prosecution based its case on several points:

- "The victim identified Kotler from a group of 500 photographs."
- "The victim identified Kotler by sight and voice from a police lineup."
- "County laboratory tests showed that Kotler had three non-DNA genetic markers (ABO, PGM, and GLO) that matched those of the semen stain left on the victim's underpants."[23]

Clyde Charles – "Clyde was tried by an all-white jury of 10 women and two men. The prosecution's evidence included the victim's identification and her testimony that the rapist called himself 'Clyde.' A criminalist testified that two Caucasian hairs on Clyde's shirt were microscopically similar (but not conclusively identical) to hair from the victim's head. The police officer testified that Clyde had been wearing a dark jogging jacket with white stripes when he saw him outside the bar, corroborating the victim's description of her assailant's dark jogging suit with stripes. The officer also testified that Clyde had been wearing a red cap and blue jacket tied around his neck when he saw him hitchhiking. A red baseball hat and blue jean jacket were found near the scene of the rape."[24]

"Even the most aggressive interpretation of the *Innocence Project's* own published data can only attribute 27% of all systemic failures to forensic science, a far reach from the 57% cited by the *New York Times*."

William Gregory – "William Gregory, an African-American, was arrested, charged, and sentenced for the attempted rape of a Caucasian woman in his apartment complex after the victim identified him in a suspect lineup. There was no other evidence in the case except for six "Negroid" head hairs discovered in pantyhose used as a mask at the crime scene. The pantyhose had been washed and hung in the victim's bathroom prior to the crime. At the 1993 trial a hair microscopist stated that the hairs could have come from Gregory, and this testimony was helpful to the prosecution."[25]

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> ***Bruce Godschalk*** **–** "In May of 1987, Mr. Godschalk was convicted of [two] rapes and sentenced to 10 to 20 years in prison. The police had recovered semen samples from both rapes but, in 1987, did not have the DNA technology to test this evidence. Mr. Godschalk's conviction was affirmed on appeal."[26]

As mentioned previously, although extensive research revealed no indication that the forensic evidence in the above cases was anything but valid, each of them has been rhetorically and statistically attributed to faulty forensic science. In other words, because the evidence did not prevent the conviction, it was assumed to have been faulty.

In criminal trials, it is frequently necessary for prosecutors to present weak or limited forensic evidence against defendants. By default, physical evidence that cannot exclude a defendant as being associated with a crime is fair-game to be used as evidence of guilt, and the jury may benefit from hearing it. This demands ethical restraint and judicial vigilance to ensure that the evidence is not confused for being stronger than it actually is. Therefore, competent lawyering is a critical component in the justice system's efforts to protect the rights of defendants and the overall fairness of the adjudicative process.

Failure to Credit Evidence Favorable to the Defendant

Perhaps the most startling data uncovered in *Crime Lab Report's* research was the fact that 36 out of 200 cases (18%) were identified as having forensic evidence that was actually favorable to the defendant. Various reasons account for why this evidence was either not presented at trial or failed to cause an acquittal, but the fact remains that these instances did not temper the *Innocence Project's* rhetoric blaming forensic science for wrongful convictions.

For example, in his research, Professor Garrett found two cases where fingerprint evidence was used against the defendants. But in a third case, the trial of Antonio Beaver, he failed to give credit to forensic scientists who, according to the *Innocence Project*, concluded that "fingerprints collected from the victim's car – including prints from the driver's side and the rearview mirror – did not match the victim or Beaver."[27]

To the credit of the *Innocence Project*, they do not associate Antonio Beaver's case with any questionable forensic evidence. The same, however, cannot be said for the convictions of James Ochoa, Drew Whitley, and Roy Brown. In each case, *Innocence Project* case profiles cite unreliable / limited science as being a factor contributing to the conviction despite the knowledge of exculpatory forensic results before trial.

James Ochoa[28], for example, was convicted of armed robbery and carjacking in 2005. Prosecutors were certain of his guilt even though DNA and fingerprint evidence excluded Ochoa prior to trial. Yet his conviction is blamed by the *Innocence Project* on unreliable / limited science and is included by Garrett and Neufeld as an example of faulty forensic science.

Drew Whitley[29] was convicted of murder in 1989. A laboratory technician testified that a saliva sample associated with the crime scene did not match Whitley. Yet his conviction is blamed on unreliable / limited science.

> **"Ironically, the number of such cases where forensic evidence was favorable to the defendant exceeds the total number of cases that *Crime Lab Report* found to be tainted by actual forensic science malpractice."**

Roy Brown[30] was convicted of murder in 1992. A bite-mark expert retained by the defense testified during trial that six of seven bite-marks were not sufficient for analysis and that "the seventh excluded Brown because it had two more upper teeth than he had." Yet his conviction is blamed on unreliable / limited science.

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Ironically, the number of such cases where forensic evidence was favorable to the defendant exceeds the total number of cases that *Crime Lab Report* found to be tainted by actual forensic science malpractice. The following section will explain how this was determined.

Forensic Science Malpractice

As *Crime Lab Report's* research progressed into the summer of 2007, it became increasingly evident that there were significant problems with the *Innocence Project's* accounting and characterization of cases involving forensic evidence. Up to that point, the published case profiles and reports, such as the ones reviewed in the Bruce Godschalk case, revealed multiple contributing factors without appropriate weight being assigned to any of them.

Because *Crime Lab Report* was concerned only with the role of forensic science in the overturned convictions, a second review of all 200 case profiles, supplemented by news reports for many of those cases, was conducted with a focus only on the role of forensic science. As a result of this review, the 200 cases under consideration were broken down into the following categories, all specific to forensic science:

1. Conviction not supported by forensic evidence
2. Non-specific science failed to exclude the defendant
3. **Forensic Science Malpractice**
4. Forensic evidence was favorable to the defendant

By evaluating the cases in this manner, the actual role of forensic evidence could be more clearly and constructively estimated. The following table shows how the cases ranked using this method.

THE ROLE OF FORENSIC SCIENCE – BY NUMBER AND PERCENT OF CASES			
Rank	**Percent**	**Cases**	**Description**
1	35%	69	Non-specific science failed to exclude the defendant
2	32%	63	Conviction was not supported by forensic evidence
3	18%	36	Forensic evidence was favorable to the defendant
4	**16%**	**32**	**Forensic science malpractice**
		200	

Based upon this review, only 16% could be associated with probable instances of forensic science malpractice. But as mentioned earlier, there is a problem with this approach. Expressing systemic failures as a percentage of cases does not account for cases with multiple failures contributing to the convictions.

Therefore, *Crime Lab Report* extracted the above 32 instances of probable forensic-science malpractice and ranked them against other instances of failure identified by the *Innocence Project*. This time, the total number of failures dropped from 348 to 283 due to so many forensic-related cases having been questionably or improperly cited by the *Innocence Project* as being caused by faulty forensic evidence.

PROBABLE SYSTEMIC FAILURES – BY NUMBER AND PERCENT			
Rank	**Percent**	**Instances**	**Description**
1	54%	153	Eyewitness misidentifications
2	15%	43	False confessions
3	**11%**	**32**	**Forensic Science Malpractice**
4	10%	27	Government misconduct
5	9%	25	Informant snitches
6	1%	3	Bad lawyering
		283	

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The above table provides some of the most compelling evidence that vindicates forensic science from the accusations of critics in the innocence movement. Only 11% of all probable systemic failures identified by *Crime Lab Report* were attributed to forensic science malpractice using the available data.

For those who correctly argue that 11% is unacceptably high, the following section will demonstrate why the percentage continues to shrink in favor of forensic science.

Bad Lawyering and Government Misconduct

As mentioned in the Executive Summary on the first page of this report, it was noted that the number of convictions attributed by the *Innocence Project* and Professor Garrett to bad lawyering was remarkably low, only 3 cases out of 200, or 1.1%. Government misconduct was blamed in 27 cases (14%). *Crime Lab Report*'s study, however, suggests, at least preliminarily, that nearly all of the overturned convictions would have been prevented by more competent and ethical legal counsel on both sides. This finding seems to be intuitively reasonable mainly because lawyers are critical to ensuring that our criminal justice system is fair to all parties. It is also consistent with standards adopted by the American Bar Association.

"Considering the critical role that trial attorneys play before and during a criminal trial, one would expect the *Innocence Project* to identify more than three instances of bad lawyering in 200 overturned convictions."

Kelly Pyrek, author of Forensic Science Under Siege, noted the following:

> "The American Bar Association's (ABA) Model Rules of Professional Conduct outline a number of important tenets of responsibility and professional conduct for attorneys, including 'A lawyer shall provide competent representation to a client. Competent representation requires the legal knowledge, skill, thoroughness, and preparation reasonably necessary for the representation' and 'A lawyer shall act with reasonable diligence and promptness in representing a client.'"[11]

Considering the critical role that trial attorneys play before and during a criminal trial, one would expect the *Innocence Project* to identify more than three instances of bad lawyering in 200 overturned convictions.

This understatement, however, creates a massive statistical vacuum that has contributed heavily to the wrongful conviction of forensic science in the court of public opinion.

For example, if one were to estimate that 100 instances of bad lawyering are actually represented in the 200 convictions studied, it would raise the total number of systemic failures to 380 and lower the percent attributable to forensic malpractice to 8.4%.

On the other hand, if the most liberal (but not necessarily the most reasonable) interpretation is applied such that all 200 cases are assigned one instance of bad lawyering and one instance of government misconduct, it would raise the total number of systemic failures to 653 and lower the percent attributable to forensic science malpractice to only 4.9%.

These hypothetical estimates demonstrate how important it is to accurately and completely tabulate the causes of wrongful convictions before assigning a specific share of the blame to any of them. Because bad lawyering is so understated in the *Innocence Project's* data, the blame assigned to forensic science malpractice has become inflated beyond reason.

Future studies conducted with the assistance of reputable forensic science experts will hopefully look closer at the 200 overturned convictions to determine exactly how they happened and if, in fact, the 32 instances of forensic science malpractice can be fairly labeled as such. Preliminary information collected in this study strongly suggests that many are not. This includes the disturbing and tragic case against Ray Krone.

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The Conviction of Ray Krone

According to *MSNBC*, it was the ultimate example of faulty forensic science – an erroneous identification reported by a prosecution expert who testified that Ray Krone, and only Ray Krone, was responsible for leaving a bite-mark on the breast of a dead woman found in a local tavern. She was a waitress and Ray Krone was a frequent patron.[32]

With little other evidence to speak of, Krone was convicted of murder and sentenced to death by an Arizona jury. According to the *Innocence Project*, "At his 1992 trial, Krone maintained his innocence, claiming to be asleep in his bed at the time of the crime. Experts for the prosecution, however, testified that the bite-marks found on the victim's body matched the impression that Krone had made on [a Styrofoam cup] and a jury convicted him on the counts of murder and kidnapping."[33]

At first glance, Krone's conviction seems to be another glaring example of faulty forensic science.

Unfortunately, critical pieces of information were left out of the *Innocence Project's* case profile for Ray Krone. Prior to Krone's trial, a forensic bite-mark expert, Dr. Skip Sperber, was hired by the prosecution to examine the bite-mark evidence. Sperber concluded that Krone, in fact, did not leave the bite-mark found on the victim's breast and, according to *MSNBC*, advised prosecutors that the police "have the wrong guy."[34]

Apparently unhappy with Sperber's result, prosecutors took the evidence to an inexperienced local odontologist who conclusively identified Krone as leaving the bite-mark in question. The Krone case was his first, according to *MSNBC*.

As attorney's continued to uncover problems with Krone's trial, it was learned that more conventional and scientifically respected evidence, including fingerprints and footwear impressions, had also been examined prior to trial and excluded Krone as being the contributor.

"In a case that has been touted as the quintessential example of faulty forensic science, it was forensic science that got it right from the start."

Maricopa County Attorney Rick Romley eventually apologized for the obvious miscarriage of justice, but he conveniently passed blame for his own possible misconduct onto forensic science by suggesting that Krone's conviction was simply the result of inadequate science.

In a case that has been touted as the quintessential example of faulty forensic science, it was forensic science that got it right from the start.

It is true that bite-mark analysis is a discipline with little peer-oversight and no significant place in America's crime laboratories. But the inability of Krone's team to mount an adequate defense and the failure of prosecutors to act on the totality of forensic evidence pointing to another perpetrator should have raised the ire of the *Innocence Project* enough to convince them that bad lawyering and government misconduct were the primary causes of Krone's wrongful conviction.

But for reasons that are difficult to understand, the *Innocence Project* case profile for Ray Krone[35] failed to emphasize government misconduct or bad lawyering as factors contributing to Krone's conviction.

Closing Arguments

The leading causes of wrongful convictions are false eyewitness identifications exacerbated by bad lawyering, and in some cases, government misconduct. As a total percentage of all systemic failures contributing to wrongful convictions, faulty forensic science comprises a small percentage. But more importantly, this percentage decreases considerably as stricter and more controlled methods are employed to analyze the available exoneration data. More work should be done in this regard.

In the meantime, the compiled data and information studied by *Crime Lab Report* demonstrate faulty and incomplete statistics magnified by rhetorical misrepresentations on the part of innocence advocates and the

media. These misrepresentations have come to bear heavily on the profession of forensic science, which is not accustomed to withstanding sustained attacks from well-funded activists. Forensic scientists are simply too busy. For this reason, the profession is vulnerable to being bullied.

The case of Ray Krone is among the most disturbing in terms of the blame unfairly placed on forensic science and the turmoil that Krone endured as a result of government misconduct, bad lawyering, or possibly both. But the cases of Steven Avery, Antonio Beaver, Clyde Charles, William Gregory, Kerry Kotler, and Bruce Godschalk tell a story of their own, and they all raise very serious questions about the lengths to which the innocence movement is willing to go in carrying out its public policy and legislative efforts.

The authors hope that this report is subjected to fair and rigorous scrutiny. But whatever the outcome, all stakeholders should be reminded that any public policy agenda being advanced with exaggerations and mischaracterizations, whether intentionally fabricated or not, should be subjected to equally rigorous scrutiny or rejected entirely.

AUTHORS' COMMENTS & PUBLIC POLICY CONSIDERATIONS

While this study seems to defend the profession of forensic science, the authors recognize that it is very good practice for trial lawyers, judges, and juries to look cautiously, and sometimes skeptically, at the testimony of subject-matter experts. This means that expert conclusions and associated testimony should always be subjected to a level of scrutiny that is commensurate with the seriousness of the matter at hand. Consequently, the adversarial system of justice in the United States places a tremendous responsibility on lawyers and judges to be vigilant, honest, and fair.

It remains a mystery as to why the *Innocence Project* only identified 3 instances of bad lawyering in the 200 cases studied. Even a cursory review of the case profiles shows ample evidence to demonstrate how pervasive and obvious the problem actually was. Even the 27 cases cited as involving government misconduct was probably much too low. That the *Innocence Project's* public policy efforts focus so intently on forensic science would leave a reasonable person to suspect that forensic science is simply a more attractive target, not because it is justified, but because the fight attracts more attention.

"It remains a mystery as to why the *Innocence Project* only identified 3 instances of bad lawyering in the 200 cases studied. Even a cursory review of the case profiles shows ample evidence to demonstrate how pervasive and obvious the problem actually was."

The *Innocence Project* needs attention and money to drive its public policy agenda. In the age of *CSI, New Detectives, Cold Case Files, and Crossing Jordan*, taking on crime laboratories will turn heads more quickly than esoteric procedural debates among litigators.

The major public policy question that this study hoped to answer was whether or not governmental oversight of crime laboratories is statistically and economically justified. The opinion held by many in the innocence movement is that such oversight is needed; however, this opinion depends on two assumptions that were invalidated by this study:

1. That forensic science malpractice is a leading cause of wrongful convictions.

2. That crime laboratory accreditation fails on its own to provide the structure and accountability necessary to minimize the occurrences of forensic science malpractice.

Crime Lab Report found only one case involving forensic science malpractice in an accredited laboratory; however, it was a false exclusion of a rape victim's husband as being the contributor of semen found on a rape-kit swab and bedding from the victim's home. The error did not directly incriminate the defendant

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and appeared to be completely unintentional. Also, the incident occurred in 1988 when crime laboratory accreditation was in its infancy.[36]

In fact, 74% of the 200 overturned convictions occurred before 1990. Since then, accreditation has grown in scope and complexity. Of all laboratories currently accredited by the American Society of Crime Laboratory Directors / Laboratory Accreditation Board (ASCLD/LAB), 73% achieved accreditation for the first time after 1992.[37] While accreditation is not a promise of perfection, it enforces a kind of professional accountability and transparency that has benefited all stakeholders of forensic science for over 25 years.

Peter Marone is the Chairman of the *Consortium of Forensic Science Organizations (CFSO)*. On April 10, 2008, he testified before the United States House Subcommittee on Crime, Terrorism, and Homeland Security. In his comments, Marone warned of the problems that state oversight commissions can present:

> "Many laboratories, if asked, will state that their oversight is provided by the accrediting body under which they operate. Some people would say that this is the fox guarding the hen house and there is something inherently wrong with this process. However every other oversight board, whether it be commercial, medical, legislative or the legal, has oversight bodies which are comprised of the practitioners in that profession. It makes sense that the most knowledgeable individuals about a particular topic would come from that discipline. But that does not seem to meet the current needs. The key to appropriate and proper oversight is to have individuals representing the stakeholders, but that these individuals must be there for the right reason, to provide the best possible scientific analysis. There cannot be any room for preconceived positions and agenda driven positions. Unfortunately, we have seen this occur in some States."[38]

Critics of accreditation, including Peter Neufeld, have argued that accreditation cannot be trusted because it calls for laboratories to be inspected by other forensic experts – a kind of self-regulation that supposedly fails to establish the oversight necessary to ensure that laboratories are held to account.

What these critics fail to recognize is what the authors term the "economy of accreditation," where a pool of specially trained and monitored assessors have a strong incentive to be brutally thorough and objective during their inspection of a laboratory. The very reputations of the assessors, the likelihood that they will be allowed to participate in future inspections, and the desire to make good use of their valuable time (usually requiring several days away from home and work) are all compromised by failing to conduct a comprehensive and rigorous inspection. It is this economy of incentives that ensures the effectiveness of professional peer-based accreditation, and is why it is used so frequently and successfully in other industries.

"The *Innocence Project* needs attention and money to drive its public policy agenda. In the age of *CSI, New Detectives, Cold Case Files, and Crossing Jordan*, taking on crime laboratories will turn heads more quickly than esoteric procedural debates among litigators."

But peer-assessors also have another incentive to hold a laboratory accountable for compliance to accreditation standards. A laboratory that fails to do good work damages the reputation, fairly or not, of everyone who calls themselves a forensic scientist.

No competent and thoughtful assessor is willing to tolerate that.

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Society of Crime Laboratory Directors (ASCLD) from 2005 through 2007 (Note: ASCLD and ASCLD/LAB are separate entities).

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ARTICLE: FORENSIC SCIENCE AND CAPITAL PUNISHMENT REFORM: AN "INTELLECTUALLY HONEST" ASSESSMENT

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SUMMARY:
... The author specifically highlighted the following problems: 1) the numerous crime lab problems; 2) the increasing number of wrongful or overturned convictions where forensic science played a significant role; 3) the mounting evidence suggesting that forensic examiners are not adequately trained and how scientific incompetence produced injustices; 4) the lack of science in forensic science (i.e., certain techniques such as fingerprinting are not based on legitimate scientific principles); 5) Governor Romney's affinity for forensic science was most likely affected by the "CSI-effect" and the work of the numerous Innocence Projects across the country; 6) the lack of preventative measures in forensic science which account for and minimize observer effects (i.e., subconscious effects on the examiner); 7) how the standardless and highly subjective nature of forensic examinations renders them very susceptible to an assortment of errors, particularly those caused by subconscious observer effects; 8) the forensic science community is economically bankrupt and that its insolvency has led to highly questionable crime lab practices, unfit examiners, and miscarriages of justice. ... Relatively low salaries not only lead to smaller applicant pools, they also create higher turnover rates and understaffing because many forensic scientists leave public crime labs for private labs. ... In short, methodical scientific investigations cannot be performed if there are too few forensic examiners and the examiners who are working have unmanageable and overwhelming caseloads. . ... Auditors found instances in which laboratory officials entered the same genetic profile under two different identification numbers in the database and failed to follow FBI protocols for analyzing profiles and double-checking results. . ... The lab's training and development programs were inadequate because of funding issues. . ... Governor Romney and his Council Members turned to the forensic individualization sciences to construct a "foolproof" death penalty system. ... Many, including Governor Romney, may assume that, because DNA is a member of the individualizing forensic sciences, which is actually based on science, a capital punishment statute premised on this type of evidence will succeed. ... Besides differentiating between class and individual characteristics, forensic examiners, particularly toolmark examiners, must also distinguish between subclass characteristics and individual characteristics. ... Besides hair misidentifications, convictions have been vacated or overturned due to misidentified fingerprints, fabricated fingerprints, misleading testimony, misinterpreted firearms evidence, miscalculated DNA statistics, forensic fraud, misinterpreted drug evidence, misidentified bite marks, faulty blood testing, misinterpreted burn patterns, misidentified carprints, misidentified handwriting, and erroneous autopsy conclusions. ... That an unnerving number of forensic examiners have a shallow appreciation of science, the scientific method, and statistics is not surprising when one considers: 1) the status of forensic science education; 2) the absence of entry level standards; 3) the lack of proficiency testing; and 4) the misguided notion investigators or technicians can learn the complexities of a forensic science subject in a forty hour short course. ... Judges decide whether an examiner is legally qualified to testify as an expert, while jurors settle on whether the expert's testimony is legitimate and believable. ... At trial, the accuracy

of the examiner's findings may not be exposed if defense counsel is not well versed in forensic evidence or cross-examining forensic experts.

HIGHLIGHT: When liberty hangs in the balance - and, in the case of the defendants facing the death penalty, life itself - the standards should be higher than were met in this case, and than have been imposed across the country. The more courts admit this type of toolmark evidence without requiring documentation, proficiency testing, or evidence of reliability, the more sloppy practices will endure; we should require more. n1

This case and the few empirical studies that we have reinforce Justice O'Connor's view that the system is allowing some innocent defendants to be executed ... High on the list of the causes for mistakes are the kinds of errors we see in this case: the misinterpretation or abuse of scientific evidence[.] n2

TEXT:
[*299]

Introduction

According to federal district judge William K. Sessions III, "capital punishment is under siege." n3 Boyce F. Martin Jr., a federal appellate judge, went even further when he declared that "the death penalty in this country is arbitrary, biased, and so fundamentally [*300] flawed at its very core that it is beyond repair." n4 Considering the content and authors of these comments, one must question whether the perceived impenetrability of capital punishment's armor is slowly eroding. The Supreme Court's recent capital punishment jurisprudence has only reinforced this reasonable inference. n5 Although the politics of death are clearly changing for the better, n6 there are still nearly forty death penalty systems, which are in critical condition, operating throughout United States. n7 Consequently, the United States is at a crossroads regarding whether it wishes to endorse or [*301] eradicate capital punishment. Considering the fact that capital punishment offers a unique political tool for ambitious politicians, it is fair to assume the death penalty system will be in business for years to come in the United States. n8 Accordingly, the only alternative is reform. Capital punishment reform, at least from the guilt/innocence perspective, must begin and end with one objective - accuracy. Is the system ultimately executing the actual perpetrator(s) in the overwhelming majority, if not every, case? Nothing less than perfection is acceptable because the "quintessential miscarriage of justice is the execution of a person who is entirely innocent." n9 Accordingly, demanding absolute precision is a legitimate, if not a categorical, expectation if capital punishment reform is to be taken seriously or have a real impact. n10

From former Massachusetts Governor Mitt Romney's perspective, it is with this fundamental necessity of perfection where forensic science enters into the capital punishment fray. Curious as to whether it would be advantageous for Massachusetts to reinstitute capital punishment, n11 Governor Romney followed former Illinois Governor George Ryan's lead and assembled a blue ribbon panel of experts to ascertain whether it would be realistic to construct a "foolproof" capital punishment system. n12 To create a failsafe death penalty system, Governor Romney instructed his Council Members to place "strong emphasis on the use of scientific evidence to help establish the defendant's [*302] guilt." n13 Two of the Council Member's recommendations dealt specifically with forensic evidence.

The Council Members' sixth recommendation suggested that, before a jury can sentence a capital defendant to death, "the jury should be required to find that there is conclusive scientific evidence (i.e., physical or other associative evidence), reaching a high level of scientific certainty, that connects the defendant to either the location of the crime scene, the murder weapon, or the victim's body, and that strongly corroborates the defendant's guilt of capital murder." n14

The Council Members' eighth recommendation suggested that the Massachusetts Supreme Judicial Court appoint an Independent Scientific Review ("ISR") Board to conduct a "thorough review of the collection, handling, evaluation, analysis, preservation, and interpretation of" the forensic evidence, which conclusively established the defendant's guilt, only if the jury convicted and sentenced the defendant to death. n15

To gauge the utility and/or shortcomings of the Council Members' report, Joseph Hoffman, co-chair of Governor Romney's Council on Capital Punishment and Indiana University law professor, brought together some of the brightest and most experienced legal and forensic practitioners to discuss the Council Members' recommendations during the fall of 2004. The conference consisted of four different panels which examined various issues such as: death eligibility,

capital juries, the role of scientific evidence, and post-conviction review. The [*303] scientific evidence panel consisted of Dr. Frederick R. Bieber, n16 Dr. Carl M. Selavka, n17 Jeffrey Pokorak, n18 and the author of this Article.

During the panel discussion, the author focused on several issues supporting his thesis that the forensic science system cannot presently rehabilitate the death penalty in Massachusetts (or elsewhere, for that matter). The author specifically highlighted the following problems: 1) the numerous crime lab problems; 2) the increasing number of wrongful or overturned convictions where forensic science played a significant role; 3) the mounting evidence suggesting that forensic examiners are not adequately trained and how scientific incompetence produced injustices; 4) the lack of science in forensic science (i.e., certain techniques such as fingerprinting are not based on legitimate scientific principles); 5) Governor Romney's affinity for forensic science was most likely affected by the "CSI-effect" and the work of the numerous Innocence Projects across the country; n19 6) the lack of preventative measures in forensic science which account for and minimize observer effects (i.e., subconscious effects on the examiner); 7) how the standardless and highly subjective nature of forensic examinations renders them very susceptible to an assortment of errors, particularly those caused by subconscious observer effects; 8) the forensic science community is economically bankrupt and that its insolvency has led to [*304] highly questionable crime lab practices, unfit examiners, and miscarriages of justice. n20

Dr. Bieber attacked these observations, research, and analysis as follows:

I'd like to go back to Craig's comments because I think, while I may not disagree with some of his concerns about the state of affairs in science as it's applied to forensic investigations, I think that's precisely why we have these recommendations in the report. I would disagree with your categorization that the Council's report has an over-reliance on, on what you're calling forensic science. I think, in fact, we have established a requirement that it be there and that it be done correctly. And just for the record, I feel like I must quote from our document with, within the context of this requirement. And I'm quoting from Page 20. Not all physical or associative evidence will be capable of satisfying this requirement of conclusive evidence reaching the level of scientific certainty that adequately connects the defendant to the crime. Moreover, not all individual cases will involve evidence of sufficient quantity or quality to meet this requirement. So we, we understand this point that, that you're driving home, I think, as well as any group could, and we have addressed it to the best of our ability.

So I, I think clearly, it is, science is a moving target, as you point out. But I must remind the audience that these same techniques that Carl's lab applies in the investigation of serious criminal acts are used everyday by us in the hospital to determine what patient gets what bone marrow sample for treating leukemia or lymphoma. When we reunite the victims of our soldiers coming home everyday at the, at the Air Force Mortuary in Dover, Delaware, these same techniques are used for reunification of families and the soldiers, in the World Trade Center, in the genocide going on in Europe and the Sudan.

So it seems to me that part of you, Craig, is wanting to butter the bread on only one side. You'll be happy to use it when it exculpates your, your client. But when it includes him you seem to be stepping [*305] back. And I don't think that's, I don't think that's intellectually honest. n21

This Article addresses two important issues. First, due to the limited time each panel member received, the author feels obligated to thoroughly explain the issues raised during the panel discussion and address other issues not raised due to time constraints. Second, this Article addresses Dr. Bieber's response to the author's comments. Dr. Bieber's comments require an in-depth reply to clarify the valid and "intellectually honest" concerns being expressed about forensic science, forensic examiners, and crime laboratories.

While Council Members should be commended for their incredible amount of work, Governor Romney's directive to construct a forensically-dependent, "foolproof" death penalty system is misplaced, particularly at this juncture, considering the numerous crime lab problems (across the country and especially in Massachusetts) and the lack of funding. n22 As the author recently argued elsewhere: "We have a broken system (the forensic science system) attempting to support another broken system (the death penalty system)." n23 Accordingly, because capital cases require and demand perfection, something the forensic science community cannot presently offer, a capital system premised on forensic evidence, examiners, and labs will inevitabilty falter from the outset. Thus, if "the criminal justice system wishes not to execute innocent individuals, the forensic science community's ... shortcomings must [first] be addressed and rectified." n24

[*306] This Article debunks three widely-held assumptions about forensic science. Part I rejects the assumption that forensic science is premised on methodical investigations by showing, via case illustrations, how time constraints, shoddy work, and poor funding play out in the field. Part II analyzes the assumption that real science is being practiced in forensic science, concluding that, in reality, the "science" involved is questionable at best and illusory at worst. Finally, Part III challenges the assumption that forensic scientists are actually performing scientific investigations, and shows that many forensic science practitioners are not actually scientists. The Article concludes that, given the forensic science community's current state of disarray, it is dangerous to assume that forensic science can and will cure the innumerable problems which infect the capital punishment system.

I. Assumption #1 - Methodical Investigations: Science Requires Time, Meticulousness, and Funding - Three Ingredients Conspicuously Absent In Forensic Science

Most ... crime labs lack sufficient numbers of trained forensic scientists ... State and local governments with shrinking budgets lack adequate resources to hire trained scientists. Even when funds are available, there is an insufficient pool of qualified forensic scientists to hire. This is due in part to the fact that some colleges that offer degrees in forensic do not have curriculums that include basic science courses necessary for this occupation. n25

Law and science have fundamentally different beliefs and objectives. n26 Law places great emphasis on prompt decisions, finality, and [*307] accuracy. n27 Science, on the other hand, focuses on the lone aspect of accuracy. n28 Similarly, while the law emphasizes process, science stresses progress. n29 Given these opposing philosophies and purposes, it is understandable why lawyers and scientists work under different timelines when confronted with disputes. Given the law's desire for speedy resolutions, the time allotted to lawyers to resolve disputes is brief. Accordingly, legal inquiry generally lacks the tolerance for prolonged research. n30 Science's singular focus on accuracy, however, necessarily expands the timeframe in which scientists can resolve controversies. Thus, because time is not of the essence, scientists can research a theory or problem for years, decades, or even centuries. n31

Forensic science, alternatively, represents a unique dilemma because it is "the application of scientific principles and technological principles to the purposes of justice in the study and resolution of criminal, civil, and regulatory issues." n32 In essence, because the forensic sciences are applied in a legal setting, they are forced to comply with the law's affinity for rapidity and finality. Similar to the fixed number of days an attorney has before his or her brief is due, the forensic scientist must turn over his or her report(s) to the prosecution or defense by a certain date. Consequently, forensic scientists cannot take advantage of the relatively open-ended time frame that traditional scientists enjoy. n33 Furthermore, forensic examiners must also [*308] contend with their ever increasing caseloads. n34 Crime lab caseloads have dramatically increased since the new millennium for at least three reasons: 1) the CSI effect; 2) the criminal justice system's increased reliance on forensic evidence; and 3) lack of funding. The following subsections consider each of these three reasons for increasing caseloads.

A. The CSI Effect: Romanticizing Forensic Science

At a time when the public is demanding CSI-style investigations of even common crimes, many of the nation's crime labs - underfunded, undercertified, and under attack - simply can't produce. n35

The "CSI effect" is the "phenomenon in which actual investigations are driven by the expectations of the millions of people who watch fake whodunits on TV. It has contributed to jurors' desire to see more forensic testimony from the stand." n36 Shows such as CSI, CSI: Miami, and CSI: New York have significantly contributed to this phenomenon. n37 These shows not only glamorize and distort forensic science's capabilities, they also generate increased awareness of forensic science, which forces prosecutors and defense attorneys to make [*309] testing requests that they may not have previously made. n38 More testing requests produce larger caseloads. Mounting caseloads are doubly frustrating because the number of subpoenas grows along with caseloads. If examiners and analysts are testifying in more cases, they have less time to devote to their ever-increasing caseloads. n39

B. Forensic Dependency: The Criminal Justice System's Addiction to Forensic Evidence

They're under a hell of a lot of pressure to get it out as fast as possible and do it perfectly. n40

The second reason for the increasing caseloads is intertwined with the CSI issue, and concerns the criminal justice system's mounting dependency on forensic evidence, particularly DNA evidence. Even without the CSI effect, prosecutors and defense attorneys would still presumably inundate today's crime labs with numerous requests for forensic testing because of technological advancements and the increased understanding of forensic evidence by attorneys. n41

Contrary to the media's portrayal of forensic science, the proliferation in forensic testing is not strictly limited to DNA analysis. Rather, all areas of forensic testing have experienced increases in testing [*310] requests. n42 The most recent data supports this claim: publicly funded crime labs received approximately 2,700,000 new cases in 2002. n43 Although nearly half (48%) of the new case requests were for controlled substances, only 2% were for DNA analysis. n44 The increase in requests resulted in massive backlogs across the country. n45 Funding in other forensic areas (i.e., fingerprinting, firearms, crime scene investigation), however, has been minimal compared to the money available for DNA technology and testing. n46

Although DNA testing requests constituted only 2% of all requests in 2002, n47 the DNA backlog has dramatically escalated since [*311] the new millennium. n48 The backlog is presumably much larger when three additional facts are considered. First, a growing number of law enforcement agencies have developed cold case squads to reassess old, unsolved cases. n49 Second, more states have enacted post-conviction DNA statutes, which give convicted defendants the opportunity to test or re-test previously-examined or newly-discovered evidence. n50 Third, the creation of DNA databanks and laws requiring certain arrestees or defendants to submit DNA samples have further strained forensic examiners and crime labs. n51

C. Lack of Funding: Garbage In, Garbage Out

Our Nation's crime labs do not have the capacity to take full advantage of DNA forensic technology because of an insufficient number of trained personnel, inadequate equipment, cramped laboratory space, outdated information systems, and growing casework demands. n52

To properly handle the mounting testing requests, the forensic science community must do at least two things: 1) hire a greater number of qualified examiners; and 2) modernize our nation's crime laboratories. Regrettably, the forensic science community is (and has been) unable to accomplish these two goals because it has long been [*312] stymied by inadequate funding. n53 As one crime lab director explained, while "the use of forensic science by the criminal justice system has increased dramatically over the past several years, [while forensic science] funding has not." n54 Consequently, a "budget crisis exists in many forensic services programs." n55 Lack of funding does not allow for methodical scientific investigations for two primary reasons: high turnover and inadequate modernization.

1. Poor Funding I: Poor Salaries Lead To High Turnover Which Leads To Understaffing

Staffing challenges in forensic laboratories exist nationwide. Staff turnover in Indiana laboratories has created a one-year backlog despite a $ 1 million federal grant. Understaffing in the Massachusetts' state laboratory system has been blamed for weakening its law enforcement capability. n56

Poor funding results in inadequate salaries, especially when compared to private sector salaries. n57 Relatively low salaries not only lead to smaller applicant pools, they also create higher turnover rates and understaffing because many

forensic scientists leave public crime labs [*313] for private labs. n58 Understaffing naturally leads to backlogs. n59 Backlogs lead to higher caseloads. Under these circumstances, "the pressure to finish cases too quickly increases markedly, as does pressure to 'extend opinions beyond the scientific method' and to get a particular result." n60 These circumstances also amplify the likelihood physical evidence will be accidentally discarded or purposefully destroyed. n61 Likewise, with too few examiners to combat the growing caseloads, forensic examiners may not have time to adequately communicate [*314] with law enforcement agencies regarding how to properly preserve, or even whether to preserve, physical evidence. n62

The low salaries for forensic examiners are disturbing when one considers that "an additional 10,000 new forensic scientists are needed nationwide over the next decade to address the expanding case backlog." n63 Some have even suggested that agencies should estimate staffing needs based on a ratio of one forensic scientist for every 30,000 people. n64 Moreover, despite the fact forensic funding is slowly increasing, chronic understaffing will likely continue to be a problem because public agencies often fail to anticipate the workforce needed to meet organizational objectives. n65 Identifying accurate staffing needs in public crime labs is particularly complicated because crime lab directors cannot estimate future caseloads because reliable measures of productivity have not been developed. n66 Finally, notwithstanding the steady increase in funding, understaffing and technological inadequacies will continue to be a problem because the law enforcement administrators who typically control city, county, and state crime labs generally fail to appreciate the complexities involved with running a state-of-the-art crime lab. n67 In short, methodical scientific investigations cannot be performed if there are too few forensic examiners and the examiners who are working have unmanageable and overwhelming caseloads.

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2. Poor Funding II: Inadequate Funding Leads to Little (If Any) Crime Lab Modernization

The majority of labs do not even have the basic equipment needed to respond to the caseload they currently have. n68

Poor funding not only forces public crime labs to rely on antiquated forensic technology; it also increases caseloads because crime labs cannot purchase the necessary technology to handle the mounting testing requests. n69 Similarly, insufficient funding forces forensic examiners to perform examinations in less than ideal facilities, which increases the risk of contamination. n70 In terms of dollar amounts, recent congressional testimony suggests an additional $ 1.3 billion is needed to refurbish older crime labs, while another $ 285 million is needed to purchase the necessary state-of-the-art equipment to make these crime labs fully functional. n71

Furthermore, because the accreditation process is so expensive, inadequate funding is a major reason why less than half of the nation's crime labs are accredited. n72 Under a new Texas law, for instance, public and private crime labs may no longer provide services unless they are accredited. n73 The law will most likely force the closing of at least nine crime labs (private and public). n74 In a perverse catch-22, many of [*316] the newer forensic-science-related congressional bills require labs to be accredited before they can seek federal funding. n75 Moreover, the American Society of Crime Laboratory Directors ("ASCLD"), the primary crime lab accreditation body, does not have the infrastructure to handle the impending wave of applicants and, unless it receives financial support to offset these massive costs, the cost of accreditation will remain prohibitively expensive. n76 Finally, poor funding has also diminished the likelihood that the forensic science community will consider blind proficiency testing - a procedure that can enhance the forensic science community's accuracy. n77 Simply put, reliable and methodical forensic examinations cannot be performed if the examining crime lab does not have the necessary and most up-to-date technology. n78

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D. Case Illustrations: A Broken Record Regarding Crime Lab Audit Reports

Crime labs are unreliable. n79

Over the past decade, numerous audits of publicly funded crime lab systems have identified reoccurring problems with our nation's crime labs. These audit reports caused Barry Scheck, co-founder of the Innocence Project, to write: "Everyone should know our crime laboratories are in a crisis, reeling from an epidemic of scandals reflecting decades of shoddy work, usually from bad actors producing incompetent or fraudulent results, but sometimes from methodologies that have been exposed as unreliable." n80 While many may argue Mr. Scheck's comments must be cautiously viewed due to his allegiance to the defense bar, some highly respected forensic practitioners and administrators concur with his assessment. n81

The examples below highlight the pervasive crime lab problems identified in Massachusetts, Houston, and Virginia. It is important to note, however, that these three examples only represent a small percentage of the crime labs which experienced significant problems over the past decade. Crime lab audit reports in California, n82 Colorado, n83 [*318] Vermont, n84 Texas n85 (Fort Worth in particular), n86 Illinois (particularly Chicago), n87 Michigan (particularly Detroit), n88 Rhode Island, n89 and Washington n90 have all identified serious administrative, financial, and ethical problems. The federal side has not been immune from attack either, as a report on the FBI's DNA laboratory pointed out. n91

1. Massachusetts Forensic Institutions

Regarding Massachusetts crime labs and forensic institutions, it is obvious that Council Members either did not thoroughly investigate the Massachusetts forensic institutions or simply chose to ignore obvious problems associated with these institutions. n92 Regardless of the [*319] reason, it is both remarkable and frightening to think that Council Members believed that Massachusetts' beleaguered forensic institutions could resurrect the death penalty in Massachusetts.

According to a Boston Herald investigation, "Massachusetts law enforcement teeters on the brink of disaster due to a seriously underfunded, understaffed, and overworked corps of state medical examiners and other forensic investigators, according to a scathing new report." n93 This scathing report, written by the National Forensic Science Technology Center, concluded that the "current system is at high risk to produce a major error within the criminal justice system, and without a major financial rescue will continue to deteriorate, eventually costing more to fix and taking longer to repair." n94

a. Massachusetts State Police Crime Labs

With respect to the State Police Crime Lab System, the report noted that:

. Space is so limited at the main lab in Sudbury and others scattered throughout the state that forensic examiners are forced to "pluck" evidence from the clothing of suspects and victims on separate days to avoid cross contamination. n95

. The Crime Scene Services Unit at Devens is located in a building with a potential asbestos problem and such limited space that unsealed evidence is stored everywhere, including a leaky locker outside. n96

[*320] . Many of the labs' crime scene units operate without written procedures or training budgets. n97

. The one medical examiner assigned to the satellite office in Worcester must often "beg, borrow or steal" supplies from the University of Massachusetts Medical Center, where the office is located. n98

. Prosecutors and law enforcement officials criticized the main crime lab (in Sudbury) for its policy of only performing DNA testing in sexual assault and other cases where no suspect has been identified but also where the sample could be compared against the national DNA convicted defender database. n99

. The labs have a "draconian" policy of limiting prosecutors to submitting only one or two cases a month for DNA testing. n100

In May 2005, a DNA analyst further tarnished the crime lab's image when the analyst's DNA matched the DNA profile taken from a February 2003 rape kit. n101 In January 2007, the crime lab's reputation received yet another blow when it

came to light that a DNA analyst routinely failed to inform investigators and prosecutors of DNA "cold hits" before the statute of limitations expired. Likewise, the same analyst informed investigators of DNA matches which, in several cases, turned out to be incorrect. n102 Finally, in 2006, the Justice Department's Office of the Inspector General audited the crime lab and discovered the following problems: n103

. Auditors tested 100 convicted offenders and 100 forensic profiles and found twelve forensic profiles were incomplete because lab [*321] officials failed to analyze all the required loci and loaded fewer than the ten required loci into the national DNA databank. n104

. Auditors found instances in which laboratory officials entered the same genetic profile under two different identification numbers in the database and failed to follow FBI protocols for analyzing profiles and double-checking results. n105

. One forensic profile tested was inaccurate because one of the values uploaded for one locus did not match the value identified during analysis. n106

. One forensic profile tested was inaccurate because lab officials incorrectly entered the same profile into the national DNA databank under two different identification numbers. n107

. One forensic profile was both inaccurate and incomplete. The profile was incomplete because the lab failed to analyze all the required loci and lab officials loaded fewer than the ten required loci. The profile was inaccurate because officials incorrectly entered the same profile into the national DNA databank under two different identification numbers. n108

Due to the myriad of problems which plagued the State Police Crime Lab over the past few years, Lab Director Dr. Carl Selavka abruptly resigned in March 2007. n109 According to the Massachusetts Public Safety Secretary Kevin M. Burke: "[Dr. Selavka] voluntarily resigned, but I can tell you that he understood his performance was being reviewed and was being received negatively ... The nature of Dr. Selavka's resignation was an admission that he didn't meet his responsibility." n110

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b. Office of the Chief Medical Examiner

The Office of the Chief Medical Examiner ("OCME") has been audited four separate times over the last seven years, and each audit report concluded that "the medico-legal services provided in the Commonwealth fall well below national accreditation standards." n111 These four audits also found:

. The OCME's $ 3.64 million budget fell well below the recommended amount of $ 13 million. n112

. The OCME is persistently under funded, which prevents it from exploiting the Boston medical community's resources. n113

. The OCME "has been virtually level funded" which "has effectively meant a continuous diminution of resources to accomplish its missions." n114

. The OCME's toxicological services, which are provided by the University of Massachusetts, have also been under funded resulting in chronic delays. n115

. The OCME has suffered significant turnover due to low salaries. n116

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c. Boston Police Department Fingerprint Unit

After two Boston Police Department ("BPD") fingerprint examiners misidentified a fingerprint that mistakenly sent Stephen Cowans to prison for six years for attempted murder, Boston Police Commissioner Kathleen M. O'Toole audited the BPD's fingerprint unit. n117 Following the audit, Commissioner O'Toole immediately shut down the unit. n118 Commissioner O'Toole criticized the unit for its "low standards and lack of professionalism." n119 A Boston Herald investigation also uncovered that the BPD used the unit as a "dumping ground" for misfit officers for decades. n120

d. Boston Police Department Ballistics Unit

According to a Boston Phoenix investigation, BPD "firearms examiners ... are ill-trained and inept. Compared with their counterparts in big cities like New York, smaller cities like Pittsburgh, or states like Illinois, Boston's firearms examiners are amateurs, who [*324] would not qualify to work in those other jurisdictions." n121 The investigation also uncovered:

. Firearms examiners were not selected based on any particular science background or skill with firearms. n122

. Examiners received no specialized firearms training. Instead, they were trained under the "apprenticeship" method. n123

. Oversight and supervision was non-existent. n124

. Examiners misplaced evidence on various occasions. n125

. When examiners failed proficiency tests, their supervisors refused to remove them from case work or to require them to take supplemental courses. n126

. Some examiners deliberately misled juries by testifying that class characteristics were in fact individual characteristics. n127

. Prior to receiving the unit commander position, Lt. Catherine Doherty never conducted a firearms examination. Rather, she performed background investigations on the BPD's incoming recruits. n128

. In one case, Detective Tyrone Camper testified that he failed various proficiency tests. A week later, in another case, he changed his testimony, claiming to have never failed a proficiency test. n129

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2. Houston Police Department's Crime Lab

As one federal judge recently noted, "evidence of significant problems with the [Houston Police Department] crime lab [has become] public in the last few years." n130 The Houston Police Department ("HPD") crime lab "has been something akin to a crime lab from hell for the past several years." n131 The HPD lab services Harris County, which has the dubious distinction of sending more defendants to death row than any other county in the United States. After a local Houston television station aired an investigative report, during the fall of 2002, questioning the HPD lab's quality control measures, n132 the FBI audited the lab's DNA and serology units. n133 FBI auditors uncovered problems, which were all too familiar:

. The lab did not have a quality assurance program. n134

. Lab managers were not given authority or resources to effectively discharge their duties. n135

. Budget concerns prevented the lab from properly calibrating critical equipment. n136

. Lab personnel did not have the requisite education, training, and experience to perform their examinations or to testify in court. n137

. The lab did not have an in-house training program. n138

. The lab did not maintain adequate personnel records regarding each analyst's training, education, and experience. n139

. The DNA unit did supervisor not meet minimum educational requirements in the areas of statistics and population genetics. n140

[*326] . Some analysts did not have course work in biochemistry, genetics, or molecular biology. n141

. Some analysts did not have undergraduate degrees in biology, chemistry, or a forensic science-related field. n142

. The lab did not follow written protocols for monitoring or decontaminating critical equipment. n143

. The lab did not retain or return a portion of a sample when possible. n144

. The lab failed to routinely check whether its instruments provided consistently accurate results. n145

. The lab did not conduct internal validation studies. n146

Due to a growing concern that the entire HPD lab was dysfunctional, an independent investigator, along with a team of lawyers and forensic scientists, were appointed to conduct an exhaustive audit of the entire HPD lab in February 2005. The independent investigator's preliminary report revealed that "key former Crime Lab personnel, including senior supervisors or managers, either have not yet responded to our attempts to contact them or so far have refused our requests for interviews." n147 The independent investigator's first comprehensive report, released in May 2005, exposed several disturbing themes. For instance:

. The HPD did not adequately support the crime lab. n148

. The HPD lab was and has been poorly funded, resulting in salaries that were (and still are) inadequate and a lack of essential equipment. n149

[*327] . The lab's training and development programs were inadequate because of funding issues. n150

. There was a historical absence of quality assurance and control systems. n151

. There was a lack of supervision in the DNA/Serology unit from 1996 to 2002. n152

. The most disturbing finding concerned two analysts, James E. Price and Vipul H. Patel, who engaged in at least four separate incidences of "drylabbing." n153

A fourth comprehensive report, released in January 2006, identified more significant and pervasive problems with the lab's serology and DNA units. n154 With respect to the serological work, auditors identified the following problems:

. The absence in serological reports of any discussion relating to genetic profile frequency statistics or of the significance of the statement that a suspect could not be excluded as a potential donor of evidence samples. n155

. The routine failure to report testing results and probative findings. n156

[*328] . The absence of generally accepted documentation and evidence control procedures, and errors by analysts in transferring test results to worksheets. n157

. In particular, auditors discovered two cases where serologists issued conclusions that were inconsistent with their own ABO blood typing examinations. n158

With respect to the lab's DNA work, auditors identified "major issues" in twenty-seven cases, including three death penalty cases. Auditors identified the followings problems:

. Failure to report typing results, including potentially exculpatory evidence. n159

. Prevalence of low quality analytical results, which were likely attributable to some combination of the DNA analysts' poor techniques and contamination. n160

. Reporting misleading statistical significances, especially in mixture cases. n161

. Failure to use and show proper regard for scientific controls. n162

A fifth comprehensive report, released in May 2006, "continued to uncover major issues in the serology and DNA cases analyzed by the Crime Lab, dating back to 1980 in the area of serology." n163 Auditors identified fifty serology cases and twenty-seven DNA cases that presented with "major issues." n164 With respect to the serology cases, auditors identified the following problems:

. Analysts routinely failed to perform potentially probative, inculpatory or exculpatory, ABO typing in a large number of cases, especially sexual assault cases. n165

[*329] . Analysts frequently failed to report probative ABO typing results "due to an apparent reluctance to report exclusions." n166

. Analysts repeatedly misinterpreted or inaccurately reported ABO typing results. n167

. Analysts frequently reported results which were unsupported by documented analysis. n168

Auditors found similar problems with nearly one third (32%) of all the DNA cases they re-examined: n169

. Auditors "found further evidence of a pattern of reluctance on the part of the crime lab's DNA analysts to report typing results inconsistent with the known profile of either a victim or suspect." n170

. Analysts "in many cases" frequently reported "only those results that, from their perspective, were 'safe' in the sense that they were consistent with other evidence in the case or with the investigators' expectations." n171

. Analysts failed to mathematically confirm DNA results. n172

. Analysts routinely failed to report the significance of DNA results. n173

Auditors also "found no semblance of an effective technical review program or quality assurance regime to detect and correct" any problems which were identified. n174

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3. Virginia Division of Forensic Services

In 2004, in the aftermath of Earl Washington's pardon from death row and subsequent federal civil lawsuit, which uncovered mistakes by the Virginia Division of Forensic Services' ("VDFS") top DNA analyst, Governor Mark Warner ordered an external audit of the VDFS. n175 According to the ASCLD auditors, the lab's most experienced DNA analyst, Jeffery Ban, not only mistakenly identified a phantom DNA profile, but the lab's technical reviewer and the lab's own 2004 internal audit also failed to identify Ban's mistakes. n176 The auditors also found:

. Ban's conclusions, in which he identified a non-existent male as the source of the semen in the (rape/murder) victim's body, were incorrect. n177 The nonexistent male actually turned out to be convicted serial rapist Kenneth Tinsley. n178

. The 1993 decision not to absolutely pardon Washington was based on the incorrect reporting of a detail, which the auditors concluded should not have been included in Ban's 1993 report. n179 Had the detail not been included, it would have been obvious that there was only one semen donor, which could not have been Washington. n180

. "Pressure from outside the laboratory and excessive managerial influence from within the laboratory" may have resulted in Ban's errors and the technical reviewer's inability to spot these errors. n181 Lab Director Paul Ferrara and Ban implied that these errors were not the result of systemic lab problems, but instead occurred because Washington's case was not a "normal" case. n182

[*331] . The lab's 2004 internal audit erred when it defended the "correctness" of Ban's September 2000 re-analysis. n183

. Auditors recommended that Ban be immediately suspended from all cases involving low level DNA samples and/or mounted slides. n184

. Auditors also recommended the lab undergo a more expansive audit to determine whether the deficiencies identified in Ban's testing were "endemic" to the entire lab. n185

When Washington's attorneys presented Ferrara with their DNA expert's 2004 report, which exonerated Washington and called into question Ban's results, Ferrara refused to admit to any errors, and refused to allow the VDFS to be audited by outside experts. n186 Even after ASCLD issued its report, Ferrara, along with Virginia state officials, continued to minimize the problem by proclaiming the auditors cleared the VDFS of any systemic shortcomings. n187

After ASCLD issued its report, Governor Warner ordered a comprehensive examination of the VDFS's procedures in 123 criminal cases. n188 Five nationally recognized scientists, including Dr. Bieber, were selected to review the VDFS's work. n189 After reviewing the cases, the scientists reported they found no procedural errors that "substantially affected the integrity of the results." n190 However, the [*332] scientists informed VDFS officials that a lab analyst reached improper conclusions in a death penalty case. n191

In the end, the fact that the VDFS, a lab which many considered to be the premiere state crime laboratory in the United States, botched four different DNA tests in two separate capital cases (three times in the same case), calls into question whether any capital punishment system can ever be shielded from error simply by relying on DNA evidence or what many purport to be the "single greatest advance in the 'search for truth[.]'" n192 More importantly, if DNA evidence cannot prevent error in capital cases, then surely fingerprinting and the like (e.g., toolmark, firearms, and bite mark evidence), forensic techniques that have questionable foundations in science, cannot.

II. Assumption #2 - Science is Being Practiced: There Is Very Little Science in Forensic Science

Several of the forensic sciences, including expert handwriting identification and fingerprint analysis, are now being criticized by historians, forensic watchdogs, and law professors who claim that these forensic techniques are not grounded in good science, that they have been inadequately tested, and that their methods have been insufficiently scrutinized. n193

Governor Romney and his Council Members turned to the forensic individualization sciences to construct a "foolproof" death penalty system. n194 Individualization is premised on the theory no two objects [*333] are exactly alike. n195 Forensic individualization examiners are concerned with associating an item or mark located at a crime scene to the one and only source of that item or mark to the exclusion of all others in the world. n196 Examples of forensic individualization sciences include DNA, handwriting, fingerprints, firearms, toolmarks, bite marks, hairs and fibers, shoe prints, elbow prints, n197 ear prints, n198 and lip prints. n199

Many, including Governor Romney, may assume that, because DNA is a member of the individualizing forensic sciences, which is actually based on science, a capital punishment statute premised on this type of evidence will succeed. Although seemingly intuitive, this assumption is nonetheless incorrect because DNA evidence plays a very minor role in the overwhelming majority of cases charged and prosecuted. n200 Forensic practitioners, congressmen, defense attorneys, and prosecutors have all acknowledged this reality. n201 Thus, it is [*334] unsurprising that DNA has factored into very few death row exonerations. n202 This stands to reason because DNA technology necessitates the existence of biological evidence connecting the offender to at least the crime scene and, to be beyond question, the crime itself. Rape is the most obvious illustration, as rapists generally deposit seminal fluids on the victim or at the crime scene. The typical capital prosecution in the United States, however, is not for rape combined with murder, but for a murder committed during a nonsexual act. n203 Prosecutors in these types of capital cases rarely have biological evidence which positively links the offender(s) to the capital murder and conclusively establishes their guilt. n204

DNA's minimal influence on capital prosecutions would not change under the Council Members' recommendations because the [*335] list of death-eligible murders (identified by the Council Members) is so narrow that only a minuscule number of capital prosecutions would be sought. By substantially narrowing the death-eligible offenses, Council Members not only further weaken the already negligible impact DNA evidence has on capital prosecutions, they also force prosecutors to rely on questionable forensic evidence (e.g., fingerprints, bite marks, toolmarks) to prosecute the few capital cases that could potentially be brought to trial. n205 Consequently, the recommendation to significantly restrict the list of death-eligible murders increases the likelihood a capital defendant's death sentence will be premised on forensic techniques which are tenuously supported by legitimate science. n206

[*336] Before delving into why DNA evidence differs from other forensic identification evidence, it needs to be stressed that recovering DNA from a crime scene does not 1) tell the entire story or 2) automatically guarantee perfect results (as already demonstrated by the VDFS's mistakes which mistakenly sent Earl Washington to Virginia's death row). With respect to the former, as Professor James Starrs has written, "like Superman, DNA has its kryptonite," in that it cannot tell the complete story. n207 In regards to the latter, as the DNA revolution continues to be played out, it is increasingly apparent that our nation's crime labs are not always equipped with the necessary funding, technology, management, or competence to take advantage of DNA's crime-solving capabilities. n208 As a result, DNA testing is far [*337] from infallible and false positives are "now broadly recognized, although the rate at which they occur is difficult to estimate due to the paucity of research on the issue." n209

A. DNA: A Legitimate Individualizing Science

DNA analysis now sets the gold standard against which other forensic sciences are measured. And it usually makes other forensic sciences look deficient by comparison. n210

DNA evidence differs significantly from other forensic identification evidence. First, scientists developed DNA testing in academic and industrial settings for reasons having nothing to do with solving crimes. n211 Because science values skepticism as much as it values progress, scientists had already investigated and identified DNA's potential limitations before prosecutors and police realized its potential in the criminal justice system. n212 Second, DNA deals with a purely empirical issue and is therefore easily amendable to normal scientific methods. n213 Third, DNA has academic and industrial counterparts that are capable of "performing the lion's share of research." n214 [*338] Fourth, unlike other branches of science, DNA is an amalgamated branch of knowledge, in that it borrows from other branches such as biology and genetics. n215 Thus, DNA is noticeably different from the other individualizing forensic sciences.

First, criminal investigators created the non-DNA forensic identification techniques to solve crimes and secure convictions. n216 Second, fingerprinting and the like are not premised on legitimate science(s), nor can they be considered applied sciences because no scientific law exists which prevents two objects or humans from being identical. n217 More specifically, there is no scientific principle which prohibits portions of two individuals or objects from being identical. n218 With respect to the applied science claim, before an analyst can apply a science there must be a science to apply. n219 Third, because individualizing forensic techniques are not buttressed by traditional science(s), they have no knowledge-producing counterparts in the academic and industrial sectors to assist in identifying and ascertaining the limitations and weaknesses of certain forensic techniques. n220 Fourth, unlike DNA, which has a comfortable statistical foundation, other fields, such as fingerprinting, have yet to embark on base rate research. n221 [*339] While forensic

examiners may have a general impression of which fingerprint, toolmark, bite mark, or handwriting characteristics are widespread and which are atypical, the intrinsic decisions made by these examiners are not premised on published statistical studies, nor do any methods exist for estimating the rarity of certain characteristics. n222

Fifth, notwithstanding the emerging trawl search problems with DNA databases (i.e., cold hit cases), n223 forensic identification examiners are far more likely to dredge for data than are DNA analysts. n224 Unlike DNA analysts, who know beforehand the variables for which they are probing, forensic examiners, such as fingerprint examiners, are not restricted by a pre-examination list of absolute variables. Instead, these examiners probe their respective pieces of evidence until they come across features that they deem significant. The inherent problem with this approach is that the individualizing forensic sciences have yet to propose standards or protocols to distinguish between insignificant and significant features. n225 Instead, the process is entirely subjective, in that an examiner's discriminatory ability (or inability) is based wholly on his experience and training. n226 Finally, contrary to Dr. Bieber's assertion, individualizing forensic techniques have no applicability within a hospital setting. n227 While some forensic techniques may prove fruitful in identifying mass casualty victims (e.g., dental records, fingerprints), these identifications are fundamentally [*340] different than those rendered during criminal investigations. n228 More importantly, in criminal investigations, especially capital murder investigations, the pressure to identify and apprehend a murderer or train bomber adds another dimension to an already highly complicated and subjective task. n229

B. The Premises of Individuality: They Don't Add Up

Individuality depends on three assumptions. First, numerous forms of biological and physical entities exist in unique, one-of-a-kind fashion. Second, these entities are capable of leaving equally distinctive traces of themselves in any environment. Third, the techniques of [*341] observation, measurement, and inference utilized by forensic examiners are adequate to link these traces back to the one and only object which produced them. n230 Each assumption is riddled with problems and shortcomings.

1. The Uniqueness Claim: Uniqueness is Not a Legitimate Scientific Expectation

When skeptics and forensic watchdogs press the forensic science community for concrete evidence concerning the theory of unique identifiability, the forensic science community resorts to the multiplication (or product) rule. Simply stated, if objects differ on a number of independent dimensions, one finds the probability that any one combination will occur by multiplying together the probabilities associated with each dimension. n231 Because each number in the equation is typically a fraction, the operation generates extremely small probabilities. n232 Armed with these persuasive, yet deceptive, probabilities, the forensic science community then appeals to the layperson's counter-intuitiveness. Relying on probability theory to establish uniqueness, however, is problematic for several reasons. n233

First, probabilistic reasoning or models cannot establish absolutes. n234 At best, forensic examiners can discuss the probability of a coincidental match. Second, the independence assumption can be easily breached due to the multiplication rule's numerous functions in the forensic community. n235 Third, determining the likelihood of a coincidental [*342] match requires three things which are noticeably absent in forensic science: 1) error rate research; 2) base rate research; and 3) statistically astute forensic examiners. n236 Regarding error rate research, the forensic science community is (and has been) reluctant to discover the accuracy or inaccuracy of its examiners and techniques. n237 With respect to base rate research, besides DNA, base rate [*343] data for the individualizing forensic sciences are nonexistent and nearly impossible to calculate. n238 Consequently, forensic examiners simply make up or assume base rates when they engage in statistical or Bayesian calculations. n239 Finally, forensic examiners are not well versed in statistics. n240 Accordingly, without error rate or base rate data and statistically competent examiners, forensic identifications represent subjective "leaps of faith." n241

2. Locard's Transfer Principle: Accepted Without Proof

Forensic science is premised on Locard's theory of exchange, which states that every contact between individuals or objects results in a transfer of material between them. n242 Evidence collected from the [*344] crime scene, victim, and offender represents the trace evidence which was consciously or unconsciously transferred upon contact. Criminal investigators developed forensic techniques to identify and individualize these traces and to link the crime scene, the victim, and the offender. Though ostensibly commonsensical, Locard's theory is just that - a theory, as it has yet to be tested or refuted. n243

3. The "Task at Hand" Claim: Talking the Talk, but Not Walking the Walk

The third premise supporting individuality is that the techniques of observation, measurement, and inference utilized by forensic examiners are adequate to link these traces back to the one and only object or person which produced them. n244 The validity of this assumption depends on the accuracy of forensic techniques and examiners. The accuracy of forensic techniques and examiners can be calibrated via double blind proficiency testing. n245 Forensic practitioners, however, have been unwilling to participate in blind proficiency testing programs. n246 Consequently, forensic examiners and techniques are normally ushered into court before their accuracy is adequately assessed and substantiated. n247 When proficiency testing is undertaken, however, [*345] and the results are made public (which is rare), they suggest that novice and even experienced examiners do not fully understand the principles and procedures of forensic science, as veteran forensic experts have failed routine non-blind proficiency tests. n248

C. More Pitfalls Surrounding Individuality: Partial Similarity, Subclass Characteristics, and Mass Produced Objects.

Besides the above shortcomings, forensic examiners must also contend with other pitfalls regarding individuality, including: 1) partial similarities; 2) distinguishing between subclass and individual characteristics; and 3) the lack of permanence with respect to certain forms of physical evidence.

1. Holistic Individuality Is Not the Issue: Holistic Individuality and Partial Similarities

The uniqueness of two full fingerprints does not, in and of itself, prove that one small portion of a fingerprint cannot mirror one portion of another fingerprint. n249

It may be true no two individuals are exactly alike when holistically evaluated and compared against one another. One microscopic dissimilarity is all that is required for humans or manmade or naturally occurring objects to be considered different from one another. However, this fact alone does not imply that two individuals cannot, for instance, have identical friction ridge patterns on portions of their left thumbs, right elbows, or upper lips. To the contrary, it is plausible that individuals can have corresponding friction ridge patterns on [*346] small portions or fragments of their bodies. n250 This is critical to grasp, especially when one considers the fragmented and distorted nature of latent crime scene prints. n251 Given the disjointed and imprecise nature of latent crime scene prints, most examiners are forced to make identifications with partial prints. n252 Under such circumstances, it is not inconceivable that two individuals could have similar ridge patterns on a minuscule fraction of their body. For these very reasons "latent prints are an 'inevitable source of error in making comparisons.'" n253 With respect to manmade objects such as tools, two toolmark examiners realized this very point more than seventy years ago. n254

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2. Class, Subclass, and Individual Characteristics: Confusing Class Characteristics or Subclass Characteristics with Individual Characteristics

Of serious concern, Sgt. Weddleton indicated that he does not even consider subclass characteristics when he examines breech face markings. n255

Although portrayed by the media as overly simplistic, accurately identifying individualizing characteristics, and linking these characteristics to the one and only person or object in the world that could have produced them, is far from simplistic. Individualization requires forensic examiners to be aware of two additional types of characteristics: class characteristics and subclass characteristics. n256 Class characteristics are universal characteristics that separate a group of objects from a cosmos of miscellaneous objects (i.e., separating the different types of Halloween candy into their respective piles). n257 Class characteristics lend themselves to the practical function of inspecting a sizeable quantity of items by purging from consideration those items that do not share the characteristics common to all of the members of

that group. Individuality, however, cannot be established with class characteristics. n258 Rather, it can only be established with "those exceptional characteristics that may establish the uniqueness of the object." n259 While this definition borders on the tautological (i.e., it is an individual or unique characteristic if it establishes the object's uniqueness n260), for purposes of this section it should simply be recognized that a suspected individual characteristic might not be an individual [*348] characteristic at all; instead, it may be a class or subclass characteristic. n261

Besides differentiating between class and individual characteristics, forensic examiners, particularly toolmark examiners, must also distinguish between subclass characteristics and individual characteristics. n262 Subclass characteristics in toolmarks emerge when toolmakers mass produce groups of tools which are similar in appearance, size, or surface. n263 The toolmarks generated by tools in a given production batch have corresponding microscopic characteristics called subclass characteristics. n264 The frequency of subclass characteristics leads to the unsettling reality that the manufacturing process creates only a limited number of tools with sufficiently differentiated surfaces that can produce individualistic toolmarks. n265 Consequently, examiners can easily render a false identification because "some machining processes are capable of reproducing remarkably similar surface characteristics (i.e., gross contour and/or fine striae, etc.) on the working surfaces of many consecutively produced tools which if not recognized [*349] and properly evaluated could lead to a false identification." n266 Notwithstanding the fact toolmark and firearms examiners are (and have been) well aware of the dangers and difficulties involved in distinguishing between subclass characteristics and individual characteristics, the field, as a whole, has been noticeably lethargic in researching to minimize these dangers. n267

3. Permanency: Wear and Tear Can Wear Down the Theory of Individuality

Individual characteristics of toolmarks change somewhat over time due to wear and tear. n268

The permanency issue also hampers individuality. If an object, such as a tool, is capable of producing individualistic markings, there remains the issue of whether this individualizing quality is permanent or temporary. Many objects or tasks (e.g., handwriting, firearms identification) lack the permanence witnessed in fingerprints or DNA. Handwriting, toolmark identification, and firearms identification are three examples where the permanence assumption is called into serious question. Proponents of handwriting identification claim that no two persons write alike. n269 The validity of this claim is seriously undermined when one takes into account that an individual's writing [*350] style can change over time. n270 Similarly, a person's writing technique can fluctuate depending on the writing instrument (pen, pencil, marker, lip stick, etc.) and the instrument's position relative to the surface. n271 With respect to firearms identification, permanence has never been assumed and firearms examiners concede that the internal workings of firearms are, like any manufactured item, subject to wear and tear. n272 This continual erosion of the internal chambers disallows the firearm to produce consistent, distinctive markings on bullets over time. Toolmark identification runs into similar problems. Tools, which are used more frequently than firearms, will undoubtedly be altered by the wear and tear of repeated usage. The deterioration of the tool's surface affects whether it can continually produce the same distinctive characteristics over time. n273

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D. Forensic Science's Other Non-Science Characteristics

While the previous discussion dealt with individuality's central pitfalls, the following sections identify and discuss several non-science characteristics of forensic science.

1. Testability, Falsifiability, and Science: Forensic Science's Fundamental Tenant - Individuality - Is Not Falsifiable

Falsifiability is demanded because in an inductive world a proposition can never be definitively proved. n274

Science does not attempt to prove a proposition's legitimacy. Instead, it attempts to falsify the proposition. n275 Falsifiability is necessary because "a scientific hypothesis ... [can] never be proved conclusively true because there is always the possibility that the observations relied upon were coincidental rather than causal." n276 Moreover, while empirical testing can establish the falsehood of a universal statement, a universal statement "can never be proven true by virtue of the truth of particular statements, no matter how numerous." n277

Accordingly, if the demarcation between science and other areas of human inquiry is falsification, the individualizing forensic sciences cannot constitute science because the theory of individuality is neither testable nor falsifiable. n278 Prominent forensic scientists have conceded [*352] this fact. n279 While the theory of individuality is not testable or falsifiable, forensic examiners have had the capacity, over the past century, to research the testable proposition of how frequently a specific feature, attribute, or pattern occurs in the general population - i.e., a base rate. The results of such an endeavor would be a probability. [*353] Likewise, the forensic science community can also test the proposition that forensic examiners can consistently provide accurate identifications. With respect to the former, aside from DNA, base rate testing has yet to be performed. n280 Regarding the latter, the accuracy of forensic professionals is unknown because they rarely submit to blind proficiency testing. n281

2. Standards and Science: It's Standard Practice in Forensic Science Not to Have Standards

There are no national standards to be applied to evaluate how many [bullet] marks must match. n282

Developing and enforcing standards is critical in science because science is premised on replication. n283 Standards must be clearly articulated and represent the consensus of opinion amongst a profession's members. Forensic science has yet to develop standards for an assortment of forensic techniques. n284 Forensic examiners have been content with amorphous, makeshift standards because they permit the utmost flexibility and discretion. Unfettered discretion, though, increases the likelihood forensic examiners will fail to embrace the most accurate and discriminatory test(s) available. Worse, the lack of standards may [*354] lead to "forensic" examiners, like Drs. Michael West and Louise Robbins, who endorse radical and questionable techniques. n285 Moreover, when standards have been developed, the forensic science community has generally failed to ensure that examiners are actually adhering to these standards. n286

After Daubert v. Merrell Dow Pharmaceuticals, Inc. n287 changed the legal landscape pertaining to the admissibility of scientific evidence, the forensic science community had an epiphany in regards to articulating standards. n288 After claiming for decades the forensic or [*355] crime lab setting did not permit the development of standards, n289 the community did an about face and claimed that standards were not only necessary, but also achievable. Thus, following Daubert, the forensic science community established many of the Scientific Working Groups ("SWG") for the primary purpose of developing standards for different forensic techniques. n290 While these guidelines demonstrate progress, their voluntary nature has led to a less than impressive impact. n291 Why the SWG standards are not mandatory is perplexing. The SWGs are purportedly comprised of the top forensic minds in each field. n292 Consequently, if the most seasoned forensic professionals [*356] endorse certain standards, it seems reasonable to assume these standards represent the best methods for evaluating physical evidence. Consequently, if the SWG guidelines currently symbolize the preeminent methods, why are they not mandatory? Furthermore, what is the point of spending countless hours and government dollars on developing standards if there is going to be no oversight to ensure the standards are actually enforced? One can only hope the forensic science community did not create the SWGs to provide scientific window dressing for the courts in light of Daubert.

3. Peer Review and Science: Critical Reviewers or Bobbleheads of Acquiescence?

There were aspects of Mr. Cawley's testimony that undermined his credibility ... Mr. Cawley said that his peers always agreed with each others' results and always got it right. Peer review in such a "Lake Woebegone" environment is not meaningful. n293

Forensic examiners routinely claim their results are accurate because another colleague reviewed them. n294 For many forensic examiners, the peer review process epitomizes the scientific nature of their examinations, as it legitimizes the manner in which they arrived at their conclusions and the accuracy thereof. In essence, forensic examiners have created the impression that the peer review process is designed to ensure the accuracy of their conclusions. n295 However, nothing could be further from the truth because the forensic science community embraces a form of peer review which can best be described as "formalistic" peer review.

Formalistic peer review is advocated by ASCLD Standard 1.4.2.16. n296 Standard 1.4.2.16 states that the function of a laboratory's [*357] peer review process is "to ensure that the conclusions of its examiners are reasonable and within the constraints of scientific knowledge." n297 Under the "formalistic" peer review model, the reviewer functions as a process check on the procedures utilized by the initial examiner, ensuring that the initial examiner's report adequately documents and explains its findings and conclusions. The fact that the reviewing examiner is merely ensuring that the initial examiner's report contains all the necessary formalities (i.e., what techniques were used, whether the examiner thoroughly documented his findings to explain his conclusion, etc.), implies the necessity of knowing the initial examiner's conclusion. This form of peer review, however, should not be misleadingly presented as an independent verification of the initial conclusion's accuracy. All too often, however, this form of peer review is erroneously presented as a process aimed at ensuring the accuracy of the initial examiner's conclusions. n298 This is objectionable because this form of peer review is easily susceptible to subconscious context effects. n299

[*358] To further complicate matters, consider the scenario where the initial examiner is the reviewing examiner's superior or supervisor who presumably has more experience than the reviewing examiner. n300 Under this scenario, the reviewing examiner's ultimate conclusion will be impacted by two irrelevant, yet powerful, factors: the initial examiner's 1) conclusion and 2) rank. The latter factor may cause the reviewing examiner to minimize or withhold certain criticisms regarding the initial examiner's conclusion for fear that any criticisms may harm his future advancement. Moreover, the less experienced reviewing examiner may internalize legitimate concerns regarding the initial examiner's results. For example, a less experienced reviewing examiner may feel very strongly the more experienced examiner misidentified various points of correspondence. However, rather than be candid with the more experienced examiner, the less experienced reviewing examiner may convince himself it is his inexperience which is preventing him from identifying the same points of similarity as the more experienced examiner. Given these influences and likely scenarios, it is hard to ignore the fact that reviewers under this form of peer review are anything more than bobbleheads of acquiescence. n301

4. Experience-Based Conclusions: The Key Term in "The Scientific Method" is "Method"

The conclusion that a recovered cartridge case matches a test-fired cartridge case is based on a subjective "threshold currently held in the minds eye of the examiner and ... based largely on training and experience in observing the difference between known matching and known non-matching impression toolmarks." n302

[*359]

Science endeavors to explain why circumstances, observed and unobserved, occur as they do. To answer these questions, scientists put forth statements, or systems of statements, which they methodically test. Testing produces empirical data, which in turn forms the foundation of scientific inferences. n303 More importantly, scientific testing is a structured and disciplined form of observation. Accordingly, while casual or mere observation is an aspect of the scientific method, it is insufficient, standing alone, to draw valid inferences. The methodology behind the observation is what distinguishes valid and invalid inferences. Thus, a finding of fact is only as sound as the method used to discover it. Forensic practitioners, however, regularly discard methodology by basing their conclusions on the accumulation of casual observations they have accrued over years of experience. n304 [*360] Consequently, forensic conclusions are quite often premised on intuitions and deductions rather than empirical proof. n305

Although the value of experience cannot be denied, as a matter of principle, scientists need to support their opinions by reference to logical reasoning and an established corpus of scientific knowledge. If an examiner's conclusions are based on evidence produced by years of experience, he or she should disclose this fact for the triers of fact. n306 More importantly, while experience, training, and common sense are critical in any scientific endeavor, they cannot provide the valid and informative answers which surface when a belief or assertion is empirically tested. n307 Furthermore, although common sense shares certain similarities with science, it fails to methodically discover the relationships be-

tween occurrences which are not obviously related. n308 Science, [*361] though, attempts to recognize and identify the underpinnings of natural phenomena through systematic empirical testing. More significantly, it tries to complete the incomplete by identifying relationships between seemingly unrelated variables. These newly identified relationships add clarity to previously recognized explanations or they create entirely new elucidations with the potential to bring lucidity to disjointed areas of science. Regardless of whether it is the former or latter, the hunt for explanations is what separates science from common sense or experience. n309 Thus, to use experience as a proxy for empirically supported inferences, and to claim it is just as powerful and accurate as such inferences, is not only intellectually dishonest, it increases the likelihood the examiner's conclusion(s) or identification is incorrect.

5. An Absolute Science?: If There is Absolute Certainty, then it is Absolutely Certain it is Not a Science

Professions of absolute certainty by an expert witness ... seem out of place in today's courtroom. Even a DNA match has a small chance of being in error. Indeed, there is some suggestion that the certainty requirement for fingerprint identification is a false comfort. n310

Science is based on skepticism, tentative truths, and line drawing. n311 Skepticism encourages further inquiry and research. More research generates new data. New data can be incorporated into prior research findings to possibly solve an unresolved scientific riddle. [*362] Without skepticism there can be no science, because uncertainty promotes growth. An absolute enterprise, free of doubt, cannot be considered scientific because there can be no growth. A non-expanding science is, for all practical purposes, the quintessential oxymoron. n312 The forensic science community refused to embrace science's uncertainty because it is a close relative of reasonable doubt. n313 Consequently, over the past century, many forensic examiners made the untenable claim their identifications are absolutely certain "scientific facts." n314 More specifically, to divert attention away from the fact forensic identifications are probabilistic determinations and highly subjective, the forensic science community and prosecutors claimed forensic examiners were not interpreters, but more like news reporters, who merely reported the facts of nature. n315

[*363] While many present-day forensic examiners still adhere to the "absolutely certain" rationale, there are a few who have grasped the error of this mindset. n316 Accordingly, to honestly embrace science, "the first remedy is for [forensic examiners] to abandon the idea of absolute certainty, so that a fully objective approach to the problem can be made ... if it can be accepted that nothing is absolutely certain, then it becomes logical to determine the degree of confidence that may be assigned to a particular belief." n317 In the end, as Professor Starrs aptly stated, "What we say in forensic science is the more certain the scientist is, the less reliable the scientist is." n318

6. Infallible Science: A Classic Oxymoron

Unfortunately, our societal acceptance of the infallibility of examiners' opinions appears to be misplaced. n319

No matter how unadulterated science may be in the abstract, its purely theoretical applications must be incorporated into the real world by imperfect humans employing potentially defective instruments and methodologies. Put simply, forensic scientists are bound to make errors. n320 Consequently, regardless of their cause, errors must be accounted for and minimized, and proficiency testing must be [*364] embraced by the forensic community. n321 Furthermore, science is premised on detecting errors and reconfiguring hypotheses, observational techniques, and experiments in order to further expand a field's knowledge base. If a purported scientific field, such as forensic science, claims its techniques (i.e., fingerprinting, DNA analysis) or professionals (i.e., fingerprint examiners, DNA analysts) are infallible, then this field is not comprised of scientists and it is not practicing science. If no errors are being committed or detected, there is no growth, and thus no science. n322

The forensic community's aversion to detecting errors is a major reason why it has collected very little error rate data. n323 Ascertaining an examiner or methodology's error rate is frowned upon for at least three reasons. First, uncovering examiner error rates "is a concept that causes a good deal of consternation in the minds of forensic scientists"

because "of a widespread belief" that even a single error "will be used to discredit them in court" or worse yet "compromise their [*365] entire career." n324 Second, developing error rates is antithetical to prosecutorial criminal law. Introducing an examiner or technique's error rate, regardless of how inconsequential, can only hinder the prosecutor's attempt at securing a conviction because the concept of error almost always raises a certain degree of uncertainty (i.e., doubt). Third, error rate research would severely undercut, if not entirely eradicate, the carefully fostered public perception that forensic examiners and techniques are impervious to error. If this perception were tarnished in the least bit, it would have drastic implications for prosecutorial criminal law, especially in circumstantial cases where the only evidence linking the defendant to the offense is forensic evidence.

Early 20th century forensic advocates eliminated the first two concerns by claiming that it was impossible to render misidentifications [*366] because forensic examiners merely acted as conduits for the physical evidence. n325 The physical evidence simply spoke through the forensic examiner and the evidence never lied. n326 In short, early forensic advocates ingeniously crafted a seemingly commonsensical, yet entirely unjustifiable, argument that forensic examiners and techniques were infallible. n327 Many present-day forensic practitioners still make the infallibility claim, n328 despite the results of limited proficiency tests which suggest otherwise, and the wrongful or overturned convictions which can be linked to faulty forensic science. n329 Glancing out over forensic science's landscape reveals that the natives are slowly letting down their guard when it comes to proficiency testing. While a small, yet increasing, number of forensic examiners is finally embracing [*367] proficiency testing, n330 more diversified and difficult testing is needed. n331 For instance, blind testing needs to be emphasized more. n332 The critical concern for the criminal justice system is not how accurate crime labs or forensic examiners can be, but instead how accurate crime labs and forensic examiners are in actual practice.

7. Is Forensic Science a Pseudoscience? If it Looks, Walks, and Quacks Like a Duck, it Must Be a Duck

All participants in the legal process must take a far more skeptical view of forensic testing and testimony, which is not the ... wizardry it is often believed to be ... All that is needed is a diligent defense lawyer willing and able to look behind the curtain. n333

Paul R. Thagard, a noted philosopher of science, proposed the following criteria to distinguish science from pseudoscience. n334 Thagard said that a field, which claims to practice science, actually practices pseudoscience if: 1) it has been less progressive than other scientific communities over a long period of time, and faces many unsolved problems; 2) the community has put forth little effort to [*368] develop concepts or theories aimed at disentangling the unsolved problems; and 3) the community is selective in considering confirmations and disconfirmations. n335

First, forensic science is not and has not been progressive. Over the past century, little has changed with respect to how forensic identification examiners render identifications. n336 Second, there are many unresolved issues in forensic science which have yet to be thoroughly explored. One of the more pressing issues, as mentioned, is whether forensic examiners can consistently produce accurate identifications. n337 Third, the forensic science community is and has been selective in considering confirmations and disconfirmations. For instance, handwriting experts still refuse to admit that two or more individuals can have similar penmanship even though research debunked this notion nearly a half century ago. n338 Likewise, when errors surface and call into question the infallibility claim, the forensic science community generally blames the examiner and not the technique. n339 Lastly, [*369] the forensic science and law enforcement communities have finally conceded that what they are practicing is not actually science. n340

E. Other Problems Confronting Forensic Science

1. Subjective Science: Forensic Science Is the Archetypal Oxymoron - A Highly Subjective Science

Ultimately, unless other issues are involved, it remains for the examiner to determine for himself the modicum of proof necessary to arrive at a definitive opinion. n341

Science is premised on objectivity. Objectivity rests on independently justifiable explanations. n342 Independently justifiable explanations require empirical research. Subjectivity, on the other hand, lacks any empirical underpinning because it is an expression of one's conviction. n343 Convictions are a byproduct of experience. Subjective examinations, therefore, are those in which the outcome is premised on the examiner's untested, experience-driven beliefs. Subjectivity, then, "is anathema to the truly scientific way of doing business." n344 While all scientific deductions have certain overtones of subjectivity, it [*370] is when "subjectivity becomes rank speculation that there is just cause for judicial angst." n345 As Professor Starrs notes, "there is subjectivity and there is intolerable subjectivity." n346

The individualizing forensic sciences come fairly close to the intolerable threshold. n347 As explained in the following discussion, all forensic identifications are premised on an examiner's unyielding belief that his or her experience is the sole requirement to render identifications. The first instance of subjectivity occurs when examiners determine whether two pieces of physical evidence are "consistent with" or "match" one another. n348 Forensic examiners accomplish this by identifying an unspecified number of corresponding points of similarity. The majority of forensic fields do not require examiners to isolate a specific number of matching points before they are permitted to render an identification. n349 Likewise, examiners regularly utilize divergent criteria, which are typically not published or even articulated. n350 Interwoven into this subjective decision-making is the probabilistic [*371] assessment of whether the match constitutes a coincidental match. Given the fact many of the individualizing forensic sciences are armed with no serviceable probabilistic models and no base rate data, forensic examiners rely entirely on intuition, instincts, impressions, and subjective probability estimations to determine the likelihood of a coincidental match. n351 Even when forensic examiners employ computerized instrumentation, subjectivity may still be an issue. n352

In the end, the term "subjective" should not be interpreted to mean "invalid" or "unreliable." Rather, subjective evaluations can, in certain instances, provide reliable results. This reliability, however, must be objectively and empirically evaluated and established. Subjectivity merely implies that room for disagreement exists. It is when like minds are able to easily disagree, though, that the likelihood of error increases. n353

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2. Independence and Science: The Myth of Independence in Forensic Science

Since I'm a cop I prefer to testify for the prosecution. n354

Scientists need to be independent and objective. n355 However, the independence and objectivity of forensic examiners are frequently threatened or minimized because the overwhelming majority of crime labs are annexed to and controlled by, federal, state, county, or local law enforcement or prosecutorial agencies. n356 This configuration easily creates ethical conundrums which can affect a forensic examiner's work product. n357 For instance, there is a natural tension between the perspectives and objectives of police officers and scientists. Police officers approach their jobs with a confirmatory mindset, as they attempt to prove or confirm that a particular individual committed a certain offense. n358 Scientists, on the other hand, approach their tasks with a skeptical or disconfirmatory perspective because they are [*373] trained to disprove all hypotheses before rendering an opinion, which only supports, and does not prove, a hypothesis. n359 Besides the disharmony between the objectives of scientists and police officers, these two groups also operate under fundamentally distinct ethical codes. n360

Given the differences between scientists and police officers, an awkward situation arises where two dissimilar schools of thought and codes of ethics are forced to co-exist. In situations such as this, it is inevitable one school of thought will be disregarded for the other. What mentality is advocated and employed in situations like this is largely dependent on who has greater agency control. If the crime lab is housed within or is part of a larger law enforcement or prosecutorial agency, it cannot possibly have more authority than the agency which supports it - and this is the mindset that has prevailed in the United States and abroad. The crime lab hierarchy demonstrates this reality, in that non-scientist police administrators or district attorneys oversee numerous crime labs. n361

The confirmatory mindset of investigators and prosecutors is evident throughout the entire forensic science process (i.e., collection of evidence, submission of evidence, testing of evidence, and reporting results). This mindset is not only antithetical to science because it inhibits freethinking and objectivity, it also creates an environment which fosters con-

fusion regarding one's role as a forensic scientist. n362 [*374] This role confusion can easily destroy the forensic scientist's proclaimed neutrality and objectivity.

To begin with, the tasks delegated to forensic practitioners usually echo the priorities established by the governing agency. n363 These priorities are shaped by two interrelated factors which can undoubtedly torment the autonomy, impartiality, and trustworthiness of forensic examiners. Like any government agency, the agency's priorities are fashioned by economic considerations. As mentioned, crime labs are traditionally underfunded by their parent agencies. The inadequate funding problem is exacerbated when the limited funding is primarily used to carry out the agency's ultimate objective of securing convictions. Consequently, because the agency's chief objective is to secure convictions, prosecutors and law enforcement officials generally have final say regarding what evidence is submitted and tested. n364 Under these circumstances, the scientist's proactive and independent mindset is blunted not only because he or she has no voice in determining what evidence is examined or collected, n365 but also because he or she is examining evidence for the sole purpose of securing a conviction. This configuration leads to what Professor Starrs calls "institutional bias." n366

[*375] Independence and objectivity are further paralyzed because the parent agency dictates the system of economic, professional, and social rewards or sanctions for crime lab employees. Thus, under the existing configuration, forensic examiners are confronted with a unique dilemma: do they approach their work with an eye toward pleasing the law enforcement officials who are either running the crime lab or investigating the case, or do they carry out their analyses with an eye toward preserving their own field's integrity, neutrality, and objectivity? These (sometimes) irreconcilable approaches can leave forensic examiners in equipoise, like the proverbial donkey dying of thirst because it is exactly halfway between two wells and unable to decide whether to quench its thirst from one well or the other. n367 Over time, however, as the growing evidence suggests, an unsettling number of forensic examiners eventually succumb to supporting detectives in their desire to capture the sociopathic rapist or grizzly murderer, rather than striving to maintain their scientific integrity, impartiality, and independence. n368 Besides the intense pressure [*376] to appease investigators, n369 there may be even more pressure to please prosecutors. As recent evidence intimates, if the examiner is working a "high profile" case, the pressure to produce favorable results for the prosecution can have an "overpowering" influence, even in situations where, to provide favorable results, the examiner would have to hedge his opinion and mislead the jury, judge, and defense counsel. n370

[*377] If forensic science's ultimate aim is to generate the most accurate and objective results possible, it must consider creating independent crime labs which are not annexed to or managed by a law enforcement or prosecutorial agency. While the concept may seem radical, it is by no means novel. n371 Independent crime labs would serve at least two critical purposes. First, they would level the playing field between indigent defendants and the State when it came to accessing forensic experts. n372 Second, they would decrease the interaction between forensic practitioners, prosecutors, and investigators. This separation would help blunt prosecutorial bias in forensic science. n373

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3. Expectation and Ambiguity: The Perfect Recipe for Unconscious Biases and Errors

My overall concern is the way that the information is presented. It is presented in such a fashion that would lead the reader to the mistaken belief that mistaken interpretations are made routinely because of unconscious bias, in every crime lab throughout the land. I do not think this is true. Every forensic scientist that I know makes a conscious effort, and I underscore conscious effort, to eliminate bias in all it's subtle forms. n374

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The subjective nature of forensic examinations and the current alignment of crime labs with the prosecution leave the forensic science community susceptible to subconscious biases known as "observer effects," "context effects," or "examiner biases." n375 These biases generate errors which are more insidious and ubiquitous than deliberate misconduct because they are unintentional and often undetectable. n376 The observer effect phenomenon is governed by the basic tenet of cognitive psychology, which states that an individual's desires and expectations influence how they perceive an object or situation. n377 To fall prey to such effects, examiners must 1) confront an ambiguous stimulus capable of producing varying interpretations, and 2) be made aware, directly or indirectly, of an expected or desired outcome. n378 As previously discussed, forensic identifications are very subjective. More importantly, forensic examiners encounter many

situations where they are exposed to information which can easily cultivate conscious or unconscious expectations, with the most common expectation being the suspect or defendant is guilty. It is unsurprising that this expectation is planted into a forensic examiner's psyche because all publicly-funded crime labs are annexed to the very law enforcement or prosecutorial agencies to which they provide assistance to, and the primary objective of these agencies is to identify, prosecute, and convict the guilty. n379 Thus, working in an environment where guilt is more often than not assumed, it is easy to see how and why forensic examiners can subconsciously develop pre-examination expectations which can influence their results. n380

[*380] Forensic examiners usually develop an expectation of a suspect or defendant's likely guilt because prosecutors and law enforcement agents inundate them with expectation-inducing information which is irrelevant to their examination. n381 The manner in which evidence is [*381] tested represents another way examiners can subconsciously develop (or reinforce) the expectation that the suspect or defendant is guilty. Single sample testing is the predominant testing method used by forensic examiners. n382 Single sample testing, however, is eerily similar to an eyewitness "show-up." n383 Eyewitness research has continually recognized an assortment of problems associated with show-ups. n384 The biggest drawback is that the identifier immediately expects, consciously or subconsciously, to find inculpatory value in the object being viewed. n385 From a forensic science perspective, this expectation is rational because, if law enforcement officials felt so compelled to collect evidence and to detain a suspect, they must have good evidence or reason to believe the suspect is in some way connected to the offense. n386

To blunt these covert biases, scientists must be aware of their role and how they can contaminate the scientific process. Once scientists understand the nature of these imperceptible effects, they are able to develop and implement preventative measures to minimize their impact. Put simply, "sensitivity to the problems of observer effects [*382] has become integral to the modern scientific method." n387 For these reasons alone, one would think the observer effect issue would be a top research and educational priority in forensic science. Sadly, this is not the case. While forensic examiners are keenly aware of the potential for purposeful misconduct, they generally refuse to acknowledge that covert forms of bias can taint even the most impartial examiner's analysis. n388

For a long time, the major forensic science textbooks failed to discuss or even mention the observer effect issue. n389 Likewise, no undergraduate or graduate forensic science programs teach aspiring forensic scientists about the observer effect phenomenon. The ASCLD standards also fail to mention the observer effect issue. n390 Finally, forensic examiners have failed to conduct sufficient research to better understand what circumstances and information increase the likelihood that these imperceptible forces will adversely affect an identification or conclusion. n391 The little research conducted so far, however, strongly reinforces the fact forensic examiners are not immune to subconscious effects. n392 For instance, United Kingdom researchers concluded:

The findings of this study not only further substantiate the vulnerability of experts to contextual effect ... they further contribute to our [*383] understanding of this phenomenon. Our data demonstrates that fingerprint experts were vulnerable to biasing information when there were presented within relatively routine day-to-day contexts, such as corroborative (or conflicting evidence of confession to the crime. Thus, contextual information does not need to be extreme and unique to influence experts in their fingerprint examination and judgment. n393

Researchers who studied hair identification reached similar results. n394

Because the forensic science community has ignored this simple principle of cognitive psychology, forensic examiners are generally unaware of the fact these unconscious forces can adversely impact their examinations. n395 However, a growing number of forensic examiners claim to be aware of these covert influences, yet refuse to admit these influences can negatively impact their examinations because they are trained to disregard potential biasing information. Such thinking captures the forensic science community's complete misunderstanding of the observer effect phenomenon. n396 Moreover, what these forensic examiners are actually professing is their training consists of something noticeably absent in all other scientific disciplines, which makes them impervious to observer effects. n397

Such thinking continues to prevent the forensic science community from implementing procedures that could minimize the impact of observer effects. For instance, rather than single sample testing, forensic examiners should be required to identify the correct piece of [*384] evidence from an evidence line. n398 Likewise, a case assessment system should be formulated where domain-irrelevant information is filtered out of the case file before it is turned over to

forensic examiners. n399 Finally, the "simplest, most powerful, and most useful procedure to protect against the distorting effects of unstated assumptions, collateral information, and improper expectations and motivations is blind testing." n400 With no preventative measures in place, however, these imperceptible effects thrive in an environment that provides two critical ingredients - ambiguity and expectation.

4. Fraud and Scientific Misconduct: The Antithesis of Honesty and Integrity

We found that the Crime Lab analysts sometimes characterized as "inconclusive" relatively clear cut typing data that did not reflect a DNA profile consistent with the DNA profile obtained from the suspect's known reference sample. n401

For science to achieve its ultimate objectives of expanding the world's knowledge base and then using this newly acquired awareness to improve lives, scientists must do everything in their power to maintain their objectivity, integrity, and honesty. The same can be said for [*385] forensic science. If forensic science is to attain its objective of offering accurate evidence to resolve legal disputes, especially in those cases where an individual's life hangs in the balance, forensic scientists must hold true to their impartiality and integrity and not develop a "win-at-all-cost" attitude that so many prosecutors and defense attorneys possess. Forensic practitioners who embrace this adversarial attitude for the sole purpose of securing a conviction or an acquittal slowly erode the criminal justice system's integrity, and their decision to choose winning over legitimate science will inevitably inflict irreversible harm on criminal defendants, victims of crime, and the public in general. Unfortunately, an unnerving number of forensic professionals embrace this "win-at-all-costs" attitude and perpetrate various frauds to help secure convictions for prosecutors or acquittals for defense attorneys. n402

Instances of forensic fraud include fabricating fingerprints, n403 falsifying the results of DNA tests, n404 testifying to autopsies which were never performed, n405 knowingly excluding or removing information [*386] from a report that is unmistakably exculpatory, n406 knowingly providing false testimony, n407 failing to report potentially exculpatory results, n408 purposely concealing the fact one has previously committed an error in practice, n409 deliberately drafting deceptive forensic reports, n410 fabricating one's academic credentials, n411 testifying to forensic tests [*387] which were never conducted (i.e., drylabbing), n412 falsifying reports to hide the fact an examiner contaminated an evidence sample, n413 stealing evidence from the evidence vault, n414 describing and reporting "presumptive" [*388] positive tests as absolutely confirming the existence of a certain substance (e.g., blood, controlled substance), n415 testifying beyond the realm of science or one's expertise, n416 falsifying lab reports to hide the destruction of potentially exculpatory evidence during the testing, n417 and presenting testimony based on unsubstantiated techniques. n418 Several other cases could possibly be incorporated into this discussion, but it is more difficult to discern whether fraud or gross incompetence produced the errors in these cases. n419

Another disturbing trend is that forensic scientists who levy charges of ineptitude or fraud against their respective crime labs frequently find themselves out of a job soon after voicing their concerns. n420 Furthermore, because retaliation is likely to occur against [*389] those who expose a crime lab's shortcomings, a trend may emerge in the future, if it has not already started, where crime lab employees simply ignore what they know or believe to be scientific misconduct. Lastly, when crime lab officials have been notified of scientific misconduct, their responses have sometimes been inadequate and deceptive because they either failed to disclose the misconduct to prosecutors and defense counsel, failed to conduct a thorough review of the fraudulent examiner's prior cases, or failed to adequately punish the fraudulent examiner. n421

Forensic fraud has played a considerable role in various overturned convictions. n422 More significantly, when each new instance of forensic fraud surfaces, it eats away at the public's already weakened faith in forensic science and forensic institutions. n423 If the public's distrust continues to grow, instead of being the critical auxiliary of the courts that they should be, forensic evidence and examiners will be the new defendants on trial.

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5. Error and Injustice: The Unknown, Yet Potentially Dangerous, Error Rate in Forensic Science

Our Council members also recognized that other erroneous convictions have resulted ... from missing evidence, poor crime scene processing, from flawed or outdated scientific methods, or from inept or biased interpretation of results when presented before the finder of fact. Surely such processes that allow so many errors shouldn't be allowed to continue unchanged especially in capital case. n424

Contrary to what many forensic examiners profess, there is an unmistakable correlation between overturned convictions and erroneous and/or fraudulent forensic science. To date, there have been 204 convictions thrown out or overturned because post-conviction DNA tests either conclusively exonerated a previously convicted person or cast such serious doubts on the State's case the State moved to have the defendant released and all charges dismissed. n425 While a number of these flawed convictions stem from eyewitness misidentifications, false confessions, jailhouse snitches, and incompetent defense counsel, n426 there is a discernible association between these cases and defective and/or fraudulent forensic science. n427

In many of these cases, forensic examiners, particularly hair analysts, offered opinions which new DNA tests later proved wrong. n428 [*391] Besides hair misidentifications, convictions have been vacated or overturned due to misidentified fingerprints, n429 fabricated fingerprints, n430 misleading testimony, n431 misinterpreted firearms evidence, n432 miscalculated DNA statistics, n433 forensic fraud, n434 misinterpreted drug [*392] evidence, n435 misidentified bite marks, n436 faulty blood testing, n437 misinterpreted burn patterns, n438 misidentified earprints, n439 misidentified handwriting, n440 and erroneous autopsy conclusions. n441 More significantly, [*393] courts have vacated death sentences and capital convictions because of botched autopsies, n442 misleading testimony, n443 misidentified bootprints, n444 erroneous burn pattern interpretations, n445 misidentified hair evidence, n446 misidentified bite marks, n447 forensic fraud, n448 and erroneous firearms identifications. n449 Additionally, innocent people have been wrongly accused of serious offenses like murder, rape, and train bombings because of misidentified fingerprints, n450 misidentified [*394] firearms, n451 misidentified shoe prints, n452 misidentified bite marks, n453 erroneously interpreted burn patterns, n454 and misinterpreted autopsy results. n455 Likewise, there are several cases currently pending in state post-conviction or federal habeas corpus which not only raise significant questions regarding the defendant's guilt and/or death sentence, but the forensic evidence used to secure the conviction, death sentence, or both. n456 Finally, there is evidence that suggests erroneous or unsubstantiated forensic science played a role in an innocent person's execution. n457

[*395] While many of these errors can and will be labeled as honest human errors, this does not diminish the fact that an unacceptable number of errors could have been avoided had the forensic science community: 1) been properly funded; 2) conducted adequate research; and 3) properly trained its examiners. n458 Besides being emotionally and psychologically devastating for the wrongly accused or convicted person and the victims, wrongful accusations and convictions are economically disastrous because they typically generate extensive litigation resulting in large financial settlements. n459

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III. Assumption #3 - Scientists Are Performing Investigations: There Are Very Few Scientists in Forensic Science

My experience at the [FBI] is that we were trained more on how to evade and muddle the truth about the process of how things really worked. I mean after all, the term forensics means 'debate,' I just didn't know it meant lying and being less than forthcoming. n460

The last assumption regarding scientific evidence is that properly trained scientists are actually performing the examinations. Like the previous two assumptions, the third one crumbles under scrutiny as well. Suitably trained scientists do not perform many of the forensic examinations in the United States; rather, law-enforcement-trained technicians, who have little to no education and training in the physical sciences, perform many of these examinations. n461

[*397] There is a difference between scientists and technicians. A scientist is a skeptical researcher who understands and employs the scientific method to disprove his or her theories. To guarantee objectivity or to minimize subjec-

tivity, scientists design tests to discover whether a certain outcome is a legitimate byproduct of the expected interaction of variables, or due to something as mundane as chance. n462 Technicians, on the other hand, merely perform prearranged routines and are not expected to understand their underlying fundamentals. n463 The technician "knows how, but not why." n464

The "scientist/ technician" distinction is by no means intended to disparage the many hard working forensic technicians in forensic science. Instead, the distinction is highlighted to accentuate the fact forensic technicians are not typically trained to think outside the box and develop experiments to test hypotheses. For instance, some technicians appear to have difficulty with "simple math," n465 while others [*398] fail to grasp simple A, B, O blood typing. n466 Likewise, forensic technicians often confuse the concepts of induction and deduction, in that they frequently describe untested assertions as scientific fact. n467 Specifically, forensic technicians often believe they have actually proven something, when in fact all they have done is support a particular hypothesis. n468 This confusion stems from the fact an unsettling number of forensic technicians are "ignorant" of the scientific method. n469 The lack of scientific awareness has also led to the creation of unscientific standard operating procedures within certain crime labs. n470 Finally, a technician's limited scientific training increases the likelihood his or her results will favor the prosecution regardless of whether the results are accurate. n471

The scientific aptitude of forensic examiners has been a concern for years. n472 This apprehension has recently intensified for at least two [*399] reasons. First, the incompetence of some forensic examiners has played a considerable role in overturned convictions. n473 Second, the audit and investigative reports on crime labs have identified a plethora of individuals with questionable qualifications who work in (or worked in) publicly funded crime labs. n474 That an unnerving number [*400] of forensic examiners have a shallow appreciation of science, the scientific method, and statistics is not surprising when one considers: 1) the status of forensic science education; 2) the absence of entry level standards; 3) the lack of proficiency testing; and 4) the misguided notion investigators or technicians can learn the complexities of a forensic science subject in a forty hour short course.

A. Forensic Science Education: A Bachelor's Degree Equals a Scientist?

The failure of scientists in general, and of forensic scientists in particular, to understand how knowledge is acquired and applied, leads to abuse. n475

Traditional scientists possess doctoral degrees in the natural or physical sciences. n476 Forensic practitioners, on the other hand, generally do not possess doctoral degrees, even though there is a real need for Ph.D. level forensic scientists. n477 Some forensic examiners do not, and are not, required to possess an undergraduate degree in a physical or biological science. n478 Although Ph.D. programs are conspicuously [*401] absent in the United States and abroad, graduate education in forensic science is still possible because various universities offer master's level programs. In these programs, however, "it is possible to earn a degree called 'Masters in Forensic Science' without ever setting foot in a laboratory or even taking a core curriculum of hard science classes." n479

Unlike other professions, the forensic science community has been unable to develop a uniform curriculum. n480 Would-be forensic scientists are thus left pondering what exactly they need to study to become forensic scientists. Consequently, most students entering forensic science, if they have a hard science degree at all, usually possess a biology or chemistry degree. n481 Unfortunately, it is not only likely, but indeed is generally the case, "that a person with a Bachelor's Degree in chemistry, geology, biology, or other scientific discipline, has not had a single college lecture on precisely how the scientific method works." n482 As a result, forensic science students are often not taught, in a practical, hands-on way, how to harness the scientific method's power. n483 Likewise, these programs generally favor non-identification fields such as serology, drug chemistry, and instrumental [*402] analysis of trace evidence. n484 This may explain why there are few adequately trained forensic examiners in specialty areas such as pathology, toolmark identification, fingerprinting, and arson analysis. n485

Forensic scientists must also have a deep appreciation of mathematics and statistics because every opinion rendered by a forensic examiner rests on a statistical foundation (or at least it should). n486 [*403] Few forensic examiners, however, have a comprehensive understanding of statistics. n487 The lack of understanding leads to bewilderment when confronted with intricate questions regarding base rate populations of certain subclass characteristics. n488 Again, this

is not unexpected because few forensic science programs require students to enroll in a single statistic course, much less a series of statistics courses. n489 Moreover, those working in the DNA field are generally provided brief statistical courses from the company that supplies their crime lab with its DNA kits. n490 Rather than teach nascent forensic [*404] examiners how to formulate and solve complicated statistical equations, budding forensic examiners are "told to develop this intuitive sense of certainty when they review [physical evidence] comparisons that they've obtained a match." n491 They have also been instructed that it is their experience and training, rather than statistics, which form the basis of their identifications. n492 If examiners do by chance offer statistical testimony, the statistics they offer are quite often either made up or of unexplained origins. n493

Finally, forensic science programs and crime lab supervisors have failed to teach would-be forensic examiners how to write understandable, concise, and objective forensic reports. n494 When reports are written, they frequently fail to identify the relevant background information received and analyzed prior to the testing, the hypothesis being tested, the significance or limitations with respect to the report's [*405] conclusions, and other relevant data which may paint an incomplete picture if not incorporated into the report. n495 This problem is typically [*406] compounded by the fact that many crime labs lack comprehensive guidelines pertaining to note-taking and drafting reports. n496 In such crime labs, major problems can surface if one examiner's conclusion depends upon another examiner's work product and the subsequent examiner cannot decipher the results of the initial examiner's work. n497

B. Forensic Employment: What Does It Take To Be a Forensic Examiner?

Sgt. Weddleton has not yet attained a college degree (he is still taking courses) ... A former highway patrolman, Sgt. Weddleton was transferred to the firearms identification unit in 1993 ... He apparently has no formal scientific training, is neither certified by, nor is he a member of any professional organizations, reads no literature in the field, and had not undertaken any proficiency testing at the time he performed the tests at issue in this case. n498

Professional competence is typically determined by some recognized set of standards. Many professions, even those where one's life or liberty is not at stake, require members to be licensed or certified. n499 This is not the case in forensic science because forensic science has failed to develop minimum educational standards for entry-level forensic examiners. n500 In short, the forensic science community lacks [*407] mandatory national certification standards aimed at ensuring that forensic examiners are qualified and competent to practice forensic science. n501

The forensic examiner's competency has routinely been gauged by two non-science entities: judges and juries. Judges decide whether an examiner is legally qualified to testify as an expert, while jurors settle on whether the expert's testimony is legitimate and believable. n502 Under this type of system, "courts are required to accept or reject the expert's own claim of expertise, or that of his employer, without the benefit of an impartial and rigorous assessment of his or her capabilities." n503 More significantly, this procedure - especially the [*408] aspect dealing with the jury - is premised on the assumption defense counsel challenges the physical evidence and the examiner. If defense counsel does not challenge the physical evidence or the examiner, the fact finders are left with the impression that the examiner is highly qualified and his or her conclusions are sufficiently trustworthy. Unfortunately, defense attorneys have historically failed to vigorously challenge forensic experts in court. n504 This trend, however, has significantly changed course over the last eight to ten years. n505

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C. The Lack of Proficiency Testing: The Forensic Science Community Has Been Proficient At Dodging Proficiency Testing

Indeed, [Officer] O'Shea conceded that there have been no controlled studies to evaluate the error rate of the [firearms identification] field. n506

The lack of mandatory proficiency testing is another reason why there are competency concerns in forensic science. n507 The nature of forensic examinations is fundamentally different than that of many other scientific endeavors because it does not offer the examiner immediate feedback as to whether he or she accurately performed the assigned task. Under the current system, if an examiner generates an inclusionary or favorable finding for the prosecution, the prosecutor generally does not question the accuracy of the examiner's finding. n508 Rather, the prosecutor simply assumes its accuracy and uses it to bolster his or her case against the defendant. At trial, the accuracy of the examiner's findings may not be exposed if defense counsel is not well versed in forensic evidence or cross-examining forensic experts. n509 [*410] Thus, the inaccuracy of an examiner's identification may never surface. The lack of feedback has had devastating consequences for many people and institutions.

For example, consider airplane and harbor boat pilots. n510 These pilots undergo validation on a daily basis, in that they either successfully navigate their planes or harbor boats to their requested destinations or they do not. Under these circumstances, error detection is simple. n511 Because errors are easily and instantly detected, airplane and harbor boat pilots can immediately study their mistakes (if they survive) and assimilate any new knowledge generated from this experience. Consequently, although their errors are publicly exposed, the immediate knowledge they acquire from studying their mistakes will presumably make them more proficient in the future. The same holds true for doctors. A doctor will immediately learn whether his or her diagnosis is inaccurate if the patient's symptoms do not dissipate after prescribing a specific medication or treatment. As a result, proficiency testing for medical doctors, like airplane and harbor boat pilots, is less critical. Forensic science, however, cannot make such an argument.

No such feedback mechanism exists under the present day crime laboratory system. n512 The closest finding related to the forensic examiner's accuracy is the jury's verdict. If a jury returns a guilty verdict, forensic examiners assume their identifications were correct, while the converse may generally assumed if the jury acquits the defendant. If errors are made under this format, examiners and the entire forensic science community are not afforded an opportunity to learn from their mistakes. Moreover, if errors do surface, they typically do so years after the examiner's identification. Accordingly, regardless of whether the situation is the former (errors not identified) or the latter (errors identified, but only years down the road), the examiner may [*411] continue to use the same technique for years to come, even though his technique may be prone to error. Moreover, the examiner may simply be incompetent, but he or she and the public may not learn this until it is too late, if at all.

D. Short Courses: The Short Course Model is Short on Science and Results

So many of the people who give DNA testimony ... went to two weeks of training by the F.B.I. in Quantico ... and they are miraculously transformed from beat policemen into forensic scientists. n513

For many forensic examiners, the only training they received before they called themselves forensic experts consisted of attending a five-day (forty-hour) workshop in their respective field of expertise (e.g., bloodstain pattern analysis, firearms identification, fingerprinting, crime scene reconstruction, etc.). As any legitimately trained scientist will explain, these courses do not transform a non-science investigator into a bloodstain or firearms expert. n514 Instead, it is essential to have at least an undergraduate, if not a graduate degree in science, combined with a broad knowledge base of the forensic sciences, and experience using the scientific method and statistics. n515

The "short course" model is yet another example of how law enforcement has "oversimplified" a complex process to appease its own self-interests. As a colleague once said, "The less you know about something - the simpler it seems." n516 This is exactly how the forensic science community has trained and educated generations of forensic technicians. Would-be forensic technicians are taught partial truths, if not complete misrepresentations, regarding science and the scientific method. They are then told that the "science" of forensic [*412] science is so simple that even law enforcement-trained technicians can learn and apply it to criminal investigations. n517

The question, therefore, is why the forensic science community failed or refused to train its professionals to think and act like objective scientists? Likewise, why has it fervently tried to oversimplify so many forensic procedures? To answer the oversimplication issue and to understand why an alarming number of forensic technicians are [*413] poor consumers of science, the scientific method, and statistics, one need only study the history of forensic science. Understanding who created the forensic identification techniques and why these individuals created these techniques, will lead

readers to fully appreciate why forensic technicians are scientifically and statistically challenged. As the following discussion will show, forensic science has evolved into forgetful science simply because those who created the forensic identification sciences forgot the science.

E. Historical Considerations: Forensic Techniques Were Developed To Garner More Convictions, Rather Than Increase the Accuracy of Convictions

The exigencies imposed on [forensic science] by police and prosecutors molded it into its contemporary shape. n518

Our history lesson begins during the Industrial Revolution. Industrialization spawned large manufacturing cities, which in turn produced large urban developments. n519 As urbanization increased, so too did the attention paid to the crime rate, particularly the homicide rate. n520 Unlike suburban crimes, urban crimes, especially homicides, were difficult to solve. n521 Suburban homicides were fairly easy to solve for two reasons. First, the victim was usually immediately identified because most rural townspeople knew just about everyone in town. n522 Second, once the townspeople identified the victim, the potential group of suspects was typically very limited because the town's population was also very limited. n523 Urban homicides, on the other hand, were more difficult to solve for the opposite reasons. To begin with, industrialized cities, unlike rural towns, had large and diverse populations. n524 When diversity and population increase, familiarity decreases. The fast-paced nature of industrialized cities also decreased citizens' familiarity with one another. As a result, unidentified victims became the norm rather than the exception. n525 Anonymous [*414] victims stymied investigative efforts because the victim's identify, in many respects, was crucial in identifying and narrowing the list of potential suspects. Even if investigators quickly identified the victim, they were still faced with the seemingly unmanageable task of identifying the culprit. Industrialized cities were so densely populated that the potential suspect pool increased exponentially. The citizenry's diversity and unfamiliarity with one another, in effect, provided petty criminals, rapists, and murderers with the perfect weapon against detection - anonymity.

The crime rate continued to escalate during the 1910s and 1920s, especially when organized crime entered into the picture. n526 As homicide rates and crime rates in general increased, the urban citizenry demanded more effective approaches to investigate, identify, and prosecute criminals. n527 Prosecutors and criminal investigators during this period, however, were fighting a losing battle. Particularly during the 1920s, when many highly skilled defense attorneys comprised the defense bar, prosecutors did not have the resources to garner convictions against gangsters like Al Capone. n528 Put differently, inept law enforcement investigations often hindered prosecutions simply because they did not have the investigative wherewithal to apprehend anonymous offenders. n529 Prosecutors also had difficulty securing convictions in stranger-on-stranger urban murders. n530 Unless an eyewitness offered direct evidence the defendant committed the murder, juries rarely convicted. n531 Moreover, even when prosecutors had scientific evidence, juries still rarely convicted because they refused to acknowledge turn-of-the-century scientific evidence. n532 This reluctance was not surprising because "expert evidence at the turn of the century was deemed, in practice, to be an embarrassing spectacle." n533 The lack of prosecutorial resources and the jury's unwillingness to [*415] convict without eyewitness testimony threatened to undermine the justice system. n534 Prosecutors, investigators, and criminal justice reformers, consequently, confronted a rather large barrier, which in their mind, frequently prevented justice from being meted out in serious violent crimes.

To overcome this obstacle, and to move toward a point where jurors accepted scientific evidence, required something of a social insurgency. The customary mistrust of circumstantial evidence and reliance on eyewitness testimony had to be reversed. To produce this cultural revolution, investigators and prosecutors turned to science - or what they believed to be science. Their version of science differed markedly from that of academia or traditional science because it was not created to impress the deities of science like Albert Einstein or those who came before him. Rather, their version of science was motivated by one question - what type of evidence will increase the conviction rate? Their answer was simple, yet ingenious. Convictions would increase if jurors easily understood and believed that the scientific evidence presented to them represented a non-probabilistic indisputable fact. n535

Investigators and prosecutors were forced to conjure up this perverted version of science because introducing legitimate science presented major pitfalls for the prosecution. First, forensic evidence proponents realized that unsophisticated jurors were perhaps the least qualified persons to pass judgment on scientific issues. n536 Thus, if the evidence came across as too scientifically or mathematically complicated, the likelihood remained high jurors would still refuse

to acknowledge circumstantial scientific evidence. n537 Second, legitimate science is premised on inference, interpretation, and probabilities. n538 Contrary to popular belief, there are few "indisputable facts" or "absolute certainties" in science. n539 Accordingly, any evidence derived from legitimate science is still considered circumstantial [*416] because of its probabilistic nature. n540 Circumstantial evidence always gave jurors and defense attorneys enough wiggle room to possibly cultivate sufficient doubt to secure an acquittal. n541

Whether legitimate science and reasonable doubt could coexist to produce convictions presented another issue. Prosecutions, it must be remembered, are won by proving the defendant's guilt beyond a reasonable doubt. n542 Overcoming reasonable doubt requires prosecutors to eliminate as much uncertainty as possible. Reasonable doubt, therefore, raised major concerns for early Twentieth Century prosecutors and investigators. Science is premised on doubt and disproving scientific claims. Scientists are trained to identify and explain the limitations of their findings. This cardinal rule of science generally disallows scientists from offering absolute truths or indisputable facts. Consequently, science's built-in skepticism and its affinity for probabilistic reasoning proved disastrous for prosecutors because defense attorneys could transform any uncertainty into reasonable doubt. n543

Criminal investigators and prosecutors had to somehow convert circumstantial physical evidence into "uimpeachable physical evidence." n544 Similarly, they had to convince jurors that this evidence was presented by forensic experts whose veracity and perceptual acuity were beyond reproach. Finally, they had to do this in such a manner [*417] so as not to bewilder the jurors. To accomplish this, criminal investigators ingeniously crafted various purportedly scientific techniques, which were premised on the supposedly irrefutable scientific fact that nature never repeats itself. Investigators and prosecutors then went on an extensive public relations campaign, professing that these scientific techniques were impervious to error and doubt because they were based on objective science, which did not require probabilistic reasoning or interpretation. n545

By narrowly focusing the jury's attention on individuality's theoretical (i.e., nature never repeats itself) rather than practical and probabilistic application (i.e., how accurate are forensic examiner's and how common are certain characteristics), criminal justice reformers did five important things for the prosecution. First, they simplified what jurors perceived to be science. Uniqueness could be easily introduced to typical non-scientific jurors, because, in part, it could be portrayed as an idealistic theory: all objects are unique if viewed in sufficiently fine detail. n546 Similarly, by disregarding the issue of whether forensic identifications were truly probabilistic determinations, jurors were not forced to entertain and comprehend Byzantine statistical evidence regarding a feature or object's discriminatory potential. Likewise, by focusing on uniqueness instead of accuracy, jurors were once again not obligated to consider and understand the statistical evidence pertaining to error rates - real or potential.

Second, oversimplifying the probabilistic nature of identification permitted scores of scientifically and statistically uneducated investigators and police officers to immediately become identification experts. This was critical for early Twentieth Century prosecutors. If they wished to swiftly combat the growing crime rate, they had to immediately send in the troops and could not afford to send budding forensic technicians to undergraduate and graduate school for years of education. The sooner they could grasp the so-called science, the [*418] sooner they could provide indisputable scientific evidence against grizzly murderers or greedy gangsters. n547

Third, focusing the jury's attention on individuality's theoretical rather than practical and probabilistic application transformed circumstantial physical evidence into direct evidence. Forensic evidence proponents claimed that identification examiners, unlike other turn-of-the century scientific experts, did not interpret or infer anything and they did not give opinions, but merely identified seemingly imperceptible markings on objects and relayed their findings to the jury. n548 Moreover, by playing on the cultural intuition that science is unadulterated and objective, early forensic science advocates persuasively (yet misleadingly) claimed that forensic examiners were immune to biasing influences. n549 This imperviousness stemmed from the fact the examiners were simply conduits for the physical evidence. Lay witnesses may perhaps fabricate their testimony, misidentify individuals, or forget crucial details of an event, but as the title of one forensic science book convincingly (yet deceptively) proclaims: "The Evidence Never Lies." n550

Fourth, by claiming that forensic identifications were non-probabilistic and absolutely certain, criminal justice reformers eradicated [*419] the doubt issue. While probabilistic reasoning left ample room for doubt, absolute certainty suffocated the life out of any doubt. The "absolute certainty" claim did two other important things. As mentioned, it made juror processing easier by eliminating the need to introduce statistical evidence regarding an examiner's accuracy or an object's discriminatory potential. This in turn eliminated the need to measure the true level of scientific certainty. Not only did forensic technicians not have to collect base rate data, they did not have to measure their own accuracy.

Fifth, oversimplifying or eliminating the probabilistic nature of forensic identifications permitted forensics technicians to base their conclusions in part on common sense, experience, and training. n551 This made the forensic technician's job even easier. As mentioned, forensic technicians employ the "intuitive approach" when they try to determine whether two pieces of evidence share a common origin. n552 The intuitive approach, however, "employs only the most rudimentary understanding of statistical probability, and does not require the task of gathering data upon which the statistical approach is based." n553

It is beyond dispute that early Twentieth Century forensic proponents imaginatively crafted a form of evidence, not science, that procured convictions like Michael Jordan produced championship rings. n554 Nonetheless, while forensic examiners were perhaps juggernauts when it came to securing convictions for prosecutors, their understanding of science, the scientific method, and statistics was elementary at best. n555 Put simply, early forensic advocates so oversimplified [*420] science, the scientific method, and the probabilistic nature of forensic determinations, they created generations of forensic examiners who could not and cannot think critically, scientifically, or statically. n556

In summary, early Twentieth Century investigators and prosecutors relied on these purported sciences not so much as a means of determining the truth, but as a valuable mechanism capable of easily eliciting confessions and transforming purely circumstantial cases into solid, winnable cases. n557 Recent research intimates that today's investigators and prosecutors are no different; they also tend to use forensic evidence in an underhanded fashion to elicit incriminating statements which can be used to garner convictions. n558 As some have suggested, manipulatively using forensic evidence in such a narrow fashion "has retarded the growth of scientific methods of crime fighting." n559 Furthermore, crime labs were not created to integrate cutting [*421] edge science into the criminal justice system, but were a public relations tactic to fight reoccurring accusations that law enforcement officials were incapable of apprehending urban offenders. n560

Conclusion

While Dr. Bieber correctly asserts that forensic science has the potential to be a great tool for "our imperfect [criminal justice] system," n561 particularly as forensic technology continues to improve; n562 forensic science's current state of affairs does not reflect this potential. This is especially true in the capital punishment context. Capital punishment, if it is to be implemented at all, must be premised on reason rather than caprice, conviction, or emotion. n563 In order for higher reasoning to thrive, however, the physical evidence presented to the triers of fact must itself be a byproduct of intellectual sincerity, objectivity, and nonpartisanship. As this Article has demonstrated, forensic science is so intellectually, scientifically, and economically impoverished it cannot possibly provide the integrity or rigor to ensure that only the guilty are convicted in death penalty cases. While a more effective, efficient, and accurate death penalty system can perhaps be envisioned if the forensic science community undergoes radical changes, a foolproof capital punishment system appears out of the question at this time (and in the future). n564 Nonetheless, to come even [*422] remotely close to rectifying capital punishment's innumerable problems, forensic science's numerous financial, educational, and ethical problems must first be addressed and repaired. Although funding can only come from state and federal governments, the forensic science community still has the ability to look in the mirror and learn from its lackluster scientific history.

Ironically, the economic, educational, and ethical issues which currently haunt forensic science are finally coming to the forefront and being addressed by the community, Congress, and state lawmakers. This is not because they want to - but because they have to. The number of crime lab problems and overturned convictions increased to the point where they could no longer be swept under the rug. Thus, "while the forensic science community may be encountering its bleakest hour, daylight is just around the corner if the appropriate directions are taken." n565 The appropriate direction would be to incorporate reforms such as: 1) creating independent crime labs; 2) developing a national forensic science commission to direct the forensic science community's future technology, policy, and program developments; 3) creating state forensic service commissions to ensure that local, county, and state crime labs are properly equipped with suitable technology and highly qualified scientists; 4) instituting national or statewide certification programs to ensure forensic practitioners have a certain modicum of scientific intelligence before they actually work on cases and testify in court; 5) performing double blind testing and evidence lineups; and 6) developing case assessment standards to filter out irrelevant and expectation-inducing information before forensic technicians are given the case. If such reforms are implemented, then quite possibly, the death penalty system could function more evenhandedly, rationally, and fairly. n566

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Legal Topics:

For related research and practice materials, see the following legal topics:
Civil ProcedureJudicial OfficersGeneral OverviewCriminal Law & ProcedureSentencingCapital PunishmentGeneral OverviewEvidenceScientific EvidenceDNA

FOOTNOTES:

n1. United States v. Green, 405 F. Supp. 2d 104, 109 (D. Mass. 2005).

n2. House v. Bell, 386 F.3d 668, 708 (6th Cir. 2004) (en banc) (Merritt, J., dissenting). See also Murray v. State, 838 So. 2d 1073, 1088 (Fla. 2002) (Anstead, C.J., concurring) ("Surely, if there is one category of legal cases in which we should be certain that these important [forensic] testing and evaluation protocols are followed, it is in death cases.").

n3. United States v. Fell, 217 F. Supp. 2d 469, 490 (D. Vt. 2002) (holding the Federal Death Penalty Act unconstitutional), rev'd, United States v. Fell, 360 F.3d 135 (2d. Cir. 2004).

n4. Moore v. Parker, 425 F.3d 250, 268 (6th Cir. 2005) (Boyce, J., dissenting). See also United States v. Sampson, 275 F. Supp. 2d 49, 56 (D. Mass. 2003) ("In the past decade substantial evidence has emerged to demonstrate that innocent individuals are sentenced to death, and undoubtedly executed, much more often than previously understood."). The United States Senate also acknowledged the problems associated with our nation's capital punishment systems. According to a 2002 Senate report, "recent exonerations of inmates awaiting capital punishment or serving lengthy prison sentences have cast doubt on the reliability of the criminal justice system." S. Rep. No. 107-315, at 7 (2002). United States Supreme Court Justices, in their individual capacity, have expressed concern as to whether the capital punishment system is fairly implemented. See John Paul Stevens, Address to the American Bar Association, Thurgood Marshall Awards Dinner, Chicago, Ill., Aug. 6, 2005, available at http://www.supremecourtus.gov/publicinfo/speeches/sp 08-06-05.html; William J. Brennan, Jr., Neither Victims Nor Executioners, 8 Notre Dame J.L. Ethics & Pub. Pol'y 1 (1994).

n5. See Brewer v. Quarterman, 127 S.Ct. 1706 (2007); Smith v. Texas, 127 S.Ct. 1686 (2007); Abdul-Kabir v. Quarterman, 127 S.Ct. 1654 (2007); Hill v. McDonough, 126 S.Ct. 2096 (2006); House v. Bell, 126 S.Ct. 2064 (2006); Rompilla v. Beard, 545 U.S. 374 (2005); Miller-El v. Dretke, 545 U.S. 231 (2005); Deck v. Missouri, 544 U.S. 622 (2005); Roper v. Simmons, 543 U.S. 551 (2005); Smith v. Texas, 543 U.S. 37 (2004); Tennard v. Dretke, 542 U.S. 274 (2004); Nelson v. Campbell, 541 U.S. 637 (2004); Wiggins v. Smith, 539 U.S. 510 (2003); Miller-El v. Cockrell, 537 U.S. 322 (2003); Atkins v. Virginia, 536 U.S. 304 (2002); Ring v. Arizona, 536 U.S. 584 (2002); Williams v. Taylor, 529 U.S. 362 (2000).

n6. See Charles S. Lainer & James A. Acker, Capital Punishment, The Moratorium Movement, and Empirical Questions: Looking Beyond Innocence, Race, and Bad Lawyering in Death Penalty Cases, 10 Psychol. Pub. Pol'y & L. 577, 579-84 (2004) (discussing state and federal initiatives aimed at reforming death penalty statutes); Douglas A. Berman, Addressing Capital Punishment Through Statutory Reform, 63 Ohio St. L.J. 1, 4 (2002) ("Elected politicians and the general public have been closely scrutinizing and significantly questioning our criminal justice system's embrace of this ultimate punishment."). In a three-month span in 2002, two federal district court judges declared the Federal Death Penalty Act unconstitutional. See United States v. Quinones, 205 F. Supp. 2d 256 (S.D.N.Y. 2002), rev'd, 313 F.3d 49 (2d Cir. 2002); United States v. Fell, 217 F. Supp. 2d 469 (D. Vt. 2002), vacated, 360 F.3d 135 (2d Cir. 2004). State officials have stepped into the capital punishment fray - most notably former Illinois Governor George Ryan. By now, Governor Ryan's moratorium, pardons, and commutations are legendary. See Steve Mills & Maurice Possley, Ryan to Pardon 4 on Death Row; Men Say They Were Tortured by Chicago Police, Chi. Trib., Jan. 10, 2003, at 1; Maurice Possley & Steve Mills, Clemency for All, Chi. Trib., Jan. 12, 2003, at 1.

n7. Currently, thirty-eight states have the death penalty. See Death Penalty Info. Ctr., Fact Sheet, http://www.deathpenaltyinfo.org/FactSheet.pdf (last visited Jan. 29, 2006).

n8. See Franklin E. Zimring & Gordon Hawkins, Capital Punishment and the American Agenda 143 (1986) ("Political culture rather than public opinion apparently determines the passage of death penalty legislation and the occurrence of executions.").

n9. Schlup v. Delo, 513 U.S. 298, 324-25 (1995). As the Supreme Court has frequently emphasized, "In capital cases the finality of the sentence imposed warrants protections that may or may not be required in other cases." Ake v. Oklahoma, 470 U.S. 68, 87 (1985) (Burger, C.J., concurring).

n10. "Where life is to be taken, there must be no avoidable error of law or uncertainty of fact." Louisiana ex rel. Francis v. Resweber, 329 U.S. 459, 472 (1947) (Burton, J., dissenting). See also Furman v. Georgia, 408 U.S. 238, 316 (1972) (plurality opinion) (Marshall, J., concurring) ("While this fact cannot affect our ultimate decision, it necessitates that the decision be free from any possibility of error.").

n11. For the history of the death penalty in Massachusetts, see Alan Rogers, "Success - At Long Last:" The Abolition of the Death Penalty in Massachusetts, 1928-1984, 22 B.C. Third World L.J. 281 (2002); Brian Hauck et al., Capital Punishment Legislation in Massachusetts, 36 Harv. J. on Legis. 479 (1999).

n12. See Governor's Council on Capital Punishment 4 (2004). Governor Ryan's panel members wrote the most comprehensive report ever regarding capital punishment reform. See Governor's Commission on Capital Punishment (2002).

n13. Id. According to Governor Romney, just as "science has been able to establish the innocence of those who have been deemed guilty in the past, science is also able to determine whether or not there is true guilt involved with a particular charge." National Public Radio, Governor Mitt Romney Announces Plan to Reintroduce the Death Penalty in Massachusetts, All Things Considered, May 3, 2004 (quoting Governor Romney), available at http://www.npr.org/templates/story/story.php?storyId=1869216.

n14. Governor's Council, supra note 12, at 20. The Council Members' report goes on to note while DNA is the "current benchmark for the kind of 'physical or associative evidence' that can satisfy this recommendation," other forms of physical evidence "may be capable of providing conclusive associations of suspects, victims, crime scenes, and/or the implements of crime." Id. The Council Members' report suggests that "some footwear impressions, tire impressions, tool marks, firearms-related impressions, and other physical pattern matches" could possibly be the other forms of "physical or associative evidence" capable of conclusively establishing a capital defendant's guilt. Id.

n15. Id. at 23-24. Moreover, the ISR would be "completely independent ... of the adversarial forces of the prosecution and defense, but also independent of the existing investigative structures of police crime laboratories, medical examiner offices, and forensic-service providers." Id. at 24.

n16. Dr. Beiber is a geneticist from Harvard Medical School and DNA consultant to the FBI. See http://labmed.bwh.harvard.edu/pathology/Faculty/Frederick Bieber.htm (last visited July 31, 2007).

n17. Dr. Selavka is the Director of the Massachusetts State Police Crime Lab System. See http://www.ifri.fiu.edu/seminars/selavka.html (July 31, 2007). As noted infra, Dr. Selavka resigned in March 2007. See infra note 109.

n18. Mr. Pokorak is an experienced capital defense attorney from Suffolk University School of Law. See http://www.law.suffolk.edu/faculty/directories/faculty.cfm?InstructorID=45 (last visited July 31, 2007).

n19. With respect to the Innocence Projects, however, the author noted fundamental differences between rendering inclusionary decisions and exclusionary decisions. In particular, the author explained that inclusionary decisions require base rate data regarding certain physical or genetic characteristics. The "social science literature defines a base rate as a proportion - the relative frequency with which an event occurs or an attribute is present in some reference population." Jonathan J. Koehler, When do Courts Think Base Rate Statistics are Relevant?, 42 Jurimetrics J. 373, 374 (2002). For a straightforward conversation of base rates in the polygraph context, see State v. Porter, 698 A.2d 739, 767 n.53 (Conn. 1997). For example, base rate data may provide data regarding how many Californians are over sixty-five or how many National Football League players were arrested in a given year. In the forensic science context, base rate data may provide information on how often a particular friction ridge fingerprint pattern appears in the human population. Likewise, it may provide data on how many murderers posed their victims after they killed them. Such data does not currently exist in any of the forensic identification fields except DNA.

n20. Transcripts of Scientific Evidence Panel Discussion (Sept. 9, 2004) (transcripts on file with author). For a condensed version of the author's comments, see Craig M. Cooley, Forgettable Science or Forensic Science?, 80 Ind. L.J. 80 (2005).

n21. Transcripts of Scientific Evidence Panel Discussion, supra note 20 (quoting Dr. Bieber) (emphasis added). For a condensed version of Dr. Bieber's comments, see Fredrick R. Bieber, Ethics, Science, and the Law of Capital Punishment, 80 Ind. L.J. 69 (2005).

n22. Governor Romney's emphasis on reinstating capital punishment in Massachusetts comes at a dubious time given the rash of wrongful and overturned convictions in Massachusetts. See Samuel R. Gross, Exonerations in the United States 1989 Through 2003 30 (2004) (since 2000 twelve previously convicted defendants have been exonerated by either DNA evidence or by other means). The most recent, most discussed, and most relevant in regards to this article is Stephen Cowans' wrongful conviction. Mr. Cowans was wrongly imprisoned for six years after being convicted of attempted murder of a Boston police officer. Cowans' faulty conviction resulted, in large part, from a misidentified fingerprint. See Jennifer L. Mnookin, A Blow to the Credibility of Fingerprint Evidence, Boston Globe, Feb. 2, 2004, at A14 (discussing Cowans' wrongful conviction and the fallibilities of fingerprint evidence).

n23. Craig M. Cooley, Reforming the Forensic Science Community to Avert the Ultimate Injustice, 15 Stan. L. & Pol'y Rev. 381, 387 (2004).

n24. Id.

n25. Nat'l Inst. of Just., Report to the Attorney General on Delays in Forensic DNA Analysis 2 (2003), available at http://www.ncjrs.gov/pdffiles1/nij/199425.pdf (last visited June 16, 2007). See also Status and Needs of Forensic Science Service Providers: A Report to Congress 4 (2006), available at http://www.aafs.org/pdf/180%20day%20study.pdf (last visited June 16, 2007) ("Manpower shortages are the biggest concern of the forensic science community and directly impact on the ability of crime laboratories to address casework backlogs.") [hereinafter Status Report].

n26. The late U.S. Supreme Justice Harry Blackmun commented on this distinction: "It is true that open debate is an essential part of both legal and scientific analyses. Yet there are important differences between the quest for truth in the courtroom and the quest for truth in the laboratory. Scientific conclusions are subject to perpetual revision. Law, on the other hand, must resolve disputes finally and quickly." Daubert v. Merrill Dow Pharmaceuticals, 509 U.S. 579, 596-97 (1993).

n27. See Calderon v. Thompson, 523 U.S. 538, 555 (1998) ("Finality is essential to both the retributive and the deterrent functions of criminal law."); McCleskey v. Zant, 499 U.S. 467, 491 (1991); Teague v. Lane, 489 U.S. 288, 309 (1989).

n28. See Edward K. Cheng, Changing Scientific Evidence, 88 Minn. L. Rev. 315, 329 (2003) (observing that "science focuses primarily on accuracy alone").

n29. See Steven Goldberg, Culture Clash: Law and Science in America 6-20 (1994) (discussing the tension between law and science).

n30. See Peter H. Shuck, Multi-Culturalism Redux: Science, Law, and Politics, 11 Yale L. & Pol'y Rev. 1, 25 (1993) ("The law is usually in much more of a hurry to decide than science is.").

n31. As a result, scientists can engage in "the time-consuming process of consensus building" before they announce or publish their conclusions or findings. Cheng, supra note 28, at 331.

n32. Gil Sapir, Legal Aspects of Forensic Science, in 1 Forensic Science Handbook 2 (Richard Saferstein ed.) (2d ed. 2002) (emphasis added); Tamara F. Lawson, Can Fingerprints Lie?: Re-weighing Fingerprint Evidence In Criminal Jury Trials, 31 Am. J. Crim. L. 1, 30 (2003) ("Forensic work is almost exclusively conducted for litigation purposes.").

n33. According to Professor Sheila Jasanoff: "In the legal arena, the context for science changes, and these changes affect the results one can expect from science. The law has its own institutional needs and constraints, and these are broadly geared toward ensuring that justice is done in each individual case. Processes designed to meet the law's primary imperatives are not necessarily well suited to discriminating between good and bad scientific claims; nor is it clear that the law does, or indeed always should, defer to science's overriding commitment to self-correction." Sheila Jasanoff, Just Evidence: The Limits of Science in the Legal Process, 34 J.L. Med. & Ethics 328, 329 (2006).

n34. As one crime lab director recently commented, "Laboratories like my own, whether federal, state or local, are all reeling under the onslaught of physical evidence hitting the labs." Ellen Perlman, Evidence of Failure, Governing Mag., Apr. 2004, at 39 (quoting Paul Ferrara, Director of Virginia's Division of Forensic Science). See also Jerry D. Spangler & Pat Reavy, Hatch Bill On DNA May Stall, Desert Morning News (Salt Lake City), Sept. 24, 2004 (discussing the caseload problem at crime labs in Utah); Ruth Teichroeb, Call For a Review of State Crime Labs; Legislators Say They'll Take Up Issue In Coming Session, Seattle Post-Intelligencer, Sept. 14, 2004, at B1 (noting that the Washington State "crime labs' DNA caseload has been increasing rapidly" over the past three years); Jessie Halladay, State Crime Labs Eliminate Their Backlog of Drug Cases: More Employees, Bigger Budget Help, The Courier-J. (Louisville, KY), July 20, 2004, at 1A (Kentucky crime labs handled approximately 16,000 drug cases between January 2004 and July 2004).

n35. Kit R. Roane, The CSI Effect, U.S. News & World Report, Apr. 25, 2005, at 48.

n36. Carlene Hempel, TV's Whodunit Effect Police Dramas Are Having An Unexpected Impact in the Real World, Boston Globe, Feb. 9, 2003, at 13.

n37. See Craig M. Cooley, The CSI Effect: Its Impact and Potential Concerns, 41 New England L. Rev. (forthcoming 2007) (discussing how forensic science crime dramas do not accurately reflect forensic science's

current state of disarray); Jeffrey Kluger et al., How Science Solves Crimes from Ballistics To DNA, Forensic Scientists are Revolutionizing Police Work on TV and in Reality. And Just In Time, Time, Oct. 21, 2002, at 36.

n38. See Crime Lab Modernization, Hearing Before the Senate Judiciary Comm., 107th Cong., May 15, 2001 (statement of Eric Buel, Ph.D. Director, Vermont Forensic Laboratory, Vermont Department of Public Safety) [hereinafter Buel testimony]; Fear of 'CSI Effect' Changes How Cases are Investigated, Tried, AP, Nov. 27, 2005 ("Some prosecutors say they also ask police and crime labs to do more testing for fingerprints and DNA out of concern that jurors expect it. Forensic scientists at the Minnesota Bureau of Criminal Apprehension said they are getting more requests from prosecutors to testify about why fingerprints and DNA evidence cannot be recovered at every crime scene-and why they don't always yield conclusive proof."); Richard Willing, 'CSI Effect' Has Juries Wanting More Evidence, USA Today, Aug. 5, 2004, at 1A.

n39. See C.S. Murphy & Amy Upshaw, A Day at the Morgue, Arkansas Democrat-Gazette, Dec. 13, 2004, at 1 (noting that the Arkansas crime lab "receives an average of 800 to 900 subpoenas a month").

n40. Ruth Teichroeb, Rare Look Inside State Crime Labs Reveals Recurring Problems; 23 Cases in 3 Years Had DNA Test Errors, Seattle Post-Intelligencer, July 22, 2004, at A1 (quoting Gary Shutler, a DNA analyst with the Washington State Patrol crime lab system).

n41. "Approximately 75% of all cases in the criminal justice system are touched by forensic science evidence analysis. Without this service, our criminal justice system would effectively come to a halt." Funding Forensic Sciences; DNA and Beyond: Hearing Before the Senate Judiciary Comm., Subcomm. on Administrative Oversight and the Courts, 108th Cong., July 31, 2003 (statement of Randall Hillman, Executive Director, Alabama District Attorneys Ass'n) [hereinafter Hillman testimony].

n42. See Graham R. Jones, President's Note, 33 Academy News 1 (Jan. 2003) (newsletter for the American Academy of Forensic Science) ("There is no doubt about the value of so-called DNA testing and that greater resources are needed to deal with huge backlogs of work in this area. However, other areas of forensic science also badly need funding to fix or rebuild the crumbling infrastructure of many aging crime laboratories and medical examiner facilities."); Funding Forensic Sciences; DNA and Beyond: Hearing Before the Senate Judiciary Comm., Subcomm. on Administrative Oversight and the Courts, 108th Cong., July 31, 2003 (statement of Frank J. Clark, District Attorney Erie County, N.Y.); Buel testimony, supra note 38; Hillman testimony, supra note 41.

n43. See Bureau of Just. Statistics, Census of Publicly Funded Forensic Crime Laboratories, 2002 5 (Feb. 2005), available at http://www.ojp.usdoj.gov/bjs/pub/pdf/cpffcl02.pdf [hereinafter BJS Report]. A "new case" is evidence submitted from a single criminal investigation and may include multiple requests for forensic services. Id.

n44. See id. at 6. See also Lisa Rosetta, State Crime Labs Have Brain Drain; Low Pay: Scientists Are Fleeing to the Private Sector, Crime Labs Are Understaffed, Buried in Work, Salt Lake Trib., Mar. 6, 2005, at A1 ("[The] Utah Bureau of Forensic Services received 27,000 pieces of evidence collected in 8,400 cases ... About half of the labs' workload is processing drug samples - mostly marijuana and methamphetamine - while the other half is firearms, latent fingerprint and DNA cases.").

n45. Publicly funded crime labs ended 2002 with over 500,000 backlogged requests for forensic services - a more than 70% increase compared to the beginning of 2002. See BJS Report, supra note 43, at 1. For instance, backlogged methamphetamine cases hindered Graves County's court system so much that Circuit Judge John Daughaday warned the Director of the Western Kentucky Crime Lab that he would hold the lab in contempt if it failed to provide test results within ninety days of receiving evidence in new criminal cases. See James Malone, Crime Lab Gets Contempt Warning; Graves Judges Wants Results of Evidence Tests in 90 Days, Courier-J. (Louisville, KY), Aug. 14, 2003, at 1B. The "Los Angeles police have fingerprints from more than 6,000 un-

solved slayings that have not yet been compared with the national computer database." Andrew Blankstein, Fingerprints Unchecked in 6,000 Deaths, L.A. Times, Feb. 10, 2003, at 1. Los Angeles is not the only major city facing fingerprint backlogs. The Baltimore County crime laboratory is 1,000 cases behind while the Phoenix crime lab has a 6,000-case backlog. See Del Quentin Wilber, Handcuffed By Backlog; Shortage: A Dearth of Qualified Fingerprint Examiners is Making An Impression on Police Investigations, Balt. Sun, Mar. 4, 2002, at 1B.

n46. See Richard Willing, Forensic Specialists Want Funding Beyond DNA, USA Today, Aug. 11, 2005, at 6A.

n47. BJS Report, supra note 43, at 6.

n48. In March 2003, the National Institute of Justice estimated there were more than 350,000 DNA samples pending nationwide from rape and homicide cases. See NIJ Report, supra note 25.

n49. Cold-case investigators typically evaluate countless pieces of physical evidence to ascertain whether they can yield any likely DNA evidence. See Nat'l Inst. of Just., Using DNA to Solve Cold Cases (2002), available at http://www.ncjrs.gov/pdffiles1/nij/194197.pdf (last visited June 16, 2007).

n50. See, e.g., 725 Ill. Comp. Stat. § 5/116-3 (2002); Ind. Code§§35-38- 7-1 to -19 (2001); La. Code Crim. Proc. Ann. art. 926.1 (2002). As a result, more prisoners are petitioning for and receiving such testing. See Seth F. Kreimer & David Rudovsky, Double Helix, Double Bind: Factual Innocence and Postconviction DNA Testing, 151 U. Pa. L. Rev. 547 (2002). Prosecutors are even taking the initiative to re-test cases. See Alex Roth, San Diego DA To Use DNA Tests To Recheck Convictions, San Diego Union-Trib., June 4, 2000, at A-1.

n51. See DNA Technologies, Hearing Before House Comm. on Government Reform, Subcomm. on Government Efficiency, Financial Management and Intergovernmental Relations, 107th Cong., June 12, 2001 (statement by David G. Boyd, Director of the Office of Science and Technology). Some labs are inadequately staffed to handle the increase in requests generated by these new laws. See Peter Boylan, Staffing insufficient to meet demands, Honolulu Advertiser, Sept. 21, 2005, at 3B ("The Honolulu Police Department's DNA crime lab is inadequately staffed to handle the demands of a new state law that requires the collection of genetic samples from all convicted felons.").

n52. NIJ Report, supra note 25, at 2-3.

n53. For instance, during the past decade the financial incapacities of our nation's crime labs have been repeatedly exposed. See, e.g., Peter Eisler, Calif.'s Crisis In a Word: O.J.; Labs Point to Case in Their Campaign for More Funding, USA Today, Aug. 22, 1996, at 7A; Crime Labs Get Ignored and Criminals Go Free, USA Today, Aug. 22, 1996, at 12A; Tomas Guillen & Eric Nalder, Overwhelming Evidence - Crime Labs in Crisis, Seattle Times, June 19-22, 1994; Rhonda Cook, Staff Shortage Slows Work at Crime Lab, Atlanta J.-Const., July 30, 2003, at B1; Nancy Lofholm, Funding Cutbacks Add to CBI's Worries, Denver Post, June 9, 2003, at B-01; DNA Crime Labs Await More Money, New Orleans City Business, July 21, 2003.

n54. Crime Lab Modernization, Hearing Before the Senate Judiciary Comm., 107th Cong., May 15, 2001 (statement of Keith Kenneth Coonrod, Director of Toxicology, Drug Chemistry, Trace and Breath Testing, N.Y. State Police) [hereinafter Coonrod testimony]; see also id. (Statement of Michael G. Sheppo, Bureau Chief, Ill. State Police, Div. of Forensic Services).

n55. Perry M. Koussiafes, Public Forensic Laboratory Budget Issues, 6 Forensic Sci. Commc'ns (2004), available at http://www.fbi.gov/hq/lab/fsc/backissu/july2004/research/2004 03 research05.htm.

n56. W. Mark Dale & Wendy S. Becker, A Case Study of Forensic Scientist Turnover, 6 Forensic Sci. Commc'ns (2004), available at http://www.fbi.gov/hq/lab/fsc/backissu/july2004/research/2004 03 research04.htm; see also Paul L. Kirk & Lowell W. Bradford, The Crime Laboratory: Organization and Operation 42 (1965) ("A most important fact that must be considered is that the major cost of every laboratory is salaries.") (emphasis in original).

n57. See NIJ Report, supra note 25, at 2 ("Public crime labs report that they face substantial staff retention problems. Public crime lab salaries are often below the salaries paid by the private sector.").

n58. "It appears that external inequalities in salary represent the most basic reason for ... early departures." W. Mark Dale & Wendy S. Becker, Strategy for Staffing Forensic Scientists, 48 J. Forensic Sci. 465, 466 (2003). See Rosetta, supra note 44 (noting that the Utah Bureau of Forensic Services ("UBFS") experienced a 45% turnover between March 2004 and March 2005 because of low salaries and that the starting salary at the UBFS is $ 28,000); Ellen Perlman, Evidence of Failure, Governing Mag., Apr. 2004, at 39 ("It doesn't help that the starting pay for public lab analysts is $ 37,000 a year, compared with $ 50,000 for similar private-sector positions. When divisions attached to law enforcement fight for scarce dollars within their departments, we get lost in the shuffle.") (quoting Barry Fisher, Director of the Los Angeles County crime lab); Public Safety Chief Cites Salaries in Forensic Labs, Charleston Gazette & Daily Mail (W. Va.), Aug. 5, 2003, at 3A (reporting that the West Virginia State Police crime lab has "a tremendous problem with recruitment and retention" because "salaries averaging in the low $ 30,000 range ... can't compete with other states, the private sector and even the federal government"); Commentary, Pump Up Crime Labs; Legislature, KSP Must Find Money to Meet Demands, Lexington Herald Leader, Oct. 24, 2001, at A12 ("State crime lab personnel are defecting to nearby states to escape Kentucky's low salaries and constant overtime demands."); Meth Cases Add To Strain On Missouri's System of Crime Labs; Low Salaries Lead to High Staff Turnover, St. Louis Post-Dispatch, Sept. 1, 2002, at C8 (noting the low salary and turnover rate with Missouri's crime labs); State Must Boost Funds For Crime Lab, Hattiesburg American, Dec. 8, 2004, at 13A ("Noncompetitive salaries have created a personnel shortage at the [Mississippi State Police crime] lab, which is authorized by the state to employee 100 workers but which currently has only 72."); Laura Barnhardt, Analysis of Crime Samples on Hold; State Police Lab Forced to Stop Processing Trace Evidence; 382 Cases Across Maryland Affected; 3 Analysts Have Left Since April, Officials See Relief Next Month, Balt. Sun, Dec. 8, 2004, at 1B.

n59. According to one Salt Lake City prosecutor, Utah's forensic examiners "are overworked, probably underpaid, and too many of them are leaving ... There is delay in things that are getting done." Rosetta, supra note 44, at (quoting Jerry Campbell, chief of the criminal division of the Salt Lake County District Attorney's Office).

n60. Perlman, supra note 58 (quoting Wendy S. Becker, an assistant professor at the State University of New York at Albany).

n61. See Michael Perlstein, Another New Orleans Murder Case In Jeopardy, Times-Picayune (New Orleans, LA), Mar. 3, 2003, at 1 (discussing how New Orleans' cold-case squad could not reopen a homicide case because "nearly all the evidence was gone," and "samples of DNA had been mistakenly destroyed."); Tasgola Karla Bruner, Detective Accused of Destroying Rape Evidence, Atlanta J.-Const., Apr. 5, 2003, at 3H (discussing how Atlanta investigators "have accused an Atlanta police detective of destroying evidence in an undisclosed number of rape cases").

n62. See Tina Daunt & Steve Berry, LAPD Says Evidence Destroyed, L.A. Times, July 30, 2002, at B1 (noting how the "Los Angeles Police Department accidentally destroyed biological evidence in at least 1,100 sexual assault cases since 1995").

n63. Dale & Becker, supra note 58, at 465. The "forensic science community reports even more acute manpower shortages for the death investigation system. [The National Association of Medical Examiners] reports that the United States requires at least 850 board-certified forensic pathologists, roughly double the current number." Status Report, supra note 25, at 4.

n64. See Dale & Becker, supra note 58, at 465.

n65. See S.C. Selden et al., Human resource practices in state government: Findings from a national survey, 61 Pub. Admin. Rev. 598 (2001); Dale & Becker, supra note 58, at 465.

n66. See Dale & Becker, supra note 56.

n67. See Perry M. Koussiafes, Public Forensic Laboratory Budget Issues, 6 Forensic Sci. Commc'ns 3 (2004), available at http://www.fbi.gov/hq/lab/fsc/backissu/july2004/research/2004 03 research05.htm.

n68. Crime Lab Modernization, Hearing Before the Senate Judiciary Comm., 107th Cong., May 15, 2001 (statement of Senator Orrin G. Hatch).

n69. See Status Report, supra note 25, at 4 ("All member organizations reported equipment shortages as a limiting factor in processing forensic casework."); Crime Lab Modernization, Hearing Before the Senate Judiciary Comm., 107th Cong., May 15, 2001 (statement of Michael T. Yura, Ph.D., Director, West Virginia University Forensic Identification Program) ("As technology has been developed for the processing of evidence, such as fingerprint and DNA evidence, crime labs have not been able to keep up with all of the innovations necessary to provide the public with timely and professional analysis of forensic evidence.").

n70. See Buel testimony, supra note 38.

n71. See Coonrod testimony, supra note 54.

n72. See Status Report, supra note 25, at 6 ("many laboratories are confronted with budgets that are insufficient to meet caseload demands and at the same time support participation in accreditation and certification programs."); Carl M. Selavka, A Scientist's Perspective on Forensic Science, 80 Ind. L.J. 72, 74 (2005) ("Mandatory accreditation would improve [forensic services] ... but raise the overall cost even higher ... It will cost a lot."); Kristen Mack, Accreditation for Crime Lab to Cost $ 1 Million, Hous. Chron., Mar. 9, 2004, at A13 (noting that it will cost the City of Houston $ 1 million to have its beleaguered crime lab accredited).

n73. See Anthony Spangler, New Standards for Crime Labs May Force Some to Close, Fort Worth Star-Telegram, June 15, 2005.

n74. As one lab director expressed: "We have been legislated out of existence ... We are not in the accrediting business. If we did go through the process, we would have had to raise our prices and work slower - spend more time on paperwork." Id. (quoting Max Courtney, who operates Forensic Consultant Services in Fort Worth, Texas).

n75. "Full accreditation opens doors by way of funding we simply can't open now." Editorial, Unaccredited Crime Lab No Reason for Alarm, Argus Leader (Sioux Falls, SD), Sept. 26, 2004, at 12B (quoting South Dakota Attorney General Larry Long).

n76. See Coonrod testimony, supra note 54.

n77. As Barry Fisher, Director of the Los Angeles County crime laboratory, warns, blind testing would "be a very, very difficult and prohibitively costly thing to do." Rorie Sherman, Critics Decry FBI Role; Controls Proposed For DNA Labs, Nat'l L.J., Apr. 19, 1993, at 3; see also Ruth Teichroeb, Produce Lab Error Rates, Some Urge; But Defense Attorneys Would Misuse Data, Scientists Counter, Seattle Post-Intelligencer, July 22, 2004, at A9 (paraphrasing the Director of the Washington State Patrol crime lab system as saying: "blind proficiency tests would be too costly to design and administer.").

n78. See Kenneth E. Melson, President's Message, 33 Acad. News 1, 3 (July 2003) (newsletter for the American Academy of Forensic Science). Medical examiner offices have also endured the negative ramifications associated with poor funding. See Crime Lab Modernization, Hearing Before the Senate Judiciary Comm., 107th Cong., May 15, 2001 (statement of James Claude Upshaw Downs, M.D., Director and Chief Medical Examiner for the Alabama Department of Forensic Sciences). Maurice Nasmeh's case is illustrative. In 2005, prosecutors charged Nasmeh with murdering Jeanine Harms after receiving fiber examination results from Santa Clara County crime lab technician Mark Moriyama. After months of analysis, Moriyama concluded that fibers discovered in Nasmeh's sports-utility vehicle matched the yarn that Harms used to hand weave a rug, and also matched fibers found in a Persian rug that investigators believed Nasmeh used to dispose Harms' body. The case against Nasmeh began to crumble when prosecutors learned that Moriyama failed a proficiency test. Prosecutors subsequently sent the fiber evidence to the California Department of Justice crime lab in Sacramento, which allegedly supported Moriyama's findings. However, when Nasmeh's attorney sent the fibers to David M. Hall, an Auburn University professor of textile engineering, Dr. Hall concluded that the California crime labs used "antiquated" equipment to test the fibers, and that had the labs used his up-to-date technology, "it would have been obvious that there is no fiber evidence that links Mr. Nasmeh to this incident." In June 2007, Dr. Hall's results played a role in the prosecution's decision to dismiss charges against Nasmeh; prosecutors informed the trial judge they needed "another year to conduct extensive re-examination of the fiber evidence." Fredric N. Tulsky & Connie Skiptares, Freed Suspect Speaks of Injustice; Nasmeh Describes Night With Harms, San Jose Mercury News, June 30, 2007, at 1A.

n79. Moore v. Parker, 425 F.3d 250, 269 (6th Cir. 2005) (Boyce, J., dissenting).

n80. Barry C. Scheck, The Need For Independent Forensic Audits Now, 28 The Champion, Oct. 2004, at 4.

n81. For instance, Milton E. Nix, Director of the Georgia Bureau of Investigation's crime lab, recently told Congress: "You may find this an unusual statement, but I am in total agreement with the National Association of Defense Attorneys when it comes to quality and accuracy of crime lab examinations and analysis." Crime Lab Modernization, Hearing Before the Senate Judiciary Comm., 107th Cong., May 15, 2001. Similarly, Barry Fisher, Director of the Los Angeles County crime lab, made the following comment regarding the lack of crime lab oversight: "I don't think anyone can tell you what's really going on [in the nation's crime laboratories] ... The truth is, we don't know." Judith Graham, Crime Labs Contaminate Justice; Poor Science, Quality Control Jailing Innocents, Chi. Trib., June 21, 2001, at 10.

n82. See Cal. Bureau of State Audits, Forensic Laboratories: Many Face Challenges Beyond Accreditation to Assure the Highest Quality Services 2-7 (1998), available at http://www.bsa.ca.gov/bsa/pdfs/97025.pdf (discussing the numerous fiscal problems hindering California's crime laboratories).

n83. See Report of the State Auditors, Colo. Bureau of Investigation Department of Public Safety: Performance Audit 11-13 (July 2003), available at http://www.state.co.us/gov dir/audit dir/2004/2004perf/1519.pdf (discussing, inter alia, poor quality control systems, inadequate proficiency testing, and outdated equipment as a result of poor funding at the Colorado Bureau of Investigation crime labs).

n84. See Buel testimony, supra note 38 (noting that the building in which Vermont's crime lab is housed was not designed for a crime lab, and thus does not have adequate space, proper ventilation, and environmentally controlled rooms).

n85. See Steve McVicker, More DPS Labs Flawed; DNA Testing Woes Across State Threaten Thousands of Cases, Hous. Chron., Mar. 28, 2004, at A1 (revealing undertrained DNA analysts, flawed DNA reports, possible blood sample cross-contamination, and inadequate security programs at the Texas Department of Public Safety crime laboratories).

n86. See Denna Boyd, Lab Inquiry Finds Flaws But No Injustices, Star-Telegram (Fort Worth, Texas) Nov. 27, 2005, at B1 (discussing a two-year investigation that was launched due to systemic problems within the Fort Worth Police Department ("FWPD") crime lab's DNA section; the Tarrant County District Attorney's Office found pervasive problems in the lab's serology and DNA units, as well as unscientific practices in the lab's chemistry and firearms units).

n87. See Maurice Possley & Steve Mills, Crime Lab Disorganized, Reports Says, Chi. Trib., Jan. 15, 2001, at 1 (paraphrasing Harris' report and depicting disorganization, poor supervision, improper procedures and performance standards, and inadequate and ill-trained staff).

n88. See David Josar, Space Crunch Hampers Lab Work; Evidence is Stacked in Boxes, Freezer is Full as Detroit's Technicians Attempt to Analyze Data, Detroit News, Apr. 21, 2005, at 8C (discussing how the Detroit Police Department crime lab is severely hampered by space limitations, electrical problems, and is housed in a former elementary school).

n89. See Needs Assessment of Forensic Laboratory Services in the State of Rhode Island (May 2001), available at http://www.rijustice.ri.gov/sac/Reports/NFSTC%20Report.pdf (discussing a laundry list of problems, including poor funding, inadequate facilities, improperly calibrated and maintained instruments, and insufficient training program).

n90. See Ruth Teichroeb, Oversight of Crime-Lab Staff Has Often Been Lax, Seattle Post-Intelligencer, July 23, 2004, at A1 (noting that Washington State crime lab administrators are unable or unwilling to address several problems associated with their crime labs, particularly examiner incompetence).

n91. See Office of the Inspector General, The FBI DNA Laboratory: A Review of Protocol and Practice Vulnerabilities i (May 2004) (discussing how Jacqueline Blake, a DNA analyst for the FBI crime lab, repeatedly falsified reports for more than two years) [hereinafter OIG Report].

n92. While the author is not accusing Council Members of purposely disregarding the apparent problems which currently infect the Massachusetts forensic institutions, he finds it hard to believe that Council Members did not address the depth and scope of these problems in their report, especially when one considers that Dr. Selavka, who heads and oversees the Massachusetts crime lab system, served as a Council Member. This fact leads the author to believe that a team of independent forensic consultants, rather than simply Dr. Selavka and Dr. Henry Lee, should have evaluated the status and proficiency of Massachusetts' forensic institutions before Council Members proposed their forensic science related recommendations.

n93. Jose Martinez, Bay State Crime Labs in Dire Straits; Report: State Crime Labs Underfunded, Overworked, Boston Herald, Apr. 15, 2002, at 1.

n94. Id. (quoting National Forensic Science Technology Center, Needs Assessment of Forensic Services (Apr. 2002)). With respect to the funding issue, fellow Council Member, U.S. Attorney Michael Sullivan, had

this to say: "Recent cases have made clear the need for adequate staffing and funding at the Massachusetts State Police crime lab." Department of Justice Awards $ 500,000 to Massachusetts State Police to Solve 'Cold Cases,' Reports U.S. Attorney, PR Newswire US, Apr. 28, 2005. Likewise, Katie Ford, a spokeswoman for the Executive Office of Public Safety, had this to say: "We are the first to acknowledge the crime lab lacks the capacity to process evidence at the speed the police and public would like ... It is why we're seeking more funding." Michele McPhee & Tom Mashberg, Crime Lab Backlog Snarled DNA Probe, Boston Globe, Apr. 16, 2005, at 5.

n95. Martinez, supra note 93.

n96. Id.

n97. Id.

n98. Id.

n99. Id.

n100. Id.

n101. See Jennifer Rosinski, DNA Evidence in Slaying Tainted at State Crime Lab, Boston Herald, May 18, 2005, at 23. This is not an uncommon event in crime labs. See, e.g., Ken Armstrong & Steve Mills, DNA Sample Error Puts Case on Line, Lab on Spot, Chi. Trib., July 27, 1999, at 1 (presenting a similar mishap at the Illinois State Police crime lab).

n102. See David Weber, Crime Lab Administrator Suspended for Withholding DNA Evidence, AP Wire, Jan. 13, 2007.

n103. Office of Inspector General, Compliance with Standards Governing Combined DNA Index System Activities at the Massachusetts State Police Crime Laboratory, Sudbury, Massachusetts (Sept. 2006), available at http://www.usdoj.gov/oig/grants/g7006012.htm. See also Jonathan Saltzman, US Audit Found More Problems at Crime Lab, Boston Globe, Feb. 1, 2007, at A1.

n104. Id.

n105. Id.

n106. Id.

n107. Id.

n108. Id.

n109. See Jonathan Saltzman, Director of Crime Lab Quits Post: State Police Facility's Work is Under Fire, Boston Globe, Mar. 10, 2007, at A1.

n110. Id. Shortly before this Article went to publication, LaDonna J. Hatton, the Undersecretary of Forensic Science for the Massachusetts Department of Public Safety, resigned. Governor Romney appointed Hatton in

2005 to fix the numerous problems associated with the State Police crime labs and the Medical Examiner's Office. Hatton stated: "There are still many challenges facing the [office of chief medical examiner] and crime lab, but with strong support from [government officials], the important changes that have been identified will be made." Responding to Hatton's resignation, Geline W. Williams, Executive Director of the Massachusetts District Attorney's Association, said: "The record is clear that the state's forensic services across the board were neglected for almost two decades ... You can't turn that around overnight." Jonathan Saltzman, Forensic Chief Exists as Probes Continued; Appointed in '05 to Fix 2 Agencies, Boston Globe, June 27, 2007, at A1.

n111. Memoranda from Bennett Yarger Associates to potential Commonwealth of Mass. Chief Medical Examiner candidates (2004), available at http://www.bennettyarger.com/pdf/cmo. pdf [hereinafter BYA Report]. The Executive Office of Public Safety and the Commission on Medicolegal Investigations of Massachusetts retained BYA to recruit a new Chief Medical Examiner for the OCME. To better prepare for their recruitment, BYA summarized the four previous reports and conducted its own assessment of the OCME.

n112. Id. at 3.

n113. Id.

n114. Id. at 4.

n115. Id.

n116. See id. at 2-3. The National Forensic Science Technology Center report also emphasized that the "worst offender in the [Massachusetts forensic] system is the Office of the Chief Medical Examiner in Boston, where budget woes routinely force pathologists to cut corners, including conducting external exams instead of full autopsies in about 25% of cases, the report states." Martinez, supra note 93. In April 2007, the medical examiner's office misplaced Thomas E. Brissette's body for ten days. The State Police found Brissette's body interred in a cemetery under the name of another deceased individual, whose corpse was located in May 2007 in storage at the medical examiner's headquarters in Boston. Governor Deval Patrick suspended Chief Medical Examiner Dr. Mark A. Flomenbaun after Flomenbaun informed Patrick of the mistake. Governor Romney hired Flomenbaun in early 2005 "to fix what was widely regarded as one of the worst state medical examiner's offices in the country[.]" Dr. Bieber agreed to serve temporarily as chief executive officer of the medical examiner's office. See Jonathan Saltzman & Franci R. Ellement, Lost Body Recovered By State Police: Missing From Medical Examiner's Office, Boston Globe, May 5, 2007, at A1. In June 2007, Public Safety Secretary Kevin M. Burke restricted the work of Dr. William M. Zane after an error by Zane forced prosecutors to downgrade murder charges against twin brothers. In 2005, Zane concluded that the victim died of a brain injury as a result of a beating by the brothers. Zane's conclusion prompted prosecutors to charge the brothers with murder. In May 2007, however, Zane admitted he erred in his analysis, which forced prosecutors to reduce the charges to manslaughter. In June 2007, a jury convicted the brothers of manslaughter. See Jonathan Saltzman, State Orders Pathologist Off Autopsy Duty: Error in Slay Cases Altered Charges, Boston Globe, June 2007, at B2.

n117. See Suzanne Smalley, Police Shutter Print Unit; Identification Error, Critical Report Cited, Boston Globe, Oct. 14, 2004, at B1.

n118. Id. According to Massachusetts Attorney General Thomas Reilly, the fingerprint misidentification "wasn't even close ... this was no simple mistake." Ralph Ranalli, Reilly Won't Charge Two Police Analysts, Boston Globe, June 25, 2004, at B8. Reilly added: "Science is not an issue in this case. What we know is that there is a right way to do this and the right way was not followed." Franci Richardson, O'Toole Eyes Penalty vs. Print Technician, Boston Herald, June 25, 2004, at 10. The two examiners - Rosemary McLaughlin and Dennis Leblanc - were the subject of a grand jury investigation assembled by Attorney General Reilly. After a four-month investigation, Reilly decided not to bring charges. See Ranalli, supra.

n119. Smalley, supra note 117 (quoting Kathleen M. O'Toole). The audit report reinforced Commissioner O'Toole's comments, which highlighted the unit's lack of properly trained examiners. See Franci Richardson, Report: Hub Fingerprint Lab Techs Need Better Training, Boston Herald, Oct. 23, 2004, at 16.

n120. Maggie Mulvihill and Franci Richardson, Unfit Cops Put In Key Evidence Unit: Fingerprint Handlers Were All Thumbs, Boston Herald, May 7, 2004, at 2.

n121. David S. Bernstein, Bad Ballistics: Hundreds of People Have Gone to Prison on the Word of Boston's Untrained, Unqualified, Unskilled Firearms Examiners, Boston Phoenix, Oct. 7-13, 2005.

n122. Id. See supra notes 112-16 and accompanying text. Note that issues concerning the Boston Police Department Ballistics Unit are comparable to the issues regarding the Massachusetts Office of the Chief Medical Examiner.

n123. Id. (Apprenticeship was described as "tagging along for a year with a senior ballistician who learned the same way from someone else who learned the same way. If any bad habits or low standards got into the mix, nothing prevented them from being passed down for 40 years.").

n124. Id.

n125. Id.

n126. Id.

n127. Bernstein, supra note 121.

n128. Id.

n129. Id. State and federal judges have recently criticized BPD firearms examiners for their lack of training, poor documentation, and questionable testimony. See United States v. Monteiro, 407 F. Supp. 2d 351 (D. Mass. 2006); United States v. Green, 405 F. Supp. 2d 104 (D. Mass. 2005); Commonwealth v. Meeks, 2006 WL 2819423 (Mass. Super. Ct. Sept. 28, 2006).

n130. Griffith v. Dretke, 2005 WL 2372044, at 12 (S.D. Tex. Sept. 27, 2005).

n131. Steve McVicker & Roma Khanna, House Hearings on HPD Crime Lab to Focus on Audit, Hous. Chron., Mar. 3, 2003, at A15.

n132. See Peggy O'Hara, HPD to Review Crime Lab's Work; Investigation by Channel 11 Questioned Whether Errors Led to Jailing of Innocent, Hous. Chron., Nov. 16, 2002, at A1.

n133. FBI, Audit of DNA/Serology Section - Houston PD Crime Lab (Jan. 22, 2003), available at http://www.scientific.org/archive/Audit%20Document - Houston.pdf [hereinafter Houston Audit].

n134. Id. at 9-10.

n135. Id. at 11-13.

n136. Id.

n137. Id. at 13-22.

n138. See id.

n139. Houston Audit, supra note 133, at 13-22.

n140. Id. at 14-15.

n141. Id. at 17-18.

n142. Id. at 17.

n143. Id. at 22.

n144. Id. at 24.

n145. See Houston Audit, supra note 133. To "validate" an instrument is to assess whether it can accurately perform the task it was intended to perform - i.e., whether a gas chromatography can accurately identify and measure the different chemical substances from a liquid sample recovered from a suspicious fire.

n146. Id. at 25.

n147. Michael R. Bromwich, First Report of the Independent Investigator for the Houston Police Department Crime Laboratory and Property Room 6 (Apr. 29, 2005), available at www.hpdlabinvestigation.org.

n148. See Michael R. Bromwich, Second Report of the Independent Investigator for the Houston Police Department Crime Laboratory and Property Room 8 (May 31, 2005), available at www.hpdlabinvestigation.org.

n149. Id. at 9.

n150. Id.

n151. Id.

n152. Id.

n153. To the layman, drylabbing is "the most egregious form of scientific misconduct that can occur in a forensic science laboratory" because it is the "fabrication of scientific results." Id. at 12. In the independent investigator's fourth report, auditors identified "another potential drylabbing incident" perpetrated by Patel. See infra note 154, at 9. While Price resigned in March 2001, Patel only received a three-day suspension after his second drylabbing incident. Id. at 13. Patel's initial drylabbing incident resulted in a written reprimand. Patel was still gainfully employed when word broke of his misconduct in May 2005. Despite being aware of these drylabbing

incidences, the HPD failed to re-evaluate the hundreds of cases handled by Patel. Patel resigned in June 2005 after the City Council's Public Safety and Homeland Security Committee called for his immediate firing. See Steve McVicker, HPD Admits It Failed to Review Suspect Lab Work; Report Alleges Hundreds of Cases were Ignored for 'Reasons Unknown', Hous. Chron., June 2, 2005, at B1.

n154. See Michael R. Bromwich, Fourth Report of the Independent Investigator for the Houston Police Department Crime Laboratory and Property Room 81 (Jan. 4, 2006), available at www.hpdlabinvestigation.org.

n155. Id., Executive Summary, at 4.

n156. Id.

n157. Id.

n158. See id. at 24-29 (discussing Dwight Riser's and Charles Hodge's cases).

n159. Id. at 34.

n160. Bromwich, Fourth Report, supra note 154, at 34.

n161. Id.

n162. Id.

n163. Michael R. Bromwich, Fifth Report of the Independent Investigator for the Houston Police Department Crime Laboratory and Property Room, Executive Summary, at 2 (May 11, 2006), available at www.hpdlabinvestigation.org.

n164. Id.

n165. Id., Executive Summary, at 4.

n166. Id. at 4, 20.

n167. Id. at 4.

n168. Id. at 33-34.

n169. Bromwich, Fifth Report, supra note 163, Executive Summary, at 5.

n170. Id. Auditors were not sure if this was because of incompetence or because of "a more sinister manipulation of analytical results." Id. at 6.

n171. Id. at 41.

n172. Id. at 43.

n173. Id. at 55.

n174. Id., Executive Summary, at 11. Shortly before this Article went to publication, the independent auditor released his final, 403-page report which identified and listed additional problems, questionable cases, and numerous recommendations. See Michael R. Bromwich, Final Report of the Independent Investigator for the Houston Police Department Crime Laboratory and Property Room (June 13, 2007). In particular, the final report identified three cases - Leroy Lewis, Ronald Cantrell, and Lawrence Napper - where new DNA "tests have discredited the lab's work, eliminating the men as contributors to the biological samples from the crimes or greatly reducing the statistical link between them and the evidence." Roma Khanna & Steve McVicker, 'Troubling' Cases Surface in Report on HPD Crime Lab: 1991 Conviction for Rape, Murder Has Drawn the Most Concern, Hous. Chron., June 17, 2007, at A1.

n175. See Eric M. Freedman, Earl Washington's Ordeal, 29 Hofstra L. Rev. 1089 (2001), for a comprehensive summary of Earl Washington's case.

n176. See Am. Soc'y of Crime Lab. Dir. / Lab. Accreditation Bd., ASCLD/LAB Limited Scope Interim Inspection Report of the Commonwealth of Virginia Division of Forensic Science Central Laboratory 15-16 (Apr. 2005), available at http://www.scientific. org/archive/VirginiaProblems/ASCLDLAB-AuditReport.pdf [hereinafter Virginia Inspection].

n177. See id. at 13.

n178. See id. at 9, 11.

n179. Id. at 7-8.

n180. Id.

n181. Id. at 14.

n182. Virginia Inspection, supra note 176, at 15-16.

n183. Id. at 17.

n184. Id. at 18.

n185. Id. at 17.

n186. See Maurice Possley et al., Scandal Touches Even Elite Labs; Flawed Work, Resistance to Scrutiny Seen Across U.S., Chi. Trib., Oct. 21, 2004, at A1 (quoting Ferrara as saying: "I'm not going to admit error when there is none ... As far as we're concerned, there is no error at all except in the minds of [critics] ... When you are on the top of the heap, you are going to have someone trying to knock you down.").

n187. When presented with ASCLD's report, Ferrara responded: "The Division of Forensic Science is gratified that the audit report does not suggest any evidence of a systemic deficiency." A Reform Agenda for State

Crime Lab. Virginian-Pilot (Norfolk, Va.), May 11, 2005, at B8. A spokesman for former Virginia Attorney General Jerry Kilgore repeated Ferrara's claim: "we are gratified that the audit does not find a systemic deficiency within the forensic lab, therefore this appears to be an isolated incident." Id. This reasoning, however, is flawed because it is akin to having a biopsy come back identifying cancer and then proclaiming the isolated results mean the rest of the body is cancer-free.

n188. See Christina Nuckols, DNA Lab Review Finds Only One Major Error, Virginian-Pilot (Norfolk, Va.), Sept. 17, 2005, at B3.

n189. Id.

n190. Id.

n191. Id.

n192. People v. Wesley, 533 N.Y.S.2d 643, 644 (N.Y. Sup. Ct. 1988). As Peter Neufeld, a lawyer for Mr. Washington and co-director of the Innocence Project, explained: "This laboratory touts itself as the best state lab in the country, yet it generated these wrong test results in a capital case twice ... This case raises very serious questions about the legitimacy of the capital justice system." James Dao, Lab's Errors in '82 Killing Force Review of Virginia DNA Cases, N.Y. Times, May 7, 2005, at A1.

n193. State v. Clifford, 121 P.3d 489, 503-04 (Mont. 2005) (Nelson, J., concurring) (quoting Jennifer L. Mnookin, Scripting Expertise: The History of Handwriting Identification Evidence and the Judicial Construction of Reliability, 87 Va. L. Rev. 1723, 1726 (2005)).

n194. There "are two kinds of forensic science: On the one hand, there are normal applications of basic science. On the other hand, there is individualization science, or identification science." Michael J. Saks, Banishing Ipse Dixit: The Impact of Kumho Tire on Forensic Identification Science, 57 Wash. & Lee L. Rev. 879, 881 (2000). The former branch simply concerns categorizing physical evidence. See id.

n195. See Keith Inman & Norah Rudin, Principles and Practice of Criminalistics: The Profession of Forensic Science 123-24 (2000). The origins of this theory can be traced back to the nineteenth century social-statistician Adolph Quetelet. Quetelet, who is better known as the father of descriptive social statistics, theorized that it would be statistically impossible for nature to ever duplicate itself. See Jurgen Thorwald, The Century of the Detective 9 (1965); Henry T.F. Rhodes, Alphonse Bertillon: Father of Scientific Detection 17 (1956).

n196. See United States v. Green, 405 F. Supp. 2d 104, 107 (D. Mass. 2005) (firearms examiner testified that he could identify a firearm "to the exclusion of every other firearm in the world"); Ramirez v. State, 810 So. 2d 836, 840-41 (Fla. 2001) (toolmark examiner testified that he could identify a knife to the exclusion of all others); Commonwealth v. Meeks, 2006 WL 2819423, at 1 n.5 (Mass. Super. Ct. Sept. 28, 2006) ("Another underlying premise of firearms examinations is that firearms examiners can examine those striations under the comparison microscope and identify or eliminate the spent bullet as having been fired from a specific firearm.").

n197. See Richard T. Oatess, Elbow Print Identification, 50 J. Forensic Identification 132 (2000) (Indiana State Police fingerprint examiner claiming to be able to individualize an elbow print to a particular suspect).

n198. See State v. Kunze, 988 P.2d 977 (Wash. Ct. App. 1999) (reversible error to admit ear print identification evidence); Christophe Champod et al., Earmarks as Evidence: A Critical Review, 46 J. Forensic Sci. 1275 (2001).

n199. See People v. Davis, 710 N.E.2d 1251, 1257-59 (Ill. App. Ct. 1999) (lip prints are an admissible form of forensic evidence in Illinois).

n200. Out of the 2,695,269 new cases that publicly funded crime labs received in 2002, only 2% (or just under 61,000 requests) were for DNA testing. See BJS Report, supra note 43, at 5-6.

n201. Professor Joseph Peterson, one of forensic science's most well respected scholars, conceded that "DNA is rarely culled from the crime scenes and analyzed." Peterson added that today's crime scenes "are much like they were in the 1970s ... when ... studies found that fingerprints and toolmarks were the most common type of evidence left at crime scenes." Roane, supra note 35, at 48; See also Hearing Before the Senate Judiciary Comm., Subcomm. on Funding Forensic Sciences: DNA and Beyond, 108th Cong., July 31, 2003, available at http://judiciary.senate.gov/testimony.cfm?id=886&wit id=2494 (testimony of Dr. Michael Baden); Protecting the Innocent: Ensuring Competent Counsel in Death Penalty Cases, 107th Cong., June 27, 2001 (Prepared Testimony of Rep. William D. Delahunt of Massachusetts before the Senate Judiciary Committee); National Public Radio, Expanding Criminal DNA Databases, Talk of the Nation, Nov. 5, 2004 (quoting criminal defense attorney and Co-Director of the Innocence Project, Peter Neufeld); Ronald J. Tabak, Finality Without Fairness: Why We Are Moving Towards Moratoria on Executions, and the Potential Abolition of Capital Punishment, 33 Conn. L. Rev. 733, 735 (2001). Suffolk County (Massachusetts) District Attorney, Daniel Conley, had this to say about the prevalence of physical evidence in general: "Jurors today, whether here in Suffolk County or across the country, are conditioned to expect that in every case there's going to be forensic or trace evidence or blood or DNA ... The vast majority of cases lack forensic evidence." Jonathan Saltzman & John Ellement, Jurors Seen As Reluctant To Convict; Skepticism Plagues Suffolk Prosecutors, Boston Globe, Nov. 12, 2004, at B1 (emphasis added). Joshua Marquis, an Oregon prosecutor, made these comments after a Los Angeles County jury acquitted [the actor] Robert Blake of murder: "[The Blake jurors] seemed very dismissive of circumstantial evidence ... Well guess what? In most cases ... you don't have physical evidence." Andrew Blankstein & Jean Guccione, 'CSI Effect' Hinted By Blake Jurors; Juries More Demanding of Evidence, Pittsburgh Post-Gazette, Mar. 20, 2005, at A14.

n202. For example, of the 124 individuals who have been released from death row since 1973, DNA played a significant part in only fifteen cases. See www.deathpenaltyinfo.org/article.php? scid=6&did=110 (last visited Aug. 5, 2007). See also James S. Liebman, Comment, The New Death Penalty Debate: What's DNA Got To Do With It?, 33 Colum. Hum. Rts. L. Rev. 527, 541 (2002).

n203. See Death Penalty Info. Ctr. Fact Sheet, supra note 7, available at www.deathpenaltyinfo.org/article.php?scid=10&did=144 (last visited at Apr. 15, 2007).

n204. Former prosecutor and United States Congressman William Delahunt made the following comment to the Senate Judiciary Committee in June 2001, in support of a death penalty reform bill containing reforms going beyond better access to post-conviction DNA testing:

DNA is the spotlight that has enabled us to focus on this problem with our criminal justice system. And our bill would help ensure that defendants have access to testing in every appropriate case. But we should be under no illusion that by granting access to DNA testing we are solving that problem. DNA is not a panacea for the frailties of the justice system. To suggest otherwise would be tantamount to fraud - particularly when, in the vast majority of cases, biological evidence that can be tested does not even exist.

Protecting the Innocent: Ensuring Competent Counsel in Death Penalty Cases, 107th Cong., June 27, 2001 (Prepared Testimony of Rep. William D. Delahunt of Massachusetts before the Senate Judiciary Committee).

n205. This is noteworthy because DNA is the only forensic technique that can provide the "high level of scientific certainty" needed to secure a death sentence. Dr. Henry C. Lee, a Council member, conceded this when he and his colleagues wrote: "For most kinds of physical evidence, individualization is an as-yet unrealized objective." Peter R. De Forest et al., Forensic Science: An Introduction to Criminalistics 22 (1983). Legendary forensic scientist, Paul L. Kirk, said pretty much the same thing when he wrote: "Too much cannot now be expected of criminalistics as an exact science." Paul L. Kirk, Criminalistics, in Forensic Science: Scientific Investigation in Criminal Justice 112 (Joseph L. Peterson ed. 1975). See also Andrea A. Moenssens, Handwriting Identification Evidence in the Post-Daubert World, 66 UMKC L. Rev. 251, 253 (1997) ("Even though many of its practitioners who are employed in governmental agencies are officially classified as being 'forensic scientists' as a matter of job title, handwriting identification, like many of the traditionally recognized forensic 'sciences,' makes no pretense to be an exact science.").

n206. Council members, hypothetically, could have gone further and restricted the death penalty to only those offenses where the defendant is conclusively linked by DNA. If this were the case, however, then Governor Romney's suggestion that the death penalty be employed against only the "worst of the worst" would be a gross misrepresentation, as the death penalty would be inflicted in a miniscule number of cases. Even if one were to totally disregard this consideration, one must seriously ponder whether the Council member's suggested death penalty statute adheres to the constitutional principle that death should be premised on the defendant's moral culpability and the circumstances surrounding the capital offense. See Eddings v. Oklahoma, 455 U.S. 104, 117-19 (1982) (O'Connor, J., concurring); Woodson v. North Carolina, 428 U.S. 280, 304-05 (1976). While the Council Member's report identifies a very narrow list of death-worthy offenses, death cannot be imposed unless there is "conclusive scientific evidence" associating the defendant to the crime scene or the victim. Under this directive, determining who lives and who dies in effect turns not on a defendant's moral culpability or the crime's heinousness, but on the type of evidence left behind and collected at the crime scene. For instance, depending on the local jurisdiction's forensic and crime scene capabilities, two capital defendants, who are equally blameworthy, may receive different sentences simply because one jurisdiction's crime scene investigators or forensic personnel are ill-equipped or poorly trained to identify, collect, and evaluate physical evidence. As this Article establishes, this scenario is not that far fetched given the numerous inadequacies which plague our nation's crime labs. This seemingly arbitrary demarcation between who lives and who dies calls into question the proposed statute's constitutionality under Furman v. Georgia, 408 U.S. 238 (1972), and Gregg v. Georgia, 428 U.S. 153 (1976).

n207. James E. Starrs, The Lessons of Forensic Historiography - Retrospective Prophesing, 27 Sci. Sleuthing Rev. 1, 1 (Winter 2005). Wendy Murphy, a former Boston prosecutor, echoed Professor Starrs' concerns: "DNA is a very important tool that tells us the truth about one thing. It tells us who was at the scene of the crime. And in this case, it absolutely tells us Mr. Ruffner was involved, did rape and kill this child. I don't doubt that for a minute. What I think we have to be careful about is thinking that just because there is DNA at a crime scene that that tells us the whole picture ... what I'm worried about is that we're going to overemphasize the value of DNA as the thing that tells us the truth about an entire criminal episode. It just doesn't do that." Larry King Live: Interview with Kirk Bloodsworth (CNN television broadcast July 21, 2005), available at http://transcripts.cnn.com/TRANSCRIPTS/0507/21/lkl.01.html.

n208. The recent mishaps, miscalculations, and contamination issues at crime labs across the country clearly reinforce this reality. See Armstrong & Mills, supra note 101 (discussing a contamination case at the Illinois State Police crime lab); Susan Carroll & Carol Sowers, DNA Flaws Called Unlikely to Jeopardize Police Cases, Ariz. Rep., May 7, 2003, at 1B (discussing DNA miscalculations at the Phoenix crime lab); Paula McMahon, Crime Lab Botches Murder Inquiry; Prosecutors Must Drop Charges After DNA Evidence Is Contaminated, Sun-Sentinel (Fort Lauderdale, Fla.), June 24, 2003, at 1A (discussing a DNA error at the Broward County, Florida crime lab); Keith Paul, Audit Calls for Changes in Police DNA Lab, Las Vegas Sun, May 23, 2002, at 1 (discussing how a mislabeled blood sample led to an innocent person's arrest); William C. Thompson et al., How the Probability of a False Positive Affects the Value of DNA Evidence, 48 J. Forensic Sci. 47 (2003) (describing how the Philadelphia crime lab inadvertently switched DNA samples of a defendant and victim in a 1999 rape

case); Teichroeb, supra note 77 (discussing DNA errors at the Washington State Patrol crime labs); Phoebe Zerwick, Lab Work Suppressed; Trial on Hold, Defendant Out on Bond, SBI on Defensive, Winston-Salem J., Aug. 29, 2005, at A6; Phoebe Zerwick, DNA Mislabeled in Murder Case, Winston-Salem J., Aug. 28, 2005, at A1; Phoebe Zerwick, State Crime Lab Is Faulted; Lawyers' Group Calls For Probe, Cites DNA Errors In Three Cases, Winston-Salem J., July 20, 2005, at A1; Protocol Problems Found At Sacramento Crime Lab; One Technician Has Resigned After Accusations, KCRA.com, Aug. 30, 2006, available at, www.kcra.com/news/9764158/detail.html (discussing how a Sacramento County crime lab DNA analyst resigned after accusations he failed to follow proper procedures while handling forty-five DNA samples); Annie Sweeney & Frank Main, Botched DNA Report Falsely Implicates Woman; Case Compels State to Change How it Reports Lab Findings, Chi. Sun-Times, Nov. 8, 2004, at 18 (noting how a botched DNA report led to Diana Myers' wrongful arrest).

n209. William C. Thompson & Dan E. Krane, DNA in the Courtroom, in Psychological & Scientific Evidence in Criminal Trials § 11:38 at 11-63 (Jane C. Moriarty ed. 2004). As federal district Judge Jed Rakoff, recently conceded: "Even the 'gold standard' of forensic testing, DNA tests, may, because of human error, prove fallible." United States v. Bentham, 414 F. Supp. 2d 472, 473 (S.D.N.Y. 2006).

n210. Mark Hanson, The Uncertain Science of Evidence: Some Testimony from Expert Witnesses in Criminal Trials is Having Trouble Standing Up to Tougher Scrutiny from the Courts, ABA J. (July 2005), at 48, 50 (quoting Paul C. Giannelli, a law professor at Case Western Reserve University).

n211. See generally Thorwald, supra note 195 (discussing the history of forensic science).

n212. As the author's former law professor, Edward Cheng, insightfully noted: "Because the scientific community developed DNA typing, DNA evidence comes pre-packaged with all the indicia of scientific reliability: population statistics, pre-defined and pre-tested procedural standards, and known error rates." Edward K. Cheng, Reenvisioning Law Through the DNA Lens, 60 N.Y.U. Ann. Surv. Am. L. 649, 649 (2005).

n213. See Michael L. Baird, DNA Profiling: Laboratory Methods, in 1 Modern Scientific Evidence: The Law and Science of Expert Testimony 16-1.0 (David L. Faigman, David H. Kaye, Michael J. Saks & Joseph Sanders eds., 1997) ("Because each person's DNA is unique and inherited from the biological parents, methods that examine DNA for differences are highly informative for establishing identity and lineage. Differences resulting from insertions, deletions, or sequence changes in the DNA molecule can be identified.").

n214. Michael J. Saks & Jonathan J. Koehler, What DNA "Fingerprinting" Can Teach the Law About the Rest of Forensic Science, 13 Cardozo L. Rev. 361, 363 (1991).

n215. See Norah Inman & Keith Rudin, An Introduction to Forensic DNA Analysis (2d ed. 2001).

n216. See United States v. Green, 405 F. Supp. 2d 104, 109 n.7 (D. Mass. 2005) ("the [firearms] 'field' consists entirely of individuals who work for law enforcement agencies. In contrast, the DNA-typing 'field' involves neutral academics as well as law enforcement personnel.").

n217. See Michael J. Saks, Merlin and Solomon: Lessons from the Law's Formative Encounters with Forensic Identification Science, 49 Hastings L.J. 1069, 1084 (1998) ("No articulated theory exists that explains why unique identifiability must be the order of the universe.").

n218. See infra Part II.C.1 (discussing this issue in more depth).

n219. See Saks, supra note 217, at n.110.

n220. Moreover, the concept of individualization is of no interest to other scientific community. See John I. Thornton & Joseph L. Peterson, The General Assumptions and Rationale of Forensic Identification, in Science in the Law: Forensic Science Issues, § 1.30 at 8 (David L. Faigman et al. eds. 2002); Henry C. Lee, Forensic Science and the Law, 25 Conn. L. Rev. 1117, 1121 (1993) ("Individualization is unique to forensic science.").

n221. See Saks & Koehler, supra note 214, at 370. For instance, a well-respected forensic scientist noted: "From a statistical viewpoint, the scientific foundation for fingerprint individuality is incredibly weak." David A. Stoney, Measurement of Fingerprint Individuality, in Advances in Fingerprint Technology 327, 383 (Henry C. Lee & Robert E. Gaensslen eds., 2d ed. 2001). The realization that many forensic fields lack statistical research to substantiate their claims is far from novel. See Charles E. O'Hara & James W. Osterburg, An Introduction to Criminalistics: The Application of the Physical Sciences to the Detection of Crime 669 (1949) (besides fingerprint examiners, "experts in other branches of police science ... [do] not enjoy access to so large a mass of data. Usually [they] must rely upon [their] own experience.").

n222. As Professor Koehler explained: "In DNA, we say, Here are the chances of a match, and here is the frequency with which we make an error." By contrast, "a ballistics expert might say, in effect, 'It's a match. This bullet came through this gun. I know because I'm the world's top expert.'" Rick Casey, It's a Crime When Science Gets it Wrong, Hous. Chron., Sept. 18, 2005, at B1 (quoting Jonathon J. Koehler, a University Distinguished Teaching Professor of statistics at the University of Texas' McCombs School of Business).

n223. See Peter Donnelly & Richard D. Friedman, DNA Database Searches and the Legal Consumption of Scientific Evidence, 97 Mich. L. Rev. 931 (1999).

n224. Data dredging is the antithesis of the scientific method because the examiner starts with a conclusion and then trawls through the evidence to find data which supports his or her conclusion (or desired outcome). As forensic expert, Gil Sapir, commented: "All too often the [crime] laboratory [examiner] states a conclusion, then gets data to support it after being challenged, thereby supplying the facts post hoc." Sapir, supra note 32, at 35 n.40.

n225. See infra Part II.D.2 (discussing the lack of standards in forensic science).

n226. See infra Part II.D.4 (discussing the subjectiveness of forensic examinations).

n227. According to Dr. Bieber, the "same techniques that [crime labs] apply in the investigation of serious criminal acts are used everyday ... in the hospital to determine what patients gets what bone marrow sample for treatment of leukemia or lymphoma." Symposium: Panel Three: The Role of Scientific Evidence: The Massachusetts Governor's Council Report, 80 Ind. L.J. 69, 85 (2005) (open discussion for Panel Three - The Role of Scientific Evidence).

n228. For instance, it cannot be reasonably argued that individualizing a suspected bite mark to the one and only person who could have deposited the bite mark is the same thing as determining whether two sets of complete dental records match. In the former, a forensic dentist must not only opine whether the wound is in fact a bite mark, he or she must then determine whether the bite mark is human in origin. If human in origin, the forensic dentist must then try to individualize the bite mark. In the later examination, the dentist is not trying to determine whether a particular mark is a human bite mark which was made by a specific set of teeth. Rather, he or she is simply trying to determine whether two sets of teeth (i.e., the original and an x-ray copy) correspond with one another at a variety of points. The fact that a forensic dentist can identify a mass casualty victim with dental records has absolutely no bearing on: 1) whether bite marks are unique; 2) whether a forensic dentist can accurately distinguish between bite mark and non-bite mark wounds; and 3) whether a forensic dentist can accurately

link a suspected bite mark to the only set of teeth which could have implanted the bite mark. The Third Circuit Court of Appeals has even recognized this point. See United States v. Mitchell, 365 F.3d 215, 243-44, n.25 (3d Cir. 2004) ("We also understand the task in disaster-victim identification as being (merely) to individualize one victim out of at most a few thousand victims, while forensic criminal identification seeks to individualize the defendant out of a pool of millions of potential perpetrators. Accordingly, there seems to be less of a threat of a false positive in the context of disaster-victim identification than in forensic criminal identification."). See Donna Leinwand, DNA Science Used to ID Bodies, USA Today, Jan. 14, 2005, at 5A (discussing how forensic scientists from all over the world used DNA testing and dental records to identify tsunami victims); Danny Robbins & Denna Boyd, DNA Vital in Identifying Victims, Miami Herald, Sept. 15, 2005, at A26 (discussing how DNA testing played a critical role in identifying victims of hurricane Katrina).

n229. See Inman & Rudin, supra note 195, at 57 ("Perhaps because of pressure to 'solve' a particularly horrendous crime, even the most well-intentioned and educated criminalists have succumbed to overinterpreting the results of a physical analysis."). For instance, one of the reasons provided by the FBI for the Brandon Mayfield fingerprint misidentification was "the inherent pressure of working an extremely high-profile case." Robert B. Stacey, Report on the Erroneous Fingerprint Individualization in the Madrid Train Bombing Case, 7 Forensic Sci. Comme'ns (2005), available at http://www.fbi.gov/hq/lab/fsc/backissu/jan2005/special report/2005 special report.htm [hereinafter Stacey I]; see also Robert B. Stacey, A Report on the Erroneous Fingerprint Individualization in the Madrid Train Bombing Case, 54 J. Forensic Identification 706, 713, 716-17 (2005) [hereinafter Stacey II]. The ASCLD audit report of the Virginia Division of Forensic Science also suggested that "pressure" played a role in the errors which led to Earl Washington's wrongful capital conviction. See Virginia Inspection, supra note 176, at 14-15.

n230. See Craig M. Cooley, Forensic Individualization Sciences and the Capital Jury: Are Witherspoon Jurors More Deferential to Suspect Science than Non-Witherspoon Jurors?, 28 S. Ill. U. L.J. 273, 304-05 (2004); Saks, supra note 217, at 1081-83.

n231. See David Freedman et al., Statistics 229 (3d ed. 1998); Thorwald, supra note 195, at 10.

n232. Mathematically, the product of 1/n 1/n1 1/n2 ... 1/nx becomes increasingly smaller with each term, where n, n1, n2 ... nx are all greater than 1.

n233. As one federal district judge recently commented: "The disapproval of statistical evidence based on the product theory has been a consistent refrain from courts over the years." Ege v. Yukins, 380 F. Supp. 2d 852, 877 (E.D. Mich. 2005) (listing numerous cases disapproving the multiplication rule), aff'd Ege v. Yukins, 2007 WL 1191911 (6th Cir. Apr. 24, 2007).

n234. Two fingerprint researchers realized this nearly sixty years ago. See Harold Cummins & Charles Midlo, Finger Prints, Palms and Soles, an Introduction to Dermatoglyphics 154 (1943). See also Commonwealth v. Crews, 640 A.2d 395, 401 (Pa. 1994) ("For proving identity ... as opposed to disproving identity, DNA can never provide absolute, conclusive proof, even though extremely low probabilities of a coincidental match provide a basis for very strong inferences of identity.").

n235. See Charles R. Kingston & Paul L. Kirk, The Use of Statistics in Criminalistics, 55 J. Crim. L. & Criminology 514, 516 (1964). As noted, in order for the product rule to work accurately, the two things (or events) that are being multiplied must be independent of one another. Two things (or events) are considered independent if the chances for the second given the first are the same, no matter how the first one turns out. Otherwise, the two things are dependent. See Freedman et al., supra note 231, at 230. For instance, the heads and tails of a coin are independent of one another. Before the coin is even tossed, a person has a 50% chance of receiving a heads. Likewise, if the first toss is heads, the chance of heads landing again on the second toss still remains 50%. Thus, the chances for the first and second toss remain the same, regardless of what happens on the first toss. In a game of chance, the multiplication and independence rules can be easily controlled. Id. at 234

(noting that "probability calculations like the multiplication rule were developed for dealing with games of chance, where the basic process can be repeated independently and under the same conditions"). However, when the multiplication and independence rules are applied to characteristics which are not easily amendable to a controlled setting (i.e., physical evidence), such as a game of chance, mathematicians or forensic examiners must be very careful not to assume that two or more factors or characteristics are independent of one another. If independence is incorrectly assumed, the probability produced will be much smaller than it would be if independence was not mistakenly assumed. Early fingerprint pioneer, Sir Francis Galton, acknowledged the problem of blindly assuming that certain variables are independent of one another: "It is hateful to blunder in calculations of adverse chances, by overlooking correlations between variables, and to falsely assume them independent, with the result that inflated estimates are made which require to be proportionately reduced." Francis Galton, Finger Prints 109 (De Capo ed., 1965). Unfortunately, because many forensic examiners are not well versed in statistics, they blindly assume independence and produce erroneous and very prejudicial probabilities. For instance, in Carol Ege's murder trial, the prosecutor's forensic dentist testified that "out of the 3.5 million people residing in the Detroit metropolitan area, [Ege] was the only one whose dentition could match the individual who left the possible bite mark on [the victim's] cheek." Ege v. Yukins, 380 F. Supp. 2d 852, 869 (E.D. Mich. 2005). The dentist's testimony helped secure Ege's murder conviction. See People v. Ege, 1996 Mich. App. LEXIS 1805 (Sept. 17, 1996). However, during Ege's federal habeas proceedings, the federal district court granted Ege's writ of habeas corpus because the dentist provided grossly inaccurate and extremely prejudicial testimony. In particular, the district court criticized the dentist's reliance on the multiplication rule:

The flaw in Dr. Warnick's statistical opinion should have been obvious and its admissibility readily assailable. The opinion apparently was based on the mathematical product theory, a proposition that long has been condemned and was discredited over thirty-five years ago by the California Supreme Court in the case of People v. Collins, 438 P.2d 33 (1968), a case that has become a classic for law students in basic evidence classes.

Ege v. Yukins, 380 F. Supp. 2d 852, 876 (E.D. Mich. 2005). The Sixth Circuit Court of Appeals recently affirmed the district court's grant of Ege's writ of habeas corpus. See Ege v. Yukins, 2007 WL 1191911 (6th Cir. Apr. 24, 2007).

n236. See generally Saks & Koehler, supra note 214.

n237. See infra Part II.D.5 (discussing why the forensic science community abhors proficiency testing).

n238. See Commonwealth v. Meeks, 2006 WL 2819423, at 10 (Mass. Super. Ct. Sept. 28, 2006) ("Mary-Jacque Mann also acknowledged that there is no database for a[] [firearm] examiner to look to when making examinations."); Bernard Robertson & G. A. Vignaux, Interpreting Evidence: Evaluating Forensic Science in the Courtroom 4 (1995) (noting that "it seems impossible to design an experiment to refute" individuality); Paul C. Giannelli, Forensic Science, 34 J.L. Med. & Ethics 310, 313 (2006) (noting that "empirical support for many techniques is often lacking, a fact that makes the need for basic research a pressing concern"); Randolph N. Jonakait, Real Science and Forensic Science, 1 Shepard's Expert & Sci. Evid. Q. 435, 436 n.8 (1994); Saks & Koehler, supra note 214, at 368 n.28 ("To demonstrate the assumption that gun barrel markings disperse themselves evenly, one would have to compare the markings of each gun barrel with every other gun barrel that ever existed or ever will exist.").

n239. "It is unwise to continue the practice of assuming probability factors, however conservative, in the development of a total probability case. Since probability or circumstantial case cannot be avoided, it is imperative that police administrators and criminal investigators alike support research efforts which will lead to a solution to these statistical problems." Joseph D. Nicol, Criminalistics, in Forensic Science: Scientific Investigation in Criminal Justice 234 (Joseph L. Peterson ed., 1975). For examples of this practice, see Paul L. Kirk, Crime Investigation 20-21 (John I. Thornton ed., R.E. Krieger Pub. Co. 1985) (1974); Charles R. Kingston & Paul L.

Kirk, The Use of Statistics, in Forensic Science: Scientific Investigation in Criminal Justice 182 (Joseph L. Peterson ed., 1975); O'Hara & Osterburg, supra note 221, at 670-71; Luke S. May, The Identification of Knives, Tools and Instruments a Positive Science, 1 Am. J. Police Sci. 246, 255 (1930). This practice still occurs today, as experts have testified in numerous cases to specific probabilities based on statistical studies of unexplained origin. See Clive A. Stafford Smith & Patrick D. Goodman, Forensic Hair Comparison Analysis: Nineteenth Century Science or Twentieth Century Snake Oil?, 27 Colum. Hum. Rts. L. Rev. 227, 257-58 (1996); Ege v. Yukins, 380 F. Supp. 2d 852 (E.D. Mich. 2005) (discussing a forensic dentist who concocted a statistical probability regarding bite mark evidence).

n240. See infra Part III.A.

n241. David Stoney, What Made Us Ever Think We Could Individualize Using Statistics?, 31 J. Forensic Sci. Soc'y 197 (1991).

n242. Locard's transfer theory originated from the French forensic scientist, Edmund Locard. See Thorwald, supra note 195, at 280-88. See also Edmond Locard, The Analysis of Dust Traces, 1 Am. J. Police Sci. 276 (1930); Edmond Locard, The Analysis of Dust Traces (Second Part), 1 Am. J. Police Sci. 401 (1930).

n243. According to forensic scientists, Norah Inman and Keith Rudin: "As much as the Locard transfer theory has been invoked, no peer-reviewed literature exists that proffers it, tests it, or refutes it. It is axiomatic in forensic science; it is accepted as true without proof." Inman & Rudin, supra note 195, at 94 (emphasis added).

n244. Saks, supra note 217, at 1081.

n245. See John I. Thornton & Joseph L. Peterson, The General Assumptions and Rationale of Forensic Identification, in 4 Modern Scientific Evidence: The Law And Science Of Expert Testimony § 31.27, at 29 (David L. Faigman et al. eds., 3d ed. 2006).

n246. See infra Part III.C.

n247. See Committee on Evaluation of Sound Spectrograms, Assembly of Behavioral & Soc. Scis., Nat'l Research Council, On the Theory and Practice of Voice Identification (1979) (commenting on the lack of research regarding voiceprint technology); John J. Lentini, The Scientific Basis of Expert Testimony on Fires, Arsons, and Explosion, in Science in the Law: Forensic Science Issues at 355-85 (David L. Faigman et al., eds., 2002) (discussing the lack of research regarding burn pattern interpretation and fire dynamics); Paul C. Giannelli, The Admissibility of Novel Scientific Evidence: Frye v. United States, a Half-Century Later, 80 Colum. L. Rev. 1197, 1224-25 (1980) (discussing the lack of research regarding paraffin test or dermal nitrate test for the recent discharge of a firearm); Edward J. Imwinkelried & William A. Tobin, The Use and Misuse of Forensic Evidence; Comparative Bullet Lead Analysis (CBLA) Evidence: Valid Inference or Ipse Dixit?, 28 Okla. City U. L. Rev. 43 (2003) (discussing the paucity of research regarding comparative bullet lead analysis); Randolph N. Jonakait, Will Blood Tell? Genetic Markers in Criminal Cases, 31 Emory L.J. 833 (1982) (commenting on the lack of electrophoretic blood testing research); Flynn McRoberts & Steve Mills, U.S. Seeks Review of Fingerprint Techniques: High Profile Errors Prompt Questions, Chi. Trib., Feb. 21, 2005, at 1 ("The National Institute of Justice [NIJ] recently called for researchers to explore such crucial issues as how to measure the quality of fingerprints lifted from crime scenes and the accuracy of comparisons made by law-enforcement examiners.").

n248. For instance, Arnold Melnikoff failed a hair proficiency test when he transferred from the Montana State Police crime to the Washington State Patrol crime lab. Prior to his work in Washington, Melnikoff was the Director of the Montana State Police crime lab. See Lise Olsen, Crime Lab Worker Failed to Qualify to Test Hair Samples, Seattle Post-Intelligencer, Jan. 2, 2003, at A1. Houston Police Chief Joe Breshears was forced to

temporarily shut down the Houston crime lab's toxicology unit after he learned Pauline Louie, a twenty-eight year veteran, failed a proficiency test. See Roma Khanna, HPD's Toxicology Lab Shut Down; Division Testing on Hold After Supervisor Fails Competency Exam, Hous. Chron., Oct. 30, 2003, at A1. In 1998, Charles Vaughan, a veteran forensic examiner who spent time with Oregon and Washington crime labs, failed a footwear identification proficiency test. See Teichroeb, supra note 90.

n249. Commonwealth v. Patterson, 840 N.E.2d 12, 16 (Mass. 2005).

n250. See id.

n251. "Criminals generally do not leave behind full fingerprints on clean, flat surfaces. Rather, they leave fragments that are often distorted or marred by artifacts ... Testimony at the Daubert hearing suggested that the typical latent print is a fraction - perhaps 1/5 - of the size of a full fingerprint." United States v. Mitchell, 365 F.3d 215, 220-21 (3d Cir. 2004).

n252. Patterson, 840 N.E.2d at 16 (noting that, "because latent print impressions left at crime scenes are often partial impressions of a full fingerprint, subject to significant distortions, it is a question of significant dispute as to how much detail in the latent print must be demonstrable to assert reliably its identity with a known fingerprint").

n253. Sandy L. Zabell, Fingerprint Evidence, 13 J.L. & Pol'y 143, 144 (2005) (citation omitted). According to the Office of Inspector General's ("OIG") report regarding the FBI's Brandon Mayfield fingerprint misidentification, one of the primary reasons for the misidentification was the "unusual similarity of the prints" between the crime scene print (which was ultimately linked to a Algerian national named Oulmane Daoud) and Mayfield's print. U.S. Dep't of Just., Office of the Inspector Gen., A Review of the FBI's Handling of the Brandon Mayfield Case 6 (Mar. 2006) [hereinafter OIG Mayfield Report]. The OIG reported "10 features in LFP 17 [i.e., the crime scene print] formed a constellation of points that was generally consistent with the constellation of points in the known fingerprints of both Mayfield and Daoud." Id. at 7. The "unusual similarity in position and ridge counts was a critical factor that misled four examiners and contributed to their overlooking other important differences between LFP 17 and Mayfield's fingerprint." Id. The OIG criticized the FBI for failing "to give adequate consideration to the incomplete nature of the agreement in points between LFP 17 and Mayfield's fingerprint." Id. at 9.

n254. See Jack D. Gunther & Charles O. Gunther, The Identification of Firearms from Ammunition Fired Therein, with an Analysis of Legal Authorities 90-91 (1935) ("No two oak leaves may be exactly alike, but the exact counterpart of a small area of one oak leaf can probably be found in other oak leaves. It is probably true that no two firearms with the same class characteristics will produce the same signature, but it is likewise true that each element of a firearm's signature may be found in the signatures of other firearms."). Other toolmark examiners have echoed this point. See, e.g. Alfred A. Biasotti & John Murdock, "Criteria for Identification" or "State of the Art" of Firearms and Toolmark Identification, 16 Ass'n of Firearm & Tool Mark Examiners J. 16, 17 (1984) (noting that "[toolmark examiners] have come to expect to find small isolated areas of corresponding striae agreement when comparing toolmarks that have been produced by different working surfaces"). Given this reality, toolmark examiners must walk a fine line during their examinations, as matching striae may amount to nothing more than mere coincidence. See John E. Murdock, Some Suggested Court Questions to Test Criteria for Identification Qualifications, 24 Ass'n of Firearm & Tool Mark Examiners J. 69, 73 (1992). Various toolmark studies have underscored the significance of this problem. See, e.g. Adina Schwartz, A Systemic Challenge to the Reliability and Admissibility of Firearms and Toolmark Identification, 6 Colum. Sci. & Tech. L. Rev. 2, 7-9 (2005) (citing numerous studies). Complicating the matter even more is the fact there are no databases which collect and store information for non-firearms related toolmarks. Consequently, "due to the absence of non-firearms toolmark databases and the incomplete databases for firearms toolmarks, misidentifications are likely to result because examiners underestimate the possible similarities between the individual characteristics of toolmarks made by different tools." Id. at 8.

n255. United States v. Monteiro, 407 F. Supp. 2d 351, 371 n.2 (D. Mass. 2006).

n256. See Thornton & Peterson, supra note 220, at 5-6.

n257. See Monteiro, 407 F. Supp. 2d at 360; Commonwealth v. Meeks, 2006 WL 2819423, at 14 (Mass. Super. Ct. Sept. 28, 2006).

n258. Thornton & Peterson, supra note 220, at 5.

n259. Id.

n260. See Monteiro, 407 F. Supp. 2d at 370 (describing "the AFTE Theory" of toolmark identification as "tautological").

n261. For example: "A[] [document] examiner may note an unusual letter formation, which in the experience of that examiner seems to be unique ... But it may be that every schoolchild in a Bulgarian town was taught to execute that particular letter formation. The characteristic may be obscure, but it is still a class characteristic, not an individual characteristic, and should be given only the weight that a class characteristic deserves and not the additional weight that ordinarily would be given to an individual characteristic." Thornton & Peterson, supra note 220, at 6.

n262. See Monteiro, 407 F. Supp. 2d at 363 (arguing that "a firearm 'may be wrongly identified as the source of a toolmark it did not produce if an examiner confuses subclass characteristics shared by more than one tool with individual characteristics unique to one and only one tool'") (citation omitted); Meeks, 2006 WL 2819423, at 15 (noting that subclass characteristics are "not unique to a single firearm, thereby requiring firearms examiners to 'consider the possibility of sub class ... carry over on consecutively manufactured tool working surfaces [e.g., a firearm's barrel] before positively identifying a toolmark as having been made by a particular tool, to the exclusion of all other tools." AFTE recommends that 'caution should be exercised in distinguishing SUBCLASS CHARACTERISTICS from INDIVIDUAL CHARACTERISTICS.") (citation omitted; emphasis in original).

n263. Alfred Biasotti & John Murdock, The Scientific Basis of Firearms and Toolmark Identification, in Science in the Law: Forensic Science Issues 205, 212 (David L. Faigman et al. eds., 2002).

n264. Id.; see also Monteiro, 407 F. Supp. 2d at 363; United States v. Green, 405 F. Supp. 2d 104, 111 (D. Mass. 2005).

n265. "As tool manufacturers minimize the steps necessary to produce tools in an effort to become more efficient and economical, the possibility for tools produced with similar characteristics increases." Stephanie J. Eckerman, A Study of Consecutively Manufactured Chisels, 34 Ass'n of Firearm & Tool Mark Examiners J. 379, 379 (2002). See also Joan Griffin & David J. LaMagna, Daubert Challenges to Forensic Evidence: Ballistics Next on the Firing Line, The Champion, Sept.-Oct. 2002, at 20, 58.

n266. Biasotti & Murdock, supra note 254, at 17. In short, as one federal district judge insightfully noted: "The task of telling them apart is not an easy one: Even if the marks on all of the casings are the same, this does not necessarily mean they came from the same gun. Similar marks could reflect class or subclass characteristics, which would define large numbers of guns manufactured by a given company. Just because the marks on the casings are different does not mean that they came from different guns. Repeated firings from the same weapon,

particularly over a long period of time, could produce different marks as a result of wear or simply by accident." Green, 405 F. Supp. 2d at 107 (emphasis in original); see also Monteiro, 407 F. Supp. 2d at 371 ("One critical problem with the AFTE Theory [of toolmark identification] is the lack of objective standards for deciding whether a particular mark is a subclass or individual characteristic ... Special Agent Curtis added that the AFTE Theory offers no guidance on telling the difference between subclass and individual characteristics ... There is no generally accepted standard for distinguishing between class, subclass, and individual characteristics."). With respect to Massachusetts, recent testimony from the BPD Firearms Unit raises questions whether BPD examiners actually understand the difference between individual, class, and subclass characteristics. See Bernstein, supra note 121.

n267. See Schwartz, supra note 254, at 9.

n268. Monteiro, 407 F. Supp. 2d at 361.

n269. See generally Albert Osborn, Questioned Documents (1929).

n270. See United States v. Hines, 55 F. Supp. 2d 62, 69 (D. Mass. 1999) ("Both defense and government experts agree that unlike DNA or even fingerprints, one's handwriting is not at all unique in the sense that it remains the same over time, or uniquely separates one individual from another.").

n271. See Lynn C. Hartfield, Daubert/Kumho Challenges to Handwriting Analysis, the Champion, Nov. 2002, at 24, 25 (discussing various manners to challenge handwriting); United States v. Hines, 55 F. Supp. 2d 62, 69 (D. Mass. 1999); United States v. Starzecpyzel, 880 F. Supp. 1027, 1038 (S.D.N.Y. 1995); United States v. Oskowitz, 294 F. Supp. 2d 379, 383 (E.D.N.Y. 2003).

n272. Green, 405 F. Supp. 2d at 111 ("The [firearm] examiner's task is further complicated by the fact that an individual gun's markings change over time; marks present at one period may not be there at another." This fact may be relevant in this case, where O'Shea seeks to compare shell casings fired at one point with casings test-fired from a gun found a year later.); Commonwealth v. Meeks, 2006 WL 2819423, at 10 (Mass. Super. Ct. Sept. 28, 2006) (recounting the prosecution's firearms expert's testimony that "a database would not be helpful because barrels can change over time; therefore, the marks they leave (individual characteristics) will also change over time."); Hinton v. State, 2006 WL 1125605 (Ala. Crim. App., Apr. 28, 2006) (The firearms examiner "admitted that the condition of a bullet can affect his ability to make a comparison; that test bullets are not usually marked, mutilated, or deformed by outside influences, but evidence bullets usually are; that firing a gun could eventually alter the barrel; that a barrel that has been altered will not leave clean marks like a clean barrel would; and that the [crime scene] bullets had some deformities." The examiner also "admitted that the revolver that was recovered from the appellant's mother was old; that, when it was manufactured, it used corrosive primers; and that the inside of the barrel can be altered if corrosive primers are used and the barrel of the gun is not cleaned for a long time.").

n273. See T. M. Van Dijk, Tools, in 3 Encyclopedia of Forensic Sciences 1216, 1219-20 (Jay A. Siegel et al., eds., 2000)

The working edges of many implements are subject to corrosion, wear and abuse. As such, the individual characteristics (on the implement itself), on which an individualization must be based, can be destroyed shortly after the scene impression is deposited ... Unlike fingerprint and DNA evidence ... toolmark evidence has limited classification value and also usually has a limitation of time. Many crime laboratories discard their unidentified toolmark evidence ... after 6 months. Id.

Kirk, supra note 238, at 373-74

Wear of a tool edge will change its marking slowly but progressively. A worn tool is more individual than a new tool. Hence, more reliable results are obtainable from tools that are worn, provided that the wear pattern has not been altered significantly between the making of a questioned tool mark and the making of the standard mark to be used for comparison. It is not always possible to obtain matching patterns when a questioned tool has been in regular use between the making of the two marks. Id.

n274. Randolph N. Jonakait, The Assessment of Expertise: Transcending Construction, 37 Santa Clara L. Rev. 301, 324 (1997).

n275. See Karl Popper, The Logic of Scientific Discovery 40-42 (1968) [hereinafter Popper I]; Karl Popper, Conjectures and Refutations: The Growth of Scientific Knowledge 37 (Routledge, 5th ed. 1989) (observing that "the criterion of the scientific status of a theory is its falsifiability, or refutability, or testability") [hereinafter Popper II]. It was the falsification concept which garnered the greatest amount of attention and confusion in Daubert v. Merrell Dow Pharmaceuticals, Inc. 509 U.S. 579, 593 (1993); Id. at 600 (Rehnquist, C.J., concurring in part and dissenting in part).

n276. Michael Green, Expert Witnesses and Sufficiency of Evidence in Toxic Substances Litigation: The Legacy of Agent Orange and Bendectin Litigation, 86 Nw. U. L. Rev. 643, 645 (1993).

n277. Bert Black et al., Science and the Law in the Wake of Daubert: A New Search For Scientific Knowledge, 72 Tex. L. Rev. 715, 755 (1994).

n278. See Jonakait, supra note 238, at 436 n.8; Michael J. Saks, Implications of the Daubert Test for Forensic Identification Science, 1 Shepard's Expert & Sci. Evidence Q., No. 3 at 427, 429 (1994). More importantly, when the Supreme Court in Daubert spoke of testability, it did not mean "adversarial testing." Contrary to forensic examiners and certain courts, the criminal justice system's adversarial structure is not the proper forum to distinguishing between valid and invalid forensic methodologies. For two such examples of this faulty reasoning, see United States v. Havvard, 117 F. Supp. 2d 848, 854 (S.D. Ind. 2000) and United States v. Cline, 188 F. Supp. 2d 1287, 1294 (D. Kan. 2002). Three faulty assumptions underlie the "adversarial testing" argument. First, criminal defendants are normally appointed or can afford effective attorneys who are well versed in the forensic sciences. Second, criminal defendants have access to forensic services and resources. And third, defense attorneys have the necessary funds to hire experts to independently evaluate the prosecution's forensic evidence. With respect to the first assumption, "lawyers, in general, are not known for expertise in science and mathematics. Nor is science a subject given significant attention in American law schools." David L. Faigman et al., Science in the Law: Forensic Science Issues v (2002). As a result, many defense attorneys are not effective at cross-examining forensic experts. See Randolph N. Jonakait, Stories, Forensic Science, and Improved Verdicts, 13 Cardozo L. Rev. 343, 348-49 (1991); Dugas v. Coplan, 428 F.3d 317, 331 (1st Cir. 2005) (noting that the defense counsel's "cross-examination demonstrated a clear lack of understanding of arson investigation and the principles invoked by the state's many expert witnesses. Without having consulted an expert or researched the scientific principles more thoroughly, [defense counsel] was hopelessly unprepared to challenge the state's expert witnesses"). The situation is far worse for capital defendants, as they are routinely appointed the least qualified attorneys. For instance, U.S. Supreme Court Justice Ruth Bader Ginsburg said she has "yet to see a death penalty case among the dozens coming to the Supreme Court on eve-of-execution stay applications in which the defendant was well-represented at trial." Ruth Bader Ginsburg, In Pursuit of the Public Good: Access to Justice in the United States, 7 Wash. U. J.L. & Pol'y 1, 10 (2001). See Bell v. Cone, 535 U.S. 685, 718 n.17 (2002) (Stevens, J., dissenting) ("Members of this Court have similarly recognized both the importance of qualified counsel in death cases, and the frequent lack thereof."); Stephen B. Bright, Counsel for the Poor: The Death Sentence Not for the Worst Crime but for the Worst Lawyer, 103 Yale L.J. 1835 (1994). In regards to the second assumption, forensic services are not generally accessible to criminal defendants. The FBI's crime laboratory, for

instance, is only available to "state, county, and municipal law enforcement agencies in the United States and territorial possessions for criminal matters." Federal Bureau of Investigation, Handbook of Forensic Services, available at www.fbi.gov/hq/lab/handbook/intro.htm. Consequently, criminal defendants must seek outside assistance if they wish to challenge the prosecution's forensic evidence. In regards to the third assumption, "the defense is notoriously underfunded." Inman & Rudin, supra note 195, at 233. This is especially true for capital defense attorneys who are routinely paid unconscionable wages. See Anthony Paduano & Clive A. Stafford Smith, The Unconscionability of Sub-Minimum Wages Paid Appointed Counsel in Capital Cases, 43 Rutgers L. Rev. 281 (1991) (discussing the pitiable pay rate for capital defense attorneys); Douglas W. Vick, Poorhouse Justice: Underfunded Indigent Defense Services and Arbitrary Death Sentences, 43 Buff. L. Rev. 329 (1995) (similarly discussing capital defense attorneys' low pay rate). With little funding, defense attorneys are rarely able to find competent independent forensic experts to challenge the prosecution's forensic evidence.

n279. See Inman & Rudin, supra note 195, at 123 (conceding that "the theory of uniqueness is not falsifiable"); Robertson & Vignaux, supra note 238, at 4.

n280. See Paul C. Giannelli, Scientific Evidence in Civil and Criminal Cases, 33 Ariz. St. L.J. 103, 112 (2001) ("The 'practices' in some fields of forensic science are seriously deficient. In many areas little systematic research has been conducted to validate the field's basic premises and techniques, and often there is no justifiable reason why such research would not be feasible.").

n281. The DNA exonerations, however, have established that "false positives - that is, inaccurate incriminating test results - are endemic to much of what passes for 'forensic science.'" United States v. Bentham, 414 F. Supp. 2d 472, 473 (S.D.N.Y. 2006).

n282. United States v. Green, 405 F. Supp. 2d 104, 114 (D. Mass. 2005); See also United States v. Monteiro, 407 F. Supp. 2d 351, 369 (D. Mass. 2006) ("The government argues ... that even [the AFTE's toolmark] standards need not be religiously followed because they only reflect emerging trends and include protocols not used by many laboratories.").

n283. See Anne H. McNamee & David Sweet, Adherence of Forensic Odontologists to the ABFO Guidelines for Victim Evidence Collection, 48 J. Forensic Sci. 382 (2003) ("Establishing a consensus of a standard protocol ... aids in the unity and reliability of the profession."); Green, 405 F. Supp. 2d at 120 ("Reproducibility is an essential component of scientific reliability.").

n284. See James Robertson, Integrity Issues Impacting on the Provision of Forensic Services, 31 Austl. J. Forensic Sci. 87, 93-94 (1999) (noting that "inadequate standards" have negatively impacted the forensic science community's integrity); Commonwealth v. Meeks, 2006 WL 2819423, at 10 (Mass. Super. Ct. Sept. 28, 2006) ("There is no universal standard as to when a [firearms] match is made or not made; rather, it is based on the experience and training of the examiner.").

n285. See Andrew Murr, A Dentist Takes the Stand, Newsweek, Aug. 20, 2001, at 24 (questioning Dr. West's dubious, and as yet substantiated, ability to identify imperceptible bite marks with an ultraviolet light); Vicki Quade, If the Shoe Fits: Footprint Expert Testifies, 71 A.B.A. J., July, 1985, at 34 (describing Dr. Robbins' remarkable ability to individualize indecipherable footprints or shoe prints). As the Office of the Inspector General commented in its review of the FBI laboratory: "Protocols that lack essential detail can create a work environment that encourages use of disparate and unproven laboratory practices, can foster disregard for protocols, and can make it difficult for staff members and management to identify instances of protocol noncompliance." OIG Report, supra note 91, at v.

n286. For example, according to the "one dissimilarity" doctrine in fingerprinting, when an indisputable dissimilarity is observed between two prints, the prints cannot be attributed to the same finger or individual. See

John I. Thornton, The One Dissimilarity Doctrine in Fingerprint Identification, 306 Int'l Crim. Police Rev. 89 (1977). Although well recognized by the fingerprint community, "it is effectively ignored in practice." Robert Epstein, Fingerprints Meet Daubert: The Myth of Fingerprint "Science" Is Revealed, 75 S. Cal. L. Rev. 605, 640 (2002). See also Commonwealth v. Patterson, 840 N.E.2d 12, 17 (Mass. 2005). Once a fingerprint examiner dredges over the prints and comes across what he or she believes to be an adequate quantity of corresponding points of similarity to make an identification, the examiner will merely disregard dissimilarities by explaining them away as either being a manifestation of distortion or artifact. See Thornton, supra, at 91. This is what happened in the Brandon Mayfield case, as FBI examiners rendered an inculpatory identification even though "the FBI recognized that the entire upper left portion of LFP 17 did not correspond with Mayfield's fingerprint." OIG Mayfield Report, supra note 253, at 9.

n287. 509 U.S. 579 (1993). In Daubert, the Supreme Court held that under Federal Rule of Evidence 702, district judges must act as "gatekeepers" and keep out unreliable "scientific" evidence. Id. at 589. In order to help district judges distinguish between reliable science and "science that is junky," Kumho Tire Co. v. Carmichael, 526 U.S. 137, 159 (1999) (Scalia, J., concurring), the Supreme Court identified five (non-exhaustive) factors. First, whether the forensic "theory or technique ... can be (and has been) tested." Daubert, 509 U.S. at 593. Second, "whether the theory or technique has been subjected to peer review and publication." Id. Third, whether the technique has a "known or potential rate of error." Id. at 594. Fourth, whether there exists any "standards controlling the technique's operation." Id. (emphasis added). Fifth, whether the technique is "generally accepted" by the scientific community. Id. These factors should, as the Supreme Court noted, assist district judges in determining "whether the reasoning or methodology underlying the testimony is ... valid and of whether that reasoning or methodology properly can be applied to the facts in issue." Id. at 592-93.

n288. "Since the early 1990s, the US FBI Laboratory has sponsored Scientific Working Groups ("SWG") to improve discipline practices and create mutual agreements between federal, state, and local forensic science community partners. In 2004 there were nine working groups." http://en.wikipedia.org/wiki/Scientific Working Group (last visited Apr. 13, 2007). The nine SWG include: SWGDAM-DNA Analysis; SWGDE-Digital Evidence; SWGDOC-Questioned Documents; SWGDRUG-Analysis of Seized Drugs; SWGFAST-Latent Fingerprints; SWGGUN-Firearms and Toolmarks; SWGIT-Imaging Technologies; SWGMAT-Materials; SWGSTAIN-Bloodstain Pattern Analysis.

n289. For years, forensic scientists argued that standards were unfeasible because forensic science "is concerned with the unlikely and the unusual," while traditional "sciences are concerned primarily with the likely and the usual." Paul L. Kirk, Criminalistics: A New and Independent Discipline Evolves From Modern Techniques and New Concepts of Individualization, 140 Science 367, 368 (Apr. 1963). They also argued that standards could not be developed because forensic science is "dependent upon nonscientists to recognize, collect, and preserve evidence specimens." James W. Osterburg, What Problems Must Criminalistics Solve, 59 J. Crim. L. & Criminology 427, 429 (1968).

n290. Because the Daubert Court stressed that admissibility could be impacted by the maintenance of standards, the forensic science community took this as a warning that it better develop standards, or else run the risk of having the testimony of its examiners excluded at trial. For instance, there is the Scientific Working Group on Bloodstain Pattern Analysis ("SWGSTAIN"), see http://www.swgstain.org (last visited Apr. 13, 2007), there is the Scientific Working Group on Friction Ridge Analysis, Study and Technology ("SWGFAST"), see http://www.swgfast.org (last visited Apr. 13, 2007).

n291. In a recent survey, nearly 10% of crime laboratory directors were not aware that such groups or guidelines existed. See National Institute of Standards and Technology, 1999 Survey of Forensic Reference Materials 4 (2000). The top three SWG guidelines utilized were SWGDAM for DNA, SWGDRUG for controlled substances, and SWGMAT for trace analysis. Only 33% of the responding laboratory directors adhered to the SWG DNA guidelines; 16% followed the SWGDRUG standards; while 14% relied on the SWGMAT protocols. Id. The survey also emphasized that only 4% of the respondents indicated that their respective laboratories adhered to the SWGFEX [explosives] guidelines, while 2% followed the SWGIT [image technology] standards. Id.

Similarly, various agencies have yet to adopt the guidelines developed by the Friction Ridge Analysis, Study, and Technology SWG. See Stacey II, supra note 229, at 29.

n292. For instance, consider the twenty-one members which comprise the SWG for Firearms and Toolmarks, see http://www.swggun.org/members.htm (last visited Apr. 13, 2007). Likewise, consider the thirty-seven members which comprise the SWG for Friction Ridge Analysis, see http://www.swgfast.org/SWGFAST members feb06.pdf (last visited Apr. 13, 2007). Many members of both SWGs are nationally known and well-respected experts in their respective fields.

n293. United States v. Lewis, 220 F. Supp. 2d 548, 554 (S.D. W. Va. 2002).

n294. The FBI's recent report detailing the Brandon Mayfield misidentification suggests that this may not be standard practice in the fingerprint community. For instance, the report's policy recommendation that "verifiers must do an independent and complete ACE-V examination of each [fingerprint] that they are verifying" intimates that not all fingerprints are double-checked by another examiner. See Stacey II, supra note 229, at 715.

n295. See United States v. Havvard, 260 F.3d 597, 599 (7th Cir. 2001) ("Meager also testified that the error rate for fingerprint comparison is essentially zero. Though conceding that a small margin of error exists because of differences in individual examiners, he opined that this risk is minimized because print identifications are typically confirmed through peer review.").

n296. See Am. Soc'y of Crime Lab. Dirs., Laboratory Accreditation Board Manual (2000), at § 1.4.2.16.

n297. Id.

n298. See United States v. Rogers, 26 Fed. Appx. 171, 173 (4th Cir. 2001) (unpublished opinion) ("The possibility of error was mitigated in this case by having two experts independently review the evidence.").

n299. For instance, even if the reviewer(s) is not exposed to contaminating information, like the initial examiner may have been, the reviewer(s) knows the original examiner's conclusions, which is a strong impurity that can affect the reviewer's ultimate conclusion. What we have under this fact pattern, then, is an examiner (albeit a second one) who is made privy to an expected outcome before he or she evaluates an ambiguous stimulus. Thus, from a practical perspective, we have one examiner going to another examiner and saying: "Look, I found thirteen points of similarity and concluded that the crime scene fingerprint, without question, originated from the defendant's right index finger. All need you need to do is review my identification so I can take this information to the district attorney." Under this fact pattern, we are again at square one because the initial examiner's conclusions will almost certainly influence (consciously or subconsciously) the reviewing examiner's conclusion(s). For instance, consider what a federal district judge had to say about the "peer review" process used by the FBI's Forensic Audio, Video, and Image Analysis Unit. The FBI image expert claimed he could, without "specialized equipment," distinguish between real and computerized images of child pornography, and that his co-worker validated his conclusion that the images possessed by the defendant were images of real children. The judge observed that:

The "peer review" process Musheno described leaves much to be desired. Rather than conducting an independent examination of the images, Musheno's co-worker analyzed the images contemporaneously with Musheno's checklist and report, fully aware of Musheno's conclusions. Musheno testified that no reviewer had ever disagreed with his conclusions--a result that could indicate either a flawless record or, equally likely, a review process that functions as a rubber stamp. Indeed, the review process Musheno described runs a substantial risk of "examiner bias," a phenomenon by which an examiner who expects a particular result tends to find it ... The

"peer review" conducted here is a far cry from the type of independent review that would bolster the technique's reliability.

United States v. Frabizio, 445 F. Supp. 2d 152, 165, 166 (D. Mass. 2006). See also Commonwealth v. Patterson, 840 N.E.2d 12, 17 (Mass. 2005) ("Assuming a positive identification is made by the first examiner, the verification step of the [ACE-V] process involves a second examiner, who knows that a preliminary match has been made and who knows the identity of the suspect, repeating the first three steps of the process.") (emphasis added).

n300. Although this scenario may seem unlikely, given the dearth of qualified fingerprint examiners, it may occur more than expected. See Wilber, supra note 45.

n301. One need only consider the Brandon Mayfield debacle where three experienced FBI examiners signed off on an erroneous identification. See Stacey I & Stacey II, supra note 229. See also Rene Stutzman, Print Analyst Supervised Co-Workers, Record Show, Orlando Sentinel, May 16, 2007, at B1 (discussing how two Seminole County Sheriff's Office fingerprint examiners confirmed various identifications made by co-worker Donna Birks, which turned out to be mistaken or inconclusive identifications).

n302. United States v. Monteiro, 407 F. Supp. 2d 351, 362 (D. Mass. 2006) (quoting Richard Grzybowski et al., Firearm/Toolmark Identification: Passing the Reliability Test Under Federal and State Evidentiary Standards, 35 Ass'n of Firearm & Toolmark Examiners J. 209, 213 (2003)) (emphasis added).

n303. "Reaching the truth, or as close as one can come to it, depends upon the available evidence combined with a reliable method and not upon the rhetoric of persuasion." Jon J. Nordby, Here We Stand: What a Forensic Scientist Does, in Forensic Science: An Introduction to Scientific and Investigative Techniques 6 (Stuart H. James & Jon J. Nordby eds.) (2003) (emphasis added).

n304. In State v. Fortin, 724 A.2d 818 (N.J. Super. Ct. 1999), Roy Hazelwood, a retired FBI criminal profiler, based his opinion that two different crimes (a murder and sexual assault) were committed by the same offender, on his thirty-five years of law enforcement experience: "In my 35 years of experience with a variety of violent crimes committed in the U.S., Europe, Canada, and the Caribbean, I have never observed this combination of behaviors in a single crime of violence. The likelihood of different offenders committing two such extremely unique crimes is highly improbable." Id. at 826. Likewise, notwithstanding the constant questions regarding hair identification, "a hair technician may testify that over many years of analysis, he or she has never seen two hairs that have 'falsely matched.'" Smith & Goodman, supra note 239, at 260. For instance, in Robert Milford's homicide trial, former FBI examiner Michael Malone testified that a strand of hair located at the crime scene perfectly matched Milford's pubic hair. Malone testified: "It would be highly unlikely for ... anybody else to have hairs exactly like the hairs of Mr. Milford." The Department of Justice ("DOJ") criticized Malone's testimony because Malone failed to perform his tests in a scientifically acceptable manner. The DOJ also claimed Malone's hair statistics overstated the hair evidence's significance. According to the DOJ, there are no statistical databases to determine the likelihood whether a specific hair originated from one person or another. In his rebuttal, Malone argued that his years of experience supported his statistics. See Sydney P. Freedberg, Sloppy Lab Work Casts Doubt on Some Florida Cases, St. Petersburg Times, Mar. 5, 2001, 8A. Similarly, in State v. Pierce, Joyce Gilchrist "testified ... that in the years during which she had been involved with hair analysis, she had never seen hair from different people that were microscopically similar in all characteristics." 786 P.2d 1255, 1265 (Okla. Crim. App. 1990). Gilchrist's hair identification testimony helped convict Jeffery Pierce of rape and robbery in 1986. Thanks to DNA testing, however, Pierce proved his innocence in 2001. See Belinda Luscombe & Amanda Bower, When The Evidence Lies, Time, May 21, 2001, at 38. Likewise, in State v. Butler, the trial judge permitted the prosecutor's forensic chemist to testify: "She did not recall having ever seen a match with this characteristic before in [her years working as a chemist] ... [and that] it was very rare to find not only two ... unknown head hairs that happen to match somebody else, but also two hairs from totally different body regions

that match the individual." 24 S.W.3d 21, 24 (Mo. App. 2000), (emphasis added). See also State v. Magouirk, 539 So. 2d 50, 61 (La. Ct. App. 1989) (recounting a special agent's testimony that "over ... twelve years ... I've looked at hair for about ten thousand different divisions, I've only had two occasions out of the ten thousand where I had hairs from two different people that I could not tell apart. Again, it's not a fingerprint, but it's normally a strong association."); Bivens v. State, 433 N.E.2d 387, 389 (Ind. 1982) (hair expert testified that on only one occasion out of 1,500 did hair samples from two different individuals have identical characteristics); State v. Hazley, 428 N.W.2d 406, 411 (Minn. Ct. App. 1988) ("Although hair analysis cannot conclusively identify a hair as belonging to a particular person, the technician who performed the analysis testified that in analyzing 2,400 hairs per year for sixteen years, she had never found a coincidental identical match."). Lastly, during a 1988 Texas murder trial, FBI examiner John P. Riley testified: "From my 21 years of experience doing bullet-lead analysis, I can determine if bullets came from the same box of ammunition ..." Charles Piller & Robin Mejia, Science Casts Doubt on FBI's Bullet Evidence, L.A. Times, Feb. 3, 2003, at 1.

n305. Forensic scientists openly admit this practice regularly occurs. See Thornton & Peterson, supra note 245, at 16-17.

n306. For instance, New Jersey prosecutors used Roy Hazelwood's anecdotal "profiling" testimony in State v. Fortin to secure a conviction and death sentence against Steven Fortin for Melissa Padilla's murder. 724 A.2d 818 (N.J. Super. Ct. 1999). In February 2004, however, the New Jersey Supreme Court overturned Fortin's conviction and death sentence because Hazelwood should not have been permitted to testify without producing a reliable database of violent sexual assault and murder cases which he investigated, studied, and analyzed. See State v. Fortin, 843 A.2d 974, 1002 (N.J. 2004).

n307. For example, "experience tells us that children resemble their mothers in some ways and their fathers in others, and that manure increases crop yield." Experience or common sense, nevertheless, "does not provide explanations for these phenomena." Black et al., supra note 277, at 755.

n308. See Ernest Nagel, The Structure of Science: Problems in the Logic of Scientific Explanation 3-4 (1961). Moreover, when forensic examiners are trained to use or rely on common sense or experience as a proxy for empirical research, this eventually blunts their intellectual and analytical growth because they are not taught how to develop experiments or to think outside the box when presented with novel scientific questions. Their inability to think beyond the four corners of their own experience stems from the fact they have rarely been forced to engage in a form of critical thinking which can possibly shed light on the fundamental reasons and explanations which make up their particular area of expertise or science.

n309. See Ian W. Evett, Expert Evidence and Forensic Misconceptions of the Nature of Exact Science, 36 Sci. & Just. 118, 121 (1996) (highlighting the fallacies behind the "experience" argument).

n310. United States v. Crisp, 324 F.3d 261, 278 (4th Cir. 2003) (Michaels, J., dissenting). Justice Blackmun once commented: "Of course, it would be unreasonable to conclude that the subject of scientific testimony must be 'known' to a certainty; arguably, there are no certainties in science." Daubert v. Merrell Dow Pharmaceutical, 509 U.S. 579 (1993). See also State v. Quintana, 103 P.3d 168, 171 n.3 (Utah Ct. App. 2004) (Thorne, J., concurring) ("It is vital that we remove the near mystical awe that fingerprints evoke, and replace it with a more cautious regard for forensic evidence and its overall lack of certainty.").

n311. As the noted American sociologist of science, Robert K. Merton, observed more than a half century ago, "organized skepticism" is one of the hallmarks of science. Robert K. Merton, The Normative Structure of Science, in The Sociology of Science: Theoretical and Empirical Investigations 267-78 (Chicago: Univ. of Chicago Press, 1973).

n312. See Zakaria Erzinclioglu, Every Contact Leaves a Trace: Scientific Detection in the Twentieth Century 30 (Carlton Books 2001) ("Contrary to some popular beliefs, science is a highly uncertain endeavor. It does not deal in certainties.").

n313. Probabilistic forensic determinations are inherently premised on uncertainty because they cannot and do not exclude all other possible sources. For instance, with DNA analysis there is always a possibility, albeit perhaps a small one, that another source could have deposited the biological evidence. The inability to eliminate all other sources perturbed prosecutors because it left just enough room for reasonable doubt to contaminate the jury's deliberations. Moreover, even before probabilistic calculations can be considered, forensic practitioners must interpret the physical evidence to ascertain whether a match exists. Only after a match is declared can the examiner then entertain the question of how likely is it that the match is a coincidental match. Interpreting whether a partial print or mangled cartridge case can be linked to a specific fingerprint or firearm, however, is a highly subjective endeavor. As subjectivity increases, so to does the uncertainty surrounding the examiner's conclusions. Again, uncertainty is the lifeline for reasonable doubt. Thus, forensic determinations represented double-trouble for early twentieth century conviction-seeking prosecutors who had to battle against the reasonable doubt standard.

n314. See Sexton v. State, 93 S.W.3d 96, 98-99 (Tex. Crim. App. 2002) (recounting the state's toolmark expert's testimony "that, if two cartridge cases share the same magazine mark, then one could say with one hundred percent certainty that the two cartridge cases had been cycled through the same magazine."); Ramirez v. State, 810 So. 2d 836, 849 (Fla. 2001) (noting a toolmark examiner's "claim that a 'match' made pursuant to his method [was] made with absolute certainty."). For instance, fingerprint examiners are prohibited from offering probabilistic identifications. Their identifications must be certain and absolute. Indeed, the primary professional organization for fingerprint examiners, the International Association for Identification, passed a resolution in 1979 making it professional misconduct for fingerprint examiners to provide courtroom testimony which labels a match "possible, probable or likely" rather than "certain." Resolution VII, 29 Identification News (Aug. 1979). The next year the resolution was amended to make it clear that it applied only to examiners who made a probabilistic identification on their own initiative (rather than, say, under threat of a contempt citation). See Resolution VII Amended, Identification News 3 (Aug. 1980).

n315. See Finger-Print Testimony in Court, 63 Literary Digest 22, 22 (1919) (reprinted from Finger-Print Mag., Aug. 1919) ("The finger-print expert has only facts to consider; he reports simply what he finds. The lines of identification are either there or they are absent. If two prints are identical in every particular, they were made by the same person. If they are different, they were not made by the same person.").

n316. See David L. Grieve, Possession of Truth, 46 J. Forensic Identification 521, 527-28 (1996).

n317. Paul L. Kirk & Charles R. Kingston, Evidence Evaluation and Problems in General Criminalistics, 9 J. Forensic Sci. 434, 435 (1964). See also Stephen G. Bunch, Consecutive Matching Striation Criteria: A General Critique, 45 J. Forensic Sci. 955, 956 (2000) ("There is no rational or scientific ground for making claims of absolute certainty in any of the traditional identification science which includes fingerprint, document, firearms, toolmark, and shoe and tire-tread analysis.").

n318. Beth Daley, Case Against Courtroom Science, Toronto Star, July 18, 2004, at A14 (quoting James Starrs, a professor of law and forensic sciences at George Washington University).

n319. State v. Quintana, 103 P.3d 168, 171 (Utah Ct. App. 2004) (Thorne, J., concurring). See also C. Ainsworth Mitchell, The Expert Witness 132 (1923) ("The doctrine of infallibility to which some of these early experts laid claim resulted in the whole system of the examination of handwriting acquiring a flavor of quackery.").

n320. "Analysts are human beings; the question is not 'will an error occur?' but 'when an error occurs, how can it be detected and corrected?'" Norah Rudin & Keith Inman, Exonerated by Science, 37 Jurimetrics J. 319, 321 (1997). Thus, "any forensic scientist who believes [otherwise] ... will suffer treble recompense for their arrogance." Thornton & Peterson, supra note 245, at 21.

n321. Proficiency testing represents "the most significant single measure of the quality of work in a forensic organization," Charles R. Midkiff, More Mountebanks, in 2 Forensic Science Handbook, at 77 (Richard Saferstein, ed.) (2d ed. 2004), because it is the "most appropriate means for the identification of sources of error[.]" Thornton & Peterson, supra note 245, at 21. See also Joseph L. Peterson et al., The Feasibility of External Blind DNA Proficiency Testing. I. Background and Findings, 48 J. Forensic Sci. 21, 24 (2003). Professors Thornton and Peterson put it best when they wrote: "Proficiency testing is simply the cost of doing business in the forensic science profession; it cannot be avoided." Thornton & Peterson, supra note 245, at 22. "Certainly an unknown error rate does not necessarily imply a large error rate[;] however if testing is possible, it must be conducted if forensic document examination is to carry the imprimatur of 'science.'" United States v. Starzecpyzel, 880 F. Supp. 1027, 1037 (S.D.N.Y. 1995).

n322. As Professor Hirschberg noted more than four decades ago, "a real student of science is too well aware of the infallibility of scientific knowledge to presume infallibility, while a charlatan tries to force his infallibility on his public." Max Hirschberg, Wrongful Convictions, 13 Rocky Mtn. L. Rev. 20, 34 (1940).

n323. Donald Kennedy, the Editor-in-Chief of Science, had this to say about fingerprinting: "It's not that fingerprint analysis is unreliable. The problem, rather, is that its reliability is unverified either by statistical models or fingerprint variation or by consistent data on error rates." Donald Kennedy, Editorial, Forensic Science: Oxymoron?, 302 Science 1625 (2003) (emphasis added). See also Lyn Haber & Ralph Norman Haber, Error Rates for Human Latent Fingerprint Examiners, in Automatic Fingerprint Recognition Systems 339, 358 (Nalini K. Ratha & Ruud Bolle eds. 2004) ("Our careful search of all of the professional research literature turned up not a single experiment on examiner accuracy, either when comparing latent prints to AFIS outputs or when comparing latent prints to ten-prints. Such data simply do not exist, even though examiners have testified in court about their infallible accuracy in making fingerprint comparisons for almost 100 years."); United States v. Ford, 2007 WL 925733, at 2 n.4 (3d Cir. Mar. 29, 2007) ("Courts have admitted shoe print identification evidence for a long time. However, the rate of error in shoe print identifications has not been firmly established.").

n324. Thornton & Peterson, supra note 245, at 21-22. The "topic of quality control is one that is regarded with suspicion and contempt by most scientists, including those in the forensic laboratory." M.A. Thomson, Bias and Quality Control in Forensic Science: A Cause for Concern, 19 J. Forensic Sci. 504, 510 (1974). Given this consternation, it is not surprising forensic examiners continually exhibit an unrelenting intolerance for any form of proficiency testing. See Holly Becka & Howard Swindle, Memos detail internal struggles at lab; Dallas Morning News, May 10, 2000, at 21 (discussing Dallas crime lab forensic examiner Charles Linch's refusal to take a bloodstain pattern interpretation proficiency test). Some practitioners so fear the consequences of an unsatisfactory proficiency test they are willing to jeopardize their careers and cheat in order to pass. See Anthony Colarossi, Defense Calls for New Trial in Rape Case, Orlando Sentinel, Nov. 26, 2002, at B2. As Professors Saks and Risinger noted, "study data which can show deficiencies in individual practitioners threaten these individuals' continued usefulness as effective witnesses. Valid or not ... [the] loss of such evidence would be especially impactive in cases where other admissible evidence against the defendant is weak." D. Michael Risinger & Michael J. Saks, Rationality, Research and Leviathan: Law Enforcement-Sponsored Research and the Criminal Process, 2003 Mich. St. L. Rev. 1023, 1040. "It's an unforgiving field ... The lab does not want a person who has made a mistake to continue working in the lab." Bernstein, supra note 121 (quoting Michelle Kuchner, Associate Crime-Lab Director for the Allegheny County (Pennsylvania), Coroner's Office, where she supervises the county's ballistics lab). As the FBI recently conceded in the wake of the Brandon Mayfield misidentification, "many [forensic] agencies are slow to ... or refuse to admit that errors have occurred." Stacey I, supra note 229. As Ainsworth Mitchell wrote nearly a century ago:

It was a frequent lament of Dr. Campbell Brown, a former Public Analysts for Liverpool, that a mistake made by an analyst was usually regarded as unpardonable. 'A doctor,' he said once, 'makes a mistake and buries it. A clergyman makes a mistake, and it is only discovered in the next world. A lawyer makes a mistake, and is paid for it as highly as if he had not. But if an analyst makes a mistake he is condemned. He has committed the unpardonable sin. This popular view arises from the black art. He is supposed to perform some simple, though mysterious magic on a thing, and presto, he knows all about it. If he makes a mistake, that indicates that his magic is bad; he is not a true magician, but a false quack - away with him."

Mitchell, supra note 319, at 5.

n325. Fingerprint examiners, for instance, have traditionally been instructed that they are testifying not to their opinions, but to a scientific fact which cannot be contradicted. See A.A. Gribben, How the Finger Print Expert Presents His Case in Court, Fingerprint Mag., Aug. 1919, at 10, 11-12.

n326. Id.

n327. See Moon v. State, 198 P. 288, 290 (Ariz. 1921) ("It is claimed that by means of finger prints the ... [London] police ... during the 13 years from 1901 to 1914 have made over 103,000 identifications ... without error."); People v. Jennings, 96 N.E. 1077, 1081 (Ill. 1911) (boasting of "the great success of the [fingerprinting] system in England, where it has been used since 1891 in thousands of cases without error").

n328. For instance, "Promoters of forensic DNA testing have done a good job selling the public, and even many defense attorneys, on the idea that DNA tests provide a unique and infallible identification." Thompson & Krane, supra note 209, at 11-68. See also United States v. Mahone, 453 F.3d 68, 72 (1st Cir. 2006) (The government's footwear expert "offered a potential error rate of zero for the method, stating that any error is attributable to examiners."); United States v. Hicks, 389 F.3d 514, 525, 526 (5th Cir. 2006) ("Beene repeated most of these claims, adding that he had performed more than a thousand cartridge-firearm comparisons in the course of his twenty-eight-year career with the Texas Department of Public Safety without a suggestion that any of his matches were incorrect ... Beene also testified at the state-court Daubert hearing that the error rate of firearms comparison testing is zero or near zero."); Commonwealth v. Meeks, 2006 WL 2819423, at 18 (Mass. Super. Ct. Sept. 28, 2006) ("Lydon has participated in proficiency testing in 2003 and 2005; both tests were associated with the American Society of Crime Laboratory Directors. Lydon did not receive any "misidentifications" in the tests."); Cooley, supra note 23, at 393 n.60 (listing several cases were forensic examiners claim an error rate of zero).

n329. See infra Part III.E. As Professor Cole shrewdly noted, Daubert and Kumho Tire, which emphasized the need to ascertain error rate data, may have had the reverse effect on the forensic community. Instead of encouraging forensic examiners to engage in error rate research, these decisions have "had the unintended consequence of tempting [forensic examiners] to make even less sustainable claims [of infallibility]." Simon A. Cole, More Than Zero: Accounting for Error in Latent Fingerprint Identification, 95 J. Crim. L. & Criminology 985, 990 (2005).

n330. For instance, an increasing number of forensic practitioners partake in proficiency tests provided by Collaborative Testing Services, www.collaborativetesting.com/catalogues/documents/2007/07CatalogueForensics.pdf (last visited May 15, 2007).

n331. The limited proficiency testing conducted in forensic science is viewed quite skeptically by forensic watchdogs and judges. For example, in a fingerprint case, a federal district judge noted that "the FBI [fingerprint] examiners got very high proficiency grades, but the tests they took did not ... On the present record I con-

clude that the proficiency tests are less demanding than they should be." United States v. Llera Plaza, 188 F. Supp. 2d 549, 565 (E.D. PA. 2002). Similarly, another federal district judge said this about a document examiner's remarkable ability to score perfectly on all is proficiency tests: "There were aspects of Mr. Cawley's testimony that undermined his credibility. Mr. Cawley testified that he achieved a 100% passage rate on the proficiency tests that he took and that all of his peers always passed their proficiency tests. Mr. Cawley said that his peers always agreed with each others' results and always got it right. Peer review in such a 'Lake Woebegone' environment is not meaningful." United States v. Lewis, 220 F. Supp. 2d 548, 554 (S.D. W. Va. 2002). See also United States v. Crisp, 324 F.3d 261, 274 (4th Cir. 2003) (Michael, J., dissenting) ("Proficiency testing is typically based on a study of prints that are far superior to those usually retrieved from a crime scene.").

n332. See Midkiff, supra note 321, at 77 (emphasis added). See also National Research Council, DNA Technology in Forensic Science 55 (1992); Ruth Teichroeb, Crime Labs Too Beholden to Prosecutors, Critics Say, Seattle Post-Intelligencer, July 23, 2004, at A13 (admitting that, "if you know it's a proficiency test, the person may do better work than usual and double-check it more") (quoting Ralph Keaton, Executive Director of ASCLD).

n333. Alan M. Dershowitz, Introduction to John Bryson, Evil Angels at ii (1987).

n334. See Paul R. Thagard, Why Astrology Is a Pseudoscience, in The Philosophy of Science 27 (Martin Curd & J.A. Cover eds. 1998).

n335. See id. at 32.

n336. See United States v. Crisp, 324 F.3d 261, 274 (4th Cir. 2004) (Michaels, J., dissenting) ("Unlike traditional scientific fields where criticism and vibrant exchange of ideas have led to dramatic advances, the techniques used by fingerprint analysts have changed little over the years.").

n337. Only when proficiency tests are reconfigured to test "real life" case situations, will we know for sure that forensic examiners can make accurate identifications and conclusions.

n338. See John J. Harris, How Much do People Write Alike?: A Study of Signatures, 48 J. Crim. L & Criminology 647 (1958).

n339. With respect to fingerprinting, see United States v. Sullivan, 246 F. Supp. 2d 700, 703 (E.D. Ky. 2003); United States v. Llera Plaza, 179 F. Supp. 2d 492, 511 (E.D. Pa. 2002); United States v. Allen, 207 F. Supp. 2d 856, 862 (N.D. Ind. 2002); Simon A. Cole, Suspect Identities: A History of Fingerprinting and Criminal Identification 264-65, 282-83 (2001) (discussing how the fingerprint community employs this rationale). In regards to DNA typing, see United States v. Ewell, 252 F. Supp. 2d 104, 109 (D.N.J. 2003); United States v. Trala, 162 F. Supp. 2d 336, 347 (D. Del. 2001). With regard to footprint identification, see United States v. Mahone, 453 F.3d 68, 72 (1st Cir. 2006) (The Government's footwear expert "offered a potential error rate of zero for the method, stating that any error is attributable to examiners."). This is intellectual dishonesty at its zenith. First, it is not possible to extricate "method" errors from "human" errors where the method primarily involves the examiner's judgment. Second, when it comes to the jury, the source of an error is immaterial. To accurately assess the forensic evidence's probative value, the most important issue for the jury is the error itself, not the source of the error. While identifying the source of error is critical in advancing forensic services, it has little bearing on the jury's probativeness calculus. Third, the forensic community's argument is tautological - i.e., if perfectly applied, the method will function perfectly. Finally, the argument misconstrues science's true empirical nature. Science is premised on measuring what actually happens and not what might happen. See Jonathan J. Koehler, On Conveying the Probative Value of DNA Evidence: Frequencies, Likelihood Ratios, and Error Rates, 67 U. Colo. L. Rev. 859 (1996).

n340. For instance, when the Supreme Court considered whether to extend Daubert's reliability analysis to Rule 702's "technical" or "specialized" knowledge components, a conglomerate of law enforcement associations teamed together and drafted an amicus brief urging the Supreme Court not to extend Daubert because this would impair law enforcement's ability to obtain convictions. Specifically, the brief argued: "The great bulk of expert testimony provided by law enforcement officers does not involve scientific theories, methodologies, techniques, or data in any respect ... Instead, law enforcement officers testify about such things as accident reconstruction, fingerprint, footprint and handprint [identification], handwriting analysis, firearms markings and toolmarks and the unique characteristics of guns, bullets, and shell casings, and bloodstain pattern identification." Brief for Americans for Effective Law Enforcement et al. as Amicus Curiae, Kumho Tire v. Carmichael, 526 U.S. 137 (1998) (No. 97-1709) (emphasis added). Similarly, in Michigan Millers Mutual Insurance Corp. v. Benfield, 140 F.3d 915 (11th Cir. 1998), the International Association of Arson Investigators submitted an amicus brief to the Eleventh Circuit asking the court to interpret their testimony as non-scientific rather than scientific so they could circumvent Daubert. See Brief for the Int'l Ass'n of Arson Investigators as Amicus Curiae, Mich. Millers Mut. Ins. Corp. v. Benfield, 140 F.3d 915 (11th Cir. 1998) (No. 97-2138).

n341. Joseph L. Peterson et al., Crime Laboratory Proficiency Testing Research Program 207 (1978).

n342. See Helen E. Longino, Values and Objectivity, in Philosophy of Science: The Central Issues 170-71 (Martin Curd & J.A. Cover eds. 1998); Bert Black, A Unified Theory of Scientific Evidence, 56 Fordham L. Rev. 595, 622 (1988).

n343. See Popper I, supra note 275, at 44 ("The word 'subjective' [concerns] ... our feelings of conviction.").

n344. James E. Starrs, Recent Developments in Federal and State Rules Pertaining to Medical and Scientific Expert Testimony, 34 Duq. L. Rev. 813, 825 (1996).

n345. Id.

n346. Id.

n347. See Victoria L. Phillips et al., The Application of Signal Detection Theory to Decision-Making in Forensic Science, 46 J. Forensic Sci. 294, 298 (2001) ("Forensic scientists often encounter ambiguous and murky decision-making situations."); United States v. Monteiro, 407 F. Supp. 2d 351, 355 (D. Mass. 2006); Commonwealth v. Patterson, 840 N.E.2d 12, 16-17 (Mass. 2005). For instance, consider bite mark evidence. There "is little consensus in the scientific community on the number of points which must match before any positive identification can be announced." Stubbs v. State, 845 So. 2d 656, 669 (Miss. 2003). Because bite mark evidence is so subjective, it is quite easy to find cases where qualified experts disagreed as to whether a mark was in fact a human bite mark and whether a known human bite mark matched a particular person's bite pattern. See, e.g., Czapleski v. Woodward, 1991 U.S. Dist. LEXIS 12567 (N.D. Cal. Aug. 30, 1991) (recounting a case where a dentist's initial report concluded that "bite" marks found on child were consistent with the mother's bite pattern, while several experts subsequently demonstrated that the marks on child's body were postmortem abrasion marks and not bite marks); Kinney v. State, 868 S.W.2d 463 (Ark. 1994) (noting disagreement over whether marks were human bite marks); People v. Noguera, 842 P.2d 1160, 1163 n.1 (Cal. 1992) ("At trial, extensive testimony by forensic odontologists was presented by both sides, pro and con, as to whether the wounds were human bite marks and, if so, when they were inflicted."); Rebecca Jams, Brown Case Ready For Jury; Forensic Dentist Says Bite Marks Could Not Have Been Made by the Defendant, Post-Standard (Syracuse, NY), Jan. 23, 1992, at B1 (noting how prosecution and defense bite mark experts disagreed as to whether a mark on the victim's body was in fact a human bite mark); Mark Platte, Dentist Calls Bites on Hubbard 'Consistent' With Victim's Teeth, L.A. Times, Sept. 10, 1991, at B2 (reporting that prosecution and defense experts disagreed as to whether marks on victim's body were in fact human bite marks).

n348. See Phillips et al., supra note 347, at 298.

n349. Consider the wide-ranging point system in fingerprinting, see Epstein, supra note 286, at 610 n.25 (listing numerous cases with a different number of corresponding points).

n350. See Phillips et al., supra note 347, at 299.

n351. In many forensic sectors, a second layer of subjectivity exists. For example, once fingerprint examiners intuitively determine the improbability of a coincidental match, they must then instinctively decide whether all other fingerprint examiners would reach the same conclusion before they are permitted to claim an absolute identification. Put simply, "fingerprint examiners must draw subjective impressions about other people's subjective impressions." Saks, supra note 194, at 882.

n352. While "current DNA tests rely heavily on computer-automated equipment, the interpretation of the results often requires subjective judgment. When faced with an ambiguous situation, where the call could go either way, crime lab analysts frequently slant their interpretations in ways that support prosecution theories." William C. Thompson et al., Evaluating Forensic DNA Evidence: Essential Elements of a Competent Defense Review, The Champion, May 2003, at 16, 18. This was also true of earlier DNA techniques, such as RFLP. See William C. Thompson & Simon Ford, DNA Typing: Acceptance and Weight of the New Genetic Identification Tests, 75 Va. L. Rev. 45, 81-89 (1989). A (relatively small) British study found that "38 percent of defence lawyers who had obtained an independent analysis" of DNA evidence received reports which "differed from those of the prosecutions' expert." Beverly Steventon, Royal Comm'n on Crim. Just., The Ability to Challenge DNA Evidence 42 (1993).

n353. See Paul C. Giannelli, The Twenty-First Annual Kenneth J. Hodson Lecture: Scientific Evidence in Criminal Prosecutions, 137 Mil. L. Rev. 167, 184-85 (1992) ("Subjectivity ... necessarily means that room for disagreement exists - specifically, the greater the subjectivity, the greater the chance for error."); OIG Report, supra note 91, at v (noting that a "greater risk of abuse and error is present when testing procedures call upon the use of [discretion]"). For instance, consider Charles Vaughan's statement (or rationalization) regarding his hair identification in an Oregon burglary case (Charles Vaughan currently is a forensic scientist with the Washington State Police crime lab system; prior to his current employment, Vaughn worked as a forensic scientist in Oregon). When a Thurston County, Oregon prosecutor was forced to dismiss a burglary charges after a defense expert concluded that Vaughn erred in his hair sample analayis, Vaughn defended his inculpatory conclusion by arguing that the "'subjective nature' of hair analysis can result in two forensic scientists reaching different conclusions." Ruth Teichroeb, Forensic Scientist in Crime Lab Tied To Wrongful Convictions in Oregon, Seattle Post-Intelligencer, Dec. 27, 2004, at A1. Likewise, consider Rex Penland's 1994 conviction and death sentence for murdering a prostitute. The only physical evidence linking Penland to the murder was a bootprint. However, the first forensic examiner from the North Carolina Bureau of Investigation ("NCBI") reported that she could not make an inclusionary or exclusionary determination because the print was unreadable. Prosecutors, nonetheless, found two other experts, a Stokes County Sheriff's Deputy and an NCBI agent, to testify that the print was not only decipherable, but that it was consistent with Penland's snakeskin boots. Penland was granted a new trial in 2004 because new DNA testing cast serious doubt on the bootprint identification and because prosecutors failed to disclose the first examiner's report. See Phoebe Zerwick, Mixed Results; Forensics, Right or Wrong, Often Impresses Jurors, Winston-Salem J., Aug. 29, 2005, at A1. Lastly, in Nelson v. Zant, 405 S.E.2d 250 (Ga. 1991), a capital murder case from Georgia, prosecutors argued that an FBI hair report, which significantly contradicted the prosecutor's hair expert's report, was not material because it "'did not establish' that the state's expert witness was incorrect, but simply that two experts disagree about the value of a comparison that is not conclusive in any event." Id. at 252 (citation omitted).

n354. Bob Banta, Austin Blood Expert's Work Criticized in Case Overturned on Appeal, Austin American-Statesman, Jan. 15, 1996, at B1 (quoting bloodstain analyst, Austin, Texas Police Sgt. Dusty Hesskew).

n355. See Joseph L. Peterson & John E. Murdock, Forensic Science Ethics: Developing an Integrated System of Support and Enforcement, 34 J. Forensic Sci. 749, 750 (1989).

n356. See Nat'l Inst. of Just., Education and Training in Forensic Science: A Guide for Forensic Science Laboratories, Educational Institutions, and Students 7 (2004) ("Most of the Nation's practicing forensic scientists are employed in crime laboratories associated with law enforcement or other government agencies.") [hereinafter Education Report]; United States v. Crisp, 324 F.3d 261, 273 (4th Cir. 2003) (Michaels, J., dissenting).

n357. See Koussiafes, supra note 55 ("In addition, a close relationship with law enforcement may present an ethical dilemma for forensic scientists. The scientists may see themselves as working for law enforcement, and this could hinder scientific objectivity.").

n358. See Joseph L. Peterson, Ethical Issues in the Collection, Examination, and Use of Physical Evidence, in Forensic Science (Geoffrey Davis ed. 1986).

n359. See Douglas M. Lucas, The Ethical Responsibilities of the Forensic Scientist: Exploring the Limits, 34 J. Forensic Sci. 719, 721 (1989).

n360. For example, police officers may use deceptive investigative tactics to elicit incriminating statements from a defendant. Scientists, conversely, are generally prohibited from concealing or fabricating data in order to produce a desired result. Thus, as one experienced forensic practitioner postulated:

Is it appropriate for the criminalitics laboratory to prepare fake cocaine or methamphetamine samples that narcotics investigators can use for undercover operations? Is it unethical for the criminalist to synthesize controlled drugs for use in such situations? What about preparing false reports that investigators can use during interrogation or suspects?

Peter Barnett, Ethics in Forensic Science: Professional Standards for the Practice of Criminalistics 4 (2001).

n361. See David Johnston & Andrew C. Revkin, Report Finds F.B.I. Lab Slipping From Pinnacle of Crime Fighting, N.Y. Times, Jan. 29, 1997, at A1, B8 ("Scientists at the [FBI] laboratory said they were often stifled in an operation run by nontechnical field agents who had little knowledge of science and who regularly altered reports to help prosecutors."); Lucas, supra note 359, at 725 ("'Crime labs' within police agencies are directed by career police officers with little or no scientific training."); Mark S. Frankel, Ethics and the Forensic Sciences: Professional Autonomy in the Criminal Justice System, 34 J. Forensic Sci. 763, 765 (1989).

n362. See John I. Thornton, Uses and Abuses of Forensic Science, 69 A.B.A. J. 288 (Mar. 1983); Paul Roberts, Forensic Science Evidence After Runciman, 1994 Crim. L. Rev. 780, 784.

n363. See James H. Kates & Henry L. Guttenplan, Ethical Considerations in Forensic Science Services, 28 J. Forensic Sci. 972, 973 (1983).

n364. See Lucas, supra note 359, at 724-25; Frankel, supra note 361, at 765-66.

n365. Regarding evidence collection, "in most criminal investigations, it is the patrol officer who initially responds to and collects the majority of the physical evidence ... Thus, in most instances, what the patrol officer does during this preliminary investigation has a significant impact on whether the case will survive the case

screen process, and be assigned for follow-up investigation. Therefore, if in this initial response, there is a failure to recognize or to collect potentially valuable evidence, particularly from a suspect, the case outcome is likely to be adversely affected." Frank Horvath & Robert Messig, The Criminal Investigative Process and the Role of Forensic Evidence: A Review of Empirical Findings, 41 J. Forensic Sci. 963, 977 (1996). Consider Professor Peterson's thoughts:

Crime laboratories, on the average, receive less that 1% of the parent police agency budget. This situation forces the laboratories to delay examinations until police or prosecutors demand them, to examine evidence only when suspects are identified, to selectively examine some evidence and not other evidence, and, in some measures, to conduct examinations that are cursory in nature ... Thus, the police have virtual control over the collection of physical evidence and considerable discretion over which evidence the laboratories examine.

Peterson, supra note 358, at 39.

n366. James E. Starrs, The Forensic Scientist and the Open Mind, 31 J. Forensic Sci. Soc'y 111, 134 (1991). Institutional bias has only become more intense in certain crime labs, particularly those which limit the time defense attorneys can discuss their cases with forensic examiners, while not limiting the time with investigators and prosecutors. For instance, after a defense attorney was able to elicit a confession from a forensic examiner that he lied in a previous report, the Washington State Patrol crime lab "began limiting defense attorneys to two-hour time blocks during pre-trial interviews to ease psychological pressures on forensic scientists." Teichroeb, supra note 40. The author experienced a similar bias with the Las Vegas Metro Police Department ("LVMPD") crime lab. After the author uncovered evidence that a Washoe County Crime Laboratory fingerprint and bloodstain analyst falsified his academic credentials in a 1990 death penalty case in Winnemucca, Nevada, the author contacted the LVMPD crime lab and asked for updated copies of all the analysts and examiners who currently worked at the LVMPD crime lab. The crime lab's management refused to directly provide copies to the author and his unit (the Capital Habeas Unit). Instead, a crime lab supervisor informed the author that he would need to contact the United States Attorney's Office or the Clark County District Attorney's Office. In short, the LVMPD crime lab is willing to freely provide this information to the government, but will not disclose this critical information to the defense when requested. This fact could lead a reasonable person to suspect that the State's forensic experts are either pro-prosecution, or pressured to be such, and that defense experts are not the only so-called "hired guns." See Nancy Grace & Diane Clehane, Objection 170 (2005) (arguing that only defense forensic experts are "hired guns").

n367. The author must confess, he paraphrased this great analogy from his former law professor Ronald Allen, see Ronald J. Allen & Amy Shavell, Further Reflections on the Guillotine, 95 J. Crim. L. & Criminology 625, 626 (2005).

n368. Take, for instance, Joyce Gilchrist's rise within the Oklahoma City Police Department crime lab. In his book Death and Justice: An Expose of Oklahoma's Death Row Machine, Mark Furman paints an excellent picture of how the present-day partnership between crime labs and law enforcement agencies can profoundly impact an examiner's attitude and work product. See Mark Furman, Death and Justice: An Expose of Oklahoma's Death Row Machine 70-71 (2003). Likewise, the May 2006 audit report concerning the Houston crime lab identified "many instances of failure to report analytical results that would have weakened the prosecution's case or strengthened the case for exonerating the defendant." Bromwich, Fifth Report, supra note 163, at 23.

n369. See Teichroeb, supra note 40 (discussing how a DNA analyst misinterpreted the results of a test because she tried to rush her work in order to appease the case investigators); Bob Baker & Paul Lieberman, Faulty Ballistics in Deputy's Arrest: Eagerness to 'Make' Gun Cited in LAPD Lab Error, L.A. Times, May 22, 1989, at 1 (discussing how intense pressure to solve nearly seventy prostitute murders in Los Angeles County may have led to an erroneous firearms identification which led to Rickey Ross' wrongful arrest for first-degree murder; for

instance a "senior police officer said homicide investigators were telling the firearms experts, 'Get in there and do a comparison ... We need it now, we need it now.'"); McCarty v. State, 114 P.3d 1089, 1093 n.18 (Okla. Crim. App. 2005) ("We were 'greatly disturbed' by allegations Ms. Gilchrist may have been pressured to give expert opinion beyond scientific capabilities.").

n370. For two such examples, see Cook v. State, 940 S.W.2d 623, 626 (Tex. Crim. App. 1996); Ben Zion Hershberg, Analyst Felt Pressured in Camm's First Trial; Ex-prosecutor Denies Any Wrongdoing, Courier-J. (Louisville, Ky.), Feb. 1, 2006; see also Steve Mills & Jeff Coen, 12 Years Behind Bars, Now Justice at Last, Chi. Trib., Feb. 1, 2005, at 1 (noting how "prosecutors pushed" a forensic dentist "to make his testimony more damning than he wanted;" the dentist's testimony played a key role in Harold Hill and Dan Young, Jr.'s overturned rape convictions); Copper v. Dupnik, 963 F.2d 1220, 1232-33 (9th Cir. 1992) (A fingerprint examiner, who was asked to re-evaluate a possible misidentification, testified that the law enforcement Task Force which wanted the identification to be correct, placed a great amount of "pressure" on her to confirm the identification. She eventually concluded "that a mistake might have been made" and her suspicions were confirmed when another examiner "found sufficient discrepancies to cancel the points of comparison." The misidentification resulted in Michael Cooper's wrongful arrest.); Chase Squires, Pasco Sheriff Deflects Blame for Wrong Arrest in Killing, St. Petersburg Times, Feb. 3, 2000, at 6 (commenting on how a prosecutor pressured a Sheriff to arrest Dale Morris for brutally murdering a nine-year-old girl, when all that the Sheriff had was a questionable bite mark identification, which, as it turned out, was incorrect; Morris served four months in jail for a crime he did not commit). Likewise, consider Joyce Gilchrist's testimony in Curtis Edwards McCarty's 1986 death penalty trial. Gilchrist testified that a pubic hair recovered from the victim matched McCarty's hair. See State v. McCarty, 765 P.2d 1215, 1218 (Okla. Crim. App. 1988). Furthermore, when the prosecutor asked her whether she had "an opinion as to whether Mr. McCarty was physically present during the time violence was done to Miss Willis," Gilchrist replied "he [McCarty] was in fact there." Id. As the Oklahoma Court of Criminal Appeals noted, Gilchrist's later opinion went well beyond her area of expertise and required overturning McCarty's conviction and death sentence. Id. More importantly, however, is the fact prosecutors presumably pressured Gilchrist to provide such an "inconceivable" and "improper" opinion. Id. For instance, shortly after McCarty's trial, Oklahoma County District Attorney, Robert Macy, made the following statement regarding what he expected from his crime lab workers: Macy stated "he wants lab workers, based on their scientific findings, to give opinions if they believe the person accused of the crime 'was actually in fact there and in contact' with the victim. 'An expert who won't give you an opinion is not a whole lot of value to you ... if he's not willing to say, 'After examining all of the evidence, in my opinion, these hairs came from this man,' or 'Yes, this man was present.'" Id. at 1219 n.1 (emphasis added) (citation omitted). Thus, it comes as no surprise why Professor Moenssens cautioned that "all [forensic] experts are tempted, many times during their careers, to report positive results when their inquiries came up inconclusive, or indeed to report a negative result as positive when all of the other investigative leads seem to point to the same individual." Andrea A. Moenssens, Novel Scientific Evidence in Criminal Cases: Some Words of Caution, 85 J. Crim. L. & Criminology 1, 17 (1993). Furthermore, as Professor Gianelli wrote in his innovative article on independent crime labs: "pro-prosecution bias in forensic science is not surprising" when you take into account "the professional relationship between crime labs and police departments." Paul C. Giannelli, The Abuse of Scientific Evidence in Criminal Cases: The Need for Independent Crime Laboratories, 4 Va. J. Soc. Pol'y & L. 439, 470 (1997).

n371. See Kirk & Bradford, supra note 56, at 22-23 (advocating for independent crime labs); Wilkaan Fong, Criminalistics and the Prosecutor, in Forensic Science: Scientific Investigation in Criminal Justice 376 (Joseph L. Peterson ed. 1975) (advocating for independent crime labs). As Paul Kirk and Lowell Bradford stressed forty years ago: "It must ... be understood that all criminalistics examinations are made as much in behalf of the defendant or suspect as for the enforcement agency." Kirk & Bradford, supra note 56, at 6 (emphasis added). The West Virginia Supreme Court recently advocated this position: "We believe that removing the [West Virginia] Crime Lab from State Police supervision and placing it under an independent agency as well as the creation of an independent supervisory board to oversee and advise the work of the Crime Lab deserves further consideration by the appropriate authorities." In re Renewed Investigation of State Police Crime Lab., Serology Div., S.E.2d 762, 770 n.12 (W. Va. 2006).

n372. Currently, "forensic laboratory services ... are not generally available to criminal defendants." Paul C. Giannelli, The Right to Defense Experts, Crim. Just. (Summer 2003).

n373. For instance, Dr. Ralph Erdmann, who faked hundreds of autopsies, routinely worked hand in hand with law enforcement and prosecutors to alter or shade findings which supported the police and prosecutor's theory. See Richard L. Fricker, Pathologist's Plea Adds to Turmoil, 79 A.B.A. J. 24 (Mar. 1993). Fred Zain's former co-workers described him as "pro-prosecution." Matter of Investigation of W. Va. State Police Crime Lab., Serology Div., 438 S.E.2d 501, 503 (W. Va.1993). ASCLD investigators reinforced this finding: "When in doubt, Zain's findings would always inculpate the suspect." Id. at 512 n.9. The Office of the Inspector General's ("OIG") investigation of the FBI crime laboratory "concluded that [David] Williams [of the explosives unit] gave inaccurate and incomplete testimony and testified to invalid opinions that appeared tailored to the most incriminating result." Office of Inspector General, U.S. Dep't of Just., The FBI Laboratory: Investigation Into Laboratory Practices and Alleged Misconduct in Explosive-Related and Other Cases, Executive Summary pt. III, § C. (Apr. 1997) [hereinafter OIG Report]. With respect to the Houston crime lab, Dr. Elizabeth Johnson, a former medical examiner with the Harris County Medical Examiner's Office, commented: "They [HPD examiners] intentionally mislead ... And in all the cases ... they always mislead in favor of a conviction." Steve McVicker, Lab Chief's Testimony in 3 Cases Questioned; Court Transcripts Show HPD Work Was Wrong, Hous. Chron., Mar. 29, 2003, at A37. According to forensic scientists who have reviewed Arnold Melnikoff's hair identification cases, "Melnikoff repeatedly used an invalid system of hair analysis" which always seemed to "place defendants at the scenes of Montana's most heinous crimes." Charlie Gillis, Scandal in the Forensic Labs; Hundreds of Cases Undergoing Review in Montana, Nat'l Post, Feb. 1, 2003, at B01. In People v. Bokin, No. 168461, slip op. (Cal. Super. Ct. May 5, 1999), available at http://www.scientific.org/distribution/archive/ca-v-bokin.pdf., the Superior Court of California (San Francisco) criticized Alan Keel, then head of the San Francisco Crime Lab [SFCL], for his unacceptable degree of prosecution bias. During discovery, Keel "submitted a lengthy declaration challenging the defense motion [concerning the SFCL's STR validations studies]." Id. at 15. The court described Keel's opposition as "beyond advocacy - it indicated a critical attitude toward the defense function in a criminal case." Id. Concepcion Bacasnot's "false testimony" in Bernard Webster's rape case was "clearly designed to bootstrap the State's case theory." Stephanie Hanes, Ex-crime Lab Chemist's Work Questioned, Balt. Sun, Feb. 22, 2003, at 1B. DNA exonerated Webster in 2002. See id. Pamela Fish, a former Chicago Police Department crime lab supervisor, whose false testimony produced several wrongful convictions, always "offered the opinion most damaging to the defendant." Steve Mills & Maurice Possley, Report Alleges Crime Lab: Scientist Is Accused of Providing False Testimony, Chi. Trib., Jan. 14, 2001, at 1. According to the Guy Paul Morin commission report, Canadian forensic scientists involved in his wrongful murder conviction exhibited a detective-like mentality because they were "too easily prepared to discount evidence which could favor the defense." Hon. F. Kaufman C.M, Q.C., The Commission on Proceedings Involving Guy Paul Morin 218 (1998).

n374. Email from Bruce Moran, Senior Criminalist, Sacramento County Crime Laboratory, to Brent Turvey, Forensic Expert & Criminal Profiler, Forensic Solutions, LLC (Jan. 16, 2006, 06:08 PST) (on file with author). Mr. Moran made these comments after reading Brent Turvey and this author's recently published observer effect chapter. See Craig M. Cooley & Brent Turvey, Observer Effects & Examiner Bias: Psychological Influences on the Forensic Examiner, in Crime Reconstruction 51-83 (W. Jerry Chisum & Brent E. Turvey eds. 2006). Likewise, consider this statement from a DNA analyst: "We're all human ... I tried not to let [the detectives' belief in the suspect's guilt] influence me. But I can't say it never does." Teichroeb, supra note 40 (quoting Denise Olson, a DNA analyst with the Washington State Patrol crime lab). Olson made these remarks after a colleague detected she misinterpreted the results of a DNA test. Olson originally informed investigators their prime suspect likely contributed the biological evidence. Upon review, however, Olson's colleague discovered that Olsen's results actually excluded the primary suspect.

n375. See generally D. Michael Risinger et al., The Daubert/Kumho Implications of Observer Effects in Forensic Science: Hidden Problems of Expectation and Suggestion, 90 Cal. L. Rev. 1 (2002). The terms "observer effects," "context effects," or "examiner biases" all refer to the same phenomenon.

n376. Paul Kirk and Charles Kingston were on to something forty years ago when they wrote: "Subjective opinions, however well based in personal experience, are still subject to several factors such as ... a mental bias of which its possessor may be totally unaware." Paul L. Kirk & Charles R. Kingston, Evidence Evaluations and Problems in General Criminalistics, 9 J. Forensic Sci. 434, 435 (1964) (emphasis added).

n377. See Risinger et al., supra note 375 at 12.

n378. See Ulric Neisser, Cognition and Reality: Principles and Implications of Cognitive Psychology 43-45 (1976). In short, examiner bias is the "tendency to resolve ambiguous stimuli in a manner consistent with expectations." William C. Thompson, DNA Evidence in the O.J. Simpson Trial, 67 U. Colo. L. Rev. 827, 845 (1996).

n379. See Education Report, supra note 356, at 7.

n380. See Larry S. Miller, Procedural Bias in Forensic Science Examinations of Human Hair, 11 Law & Hum. Behav. 157, 158 (1987). For instance, the May 2006 audit report regarding the Houston crime lab noted that: "It is apparent ... that DNA analysts in many cases tended toward reporting only those reports that, from their perspective, were 'safe' in the sense that they were consistent ... with the investigators' expectation. This sometimes meant that analysts suppressed potentially exculpatory ... results in favor of reporting less reliable or less discriminatory typing results that appeared to reflect an association between the suspect and evidence in the case." Bromwich, Fifth Report, supra note 163, at 6.

n381. For example, forensic examiners simply do not receive the physical evidence when assigned a new case. Rather, investigators frequently supplement their forensic examination requests with detailed crime scene and investigative reports. See Miller, supra note 380, at 158; Douglas Ubelaker & Henry Scammell, Bones: A Forensic Detective's Casebook 279, 228 (1992). These requests, reports, and communications often convey unnecessary data about the crime, victims and/or defendants, and what the requesting investigator expects from the requested examinations. Simply put, forensic scientists are frequently made privy to "potentially or irrefutably inculpatory evidence in a case." Saks, supra note 194, at 886. The Office of the Inspector General's Report regarding the FBI laboratory identified various incidents where examiners relied on domain-irrelevant information when forming their conclusions. See OIG Report, supra note 373, at 11, 128-29. Likewise, consider Tony Keko's overturned murder conviction. Keko's wife, Louise, was murdered in 1991. The County Sheriff and his investigators "believed that Keko was guilty, but they did not have enough evidence against him to establish probable cause." Keko v. Hingle, 1999 WL 508406, at 1 (E.D. La. July 8, 1999). After their initial investigation "failed to reveal new evidence against Keko," investigators hired Dr. Michael West, a controversial forensic dentist, see Mark Hansen, Out of the Blue, A.B.A. J., Feb. 1996, at 50, to determine whether investigators overlooked physical evidence during the autopsy. See Keko v. Hingle, 1999 WL 508406, at 1. Investigators exhumed Louise's body fourteen months after burial, and Dr. West examined her corpse with his questionable "blue-light" technique. Id. at 2 ("Dr. West ... claimed that by shining a 'blue light' on skin he could identify the presence of human bite marks."). He allegedly discovered a bite mark on Louise's shoulder. Dr. West subsequently informed investigators that "he needed dental study models of all of the suspects in order to attempt to identify Louise Keko's attacker." Id. (emphasis added). However, when investigators met with him in October 1992, "they gave him only |Keko's| dental impressions," and provided him "with information designed to lead him to the conclusion that Keko was the killer|.|" Id. (emphasis added). Not surprisingly, after comparing Keko's bite pattern to the bite mark on Louise's shoulder, Dr. West opined that "indeed and without doubt" the bite mark on Louise's shoulder matched Keko's bite pattern. Id. at 2; see also Keko v. Hingle, 318 F.3d 639, 643 (5th Cir. 2003) (noting that "his report stated that 'indeed and without doubt' the bite marks he observed on the exhumed body of Louise Keko matched Tony's dental impressions."). Dr. West testified at trial that "indeed and without doubt" the bite mark on Louise's shoulder matched Keko's bite pattern. "Dr. West's evidence provided the only direct evidentiary link at trial connecting Keko to the crime." Keko v. Hingle, 318 F.3d 639, 641 n.2 (5th Cir. 2003). The jury convicted Keko and the trial judge sentenced him to life in prison. In December 1994, after serving two years of his sentence, a Louisiana district court judge ordered a new trial because prosecutors failed to disclose the fact that three influential forensic science organizations discredited Dr. West's blue-light technique and his testimony in previous cases. See Keko v. Hingle, 1999 WL 508406, at 1 ("Keko was released from jail and

granted a new trial based on the court's determination that the prosecution had withheld information regarding the qualifications of its chief witness, Dr. West."). In November 1996, the district court judge barred Dr. West's testimony in Keko's retrial. Steve Cannizaro, Buras Man May Beat Murder Rap Second Time, Times-Picayune (New Orleans, LA), Dec. 21, 1996. Without Dr. West's testimony, prosecutors dismissed all charges on July 27, 1998. See also Williamson v. Reynolds, 904 F. Supp. 1529, 1557 (E.D. Okla. 1995) (noting that "erroneous conclusions can increase when the examiner is told which hair sample is from the suspect in the crime. A preconceived conclusion that questioned hairs and known hairs are from the same individual may affect the examiner's evaluation.").

n382. See Risinger et al., supra note 375, at 48-49.

n383. A "show-up" is an identification procedure where an eyewitness is presented with a single suspect for identification. See Technical Working Group for Eyewitness Evidence, U.S. Dep't of Just., Eyewitness Evidence: A Guide for Law Enforcement (1999) (discussing the various methods of eyewitness identification). Judge Nancy Gertner, a Massachusetts federal district judge, commented on the concerns surrounding forensic evidence "show-ups" in two cases. See United States v. Green, 389 F. Supp. 2d 29 (D. Mass. 2005) (a firearms case); United States v. Hines, 55 F. Supp. 2d 62, 69-70 (D. Mass. 1999) (a handwriting case). See also Williamson v. Reynolds, 904 F. Supp. 1529, 1553 (E.D. Okla. 1995) ("Susan Land testified that although she had hair samples from many individuals, the only samples she mounted on microscope slides were those from the victim, Petitioner [Ron Williamson] and [Dennis] Fritz.").

n384. See Gary L. Wells et al., Eyewitness Identification Procedures: Recommendations for Lineups and Photospreads, 22 L. & Hum. Behav. 603 (1998). As the Supreme Court noted, a show-up raises reliability concerns because it is an inherently "suggestive procedure." Manson v. Brathwaite, 432 U.S. 98, 107 (1976).

n385. See Risinger et al., supra note 375, at 48.

n386. Research supports this notion, as researchers in one study discovered 90% of forensic examinations resulted in an inculpatory finding. See Joseph L. Peterson, Steven Mihajlovic & Michael Gilliland, Forensic Evidence and the Police 117 (NIJ Research Report 1984).

n387. Risinger et al., supra note 375, at 6.

n388. See Cole, supra note 329, at 1060 ("Forensic science ... has remained stubbornly resistant to even recognizing that observer effects may be in force."). The lack of awareness is disheartening because covert biases represent a far greater threat to the forensic science community than do the small percentage of dishonest or fraudulent forensic examiners.

n389. The first forensic science textbook of which this author is aware to thoroughly discuss the observer effect issue was recently published by Brent Turvey and this author. See Cooley & Turvey, supra note 374. Prior to this chapter's publication, Keith Inman and Norah Rudin's book represented the most serious discussion of the topic. See Inman & Rudin, supra note 195, at 182-89. Professor D. Michael Risinger and his colleagues wrote the first comprehensive legal article (journal or otherwise) to discuss the observer effect issue in forensic science. See Risinger et al., supra note 375.

n390. See Am. Soc'y of Crime Lab. Dirs., Laboratory Accreditation Board Manual (2000).

n391. See Itiel E. Dror & David Charlton, Why Experts Make Errors, 56 J. Forensic Identification 600, 604, 614 (2006) ("This important area of research has been highly neglected ... This entire area of research is new in the forensic sciences and has rarely been considered before.").

n392. See id.; Itiel E. Dror et al., Contextual Information Renders Experts Vulnerable to Making Erroneous Identifications, 156 Forensic Sci. Int'l 74 (2006); Itiel E. Dror et al., When Emotions Get the Better of Us: The Effect of Contextual Top-down Processing on Matching Fingerprints, 19 Appl. Cognitive Psych. 799 (2005).

n393. Dror & Charlton, supra note 391, at 604, 612.

n394. See Miller, supra note 380, at 158. A federal district judge commented that the "conventional method [for hair identification] is subject to unintentional bias among hair examiners." Williamson v. Reynolds, 904 F. Supp. 1529, 1557 (E.D. Okla. 1995).

n395. Lucas, supra note 359, at 725 ("Most forensic scientists would argue that, regardless of the investigative information available, the results from the laboratory cannot change and their objectivity therefore cannot be challenged.").

n396. Once a forensic examiner is provided irrelevant, yet expectation-inducing, information, the examiner can consciously try to purge this information from his consciousness, but the irrelevant information has already embedded itself into the examiner's subconscious. Once embedded, it is anyone's guess how this information will influence the examiner's work-product and ultimate conclusion(s). Again, this is why observer effects are so dangerous to forensic science.

n397. For instance, during the Indiana symposium's scientific evidence panel discussion, one of the author's comments concerned the forensic community's ignorance or indifference when it came to acknowledging and dealing with observer effects. See Cooley, supra note 20, at 82-83. Immediately after the panel discussion, Dr. Selavka, approached the author and said: "I've never heard of observer effects or examiners biases. However, even if these effects do exist they cannot and do not affect my interpretations because I'm an objectively trained scientist." Personal communication with Dr. Carl M. Selavka (Sept. 9, 2004).

n398. As Judge Gertner astutely commented: "Identification would be open to far less criticism if it were similar to that of photo identification. In other words, using several unidentified writings and then determining if any of the writings were produced by the same individual." United States v. Hines, 55 F. Supp. 2d 62, 70 n.20 (D. Mass. 1999). See also Risinger et al., supra note 375, at 48.

n399. See R. Cook et al., A Model for Case Assessment and Interpretation, 38 Sci. & Just. 151 (1998) (discussing the "filtering" process system developed by the United Kingdom's Forensic Science Services). "Domain-irrelevant" information is information that is unnecessary to render an opinion. For instance, in a rape case, a fingerprint examiner need not know that DNA analysts linked the prime suspect's DNA to DNA recovered from the victim's underwear. Likewise, in a firearms homicide, the prosecutor's firearms examiner need not know that five people identified the defendant as the shooter. In both examples, the irrelevant information - the DNA link and the eyewitness evidence - significantly increases the likelihood that observer effects will affect the fingerprint and firearms examiners' conclusions.

n400. Risinger et al., supra note 375, at 45. An "examiner who has no domain-irrelevant information cannot be influenced by it. An examiner who does not know what conclusion is hoped for or expected of her cannot be affected by those considerations." Id. As one state court judge recently noted, however, "while ... each of the above-[mentioned suggestions] would minimize or eliminate confirmation bias, there are of course budgetary ... considerations." Commonwealth v. Meeks, 2006 WL 2819423, at 18 n.84 (Mass. Super. Ct. Sept. 28, 2006). Until the forensic science community is better funded, it is safe to say these suggestions will not be implemented any time soon.

n401. Bromwich, Fourth Report, supra note 154, at 35.

n402. As one State Supreme Court Justice recently commented, "There are numerous examples [of forensic fraud] in the literature[.]" State v. Clifford, 121 P.3d 489, 503 n.4 (Mont. 2005) (Nelson, J., concurring) (referring to Fred Zain, Ralph Erdmann, and Arnold Melnikoff). According to forensic evidence expert, Professor Paul C. Giannelli, a number of "world-class fabricators have surfaced" within the forensic science community. Paul C. Giannelli, Fabricated Reports, 16 Crim. Just. 49 (2002). Professor Giannelli's sentiments are shared by Max Houck, Director of the Forensic Science Initiative at West Virginia University, who says: "For some reason, the forensic sciences have always had their fair share of charlatans." Roane, supra note 35, at 48. See generally Giannelli, supra note 370 (discussing numerous forensic fraud situations).

n403. See Ben Schmitt, Man sues Garden City police over planted prints, Savannah Morning News, June 18, 1998, available at http://old.savannahnow.com/stories/061898/LOCgreensuit. html (noting how Sam A. Kaminsky, a former Garden City, Georgia police officer, served a three-year sentence for falsifying fingerprint evidence); Nelson E. Roth, The New York State Police Evidence Tampering Investigation: Report to the Honorable George Pataki, Governor of the State of New York (1997) (detailing the largest fingerprint fabrication scandal in United States history); Pat A. Wertheim, Detection of Forged and Fabricated Latent Prints: Historical Review and Ethical Implications of the Falsification of Latent Fingerprint Evidence, 44 J. Forensic Identification 652 (1994); Boris Geller et al., A Chronological Review of Fingerprint Forgery, 44 J. Forensic Sci. 963 (1999).

n404. See Laura Cadiz, Md.-Based DNA Lab Fires Analyst Over Falsified Tests, Balt. Sun, Nov. 18, 2004, at 1A; Worker in Army Lab May Have Falsified DNA Test Result, AP, Aug. 27, 2005.

n405. See Geoffrey A. Campbell, Erdmann Faces New Legal Woes: Pathologist Indicted for Perjury in Texas Murder Trial, 81 A.B.A. J. 32 (Nov. 1995) (discussing Ralph Erdmann's shenanigans).

n406. See Jones v. City of Chicago, 856 F.2d 985, 991 (7th Cir. 1988) ("Police laboratory technician Mary Furlong ... discovered that [defendant] George Jones had different semen and blood types from the types found in ... [the victim's] vagina. Furlong failed to include this information in the lab."); Buckley v. County of DuPage, 1989 WL 64321, at 2 (N.D. Ill., June 9, 1989) ("Defendant [Ed] German examined the boots and at first concluded in handwritten notes that plaintiff's boot 'could have at best' made the footprint on the door and that 'another shoe could very well have made the prints.' In his official report he simply concluded that plaintiff's boot 'could have' made the prints and omitted the remainder of his prior conclusions.") (emphasis added); Crawford v. Pennsylvania, 2005 WL 2465863, at 1-5 (M.D. Pa. Oct. 6, 2005) (discussing how a Pennsylvania State Police crime lab chemist "blacked out" exculpatory information from her crime laboratory report); Midkiff, supra note 321 at 55-60 (discussing Chicago Police Department forensic serologist, Pamela Fish's, willingness to exclude plainly exculpatory evidence from her lab reports); Roma Khanna, HPD Analysts Avoided Serious Penalty Before; 3 Suspended at the Crime lab had Earlier Rebukes Reduced on Appeal, Hous. Chron., Jan. 8, 2006, at A1 (noting that a Houston crime lab DNA analyst "reported that DNA tests in the 1995 sexual assault case against Garland Davis were inconclusive when, in fact, they excluded him as a contributor to samples of evidence from the crime scene."). Houston DNA analyst Christy Kim "excluded [Charles Eura Hodge], based on his blood type, as a potential donor" in a rape case, Bromwich, Fourth Report, supra note 154, at 15, yet "despite these test results, Kim reported that Hodge could have been a contributor." Steve McVicker & Roma Khanna, HPD Lab Probe Details More Lapses, Hous. Chron., Jan. 5, 2006, at A1.

n407. Former FBI metallurgist, Kathleen Lundy, pled guilty to intentionally providing false testimony at a pretrial hearing regarding her examination of bullet evidence in a Kentucky murder case. See Mark Pitsch, Ex-FBI Scientist Pleads Guilty, Courier-J., June 18, 2003, at 1B. See also Bromwich, Fourth Report, supra note 154, at 35-39 (discussing how Christy Kim, a Houston crime lab DNA analyst, knowingly lied during a capital sentencing hearing when she testified that an RFLP test had not been performed; contrary to Kim's claim, she conducted an RFLP test which excluded the capital defendant).

n408. Bromwich, Fourth Report, supra note 154, at 6 (discussing two cases, one a death penalty case, where "the [Houston] Crime Lab failed to report potentially exculpatory DNA typing results. In each of these cases, the DNA Section obtained very clear RFLP results that did not reflect the presence of the suspect's profile in the evidence sample, and yet the Crime Lab called the RFLP results 'inconclusive' in both cases.").

n409. See Teichroeb, supra note 90 (discussing forensic scientist John Brown's scientific misconduct).

n410. A Canadian forensic scientist identified various unscientific and intellectually dishonest laboratory reporting practices, including: 1) "preparation of reports containing minimal information in order not to give the 'other side' ammunition for cross-examination"; 2) "reporting of findings without an interpretation on the assumption that if an interpretation is required it can be provided from the witness box"; and 3) "omitting some significant point from a report to trap an unsuspecting cross-examiner." Lucas, supra note 359, at 724.

n411. See Bromwich, Fourth Report, supra note 154, at 26-27 (noting that James Bolding, the Houston crime lab's Serology and DNA Section Chief, lied about his level of education during a criminal trial); Jennifer McMenamin, Police Expert Lied About Credentials; Ballistics Specialist Killed Himself After Being Confronted With Deceit, Balt. Sun, Mar. 9, 2007, at 1A (discussing how a Maryland firearms expert killed himself after defense attorneys uncovered several instances where he fabricated his academic credentials); Greg Moran, Criminalist Who Testified on DUIs Falsified Resume; It's Unclear if Cases Will Be Affected, San Diego Union-Trib., Mar. 22, 2006, at B1 (discussing how Ray Cole, a veteran criminalist with the San Diego crime lab, falsified his resume by claiming he had a "Premedical Studies" degree from the University of California at Berkeley, when his degree was actually in "Political Science"); Teichroeb, supra note 90 ("It became clear in the mid-'80s that [Donald K.] Phillips had misrepresented his credentials. On the witness stand, he'd testified more than once to having a chemistry major. In reality, he had majored in agricultural science at Ohio State University.").

n412. See OIG Report, supra note 91 (detailing how FBI analyst Jacqueline Blake incompletely processed control samples and falsified laboratory documents by stating she performed the required tests); William C. Thompson, Tarnish on the 'Gold Standard:' Understanding Recent Problems in Forensic DNA Testing, The Champion, Jan.-Feb. 2006, at 10-16, available at http://www.bioforensics.com/articles/Thompson Champion Tarnish.pdf (discussing how a DNA analyst from New York's Chief Medical Examiner's Office reported and testified to control tests which were never conducted); Timothy W. Maier, Federal Judge Slams Fingerprint "Science," Insight on the News, Mar. 18, 2002, at 20 (discussing how a former Wisconsin State Police fingerprint analyst skipped tests but later claimed in reports he performed the tests); Steve Hart, Expert Roils Slaying Case, Santa Rosa Press Democrat, May 31, 2004 (noting how a criminalist testified about paint tests that he never conducted at a preliminary hearing in a double murder case); Khanna & McVicker, supra note 406, at A1 (discussing how two Houston crime lab examiners concocted results without conducting analyses in four cases); Hundreds of Drug Cases May Be In Jeopardy; Chemist with DEA in Dallas Reportedly Acknowledged Filing False Reports, Dallas Morning News, July 19, 1996, at 34A (discussing how a DEA chemist filed false reports which indicated she conducted tests she never performed).

n413. See Teichroeb, supra note 40 (discussing how Brian Smelser fabricated a DNA report to hide the fact he contaminated three DNA tests with his own DNA).

n414. See Ex-crime Lab Technician Admits Stealing Seized Drugs, St. Louis Post-Dispatch, Aug. 6, 2005, at A12 (discussing how Matthew Barb, a forensic chemist with the Missouri Highway Patrol crime lab, stole drugs seized from suspects); Barbara Boyer & Mark Fazlollah, Former Philadelphia Police Lab Chemist Arrested, Cases Impacted, Phila. Inquirer, Oct. 11, 2006 (discussing how Colleen Brubaker, a forensic chemist with the Philadelphia Police crime lab, stole 2,700 pills, which included Oxycontin, Vicodin and Percocet, from the police laboratory where she worked and then altered the records to cover her tracks); Paul Gustafson, Ex-crime Lab Employee Sentenced in Coke Theft, Star Trib. (Minneapolis-St. Paul), July 9, 2005, at 4B (discussing how David B. Peterson, who was one of three assistant lab directors for the Minnesota Bureau of Criminal Apprehension ("MBCA"), was sentenced to 30 years probation for stealing cocaine from the MBCA crime lab);

Anita Hassan, Steve McVicker & Anne Marie Kilday, Impact of Cocaine Thefts from DPS Lab Disputed: DA Downplays Breach, but Others Say Trust, Integrity of Evidence at Risk, Hous. Chron., Feb. 17, 2007, at A1 (discussing how police arrested Jesus Hinojosa Jr., a lab technician with the Texas Department of Public Safety ("DPS"), after a DPS investigation revealed he smuggled cocaine out of the DPS crime lab for years and sold it on the streets); Teichroeb, supra note 90 (describing how Michael Hoover, a Washington State Patrol crime lab drug analyst, stole heroin from the evidence locker to satisfy his heroin addiction).

n415. See Charles Finnie, Lab Problems May Affect 1,047 Cases, L.A. Daily J., Nov. 4, 1994, at 3 (reporting a police lab technician was suspected of compromising 1,047 cases over a five-year period by conducting "presumptive" tests on evidence but not following up with a "conclusive" chemical test to determine if the substance was in fact a narcotic); Phoebe Zerwick, Tainted Evidence? Appeal in 1993 Capital Case Questions Blood Tests on a Mixed Bag of Clothing, Winston-Salem J., Aug. 29, 2005, at A7 ("But just as his trial was beginning in 1993, the SBI's blood-spatter expert, Duane Deaver, tested Goode's boots for blood. On the left boot, his report showed a faint positive result to a screening test. Deaver testified about a chemical test that was 'positive for the presence of blood,' without mentioning that he never ran the more specific tests that laboratories use to confirm human blood.").

n416. Joyce Gilchrist immediately comes to mind. The Oklahoma Court of Criminal Appeals recently overturned Curtis Edward McCarthy's first-degree murder conviction and death sentence because of Gilchrist's misconduct. See McCarty v. State, 114 P.3d 1089 (Okla. Crim. App. 2005). In May 2007, prosecutors refused to retry McCarthy and presumed his innocence after DNA evidence from earlier trials was destroyed. See Cheryl Camp, Convicted Murderer Is Freed In Wake of Tainted Evidence, N.Y. Times, May 22, 2007, at A16. McCarthy is the 124th person to be released from death row since 1973. See The Innocence List, at http://www.deathpenalty info.org/article.php?scid=6&did=110 (last visited June 24, 2007).

n417. See Teichroeb, supra note 90 (noting how Donald K. Phillips falsified a forensic report to hide the fact he improperly sprayed a claw hammer, which he believed was connected to a homicide, with too much of a chemical used to detect blood).

n418. Drs. Michael West and Louise Robbins best exemplify this category. See supra note 285 (discussing West and Robbins' rouge mentalities and unsubstantiated forensic techniques).

n419. Houston crime lab DNA analysts repeatedly presented misleadingly statistical information in their reports and at trial. However, the question of whether these analysts purposely intended to present misleading and inaccurate statistical evidence is made murky by the fact "DNA analysts in the Crime Lab ... did not fully understand the scientific basis of calculating frequency estimates from DNA profiles obtained from evidence samples and that they were not trained in the methods of properly calculating statistics associated with DNA mixture profiles and partial DNA profiles." Bromwich, Fourth Report, supra note 154, at 44-45.

n420. Without question, the most glaring example of this is when the FBI attempted to fire Fred Whitehurst after Whitehurst exposed problems associated with the FBI crime lab. See John F. Kelly & Phillip K. Wearne, Tainting Evidence: Inside the Scandals at the FBI Crime Lab (1998). See also Bill Hewitt & Carol Rust, Undone By DNA; A Whistleblower Exposes Sloppy Work at a Houston Crime Lab, Freeing One Prisoner - and Perhaps Many More, People, May 19, 2003 at 147 (discussing Elizabeth Johnson's ordeal at the Harris County Medical Examiner's Office); Ken Raymond & Ed Godfrey, Chemist Quits, Claims Climate of Intimidation; Forensic Expert was Key in Clearing Innocent Man, Daily Oklahoman (Oklahoma City, OK), Aug. 4, 2001.

n421. Three years ago, Florida Department of Law Enforcement ("FDLE") DNA analyst, John E. Fitzpatrick, cheated on a proficiency test and was permitted to quietly resign. Florida judges and defense attorneys became furious when they learned the FDLE kept Fitzpatrick's scandal a secret, allowing him to testify in cases before he resigned, as if nothing happened. The FDLE ultimately reviewed 100 of his cases and offered to pay for an outside lab to retest his work. See Rene Stutzman, Judge Rips FDLE Silence in Lab Flap; A Worker's

Cheating on a Test Could Affect a Seminole Murder Case, Orlando Sentinel, Aug. 3, 2002, at A1. See McVicker, supra note 153 (describing how Houston crime lab officials only suspended a drug analysts for three days after he was caught for a second time drylabbing his results; the drug analyst was not suspended the first time he was caught drylabbing his results; crime lab officials also initially refused to review the analyst's prior cases); Teichroeb, supra note 353 (describing how a crime lab director was demoted in 1993 for failing to discipline an employee accused of falsifying test results).

n422. See supra Part I.D.

n423. Keith Inman and Norah Rudin hit the nail on the head when they commented that the "reputation of the forensic science community has been significantly tarnished" because of these "unethical, unprofessional, and immoral acts." Inman & Rudin, supra note 195, at x. See also Ramirez v. State, 810 So. 2d 836, 853 (Fla. 2001) ("In order to preserve the integrity of the criminal justice system ... particularly in the face of rising nationwide criticism of forensic evidence in general ... state courts ... must ... cull scientific fiction and junk science from fact."); State v. Clifford, 121 P.3d 489, 503 (Mont. 2005) (Nelson, J., concurring) (noting how "long-accepted forensic science evidence has recently received greater public scrutiny not only because the 'experts' proffering the evidence were either astonishingly inept or downright corrupt, but also because of recent scientific developments such as DNA tests which have revealed the limitations of forensic techniques such as hair identification analysis ...") (citation omitted).

n424. Bieber, supra note 21, at 70.

n425. See Cardozo Law School's Innocence Project, http://www.innocenceproject.org/ (last visited June 24, 2007). According to the research conducted by Professor Samuel Gross and his colleagues, the DNA exonerations represent less than half the total number of exonerations over the past fifteen years. Professor Gross's research identified 340 exonerations between 1989 and 2003 - DNA cleared 144 people. See Samuel R. Gross et al., Exonerations in the United States, 1989 Through 2003, 95 J. Crim. L. & Criminology 523, 523-24 (2005).

n426. See generally Wrongly Convicted: Perspectives on Failed Justice (Saundra D. Westervelt & John A. Humphrey eds. 2001).

n427. As one Judge Gertner recently commented: "Indeed, recent reexaminations of relatively established forensic testimony have produced striking results. Saks and Koehler, for example, report that forensic testing errors were responsible for wrongful convictions in 63% of the 86 DNA Exoneration cases reported by the Innocence Project at Cardozo Law School." United States v. Green, 405 F. Supp. 2d 104, 109 n.6 (D. Mass. 2005) (citing Michael J. Saks & Jonathan J. Koehler, The Coming Paradigm Shift in Forensic Identification Science, 309 Science 892 (Aug. 2005)).

n428. See generally Nat'l Inst. of Just., U.S. Dep't of Just., Convicted By Juries, Exonerated By Science: Case Studies In the Use of DNA Evidence To Establish Innocence After Trial (1996), http://www.ncjrs.gov/pdffiles/dnaevid.pdf (last visited Aug. 5, 2007) (out of twenty eight erroneous convictions seven had hair comparison testimony supporting the original conviction); Becky Bohrer, Former Crime-lab Chief's Cases Under Review, Phila. Inquirer, Dec. 22, 2002, at A9 (discussing how Jimmy Ray Bromgard's overturned rape conviction stemmed, in large part, on misidentified hairs); Kevin Cantera, DNA Team to Review Convictions, Salt Lake Trib., Apr. 3, 2000, at B1 (discussing Timothy Durham's overturned rape conviction); Criminal Science: The Legacy of Hair Evidence, Dallas Morning News, Mar. 31, 2002, at 18A (discussing Billy Gregory's and Richard Danziger's overturned rape convictions); Jim Dwyer & Susan Saulny, Hair Evidence in Jogger Case Is Discredited, N.Y. Times, Oct. 25, 2002, at B1 ("Contrary to arguments made by a prosecutor at two trials in 1990, four strands of hair were never 'matched' to any of the Harlem teenagers accused of beating and raping a jogger in Central Park."); Ed Godfrey & Diana Baldwin, Exonerated Inmate Freed; After 15 Years in Prison, Man Wants to See his Sons, The Daily Oklahoman, May 8, 2001 (discussing Jeffery Todd Pierce's overturned rape conviction); Barbara Hoberock, Some 'Experts' in Court Lack Expertise, Tulsa World,

Dec. 7, 2003, at A27 (discussing Calvin Lee Scott's overturned rape conviction); Justice denied; Though Cleveland has Settled Michael Green's Lawsuit, Huge Questions Remain About the System that Convicted Him, Plain Dealer (Cleveland), June 16, 2004, at B10 (dicussing Michael Green's overturned rape conviction); Mike Miller, Freed Man Awarded $ 2.6M; Jury Faults Nunnery, Cap. Times (Madison, Wis.), Oct. 13, 2000, at 3A; Matt Pommer, Ex-Inmate Faces Barrier to Get Cash, Cap. Times, Mar. 29, 2002, at 3A (discussing Anthony Hick's overturned rape conviction).

n429. See State v. Caldwell, 322 N.W.2d 574, 586 (Minn. 1982) (discussing Roger Caldwell's overturned murder conviction); Mary Anne Janco, Murder Case is Formally Dropped: Richard Jackson's Fingerprints Did Not Match Those Found at the Scene, Phila. Inquirer, Mar. 8, 2000, at B1 (discussing how a misidentified fingerprint led to Richard Jackson's overturned murder conviction); David Weber & Kevin Rothstein, Man Freed After 6 Years; Evidence was Flawed, Boston Herald, Jan. 24, 2004, at 4 (explaining how a misidentified fingerprint led to Stephan Cowans' erroneous conviction for attempted murder); Cole, supra note 329 (discussing additional misidentification and wrongful conviction cases).

n430. See Baker & Lieberman, supra note 369 (discussing William DePalma's wrongful conviction); ABC World News Tonight, Police Faking Fingerprints to Solve Cases (ABC television broadcast Feb. 15, 1994) (mentioning Shirley Kinge's wrongful arson and burglary convictions which stemmed in large part on fabricated fingerprints).

n431. Kent Roach, Inquiries into the Causes of Wrongful Convictions, 35 Crim. L. Bull. 152, 162 (1999) (discussing Guy Paul Moran's overturned murder conviction).

n432. See Edwin M. Borchard, Convicting the Innocent 201 (1932) (discussing Lloyd Prevost's wrongful conviction).

n433. See Mike Anton, Test Applied to DNA Isn't Always A-OK; A UC Irvine expert is a formidable foe of any claim that the growing practice is foolproof, L.A. Times, June 6, 2003, at 2 (noting that Joshia Sutton's wrongful rape conviction stemmed, in large part, on miscalculated DNA statistics).

n434. See Hanes, supra note 373 (discussing Bernard Webster's overturned rape conviction); Maurice Possley, Ex-Inmate Exonerated of Rapes Tries to Get His Life in Order, Chi. Trib., June 29, 2000, at 4 (discussing John Willis' overturned rape conviction); Steve Mills, 4 Cleared in Roscetti Case File Suit, Chi. Trib., Jan. 19, 2002, at 1 (discussing how Pamela Fish's false testimony played a significant role in wrongly convicting four innocent men of murdering a Chicago medical student); Matter of Investigation of West Virginia State Police Crime Laboratory, Serology Div., 438 S.E.2d 501 (W. Va.1993) (discussing Glen Woodall's overturned rape conviction); John Solomon, Conviction Overturned in FBI Scandal, Phila. Inquirer, May 28, 2003, at A10 (discussing Anthony E. Bragdon's overturned rape conviction); Rape Verdict Reversed for F.B.I.'s Bad Science, N.Y. Times, Dec. 15, 2001, at A13 (discussing Carlton Bleau's overturned rape conviction); Teichroeb, supra note 353 (discussing Chris Boots and Eric Proctor's overturned murder convictions).

n435. See Ruth Teichroeb, Ordeal In Flawed Drug Case Is Over; First Sentence To Be Vacated After Errors By State Crime Lab, Seattle Post-Intelligencer, Sept. 30, 2004, at A1 (discussing Kyann Cardwell's overturned drug conviction).

n436. See William Kates, Man Officially Cleared of Murder Charges, AP, Mar. 5, 2007 (discussing how Roy Brown's overturned murder conviction rested, in large part, on a misidentified bite mark); Dave Wischnowsky, Prison Doors Swing Open; Man Out on Bail; Rape Conviction Overturned, Chi. Trib., Oct. 5, 2006, at 1 (discussing how Bennie Starks' overturned rape conviction rested, in large part, on a misidentified bite mark); Steve Mills & Jeff Coen, 12 Years Behind Bars, Now Justice at Last, Chi. Trib., Feb. 1, 2005, at 1 (noting how Harold Hill and Daniel Young's overturned rape convictions stemmed, in large part, from a misidenti-

fied bite mark); Gene Schabath, Man Freed in Second Rape Trial; Jury Finds He Was Wrongly Convicted in '91 Macomb Case, Detroit News, Apr. 9, 2004, at 5D (discussing how Jeffery Moldwan was wrongly convicted for a 1991 murder because of a misidentified bite mark); Ege v. Yukins, 380 F. Supp. 2d 852 (E.D. Mich. 2005) (vacating murder conviction due to unreliable bite mark identification), aff'd Ege v. Yukins, 2007 WL 1191911 (6th Cir. Apr. 24, 2007).

n437. See Maurice Possley, Bad Laboratory Blood Analysis Took 17 Years of His Life; Texas Man Exonerated in Rape Case, Chi. Trib., Dec. 21, 2004, at 1 (discussing Brandon Moon's overturned rape conviction).

n438. See Kim Smith, Expert Testimony Sways Parole Board to Release Woman Jailed for Five Years, Odessa American (Odessa, Tex.), Nov. 25, 1998 (discussing Sonia Casey's arson conviction); Woman Acquitted in Mother's 1996 Slaying, Augusta Chron. (Ga.), Jan. 29, 2000 (discussing how a jury acquitted Shelia Bryant of murdering her mother after she was initially convicted of setting a car on fire which killed her mother; Bryant's original conviction was premise on unsubstantiated burn pattern testimony).

n439. See Earmarked for Rough Justice, Yorkshire Post (Leads, United Kingdom), Sept. 29, 2004 (noting how Mark Dallagher's overturned murder conviction stemmed, in large part, on a misidentified carprint).

n440. See Borchard, supra note 432, at 28-31 (discussing how William Broughton was wrongly convicted of mailing an obscene letter in 1900 because a handwriting expert erred when he linked the obscene letter to Broughton's handwriting); Fredric Thomas, Milestones in Forensic Science, in Forensic Science: Scientific Investigation in Criminal Justice 65-66 (1975) (discussing how Alfred Dreyfus was falsely convicted of espionage due to a handwriting expert's error).

n441. See William R. Levesque, Review Of Baby's Death Frees Father, St. Petersburg Times, Nov. 21, 2002, at 1A (discussing how a medical examiner's mistakes led to John Peel's wrongful manslaughter conviction); Anthony Coarossi & Pamela J. Johnson, Man Convicted of Murder is Free After Judge Rules that Autopsy Was Flawed, Orlando Sentinel, Aug. 29, 2004 (discussing how a flawed autopsy led to Alan Yurko's wrongful murder conviction); Greg Moran, Man Freed After Doubt Shed on Conviction Files Claim, San Diego Union-Trib., Feb. 9, 2005, at 1 (discussing Kenneth Marsh's wrongful murder conviction); Souter v. Jones, 395 F.3d 577 (6th Cir. 2005) (petitioner was able to establish he was "actually innocent" of second degree murder when three physicians, who testified at trial, recanted their erroneous medico-legal testimony).

n442. See Hugo Adam Bedau & Michael L. Radelet, Miscarriages of Justice in Potentially Capital Cases, 40 Stan. L. Rev. 21 (1987) (listing more than a dozen cases where misinterpreted causes of death played a substantial role in wrongly convicting an innocent person).

n443. See Roger Parloff, Triple Jeopardy: A Story of the Law at its Best - and Worst 227-30 (1996) (discussing how an Arizona forensic chemist provided misleading chromatography testimony and how the chemist's deceptive testimony played a significant role in convicting John Henry Knapp of capital murder).

n444. See Cooley, supra note 23, at 440 (discussing Dale Johnston's wrongful capital conviction).

n445. See id. at 437-39 (discussing Madison Hobley and John Knapp's wrongful capital convictions); see also Scott Gold & Lianne Hart, Inmate Freed After 17 Years on Death Row, L.A. Times, Oct. 7, 2004, at A14 (discussing Ernest Willis' wrongful capital conviction).

n446. See id. at 435-36 (dicussing Ron Williamson, Charles Fain, Rudolph Holton, and Robert Miller's wrongful capital convictions).

n447. See id. at 437 (discussing Ray Krone and Greg Wihoit's wrongful capital convictions).

n448. See id. at 439 (discussing Gary Nelson's wrongful capital murder conviction); see also Miller v. Pate, 386 U.S. 1, 6 (1967) (capital petitioner's death sentence and conviction are overturned because the State presented knowingly false forensic evidence).

n449. See id. at 439 (discussing Charles Stielow's wrongful capital conviction.); Julian S. Hatcher et al., Firearms Investigation, Identification, and Evidence 5 (1957).

In one case in New England a man was actually convicted and sentenced to death but afterward given a new trial and acquitted when a member of a revolver club became interested in the case and developed the fact that in spite of the magnifying glass and micrometer, the "expert" in this case had failed to notice that the bullet had six grooves whereas the defendant's gun only had five. Id.

n450. See David Heath & Hal Berton, Portland Lawyer Released in Probe of Spain Bombing; U.S. Officials Once Called His Fingerprint Clear Match, But Focus Now Shifts to Algerian, Seattle Times, May 21, 2004, at A1 (discussing how a misidentified fingerprint resulted in Brandon Mayfield's wrongful arrest in connection to the Madrid, Spain train bombing in 2004); Carol Henderson-Garcia, Expert Witness Malpractice: A Solution to the Problem of the Negligent Expert Witness, 12 Miss. C. L. Rev. 39, 54-55 (1991) (discussing cases where misidentified fingerprints led to innocent people being wrongly accused of serious offenses); James E. Starrs, More Saltimbancos on the Loose? Fingerprint Experts Caught in a World of Error, 12 Sci. Sleuthing Newsl. 1, 1 (1988) (discussing Michael Cooper's wrongful arrest for serial rape); James W. Garner, Infallibility of Finger-Print Evidence, 11 J. Crim. L. & Criminology 275 (1911) (noting how a misidentified fingerprint nearly led to a man being convicted as a recidivist); Stephen Grey, Yard in Fingerprint Blunder, Sunday Times (London), Apr. 10, 1997 (discussing how Andrew Chiory was wrongly charged with robbery in London based on a misidentified fingerprint).

n451. See Baker & Lieberman, supra note 369 (discussing Ricky Ross' wrongful arrest for serial murder).

n452. See Thomas Frisbie & Randy Garret, Victims of Justice 48 (1998) (discussing how Stephen Buckley was wrongly accused of killing a child in suburban Chicago due to an incorrectly identified shoe print).

n453. See Ellen O'Brien, From DNA to Police Dogs, Evidence Theories Abound, Boston Globe, Jan. 22, 1999, at A1 (discussing how Edmund Burke was wrongly accused of murder because of a misidentified bite mark); Chase Squires, Man Cleared of Killing Settles Suit, St. Petersburg Times, Jan. 23, 2003 (discussing how Dale Davis was wrongly accused of murdering a nine-year-old girl when two forensic dentists misidentified a bite mark on the victim's body); Amolsch v. Warnick, 1999 Mich. App. LEXIS 1725 (Mich. Ct. App Apr. 27, 1999) (discussing how Ricky Amolsch was wrongly accused of murder when a forensic dentist misidentified a bite mark); Otero v. Warnick, 614 N.W.2d 177 (Mich. App. 2000) (discussing how Anthony Otero was wrongly accused of murder and sexual assault due to a misidentified bite mark).

n454. See Anne Sake, Terri is Free and Vindicated, But Triumph is Bittersweet, News & Observer (Raleigh, N.C.), Nov. 22, 1998 (discussing how erroneous burn pattern testimony led police to charge Terri Hinson with purposely starting a fire which resulted in the death of her seventeen-month-old child); Matt Archbold & Stephanie Doster, D.A. Drops All Charges Against Son in Fatal Fire, Phila. Inquirer, Dec. 21, 1999, at A01 (discussing how Paul Camiolo was wrongly accused of starting a fire which took his mother and father's lives).

n455. See Andrew Jacobs, Assistant Coroner Fired After Revised Finding, N.Y. Times, Dec. 11, 2002, at B5 (discussing how a medical examiner's erroneous cause of death resulted in James Andros being falsely ac-

cused of murdering his wife); Reno v. Chung, 559 N.W.2d 308 (Mich. Ct. App. 1996) (discussing how a flawed autopsy report resulted in Kenneth Reno being falsely charged with double murder).

n456. See Phoebe Zerwick, Mixed Results; Forensics, Right or Wrong, Often Impresses Jurors, Winston-Salem J., Aug. 29, 2005, at A1 (discussing Rex Penland's conviction and death sentence); Roma Khanna & Steve McVicker, HPD Lab Troubles Predate DNA Testing; Experts' Review Finds a Pattern of Problems in 1980s Studies of Blood Samples, Hous. Chron., Dec. 18, 2005, at A1 (discussing several cases from the 1980s which have drawn great criticism due to the poor quality of forensic work on each case); Roma Khanna & Steve McVicker, Fingers Pointed at HPD Crime Lab in Death Row Case, Hous. Chron., Apr. 24, 2003, at A1 (discussing Anibal Garcia Rousseau's conviction and death sentence); Editorial, Choosing Life in a Death Penalty State; A Question of Innocence, Birmingham News, Nov. 9, 2005 (discussing Anthony Hinton's conviction and death sentence).

n457. See Lori Urs, Commonwealth v. Joseph O'Dell: Truth and Justice or Confuse the Courts? The DNA Controversy, 25 New Eng. J. Crim. & Civ. Confinement 331 (1999) (discussing Joseph O'Dell's conviction, death sentence, and execution); Furman, supra note 368, at 54-69 (discussing Malcom Rent Johnson's conviction, death sentence, and execution); Forensic Fraud (A&E television broadcast Dec. 2, 2002) (discussing Odell Barnes' conviction, death sentence, and execution); Steve Mills, Texas May Have Put Innocent Man to Death, Panel Told; Nobody Would Listen, Lawyer, Expert Say, Chi. Trib., Apr. 20, 2005, at 7 (discussing Todd Willingham's conviction, death sentence, and execution). For many, the final nail in capital punishment's coffin was supposed to be hammered in when posthumerous DNA results from Roger Coleman's case proved his innocence. Virginia executed Coleman in 1992 for Wanda McCoy's 1981 murder. Coleman always claimed his innocence. See John Tucker, May God Have Mercy: A True Story of Crime and Punishment (1997) (discussing Roger Coleman's trial and execution); Coleman v. Thompson, 504 U.S. 188, 189 (1992) (Blackmun, J., dissenting) ("Coleman has now produced substantial evidence that he may be innocent of the crime for which he was sentenced to die."). The author of this Article even intimated Coleman was innocent and wrongly executed in a previous article. See Cooley, supra note 23, at 409-10. As Justice Scalia recently commented, "Coleman's case became a rallying point for abolitionists, who hoped it would offer what they consider the 'Holy Grail: proof from a test tube that an innocent person had been executed.'" Kansas v. Marsh, 126 S.Ct. 2516, 2533 (2006) (Scalia, J., concurring) (citation omitted). In short, Coleman "became the poster-child for the abolitionist lobby." Id. DNA tests performed in 2006, however, supported Coleman's guilt. See Glenn Frankel, Burden of Proof, Wash. Post, May 14, 2006, at W8; James Dao, DNA Ties Man Executed in '92 to the Murder He Denied, N.Y. Times, Jan. 13, 2006, at A14.

n458. See Hanes, supra note 373 (discussing how an incompetent crime lab examiner's errors played a significant role in Bernard Webster's wrongful rape conviction); Maurice Possley, Bad Laboratory Blood Analysis Took 17 Years of His Life; Texas Man Exonerated in Rape Case, Chi. Trib., Dec. 21, 2004, at 1 (discussing how an incompetent serologist's testimony led to Brandon Moon's wrongful rape conviction); Mark Gillispie, Experts Fault Job Done by Police Lab Tech, Boss, Plain Dealer (Cleveland), June 16, 2004, at A1 (discussing how incompetence led to Michael Green's wrongful rape conviction).

n459. See Editorial, Check Please, The Daily Oklahoman, Jan. 26, 2007 (noting how the Oklahoma City Council agreed to pay Jeffery Todd Pierce $ 4 million for being wrongly incarcerated for fifteen years; Joyce Gilchrist played a significant role in his wrongful rape conviction); Joe Milicia, Crime Lab Audit Reveals Poor Work; No Jury Mislead, AP, Feb. 17, 2007 (noting how Michael Green was awarded $ 1.6 million after a Cleveland crime lab analyst provided faulty forensic testimony which played a significant role in his wrongful rape conviction); 2nd Man Settles Suit for Wrongful Jailing, Chi. Trib., Dec. 12, 2006, at 3 (discussing how the City of Chicago agreed to pay Calvin Ollins $ 1.5 million and Marcellius Bradford $ 900,000 after Pamela Fish, a former City of Chicago crime lab analyst, falsified reports which played a role in their wrongful murder convictions); Henry Schuster & Terry Frieden, Lawyer Wrongly Arrested in Bombing: 'We Lived in 1984,' CNN.com, Nov. 29, 2006, at www.cnn.com/2006/LAW/11/29/mayfield.suit/index.html (noting how the Department of Justice agreed to pay Brandon Mayfield $ 2 million after the FBI misidentified a fingerprint which resulted in his wrongful arrest for the Madrid, Spain train bombing in 2004) (last visited May 15, 2007); Maurice Possley &

Gary Washburn, City Will Pay $ 9 million in False Jailing: DNA Test Freed Man In Rape Case After 11 Years., Chi. Trib., Jan. 28, 2006, at 1 (discussing how the City of Chicago agreed to pay LaFonso Rollins $ 9 million to settle his wrongful rape conviction lawsuit; the Chicago crime lab played a significant role in his wrongful conviction); Arizona: $ 3 Million For Exoneration, N.Y. Times, Sept. 29, 2005, at A31 (noting that the City of Phoenix will pay Ray Krone $ 3 million, while Maricopa County agreed to pay him $ 1.4 million, for their part in his wrongful murder conviction); Bruce Nichols, Will Crime Lab Wrongs be Righted? Despite Many Faulty Tests in Houston, Only Two Have Been Freed, Dallas Morning News, Feb. 22, 2006, at 1A ("[Houston] officials estimate the lab mess could cost the city as much as $ 10 million."). To date, the State of West Virginia has paid at least $ 6.5 million to settle lawsuits attributable to Fred Zain. Glen Woodall, for instance, received a $ 1 million settlement for his wrongful rape conviction. See Martha Bryson Hodel, Witness For the Prosecution on Trial; Chemist Charged With Years of Fraud, Chi. Trib., Sept. 4, 2001, at 9. Bexar County, Texas paid Gilbert Alejandro $ 250,000 for his 1990 wrongful rape conviction, while Jack Warren Davis, who was accused of murdering a teacher, settled a $ 10 million lawsuit for $ 600,000. Again, "both men were convicted largely on the basis of Mr. Zain's testimony." David McLemore, Discredited Serologist Fred Zain Dies of Cancer at 52, Dallas Morning News, Dec. 4, 2002, at 29A.

n460. Email from Mark Acree, Forensic Examiner and Former FBI Fingerprint Examiner, APEX Consulting, LLC, to Brent Turvey, Forensic Examiner and Criminal Profiler, Forensic Solutions, LLC (Jan. 9, 2006, 07:15 PST) (on file with author).

n461. Dr. Sclavka conceded this point during our panel discussion: "In our nation, most of the examinations for forensic purposes of fingerprinting and guns are performed by law enforcement officers, who were hired for one thing but became an expert in another ... Many of them are not from accredited organizations." Sclavka, supra note 72, at 74. See, e.g., BJS Report, supra note 43, at 8 (noting that "forty-one percent of laboratories indicated they use technicians in DNA testing, a step that calls for personnel with less training and experience to examine garments and to select stains that will likely yield scientific results that may help to resolve a critical question in the case") (emphasis added); Moenssens, supra note 370, at 5 ("Most of the witnesses who testify as experts for the prosecution are not truly scientists, but better fit the label of 'technicians.'").

n462. See Hammond Barnhart Dictionary of Science 72 (1st ed. 1986).

n463. See Paul L. Kirk, The Standardization of Criminological Nomenclature, 38 J. Crim. L. & Criminology 165, 166 (1947) ("a technician is understood to be a person who is incapable of doing independent work but is skilled in the routine performance of laboratory operations according to a predetermined routine established and supervised by others."); Robert F. Borkenstein, The Administration of a Forensic Science Laboratory, in Forensic Science: Scientific Investigation in Criminal Justice 259 (Joseph L. Peterson ed. 1975) ("Technicians perform completely standardized 'cookbook' procedures under the complete supervision of the examiner. Technicians should never be responsible for interpretation."). Two forensic scientists do an excellent job differentiating between the skills and mindset of a technician and a scientist:

Although sophisticated instrumentation is now routinely employed in forensic analysis, and the technical complexity of the examinations performed continues to increase, this is not our main concern. A reasonably trained technician can reliably perform a competent instrumental analysis; advanced degrees are not need for this aspect of the work. It is the interpretation of the data from those complex examinations that increasingly requires a complete and subtle understanding of the principles underlying the instrumentation, and the impact of many layers of electronics, hardware, and software on the final data. And, precisely because the laboratory work has become so refined, the questions regarding forensic evidence must shift to the areas of logical inference, statistical probabilities, and subtle interpretive issues ... The diverse and distinctive nature of the problem presented by forensic casework requires an educational specialization, and at a high level.

Inman & Rudin, supra note 195, at 304-05.

n464. Paul L. Kirk, The Interrelationship of Law and Science, 13 Buff. L. Rev. 393, 394 (1964). See also Moenssens, supra note 370, at 5-6 (claiming techinicians "have only a superficial understanding of what the instrument really does, and how the read-out is generated."). More specifically, as one forensic critic explained: "Just because [DNA technician] can extract DNA doesn't mean they can think through problems." Teichroeb, supra note 40 (quoting Edward Blake, a California-based forensic scientist).

n465. For example, Jacqueline Blake, the now discredited FBI DNA analyst, "seemed to have a difficult time with simple math." OIG Report, supra note 91, at 40.

n466. See Roma Khanna & Steve McVicker, HPD Lab Troubles Predate DNA Testing: Experts' Review Finds a Pattern of Problems in 1980s Studies of Blood Samples, Hous. Chron., Dec. 18, 2005, at A1 (describing Houston crime lab serologist David Kaufman's serological testimony during Alphonse Norris Jr.'s 1985 sexual assault case; as one serological and DNA expert noted: "Either he is a very poor communicator or he doesn't understand the technical issues involved ... It's hard to know exactly what the problem is, but clearly, his testimony is inaccurate.").

n467. See Thornton & Peterson, supra note 245, at 14. For examples of this fundamental error, see Pete Shellem, Who Killed Edna Laughman?, Patriot-News, June 1, 2003, at A01 (discussing Janice Roadcap's incorrect untested assumptions and how they played a significant role in Barry Laughman's erroneous murder conviction); Ex parte Mowbray, 943 S.W.2d 461 (Tex. Crim. App. 1996) (discussing Dusty Hesskew's incorrect untested assumption regarding suspected blood evidence and how it ultimately led to Susan Mowbray's wrongful murder conviction). See also Bob Banta, Austin Blood Expert's Work Criticized in Case Overturned on Appeal, Austin American-Statesman, Jan. 15, 1996, at B1 (discussing Mowbray's case); Watkins v. Miller, 92 F. Supp. 2d 824, 827 (S.D. Ind. 2000) (discussing how a forensic serologist's incorrect and untested assumption about her blood test results played a significant factor in the district judge's decision to vacate Jerry Watkins' murder conviction).

n468. Reconstructionists and bloodstain analysts often confuse this critical distinction. See Inman & Rudin, supra note 195, at 180.

n469. John I. Thornton, Courts of Law v. Courts of Science: A Forensic Scientist's Reaction to Daubert, 1 Shepard's Expert & Sci. Evid. Q. 475, 484-85 (1997) ("I find that many forensic scientists, even those who are entirely competent in their profession, have an exceedingly poor grasp of what constitutes the scientific method ... [My experience] has convinced me that many, perhaps even most, forensic scientists are not just inattentive to the scientific method, but ignorant.") (emphasis added).

n470. For instance, "prior to 2004, the [Houston] Crime Lab's SOPs did not require firearms examiners to take photographs, make drawings, or otherwise document their observations that form the basis for their conclusion[.]" Bromwich, First Report, supra note 147, at 68.

n471. See Moenssens, supra note 370, at 7.

n472. A 1989 informal study carried out by Joseph Peterson and John Murdock accentuates the incompetency problem. The study's primary objective "was to engage in preliminary field work to define with greater clarity the range of ethical problems facing the field." The most pressing issue concerned "the problem of incompetency." See Peterson & Murdock, supra note 355, at 751; See also Kirk, supra note 205, at 111 ("Too many criminalists are still being trained by working in a crime laboratory under more experienced but sometimes unscientific persons."); Charles M. Wilson, Crime Detection Laboratories in the United States, in Forensic Science: Scientific Investigation in Criminal Justice 102 (Joseph L. Peterson ed. 1975) ("In the United States,

the training of crime laboratory specialists leaves much to be desired. So does the quality of work."); James W. Osterburg, A Commentary on Issues of Importance in the Study of Investigation and Criminalistics, 11 J. Forensic Sci. 261, 266 (1966) ("Rarely ... are any of these [fingerprint examiners] trained as scientists.").

n473. See supra Part II.E.5.

n474. For instance, none of the analysts who worked in the Houston crime lab's discredited DNA Unit were qualified by education and training to perform the duties and responsibilities of their jobs. See Lise Olsen & Roma Khanna, DNA Lab Analysts Unqualified; Review Finds Education, Training Lacking, Hous. Chron., Sept. 7, 2003, at 1. When independent investigators audited Texas Department of Public Safety crimes labs in 2003, investigators discovered that an unacceptable number of DNA analysts did not know how to interpret simple DNA results. See Steve McVicker, More DPS Labs Flawed; DNA Testing Woes Across State Threaten Thousands of Cases, Hous. Chron., Mar. 28, 2004, at A1. Forensic chemist, Concepcion Bacasnot, who played a significant role in Bernard Webster's wrongful rape conviction, see Hanes, supra note 373, "left the [Baltimore County crime lab] ... four months after acknowledging she did not understand the science of her forensic tests and that her blood work in a death-penalty case was 'worthless.'" Stephanie Hanes, Chemist Quit Crime Lab Job After Hearing, Papers Show; She Acknowledged Report Was 'Worthless' in 1987, Balt. Sun, Mar. 19, 2003, at 1B (emphasis added). When independent scientists reviewed Karla Carmichael's (a DNA analyst for the Fort Worth Police Department's crime lab) work product and proficiency tests results, they "expressed 'serious concerns' about her training, forensic knowledge and laboratory practices." Deanna Boyd, Scientist At Crime Lab Is Fired, Ft. Worth Star-Telegram, Apr. 22, 2003, at 1. A Washington State Patrol official, who reviewed the work of embattled forensic scientist Arnold Melnikoff, suggested the agency should fire Melnikoff for incompetence. The State Patrol reviewed 100 cases completed by Melnikoff between 1996 and 2002 and found that his drug analysis work did not meet professional standards. See Firing Urged for Forensic Scientist, Spokesman Rev. (Spokane, WA), Sept. 10, 2003, at B1. Mistakes found in Ranae Houtz's (a DNA analyst for the Pennsylvania State Police crime lab) case work forced the Pennsylvania State Police to ask Pennsylvania prosecutors to review nearly 500 criminal cases. The State Police began questioning Houtz's work in September 2002 when she committed errors in an annual proficiency test. Her ongoing casework was then examined, revealing errors in at least four cases. See Romy Varghese, Crime Lab Worker's Errors Could Affect Cases, Morning Call (Allentown, PA), June 30, 2003, at A1. Glen David Adams, the forensic serologist from the Texas Department of Public Safety crime lab, whose errors played a substantial role in Brandon Moon's wrongful rape conviction, received a D in his college serology course at Texas Tech University and faced a "significant backlog" of cases due to his incompetence. See Tammy Fonce-Olivas, Moon Evidence Flaw Spurs State Inquiry evidence, El Paso Times, Jan. 22, 2005, at 1A. Joseph Serowik (a forensic serologist with the Cleveland Police Department crime lab) was the forensic examiner whose errors led to Michael Green's wrongful rape conviction. Max Houck, a well-respected and former FBI forensic examiner, reviewed Serowik's work and testimony in Green's case. Houck concluded "Serowik demonstrated a fundamental lack of knowledge about conducting forensic hair examinations ... Mr. Serowik was allowed to conduct hair examinations without proper education, training, supervision, or protocols ... He conducted these examinations in numerous cases, repeatedly made the same mistakes, and did not seek any training by qualified experts in forensic hair examinations." Gillispie, supra note 458.

n475. Thornton & Peterson, supra note 245, at 15.

n476. See Saks & Koehler, supra note 427, at 893 ("In normal science, academically gifted students receive four or more years of doctoral training where much of the socialization into the culture of science takes place. This culture emphasizes methodological rigor, openness, and cautious interpretation of data."); Jeffrey D. Kovac, Science, Law, and the Ethics of Expertise, 67 Tenn L. Rev. 397, 398 (2000) ("A scientist is generally expected to have earned a doctorate from a reputable university, although a scientist with lesser academic credentials can certainly be recognized through outstanding research.").

n477. See Lawrence Kobilinsky & Francis X. Sheehan, The Desirability of a Ph.D. Program in Forensic Science, 20 J. Forensic Sci. 706, 707 (1984); Charles A. Lindquist, Criminalistics Education and the Role of the Criminalistics Educator, 7 Forensic Sci. Rev. 61, 64 (1995) ("While some have gone on to earn advanced de-

grees, possession of such a degree is usually not characteristic of the laboratory criminalist."). In percentage terms, 96% of forensic positions are held by persons with a bachelor's degree (or less), while 3% have master's degrees, and 1% have Ph.Ds. See Kenneth G. Furton et al., What Educational Background do Crime Laboratory Directors Require from Applicants?, 44 J. Forensic Sci. 128 (1999).

n478. "Although the American Society of Crime Laboratory Directors ... lists a bachelor's degree with science courses as a 'desirable' qualification for firearm examiners, it does not list it as 'essential.'" United States v. Monteiro, 407 F. Supp. 2d 351, 373 (D. Mass. 2006). See also United States v. Lewis, 220 F. Supp. 2d 548, 553 (S.D. W. Va. 2003) ("Mr. Cawley [the government's handwriting expert] does not possess a college or masters degree in forensic science, but is currently working toward completing his degree requirements for a B.S. in personnel labor relations."); Status Report, supra note 25, at 2 ("Forensic services in the disciplines of ... latent prints, questioned documents, and crime scene investigation may ... be provided ... by a unit composed of sworn law enforcement personnel who may or may not have scientific training.").

n479. Inman & Rudin, supra note 195, at 303.

n480. See Nat'l Inst. of Just., Forensic Sciences: Review of Status and Needs (Feb. 1999), available at http://www.ncjrs.gov/pdffiles1/173412.pdf (urging the development of educational standards); Lindquist, supra note 477, at 67 ("No standardized curriculum exists within graduate [or undergraduate] criminalistics programs."). It must be noted that progress has been made in this area with the recent publication of a report drafted by the Council on Forensic Science Education. See Education Report, supra note 356.

n481. See Furton, supra note 477.

n482. Thornton & Peterson, supra note 245, at 15. Many undergraduate programs entitled "forensic science" are often misleading. These programs "provide only a general curriculum most appropriate for an overview or introduction to forensic science in the broadest sense. Rarely are they combined with a rigorous physical science curriculum, including laboratory work." Inman & Rudin, supra note 195, at 302. Additionally, biology and chemistry majors generally have had little, if any, exposure to the field of forensic science or criminalistics. See Barnett, supra note 360, at 6.

n483. See David L. Grieve, The Identification Process: SWGFAST and the Search for Science, 50 J. Forensic Identification 145, 148 (2000); Raymond D. Rawson, Identification From Bite Marks: The Scientific Status of Bite Mark Comparisons, in 2 Modern Scientific Evidence: The Law And Science Of Expert Testimony § 24-2.2.1 at 175 (David L. Faigman et. al., eds. 1997) ("Disagreements [among forensic dentists] also may reflect the lack of training in rigorous scientific method on the part of dental school.").

n484. See Lindquist, supra note 477, at 412.

n485. According to forensic evidence scholar and former fingerprint examiner Professor Andrea Moenssens, it has been

[his] impression that in recent years, unlike in my day, new friction ridge impression examiners are not trained as well in the 'basics' - the fundamentals of the identification of friction ridge impressions - as they were in the past. It seems to me that, today, the focus is much more on the "how to do it" aspects - on ACE-V methodology - than on a study of the development of friction ridge theory through the years. We all need to re-educate ourselves about the fundamentals.

Andrea A. Moenssens, Court Challenges to Friction Ridge Impression Evidence-How Long Will They Last?, at http://www.forensic-evidence.com/site/ID/Friction ID 405.html (last visited June 20, 2007). Fingerprint examiner David Grieve reinforces Professor Moenssens' position by acknowledging it is "too well established" there are "examiners performing identification functions who are not qualified and proficient." David L. Grieve, The Identification Process: Traditions in Training, 40 J. Forensic Identification 195, 196 (1990). Allan Bayle, the United Kingdom's leading fingerprint expert, was asked to review the Scottish Criminal Record Office's ("SCRO") fingerprint unit after the SCRO misidentified prints in Shirley McKie and Mark Sinclair's cases. According to Bayle and a member of the International Association of Identification, the SCRO used "slip-shod" standards for identifying fingerprints. Specifically, Bayle said that of all the SCRO fingerprint identifications he evaluated, "not one" was adequate enough to warrant admissibility at trial. Bayle added: "The standards at other Scottish bureaus are very good but in the SCRO they are so poor. There should be an overhaul done by an independent team. They are lacking their basic training." Liam McDougall, Scottish Print Bureau 'Still Cannot Be Trusted'; Despite Official Praise Independent Expert Damns Continued Bad Practice, Sunday Herald (London), Mar. 20, 2005, at 5 (emphasis added). With respect to medicolegal death investigators and forensic pathologists, according to forensic pathologist Dr. Cyril Wecht: "[As] we jump to the end of the twentieth century ... [we] find medicolegal [death investigations] being badly bungled because the officials in charge are negligent, incompetent or simply unqualified in dealing with important and sophisticated forensic scientific questions." Cyril Wecht, Legal Medicine and Forensic Science: Parameters of Utilization in Criminal Cases, 34 Duq. L. Rev. 797, 798-99 (1996). With respect to arson or burn pattern experts: "The debate over whether fire patterns could be reliably interpreted has simmered over a number of years. The major problem has been a serious lack of high-level research. The entire arson field has a low level of qualification. In the typical case, an arson investigator is a fire officer with a very limited technical education. Unlike some other areas of forensic science, fire pattern research was rarely funded, and educational programs were limited to in-service training of fire personnel." Vincent Brannigan & Jose Torero, The expert's new clothes: Arson 'science' after Kumho Tire, Fire Chief, July 1, 1999, at 60.

n486. "Mathematical analysis is even more necessary for interpreting the significance of each fact that is elicited relative to the evidence." Kirk, supra note 205, at 111; see also Inman & Rudin, supra note 195, at 302 ("Now, more than ever, the onslaught of technology obligates the criminalist to draw on a strong background in the physical sciences, including an understanding of statistics and logic."); Thornton & Peterson, supra note 245, at 24 ("Behind every opinion rendered by a forensic scientist there is a statistical basis. We may not know what that basis is, and we may have no feasible means of developing an understanding of that basis, but it is futile to deny that one exists."). A statistical basis "provides ... an evaluation of the likelihood that his testimony reflects the truth, rather than his personal belief or bias." Kirk & Kingston, supra note 317, at 437.

n487. "Statisticians are not criminalists and do not understand the specific character of the requirements of this field, while criminalists equally do not understand statistics, and do not know how to use them constructively." Kirk & Kingston, supra note 317, at 435. The "plain fact is that experts widely use statistics and probabilities testimony without proper validation of the underlying data. Most forensic experts who use these statistics have no idea of how the calculations were made, and are not statisticians themselves." Moenssens, supra note 370, at 19.

n488. "Discussions with criminalists of the concept of probability will generally reveal the fact that their ideas of it are vague, and have little in common with modern concepts of the subject." Kirk & Kingston, supra note 317, at 436. See also Charles E. O'Hare & James W. Osterburg, Criminalistics: The Application of the Physical Sciences to the Detection of Crime, 41 J. Crim. L. & Criminology 1, 120-21 (1950) ("The extension of the principles of mathematical probability to the frequency of occurrences of characteristics of physical evidence is not a simple matter.").

n489. The NIJ's recent report on forensic education recommends undergraduates take at least one statistics course, which is a step in the right direction. See Education Report, supra note 356, at 13. The lack of statistical education is disconcerting because without a concrete understanding of "the statistical principles involved, the

unwary witness can be led into making statements that he cannot properly uphold, especially in the matter of claiming inordinately high probability figures." Kirk & Kingston, supra note 317, at 437. For example,

in one murder case, misuse of statistical reasoning produced the argument that the chances that a particular gun was the murder weapon were several hundred to one, because it was a revolver rather than a pistol, it had six lands and grooves and a right-hand twist, and it was of a particular caliber. The interdependence of several of the variables was disregarded, as was the fact that firearms with these exact class characteristics could be very plentiful. In the absence of actual identification of the weapon as having fired the fatal bullet, such an argument could lead to an unjust conviction.

Kirk, supra note 205, at 112. Many recent cases support this contention. See Roma Khanna & Steve McVicker, HPD Lab Troubles Predate DNA Testing; Experts' Review Finds a Pattern of Problems in 1980s Studies of Blood Samples, Hous. Chron., Dec. 18, 2005, at A1 (discussing Charles Lee Hawkins' 1988 rape case and how a Houston crime lab serologist "botched his [serological] stats in a ludicrous way ... excluding large numbers of people who could have contributed to that sample"); Cooley, supra note 20, at 427-28 (listing additional cases).

n490. When Josiah Sutton was convicted of rape in 1998, a Houston crime lab DNA analyst testified from a report stating that Sutton's DNA profile "can be expected to occur in 1 out of 694,000 people among the black population" in the United States. The DNA analysts grossly miscalculated the statistics. Independent forensic scientists determined that the DNA in Sutton's case matched one out of eight black people, not one out of approximately 700,000. The DNA analyst may have been a bit ill-prepared with the statistics because her statistical training consisted of only a two-week training course sponsored by the company which sold the DNA kit to the Houston crime lab. See Adam Liptak, You Think DNA Evidence Is Foolproof? Try Again, N.Y. Times, Mar. 16, 2003, at A5. In essence, most forensic practitioners are "lay persons" when it comes to calculating complex statistics. As one researcher noted, "A large body of research on statistical reasoning suggests that [lay persons] have poor intuitions when it comes to reasoning with statistics in general and forensic science statistics in particular." Jonathan Koehler, The Psychology of Numbers in the Courtroom: How to Make DNA-Match Statistics Seem Impressive or Insufficient, 74 S. Cal. L. Rev. 1275, 1279-80 (2001).

n491. Beth Daley, Case Against Courtroom Science, Toronto Star, July 18, 2004, at A14 (quoting Univ. of Cal. at Hastings Law Professor, David Faigman); see also C.R. Kingston & P.L. Kirk, The Use of Statistics in Criminalistics, 55 J. Crim. L. & Criminology 514, 515 (1964) ("In the majority of cases, the 'estimate of the situation' is obtained through an intuitive evaluation based upon past experience - not only one's own experience, but often also that obtained indirectly from the study of others' combined experience.").

n492. This could not be further from the truth, as "no proponent of the intuitive approach can seriously and validly argue that probability is not involved in their decision making processes, and that the surest answers are to be attainted through statistically gathered data and the weighing of uncertainties. The intuitive approach is in fact a statistical approach based on experience without quantitative explicitness." Fong, supra note 371, at 384. See also O'Hare & Osterburg, supra note 221, at 66 ("Although the fingerprint expert looks upon his conclusions as being based on common sense supported by experience, he is, nevertheless, groping toward the idea of probability.").

n493. See supra note 239 (listing several examples). In the end, as John Thornton wrote: "To master statistical models to explain much of our evidence may be a slow, reluctant march through enemy territory, but we must begin to plan for that campaign." John I. Thornton, The Statistical Paradigm v. Everything Else, 42 J. Forensic Sci. 758 (1997).

n494. See Inman & Rudin, supra note 195, at 274 ("Most scientists possess notoriously poor ... technical writing skills.").

n495. For instance, Guy Paul Morin's wrongful murder conviction in Canada can be attributed in part to forensic scientists who "failed to communicate accurately the limitations of their findings to ... the Court." Kent Roach, Inquiring into the Causes of Wrongful Convictions, 35 Crim. L. Bull. 152, 162-63 (1999). Some forensic examiners simply refuse to write intelligible reports so a defense expert, or anyone else for that matter, cannot verify the accuracy of their work. For instance, after FBI examiner Michael Malone testified in Augustine Delgado Perez's kidnapping and homicide case, the Department of Justice issued a memo criticizing Malone's reporting style. Malone rebutted by arguing that his reports "'could have been written in hieroglyphics,' adding that he wrote them for himself, so he could testify in court, not for other scientists who might review his work 20 years after the fact." Freedberg, supra note 304. The 2002 audit of the Houston crime lab revealed that lab analysts had a tendency to report statistics for hair evidence only for the defendant's race. See Steve McVicker & Roma Khanna, Case Get 2nd Look after Lab Missteps; DNA Work, Police Tactics in Question, Hous. Chron., May 4, 2003, at 1. When FBI forensic experts reviewed several of Joyce Gilchrist's (the now discredited Oklahoma City crime lab serologist) cases, they "noted Gilchrist's laboratory notes frequently were incomplete or inadequate[.]" Gilchrist v. Citty, 173 Fed. Appx. 675, 680 (10th Cir. 2006). Similarly, an "unclear and ambiguous" FBI DNA report allowed Joyce Gilchrist to falsely claim that the FBI's DNA tests in Alfred Brian Mitchell's capital murder case were inconclusive and did not rule out the possibility Mitchell deposited the semen and sperm recovered from the victim. See Mitchell v. Ward, 150 F. Supp. 2d 1194, 1123, 1126 (W.D. Okla. 1999). The FBI's DNA examinations, however, unequivocally excluded Mitchell as a possible donor of the sperm or semen. The FBI even communicated this information to Gilchrist a year before she testified. Id. at 1126 ("Over a year before Petitioner was tried and convicted of rape and anal sodomy, Agent Vick's DNA testing revealed that Petitioner's DNA was not present on the samples tested.") (emphasis in original). The FBI's DNA analyst admitted, however, "that there [was] no way to tell from his report that: 1) he obtained no DNA profile results from the rectal swabs; 2) he obtained no DNA profile results unlike the victim for the vaginal swabs; and 3) he obtained no DNA profile results unlike the victim or Taylor for the panties." Id. The DNA analyst also "testified that it is clear from the report provided to the defense that Mitchell's DNA was not revealed in the FBI testing." Id. at 1126 n.46. In short, the FBI's terse DNA report failed to adequately inform Mitchell's attorneys that all DNA tests excluded Mitchell as a possible donor of the semen and sperm. Id. at 1126 n.45 ("the defense was not aware that the FBI's DNA testing revealed the critical fact that Mitchell's DNA was not present on the samples tested."). Moreover, the report was so "unclear and ambiguous" that another DNA expert failed to realize, like defense counsel, that all the FBI's DNA tests excluded Mitchell. Id. at 1127; see also Mitchell v. Gibson, 262 F.3d 1036, 1063 (10th Cir. 2001) ("The laboratory performed DNA testing on these items and prepared a report, which was couched in convoluted language that did not clearly recite the test results."). The Tenth Circuit vacated Mitchell's death sentence in part because of Gilchrist's false testimony. See Mitchell v. Gibson, 262 F.3d 1036, 1065-66 (10th Cir. 2001). The Florida Supreme Court overturned Gerald D. Murray's first degree murder conviction and death sentence in part because "there was a general sloppiness in documenting the [forensic] tests which even the analyst admitted was below the standards normally accepted." Murray v. State, 838 So. 2d 1073, 1081 (Fla. 2002). As the Florida Supreme Court explained: "Because of the clerical errors and the below-standard documentation and paperwork, other experts who were retained by the defense were unable to adequately review the test results since necessary portions of the documentation were missing." Id. Finally, the Ninth Circuit Court of Appeals commented that the California Department of Justice serologist, who provided critical testimony at Herman Atkins' rape trial, disclosed a lab report which "lacked specificity and was arguably misleading," and he "was not as forthcoming in explaining information as he should have been." Atkins v. County of Riverside, 151 Fed. Appx. 501, 506 (9th Cir. 2005). The serologist's testimony and "misleading" lab report played a role in Atkins' wrongful rape conviction. See Fred Dickey, Worst-Case Scenario; The Story of Herman Atkins' Years Imprisoned as an Innocent Man Might Scare the Hell Out of You. It Should, L.A. Times, June 25, 2000, at 16.

n496. For instance, in the Office of the Inspector General's report on the FBI's DNA laboratory, auditors "determined that certain protocols lacked comprehensive guidance on notetaking methods." OIG Report, supra note 91, at v.

n497. As the OIG report noted, it is "especially important that all staff members have a comprehensive and consistent understanding of how to record information as they complete their work, since Examiners draw their

conclusions and testify in court based upon the work of the Serologists and PCR biologists as reflected in the case file documentation." Id.

n498. United States v. Monteiro, 407 F. Supp. 2d 351, 373 (D. Mass. 2006).

n499. For instance, the author's brother and sister are elementary and middle school teachers in Pennsylvania. Before school districts could hire them, they were required to take and pass a state teacher certification examination. Likewise, many states require beauticians or hairdressers to be certified before they may work in a beauty salon. If teachers and hairdressers are required to undergo certification testing, surely forensic practitioners should also be required to take and pass some sort of national or state certification examination.

n500. See State v. Quintana, 103 P.3d 168, 170 (Utah Ct. App. 2004) (Thorne, J., concurring) ("Most evidence points to a lack of consistent training of [fingerprint] examiners and an absence of any nationally recognized standard to ensure that examiners are equipped to perform the tasks expected of them."). For instance, what skill(s) must a non-science police officer develop in order to determine whether two fingerprints match or whether a particular firearm discharged a specific bullet? Non-science police officers, however, are the very people who fill the many identification technician positions within forensic identification units across the country. For years, however, people have been plugged into these positions simply because the position(s) needed filling. Crime lab administrators rarely considered their scientific background and whether they were competent. See Calvin Goddard, The Unexpected in Firearms Identification, 2 J. Forensic Sci. 57, 57 (1956) ("the average practitioner of this science is a law-enforcement officer who has been assigned his task not because of any especial interest on his part in arms and ammunition, or a desire to become exceptionally familiar with these, but because the job was vacant and he was the handiest man available to fill it."). For instance, as noted, BPD administrators used the BPD's fingerprint unit as a dumping ground for "misfit" officers for years. Accordingly, BPD administrators rarely considered the officer's competency (or lack thereof) in fingerprinting before they transferred him or her to the fingerprint unit. See Mulvihill & Richardson, supra note 120.

n501. See Inman & Rudin, supra note 195, at 308-09 (discussing the history of certification in forensic science).

n502. See Lucas, supra note 359, at 724 ("the competence of the forensic scientist, at least in theory, is determined by the judge, who decides whether the scientist is to be considered an expert witness, and by the jury, who decide whether to believe the testimony."). Under the Federal Rules of Evidence:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if 1) the testimony is based upon sufficient facts or data, 2) the testimony is the product of reliable principles and methods, and 3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. Thus, before an expert can testify, the district judge must make a threshold determination whether the witness is "qualified as an expert by knowledge, skill, experience, training, or education." Id.

n503. Peterson & Murdock, supra note 355, at 750-51. Consider a Michigan trial judge's questions to a DNA analyst to determine whether the DNA analyst's unit was competent:

Q: Do you folks know what you're doing?

A: Yes, we do.

Q: Are you good at it?

A: Yes, we are.

Q: In your opinion?

A: Yes.

Wallace v. Bell, 387 F. Supp. 2d 728, 733 (E.D. Mich. 2005). The federal district judge in this federal habeas case granted the petitioner's writ of habeas corpus because it was the trial judge who called the DNA analyst to the stand during the middle of the trial. The trial judge called the DNA analyst to the stand when she was in court observing the testimony of her "protege." Id. at 734. Doubting whether the DNA analyst's subordinate persuasively testified, the trial judge took it upon himself to demonstrate to the jury that the Detroit crime lab's DNA Unit was in fact competent. To accomplish this, the trial judge asked the supervising DNA analyst to take the stand and asked her the above-mentioned questions. Because the "questions by the trial judge, in the presence of the jury, could only be interpreted as bolstering the [prosecution's] evidence," the federal district judge concluded that the trial judge violated petitioner's clearly established constitutional right to be tried by an impartial judge. Id. at 737.

n504. As the First Circuit recently commented: "As our references to the ample precedents indicate, this is far from the first case where the failure of defense counsel to use [forensic] experts in preparation for trial was the basis for a finding of ineffective assistance of counsel." Dugas v. Coplan, 428 F.3d 317, 332 n.21 (1st Cir. 2005) (holding trial counsel ineffective for failing to retain an arson expert and for failing to adequately "study up" on arson investigation); Richey v. Mitchell, 395 F.3d 660, 684-85 (6th Cir. 2005) (granting habeas relief to death sentenced petitioner, in part, because trial counsel was grossly ineffective in dealing with the scientific evidence presented at petitioner's trial), rev'd on procedural grounds, Bradshaw v. Richey, 546 U.S. 74 (2005); Soffar v. Dretke, 368 F.3d 441, 476 (5th Cir. 2004) (granting habeas relief to a capitally sentenced petitioner because trial counsel failed to secure an easily securable "ballistics" expert).

n505. For instance, according to the (past) President of the American Academy of Forensic Science ("AAFS") Graham R. Jones:

Defense lawyers have also become more critical and aggressive in challenging forensic evidence and are more willing to hire qualified forensic experts to assist them. At one time challenges of to forensic science evidence were based largely on non-scientific issues and the legal admissibility of the evidence. Now, increasingly, the scientific validity and reliability of every major forensic science discipline is being challenged. Even the reliability of fingerprinting, previously accepted with little comment, has recently undergone a major challenge in the courts and continues to be challenged.

Graham R. Jones, President's Editorial - The Changing Practices of Forensic Science, 47 J. Forensic Sci. 437 (2002). Ronald L. Singer, another past President of the AAFS, echoed a similar comment: "In criminal trials, the prosecution can no longer call expert witnesses to the stand and expect them to go unchallenged, and more and more defense attorneys are utilizing experts not only to review what has already been done, but also to delve into areas not addressed by the state." Ronald L. Singer, President's Message, Acad. News: Am. Acad. Forensic Sci. May-June 2004, at 1. The current state of affairs regarding the defense bar's full-throttle approach to attacking forensic examiners and evidence is not entirely unexpected, especially when one considers the pervasive shortcomings and lack of reforms in forensic science over the past four decades. James W. Osterburg, a preeminent forensic scholar during the middle of the 20th century, actually foresaw such a day where the defense bar would have more than enough ammunition to expose the inadequacies of forensic science, writing: "Unless measures are taken to correct pervasive shortcomings in many areas of criminalistics, the day is not far off when the legal

profession will become sufficiently sophisticated in science to make cross-examination a justifiably harrowing experience." Osterburg, supra note 472, at 269.

n506. United States v. Green, 405 F. Supp. 2d 104, 116 (D. Mass. 2005).

n507. Peterson et al., supra note 321, at 26 (noting the dearth of blind proficiency testing in the forensic science community); Green, 405 F. Supp. 2d at 109 ("The government's proffered expert, Sergeant Detective O'Shea, has worked in the Boston Police ballistics unit for seven years... . O'Shea has never received proficiency testing from any neutral entity.").

n508. The numerous overturned convictions where forensic evidence played a significant role clearly support this claim. See supra Part II.A.4. Had prosecutors re-evaluated these fingerprint, bite mark, shoe print, or firearms identifications, they presumably could have averted a miscarriage of justice.

n509. The overturned conviction cases support this claims as well. In many of these cases, defense counsel failed to challenge the prosecution's forensic evidence. See, e.g., Wilhoit v. State, 816 P.2d 545 (Okla. Crim. App. 1991) (overturning Greg Wilhoit's conviction and death sentence because defense counsel failed to use a bite mark expert hired by Wilhoit's family to rebut the prosecution's bite mark expert); Ex parte Abrams, 2006 WL 825775 at 1 (Tex. Crim. App. Mar. 29, 2006) (overturning defendant's murder conviction because trial counsel "failed to request notice of the State's expert witnesses, failed to voir dire the State's police witness, and failed to challenge her qualifications as an expert witness."). In some instances, inadequate funding prevented trial counsel from effectively challenging the prosecution's forensic experts and evidence. See, e.g., Williamson v. Reynolds, 904 F. Supp. 1529, 1561 (E.D. Okla. 1995).

n510. See United States v. Starzecpyzel, 880 F. Supp. 1027, 1029 (1995) (analogizing handwriting experts to harbor pilots who learn by experience).

n511. Consider the March 2004 harbor boat tragedy in Baltimore, Maryland. The entire country, along with the harbor pilot community, immediately knew that something went drastically wrong. See Rex Bowman, 3 from Virginia Remain Missing: Baltimore Harbor Boat with 25 People Aboard Flipped Over Saturday, Rich. Times-Dispatch, Mar. 9, 2004, at A1.

n512. See D. Michael Risinger & Michael J. Saks, Science and Nonscience in the Courts: Daubert Meets Handwriting Identification Expertise, 82 Iowa L. Rev. 21, 33-34 (1996); Jonakait, supra note 247, at 851; Black, supra note 342, at 634.

n513. Liptak, supra note 490 (quoting Stephen B. Bright, Director of the Southern Center for Human Rights).

n514. See People v. Knox, 459 N.E.2d 1077, 1082 (Ill. App. Ct. 1984) (Stouder, J., dissenting) ("I do not believe that Officer Ganda's 3 week training course in New York qualified him as an expert in blood spattering."); Commonwealth v. Miller, 532 A.2d 1186, 1189 (Pa. Super. Ct. 1987) (holding that a two day course on administering field sobriety tests does not make a police officer an expert on the effects of alcohol levels in the blood).

n515. In their crime laboratory treatise, Kirk and Bradford scoffed at the notion that examiners can acquire the requisite knowledge by merely attending "short" or "correspondence" courses. See Kirk & Bradford, supra note 56, at 58.

n516. Telephone Interview with Brent Turvey, Forensic Examiner & Criminal Profile, Forensic Solutions, LLC (Oct. 8, 2005).

n517. James Osterburg and Charles O'Hara expressed their frustration with law enforcement's vain desire to oversimplify complex forensic concepts and procedures a half century ago:

The student entering the field of scientific crime detection finds himself confronted by an odd assortment of texts. Most of these are popularizations which explain away the difficulties of subject matter in terms of facile analogies. The most serious works are optimistically written with a view to making a scientist out of a detective; but here again, the road to a true understanding of the principles of criminalistics is blocked by the necessity for oversimplification. A few texts meet squarely the major problem: To make a detective out of a science student, i.e., to develop from the scientist the scientific investigator of crime, by showing how the principles and techniques which he has studied can be applied to the peculiar problems of examiner clue materials.

O'Hara & Osterburg, supra note 221, at x. A prime example of the oversimplification mindset can be witnessed in the fire investigation field. For years, arson experts investigated suspicious fires by simply looking for certain burn patterns, which they believed were indicative of arson. See Maurice Possley, Arson Myths Fuel Errors; Debunked Theories Plague Fire Probes, Lead to Wrongful Arrests, Prosecutions, Chi. Trib., Oct. 18, 2004, at 1 (discussing several cases where defendants were unjustly convicted or charged because of misinterpreted burn patterns). After years of research, however, (non-law enforcement) fire science engineers debunked these burn pattern techniques as myths. As a result, arson investigation is much more complex than thirty or even twenty years ago. As one arson investigator explained: "When I started doing fire investigations, it was a lot easier. The longer I do it, the less I know. It used to be really simple - if you had a certain condition, it was automatic." Id. (quoting Alan Clark) (emphasis added). Likewise, an ATF fire expert said this about today's fire investigators: "Basically, the job they've chosen to do is far more difficult than they thought it was." Id. (quoting Jack Malooley, an ATF agent in Chicago). Furthermore, when the National Fire Protection Association published the first scientifically developed fire investigation manual, fire investigators across the country vehemently protested. As John DeHaan, one of the nation's top fire scientists, noted: "It basically is fear ... This was something that could not be easily dismissed. There were many complaints from both the private and public sector. They didn't like hearing the s-word-science." Id. (quoting John DeHaan). Likewise, according to Professor Moenssens, early fingerprint experts oversimplified the fingerprinting process for non-science investigators:

The bulk of the [early] law enforcement users of friction ridge trace evidence were trained on the job by others who came before them, and who had been trained in the same manner. That's the way it happened with the first pupils of Sergeant Kenneth Ferrier of New Scotland Yard when Ferrier met them at the St. Louis World's Fair in 1904 and agreed to instruct them in "fingerprinting." These pupils were not scientists, and their students were not scientists. But the beauty and immense diversity of the friction ridge patterns was so self-evident that the individuality and difference of all patterns to be found on human fingers and thumbs - one of the premises on which "fingerprinting" was based - appeared to be beyond doubt. Without understanding the biology on which it was based, examiners of the ridge patterns had no difficulty accepting the premise of individuality of all prints.

Moenssens, supra note 485.

n518. Saks, supra note 217, at 1091.

n519. See Julie Johnson-McGrath, Witness for the Prosecution: Science Versus Crime in Twentieth-Century America, 22 Legal Stud. F. 183, 183 (1998).

n520. Id. at 183-84.

n521. Id. at 184.

n522. Id.

n523. Id.

n524. Id.

n525. Johnson, supra note 519, at 184.

n526. Id. at 186.

n527. Id. at 183-84.

n528. Id. at 186; see also Lawrence Fleischer, Thomas E. Dewey and Earl Warren: The Rise of the Twentieth Century Urban Prosecutor, 28 Cal. W. L. Rev. 1 (1991-92).

n529. Id. at 184.

n530. Id.

n531. Johnson, supra note 519, at 192.

n532. Early 20th century legal and medical journals are filled with lamentations of juries' refusal to acknowledge scientific circumstantial evidence. See Hubert Winston Smith, Components of Proof in Legal Proceedings, 51 Yale L.J. 537 (1942).

n533. Jennifer L. Mnookin, Fingerprint Evidence In An Age of DNA Profiling, 67 Brook. L. Rev. 13, 38 (2001).

n534. Johnson-McGrath, supra note 519, at 186-87.

n535. Id. at 192-93.

n536. Legal scholars have been very critical of jurors for quite some time. See S. Stewart Whitehouse, Trial by Jury, As It is and As It Should Be, 31 Alb. L.J. 504 (1885); William L. Foster, Expert Testimony: Prevalent Complaints and Proposed Remedies, 11 Harv. L. Rev. 169 (1897); Learned Hand, Historical and Practical Considerations Regarding Expert Testimony, 15 Harv. L. Rev. 40 (1901).

n537. Johnson-McGrath, supra note 519, at 193.

n538. See generally Gregory N. Derry, What Science is And How It Works (2002).

n539. See supra Part II.D.5 (discussing this misconception).

n540. Johnson-McGrath, supra note 519, at 191 ("All scientific evidence is therefore circumstantial evidence, and in our culture we have traditionally been reluctant to convict a person of a serious crime solely on circumstantial evidence.").

n541. See Luke S. May, Crime's Nemesis 13 (1936) ("Through it is woven the web of circumstantial evidence that has been known to defeat the end of justice."); Johnson-McGrath, supra note 519, at 191 ("All scientific evidence is ... circumstantial evidence, and in our culture we have traditionally been reluctant to convict a person of a serious crime solely on circumstantial evidence.").

n542. See Apprendi v. New Jersey, 530 U.S. 466, 477 (2000) (finding that a criminal defendant is entitled to "a jury determination that he is guilty of every element of the crime with which he is charged, beyond a reasonable doubt").

n543. Consider these comments from a forensic examiner who testified as to the probability of common origin:

Some prosecuting attorneys greet with intolerance conclusions which can establish only roughly estimated degrees of probabilities. The author was accosted by an enraged prosecutor in the hallway outside the courtroom after delivering an opinion which established only a probability of common origin. In tones reflecting outraged disappointment, he demanded, "Why can't you say that the paint (from the defendant's car) came from the victims (auto forced off highway into river resulting in the drowning of two occupants) when I tell you where the paints come from."

Fong, supra note 371, 381-82.

n544. May, supra note 541, at 15 ("Unimpeachable physical evidence avoids the pitfalls of circumstantial evidence, or hearsay, and bogus confessions.").

n545. See Johnson-McGrath, supra note 519, at 192.

n546. See Simon A. Cole, Grandfathering Evidence: Fingerprint Admissibility Rulings from Jennings to Llera Plaza and Back Again, 41 Am. Crim. L. Rev. 1189, 1197-98 (2004). In terms of fingerprinting, for example, fingerprint examiners were not required to know the biology behind friction ridge development-all they needed to know was that no two fingerprints could be alike. See Moenssens, supra note 485. If fingerprint examiners did not concern themselves with fingerprinting's biological aspects, jurors surely were not going to be presented with this information. See id.

n547. See United States v. Crisp, 324 F.3d 261, 277 (4th Cir. 2003) (Michael, J., dissenting) ("Fingerprinting ... rose in popularity because the prints could be taken and analyzed quickly by those with little training or experience").

n548. As one fingerprint text explained:

The testimony of a finger print expert is not subject to contradiction by another finger print expert, for the reason that the print is from the person; while in cases of testimony by handwriting experts there is always a possibility of contradiction, because the identification of handwriting is merely the opinion of a person who has made a study of detecting similarities in the formation of letters; and another expert, who is just as competent, might not agree with the conclusions of the first expert, thus giving cause for doubt.

Frederick Kuhne, The Finger Print Instructor iv (1917). See also Hatcher, supra note 449, at 18 ("The work of [Calvin] Goddard and his associates has advanced the science of firearms identification to the point where such knowledge and equipment is available that the court can always assure itself of the services of an expert who is in a position to give the court and jury FACTS rather than OPINIONS.") (emphasis in original).

n549. See May, supra note 541, at 41 ("Obviously, the human element is far from perfect as a means of proof. Science is fashioning supplementary tools from which the element of error has been eliminated almost entirely.").

n550. Alfred Alan Lewis & Herbert Leon MacDonnell Lewis, The Evidence Never Lies: The Casebook of a Modern Sherlock Holmes (1984). In short, "by invoking science's cultural authority and alleged objectivity, scientists sought to transubstantiate opinion into fact." Johnson-McGrath, supra note 519, at 193. See also State v. Quintana, 103 P.3d 168, 171 (Utah Ct. App. 2004) (Thorne, J., concurring) (noting that "we have adopted a cultural assumption that a government representative's assertion that a defendant's fingerprint was found at a crime scene is an infallible fact, and not merely the examiner's opinion").

n551. Consider the following passage from a 1935 firearms textbook:

In general, ambition and hard work are far more important than academic training. Experience and gun knowledge are certainly valuable but are not absolutely essential. Most Firearms Identification Experts were gun cranks before their appointment. Natural intelligence and cleverness are, however, imperative. Common sense will do more in the long run than a Doctor of Philosophy Degree. A certain knowledge of microscopy is essential but can be picked up as one goes along.

Hatcher, supra note 449, at 262.

n552. See supra Part II.E.1 (discussing the subjective and intuitive nature of forensic examinations).

n553. Fong, supra note 371, at 384 (emphasis added).

N554. See generally Mitchell, supra note 319; Henry Morton Robinson, Science versus Crime (1935); May, supra note 541; Julius Grant, Science For the Prosecution (1941); Jurgen Thorwald, The Marks of Cain (1965); Jurgen Thorwald, Dead Men Tell Tales (1966).

n555. See William G. Eckert, Introduction to Forensic Science 53 (2d ed. 1996) ("Many of the early criminalists were police officers and detectives with varied backgrounds. Many lacked formal training and relied upon on-the-job training from a supervisor. They often worked in areas such as latent print examination, document examination, firearms, photography, and crime scene sketching."); Joseph E. Serhant, The Admissibility of Ballistics in Evidence, 2 Am. J. Police Sci. 202, 202-03 (1931) ("When criminal detection by this device was first attempted, the testimony offered did not take the form of scientific study, and crude means of comparison

were resorted to in analyses often based upon no better qualification than the personal experiences of a witness having limited acquaintance with the handling of firearms.").

n556. The oversimplification of science in forensic science is still evident today. Consider the following comment about the ACE-V technique from a former FBI fingerprint examiner: "ACE-V is a clever little acronym and that's about it. It's an oversimplified concept packaged and sold as science. I use ACE-V when I make a determination about the freshness of produce that I want to buy in the grocery store. It ain't rocket science. Heck for that matter it isn't science either!" E-mail from Mark Acree to Brent Turvey (Jan. 9, 2006) (on file with author) (emphasis added).

n557. See Jurgen Thorwald, Crime and Science 115 (1966) ("[The] real value of [forensic] findings ... was as a basis for eliciting a confession."); Johnson-McGrath, supra note 519, at 197 ("Popular education in scientific crime detection also made it possible for police and prosecutors to threaten suspects with scientific evidence and attempt to convince them to confess and plead guilty, to avoid the time and expense of a trial."); Charles E. O'Hare & James W. Osterburg, Criminalistics: The Application of the Physical Sciences to the Detection of Crime 682 (3d ed. 1974) ("While the physical evidenced in a case may be inadequate, it sometimes may be combined advantageously with the methods of applied psychology to induce a suspect to make a confession."); Edward D. Radin, 12 Against the Law 37-54 (1946) (describing a case where a suspect confessed after investigators instructed him in the theory of blood grouping and informed him of blood grouping test results which inculpated him; the physical evidence, by itself, would have been insufficient to secure a conviction).

n558. See Horvath & Messig, supra note 365, at 965 ("Physical evidence is sought to corroborate and authenticate confessions. In other words, physical evidence is of minor, only secondary importance; it is used essentially to create opportunities; i.e., convict the accused, to develop intelligence, and to resolve additional investigations.").

n559. Willard J. Lassers, Proof of Guilt in Capital Cases - An Unscience, in Forensic Science: Scientific Investigation in Criminal Justice 333 (Joseph L. Peterson ed. 1975).

n560. See Thornton, supra note 362, at 288. The same can be said for the medical examiner system, as it too "arose from the ashes of a scandal." Wecht, supra note 485, at 801. See also Julie Johnson, Coroners, corruption and the politics of death: forensic pathology in the United States, in Legal Medicine in History 268-92 (Michael Clark & Catherine Crawford eds. 1994).

n561. Kansas v. Marsh, 126 S.Ct. 2516, 2529 (2006) (noting that our "criminal justice system does not operate perfectly"); id. at 2539 (Scalia, J., concurring) ("Like other human institutions, courts and juries are not perfect. One cannot have a system of criminal punishment without accepting the possibility that someone will be punished mistakenly."); Herrera v. Collins, 506 U.S. 309, 415 (1993) ("It is an unalterable fact that our judicial system, like the human beings who administer it, is fallible").

n562. See Arizona v. Youngblood, 488 U.S. 51, 70 (1988) (Blackmun, J., dissenting) (predicting that, "as technology develops, the potential for this type of evidence to provide conclusive results on any number of questions will increase.").

n563. See Jones v. United States, 527 U.S. 373, 400 (1999) ("Ensuring that a sentence of death is not so infected with bias or caprice is our 'controlling objective when we examine eligibility and selection factors for vagueness.'") (quoting Tuilaepa v. California, 512 U.S. 967, 973 (1994)). See also Gardner v. Florida, 430 U.S. 349, 358 (1977).

n564. Although I commend Governor Romney and his Council members for attempting to draft a comprehensive death penalty bill, I agree with renowned death penalty scholar, Hugo A. Bedau, who said, "the idea that

we should enact this proposed legislation because it constitutes a scientifically foolproof system is embarrassing." Drake Bennett, Reasonable Doubt: Governor Romney Wants to Create a Foolproof 'Scientific' Death Penalty. But It's Not Clear If Either Side in the Polarized Debate Really Wants One, Boston Globe, May 8, 2005, at K1.

n565. Cooley, supra note 23, at 389.

n566. In November 2005, the Massachusetts lawmakers "soundly rejected" Governor Romney's death penalty bill. In rejecting the so-called "foolproof statute," Rep. John Keenan, a democrat from Salem, Massachusetts, and a descendant of one of the victims of the 1692 Salem witch trials, said: "Let's be realistic, whether it's the spectral evidence of 1692 or the DNA testing of today, errors have been made and will continue to be made." Steve LeBlanc, House defeats Romney death penalty bill, AP, Nov. 16, 2005.

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JUDGING INNOCENCE

*Brandon L. Garrett**

This empirical study examines for the first time how the criminal system in the United States handled the cases of people who were subsequently found innocent through postconviction DNA testing. The data collected tell the story of this unique group of exonerees, starting with their criminal trials, moving through levels of direct appeals and habeas corpus review, and ending with their eventual exonerations. Beginning with the trials of these exonerees, this study examines the leading types of evidence supporting their wrongful convictions, which were erroneous eyewitness identifications, forensic evidence, informant testimony, and false confessions. Yet our system of criminal appeals and postconviction review poorly addressed factual deficiencies in these trials. Few exonerees brought claims regarding those facts or claims alleging their innocence. For those who did, hardly any claims were granted by courts. Far from recognizing innocence, courts often denied relief by finding errors to be harmless. Criminal appeals and postconviction proceedings brought before these exonerees proved their innocence using DNA testing yielded apparently high numbers of reversals—a 14% reversal rate. However, that reversal rate was indistinguishable from the background reversal rates of comparable rape and murder convictions. Our system may produce high rates of reversible errors during rape and murder trials. Finally, even after DNA testing was available, many exonerees had difficulty securing access to testing and ultimately receiving relief. These findings all demonstrate how our criminal system failed to effectively review unreliable factual evidence, and, as a result, misjudged innocence.

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Introduction

Postconviction DNA testing changed the landscape of criminal justice in the United States. Actors in the criminal system long doubted whether courts ever wrongly convicted people; for example, Judge Learned Hand famously called "the ghost of the innocent man convicted . . . an unreal dream."[1] With the benefit of DNA testing, we now know our courts have convicted innocent people and have even sentenced some to death. This has happened, as Justice Souter recently

1. United States v. Garsson, 291 F. 646, 649 (S.D.N.Y. 1923); cf. Herrera v. Collins, 506 U.S. 390, 420 (1993) (O'Connor, J., concurring) ("Our society has a high degree of confidence in its criminal trials, in no small part because the Constitution offers unparalleled protections against convicting the innocent.").

noted, "in numbers never imagined before the development of DNA tests."[2] Since 1989, when postconviction DNA testing was first performed, 208 people have been exonerated by postconviction DNA testing in the United States.[3]

Exoneration cases have altered the ways judges, lawyers, legislators, the public, and scholars perceive the criminal system's accuracy. Courts now debate the legal significance of these exonerations, with the U.S. Supreme Court in the last term engaging in its first "empirical argument" on the subject.[4] Lawyers, journalists, and others have established an "innocence network" of projects, including clinics at dozens of law schools, all designed to locate more innocence cases.[5] Public distrust of the criminal system has increased as a result of exonerations.[6] Popular television shows, books, movies, and plays have dramatized the stories of exonerations.[7] States have declared moratoria on executions, citing examples of

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2. Kansas v. Marsh, 126 S. Ct. 2516, 2544 (2006) (Souter, J., dissenting).

3. See The Innocence Project Home Page, at http://www.innocenceproject.org (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*) (providing count of U.S. postconviction DNA exonerations; the number as of November 2007 is 208).

4. *Marsh*, 126 S. Ct. at 2544–45 (Souter, J., dissenting) (citing "a growing literature" regarding exonerations in capital cases). Justice Thomas, writing for the majority, questioned any "'new empirical demonstration of how "death is different"'" and called the subject an "incendiary debate." Id. at 2528 (majority opinion) (quoting id. at 2545 (Souter, J., dissenting)). Justice Scalia responded that DNA exonerations arise from self-correction in our system and their numbers suggest only "insignificant" risks of error. Id. at 2536–38 (Scalia, J., concurring). But see Harvey v. Horan, 285 F.3d 298, 305–06 (4th Cir. 2002) (Luttig, J., concurring) ("[S]cientific advances [permitting DNA testing] must be recognized for the singularly significant developments that they are . . . ."); U.S. v. Quinones, 205 F. Supp. 2d 256, 268 (S.D.N.Y. 2002) (declaring Federal Death Penalty Act unconstitutional and citing to examples of postconviction DNA exonerations), rev'd, 313 F.3d 49, 69–70 (2d Cir. 2002).

5. See The Innocence Network Home Page, at http://www.innocencenetwork.org (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

6. Cf. James S. Liebman, The New Death Penalty Debate: What's DNA Got to Do with It?, 33 Colum. Hum. Rts. L. Rev. 527, 534–41 (2002) (arguing DNA exonerations have been "central feature" of "catalyzing narrative" that has helped shift public opinion against death penalty based on distrust of criminal adjudication's accuracy); infra note 136 (noting increasing belief that innocence cases justify opposing death penalty).

7. For example, *The Exonerated*, a play based on the stories of six DNA exonerees, has toured internationally and is now a Court TV movie. See Court TV, The Exonerated, at http://www.courttv.com/movie/exonerated/main.html (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*). John Grisham's recent book, his first nonfiction work, tells the story of two DNA exonerees' wrongful convictions. See John Grisham, The Innocent Man: Murder and Injustice in a Small Town 62 (2006) (discussing local investigators' adoption of "knee-jerk theory" that led to wrongful convictions of Ron Williamson and Dennis Fritz). For additional books detailing accounts of wrongful capital convictions, see infra note 139. The syndicated ABC series *In Justice* depicted the casework of a fictionalized Innocence Project. See ABC, In Justice: About the Show, at http://abc.go.com/primetime/injustice/about.html (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*). PBS also produced a documentary on DNA exonerations, focusing on the wrongful conviction of Ronald Cotton. See Frontline: What Jennifer Saw (PBS television broadcast Feb. 25, 1997) (transcript on file with the *Columbia Law Review*).

wrongful convictions.[8] Moreover, forty-three states and the District of Columbia have passed legislation providing access to post-conviction DNA testing.[9] Six states have created innocence commissions designed to investigate possible innocence cases, and others have enacted reforms aimed at improving the accuracy of criminal investigations and trials.[10] In 2000, Congress passed the DNA Analysis Backlog Elimination Act to grant the states additional funding for DNA analysis, and then in 2004 passed the Innocence Protection Act to encourage postconviction DNA testing.[11] Social scientists have begun to study the causes of wrongful convictions,[12] and legal scholars are beginning to reassess our constitutional criminal procedure's efficacy in light of exonerations.[13]

Despite the attention now devoted to the problem of wrongful convictions, no one has studied how postconviction DNA exonerees fared in our criminal system. This Article presents the results of an empirical

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8. See, e.g., Governor's Comm'n on Capital Punishment, State of Ill., Report of the Governor's Commission on Capital Punishment i–iii, 1, 187–200 (2002), available at http://www.idoc.state.il.us/ccp/ccp/reports/commission_report/complete_report.pdf (on file with the *Columbia Law Review*) (describing reasons for Illinois moratorium on executions, noting that "DNA evidence continues to reveal evidence of . . . wrongful convictions," and recommending reforms).

9. See The Innocence Project, Fix the System: National View, at http://www.innocenceproject.org/fix/National-View2.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*) [hereinafter Innocence Project, Fix] (summarizing efforts to improve access to DNA tests in states); infra Part III.A (describing reform efforts and reform proposals).

10. See Innocence Project, Fix, supra note 9; infra Part III.A (describing reform efforts and reform proposals).

11. See Innocence Protection Act of 2004, Pub. L. No. 108-405, § 411, 118 Stat. 2278, 2278–80 (codified at 18 U.S.C. § 3600 (Supp. 2004)) (describing conditions under which court "shall order DNA testing of specific evidence" upon motion of defendant); DNA Analysis Backlog Elimination Act of 2000, Pub. L. No. 106-546, 114 Stat. 2726, 2726–37 (codified at 42 U.S.C. §§ 14135–14135e (2000)) (providing for federal grants to state and local governments for DNA testing programs).

12. See infra notes 82, 85, 93 and accompanying text (referring to different social science studies of causes of wrongful convictions).

13. Criminal justice scholars increasingly examine the implications of wrongful convictions for our criminal system's accuracy. See, e.g., Darryl K. Brown, The Decline of Defense Counsel and the Rise of Accuracy in Criminal Adjudication, 93 Cal. L. Rev. 1585, 1590–91, 1644 (2005) (describing impact of wrongful convictions on criminal trials and investigations); Brandon L. Garrett, Aggregation in Criminal Law, 95 Cal. L. Rev. 383, 449–50 (2007) [hereinafter Garrett, Aggregation] (exploring systemic reform efforts in courts and innocence commissions aiming to remedy wrongful convictions); Brandon L. Garrett, Innocence, Harmless Error, and Federal Wrongful Conviction Law, 2005 Wis. L. Rev. 35, 82–85, 99–110 [hereinafter Garrett, Federal Wrongful Conviction Law] (describing possible transformative effect of wrongful conviction cases on underlying criminal procedure rules); Daniel S. Medwed, Innocence Lost . . . and Found: An Introduction to *The Faces of Wrongful Conviction* Symposium Issue, 37 Golden Gate U. L. Rev. 1, 1 (2006) (introducing symposium); Richard A. Rosen, Reflections on Innocence, 2006 Wis. L. Rev. 237, 237 [hereinafter Rosen, Reflections] (introducing symposium and discussing "Criminal Justice in the Age of Innocence"); infra notes 255, 261 (presenting other scholarship on implications of wrongful convictions for criminal justice system).

study that examines how our criminal system handled, from start to finish, the cases of the first 200 persons exonerated by postconviction DNA testing in the United States.[14] This study looks in depth at the reasons why these people were wrongfully convicted, the claims they asserted and rulings they received during their appeals and postconviction proceedings, how DNA testing eventually proved their innocence, and how they were exonerated.

To carry out the study, several bodies of data were assembled. First, data were compiled regarding the first 200 people exonerated by postconviction DNA testing in the United States. The study period stretches from 1989, when Gary Dotson became the first person exonerated by postconviction DNA in the United States, through the exoneration of Jerry Miller on April 23, 2007, the 200th person exonerated by postconviction DNA testing in the United States.[15] Information was coded ranging from the demographics of the 200 exonerees, the evidence introduced during their trials, each criminal procedure claim they raised postconviction, each ruling a court rendered on each of their claims, and the details of how DNA testing ultimately freed them. Because courts issued decisions in two-thirds of the cases, these data can tell us quite a bit about how courts judged innocence.

In addition to the innocence group, a matched comparison group of cases was constructed. An unsuccessful effort was initially made to compare the innocence group with the fascinating group of people for whom postconviction DNA testing confirmed guilt. As Justice Scalia described

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14. The lone study to date of exonerations includes non-DNA cases and examines the characteristics of 340 cases from 1989 through 2003. See Samuel R. Gross et al., Exonerations in the United States 1989 Through 2003, 95 J. Crim. L. & Criminology 523, 523–24, 525 n.7, 551–53 (2005) [hereinafter Gross et al., Exonerations] (explaining selection of 340 cases and summarizing conclusions about them). The Gross study provides a landmark examination of the characteristics of exonerations, such as race of the exoneree, crime of conviction, rates of exoneration, and mental illness of the exoneree, but perhaps most importantly, it constructs and examines the category of exonerations beyond DNA cases. Other works, like the Gross study, examine general characteristics of types of exonerated individuals and include non-DNA cases. See Hugo Adam Bedau & Michael L. Radelet, Miscarriages of Justice in Potentially Capital Cases, 40 Stan. L. Rev. 21, 57 (1987) (providing influential examination of characteristics of erroneous capital convictions); Steven A. Drizin & Richard A. Leo, The Problem of False Confessions in the Post-DNA World, 82 N.C. L. Rev. 891, 901–07 (2004) (surveying past studies of false confession cases, consolidating their findings, and offering analysis of "causal role of false confession in wrongful conviction cases," including non-DNA cases). In contrast, this study examines only postconviction DNA exonerations. This study analyzes not only general characteristics of the cases, but also how they were handled by the criminal system through trial and appeals.

15. Clarence Page, The 200th Reason to Test DNA, Chi. Trib., Apr. 25, 2007, at 23. Each of the 200 cases is described in Appendix A. While in practice with Cochran Neufeld & Scheck, LLP from 2002–2004, the author had the privilege to represent four exonerees included in this study with respect to subsequent civil wrongful conviction actions, but not with respect to the criminal appeals analyzed here. None of the specifics of those four civil cases are discussed in this Article.

in *Kansas v. Marsh*, prisoners inculpated by DNA testing have not received the same attention as those exonerated by DNA testing.[16] These cases were difficult to locate, as there was no preexisting list maintained of them. Sixty-three cases in which postconviction DNA testing confirmed guilt were located, but only thirty-six received decisions. The group's characteristics are described in Appendix C. However, the small size of the group prevented any direct statistical comparison and the unusual self-selection of the group raises additional problems. As a result, the group played a marginal role in this study.

For that reason, the matched comparison group was created by pairing each of the exonerees with a case in which no DNA testing was conducted.[17] These matched cases were selected at random among the body of reported decisions with the same criminal charges, in the same state, and in the same time period, as each innocence group case.

This study examines the trials, appeals, postconviction proceedings, and exonerations of the 200 convicts in the innocence group. First, it identifies the crimes with which the exonerees were charged and what evidence supported their convictions. All were convicted of rape or murder, and all but the nine who pleaded guilty were convicted after a trial. A few predictable types of unreliable or false evidence supported these convictions. The vast majority of the exonerees (79%) were convicted based on eyewitness testimony; we now know that all of these eyewitnesses were incorrect. Fifty-seven percent were convicted based on forensic evidence, chiefly serological analysis and microscopic hair comparison.[18] Eighteen percent were convicted based on informant testimony and 16% of exonerees falsely confessed.

Second, this study examines the efforts by exonerees to challenge their convictions. Unfortunately, courts did not effectively review the unreliable and false evidence that supported these convictions. While Justice O'Connor has hailed our Constitution as offering "unparalleled protections against convicting the innocent,"[19] this study illuminates fail-

16. See 126 S. Ct. 2516, 2533 (2006) (Scalia, J., concurring) ("The dissent makes much of the new-found capacity of DNA testing to establish innocence. But in every case of an executed defendant of which I am aware, that technology has confirmed guilt.").

17. Use of a matched comparison group is a technique accepted in scientific research when a randomized control group is not available, as is the case here, because one could not practically (or ethically) conduct experiments observing randomly selected actually innocent and guilty defendants during real criminal trials through appeals. See, e.g., Ronet Bachman & Russell K. Schutt, The Practice of Research in Criminology and Criminal Justice 180 (3d ed. 2007) ("[U]sually the best alternative to an experimental design is a quasi-experimental design . . . [in which] the comparison group is predetermined to be comparable to the treatment group in critical ways . . . ."); Richard A. Leo, Rethinking the Study of Miscarriages of Justice, 21 J. Contemp. Crim. Just. 201, 217 (2005) (calling for use of matched comparison sample methodology to study the problem of wrongful convictions, due to impossibility of obtaining randomized sample).

18. Exonerees typically had more than one type of evidence supporting their convictions, so these figures add up to more than 100%.

19. Herrera v. Collins, 506 U.S. 390, 420 (1993) (O'Connor, J., concurring).

ures of those safeguards during our elaborate appellate and postconviction process. Exonerees rarely received new trials based on factual claims challenging the evidence supporting their wrongful convictions. Moreover, they often did not even raise factual claims challenging that evidence. No conviction was reversed based on a challenge to an eyewitness identification. None of the exonerees brought federal claims directly challenging forensic evidence, and while half of those who falsely confessed raised claims challenging the confession, none received relief.

Courts reversed the convictions of the exonerees at a 14% rate, or a 9% rate if only noncapital cases are included. That rate is much higher than the nominal 1% to 2% reversal rates during criminal review generally.[20] The matched comparison group of noncapital rape and murder cases received a reversal rate of 10%, with a statistically insignificant difference from the reversal rate in the innocence group. One implication is that all rape and murder cases that proceed to trial and result in a conviction are highly prone to reversible error. One cannot know how many in the matched comparison group are innocent, but these data show a high incidence of factual and not just procedural error in the matched comparison group; approximately half of reversals in both innocence and matched comparison groups were granted by courts based on factual claims.

Criminal appeals and postconviction proceedings also provide information about how judges assess innocence. Lacking the perfect hindsight of DNA evidence, judges often weigh the evidence of criminal defendants' guilt or innocence, typically when deciding if an error was harmless. In many of the innocence cases examined in this study, courts denied claims after finding that evidence of guilt offset error, sometimes even referring to "overwhelming" evidence of guilt.[21] Prior to obtaining DNA testing, only a handful of exonerees asserted newly discovered evidence of innocence claims and none received a reversal. In short, the appellate and postconviction process did not effectively ferret out innocence. This should trouble us all the more given evidence of high reversal rates in rape and murder trials.

Third, this study explores how DNA testing was finally obtained, how the exonerations themselves occurred, and what happened afterwards. Even after DNA testing became available our system imposed a series of

20. See infra Part II.B.3.a (comparing reversal rates in innocence cases with those in criminal cases generally). Capital cases are excluded because they have very high reversal rates in contrast to criminal cases in general. See infra note 168 and accompanying text (discussing high reversal rates in capital cases).

21. See infra notes 195–198 and accompanying text (discussing cases where courts denied claims based on conclusions that evidence of guilt outweighed trial court errors). Several of those cases collected in this study were cited in the Innocence Network's amicus brief to the Supreme Court regarding innocence and harmless error. Brief of Innocence Network as Amicus Curiae in Support of Petitioner at 14–16, Fry v. Pliler, 127 S. Ct. 763 (2007) (No. 06-5247), 2007 WL 173682 (presenting cases of Dennis Brown, Frederick Daye, Larry Holdren, and Leonard McSherry).

barriers to relief. For one, known exonerees remain only a subset of innocent convicts; many cases do not or cannot receive DNA testing.[22] Within the innocence group, many exonerees faced law enforcement refusal of access to the evidence for testing. Furthermore, many still could not obtain relief even after the DNA testing exonerated them, and, lacking any judicial recourse, they required an executive pardon. This final set of findings suggests that not only do known innocence cases represent the tip of an iceberg, but that even at the tip, once DNA testing became available, many exonerees faced obstacles even as they finally approached their exoneration.

Finally, this study does not try to estimate the size of the iceberg or its tip, that is, how many innocent people have been convicted. Other innocent people may have received an acquittal or reversal such that they never needed postconviction DNA testing. Still others may not have sought DNA testing, or may have failed to obtain access to DNA testing, or they may have lacked any probative or preserved biological evidence to test. This is a study of known failures, not of the failures and successes of our criminal system that remain undetected.[23] Rather than try to estimate how many additional innocent people still languish in our prisons,[24] this study instead identifies and studies the select few who were exonerated through postconviction DNA testing. Any larger inferences are drawn only by comparison to the matched comparison group, which suggests that other serious rape and murder trials are similarly prone to reversal based on serious factual errors.

The Article proceeds as follows. Part I explains the study design, methodology, and characteristics of the innocence group as well as the matched comparison group, and notes why the DNA confirmatiion cases were not suitable for comparison. Part II presents the results in three stages. Part II.A examines criminal trials of the exonerees, including their convictions; the chief types of evidence introduced at their trials; whether the exonerees raised claims related to that evidence, and data regarding exonerees who were sentenced to death. Part II.B examines appeals brought by exonerees, including: which stages of review they pursued; which claims they litigated; reversals obtained; the statistically

22. See infra part II.C.1 (discussing how DNA is not available in many cases).

23. For analysis of the problems inherent in studying the frequency of false convictions where they remain "hidden from view," see Samuel R. Gross & Barbara O'Brien, Frequency and Predictors of False Conviction: Why We Know So Little, and New Data on Capital Cases 1 (Univ. Mich. Law Sch. Pub. Law and Legal Theory Working Paper Series, Paper No. 93, 2007) (on file with the *Columbia Law Review*).

24. Scholars have done so for discrete groups of convicts. See id. at 15 (examining capital exonerations, including those in non-DNA cases, and estimating at least 2.3% exoneration rate between 1973 and 1989); D. Michael Risinger, Convicting the Innocent: An Empirically Justified Wrongful Conviction Rate 14–15 (Sept. 16, 2006), at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=931454 [hereinafter Risinger, Convicting the Innocent] (on file with the *Columbia Law Review*) (examining capital rape-murder exonerations and estimating range of 3.3% to 5% for wrongful conviction rate in 1980s).

insignificant difference in the matched comparison group's reversal rate; cases where the exonerees received reversals; relief granted beyond reversals; procedural rulings versus merits rulings, and treatment of guilt-based doctrines and harmless error versus innocence-based claims. Part II.C examines DNA testing, and exoneration, including how the exonerees obtained postconviction DNA testing, how their convictions were ultimately vacated, and whether they received any compensation.

Part III explores larger implications of these findings for our criminal system. The Part first reviews a range of criminal investigation and trial reforms aimed at developing a more accurate record, both to prevent errors and to make the task of assessing innocence less onerous postconviction. Though jurisdictions have increasingly adopted such reforms in response to DNA exonerations, our criminal system has long discouraged review of factual claims. The findings regarding high reversal rates in serious rape and murder cases suggest further gains are possible in adopting measures to reduce errors that produce reversals. DNA exonerations and wrongful convictions will persist unless we secure greater reliability at all levels of our criminal system, from criminal investigations through trials, appeals, and postconviction review.

I. Postconviction DNA Testing: Study Design

A. *The Innocence Group*

DNA testing was first used to exonerate an innocent man in 1989, clearing Gary Dotson, who had been wrongly incarcerated for ten years in Illinois.[25] Since then the numbers of DNA exonerations have steadily increased as DNA testing has become more sophisticated.[26] Two hundred and eight persons have been exonerated by postconviction DNA testing and were released from prison if still serving their sentences.[27]

Using the modern polymerase chain reaction (PCR) method and the short tandem repeat (STR) test, scientists can determine whether one person in billions or trillions (many more than all humans who have ever lived) could randomly match a particular DNA profile.[28] DNA testing

25. See Rob Warden, Ctr. on Wrongful Convictions, Nw. Univ. Law Sch., The Rape That Wasn't: The First DNA Exoneration in Illinois, at http://www.law.northwestern.edu/depts/clinic/wrongful/exonerations/Dotson.htm (last modified June 26, 2006) (on file with the *Columbia Law Review*) (discussing exoneration of Gary Dotson).

26. The Gross study found a steady increase in the number of DNA exonerations, "from one or two a year in 1989 to 1991, to an average of six a year from 1992 through 1995, to an average of twenty a year since 2000." See Gross et al., Exonerations, supra note 14, at 527.

27. See supra note 3 (discussing Innocence Project's running tally of persons exonerated by postconviction DNA testing).

28. Using the short tandem repeat (STR) test on thirteen distinct and independent regions of the DNA molecule (loci), DNA is capable of uniquely identifying a person's genetic profile with random match probabilities that can be greater than one out of all humans who have ever lived. In other words, the probability that another person matches a given profile may be more than even one in a trillion, many more than the 50–125 billion

can now be performed on even a single cell.[29] However, human error or misconduct can lead to unreliable results and non-random matches. Indeed, in three innocence cases studied here, faulty DNA evidence was introduced at trial and contributed to wrongful convictions.[30] Systemic problems, indeed scandals, have occurred at DNA laboratories in at least seventeen states.[31] Nevertheless, DNA testing provides the most accurate and powerful scientific proxy available to establish biological identity; it sets the "gold standard" for other forms of forensic analysis.[32]

By May 2007, postconviction DNA testing had exonerated 200 persons in the United States. This study's dataset contains all of the first 200 DNA exonerees (presented at Appendix A below).[33] This is termed the

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humans who have ever lived. See John M. Butler, Forensic DNA Typing: Biology, Technology, and Genetics of STR Markers 7, 498–500, 510–13 (2d ed. 2005); 4 David L. Faigman et al., Modern Scientific Evidence: The Law and Science of Expert Testimony § 31:35 (2005) ("The combination of all STRs used in CODIS yields frequencies of occurrence of about 1 in 575 trillion Caucasians and 1 in 900 trillion African Americans."); Nat'l Comm'n on the Future of DNA Evidence, Nat'l Inst. of Justice, The Future of Forensic DNA Testing 19 (2000), available at http://www.ncjrs.gov/pdffiles1/nij/183697.pdf (on file with the *Columbia Law Review*) (noting that statistical probability of thirteen loci STR-DNA match between two unrelated persons in Caucasian American population has been conservatively estimated at one in 575 trillion).

29. See I. Findlay et al., DNA Fingerprinting from Single Cells, 389 Nature 555, 555 (1997) (referring to "system for determining STR profiles from single cells using six forensic STR markers"). Testing is more commonly performed on as few as 50–100 cells. Jeremy Travis & Christopher Asplen, U.S. Dep't of Justice, Nat'l Inst. of Justice, Postconviction DNA Testing: Recommendations for Handling Requests xiv–xv (1999), available at http://www.ncjrs.gov/pdffiles1/nij/177626.pdf (on file with *Columbia Law Review*).

30. See infra note 109 and accompanying text (discussing three wrongful convictions due to DNA error).

31. See Maurice Possley, Steve Mills & Flynn McRoberts, Scandal Touches Even Elite Labs: Flawed Work, Resistance to Scrutiny Seen Across U.S., Chi. Trib., Oct. 21, 2004, at C1; see also Erin Murphy, The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence, 95 Cal. L. Rev. 721, 725 (2007) (referring to "series of scandals that have already besieged DNA typing").

32. See, e.g., Michael J. Saks & Jonathan J. Koehler, The Coming Paradigm Shift in Forensic Identification Science, 309 Science 892, 893 (2005) (describing how DNA typing serves as "model for the traditional forensic sciences" where, unlike other forms of forensic science, DNA "offer[s] data-based, probabilistic assessments of the meaning of evidentiary 'matches' "); see also supra note 28 (describing high degree of accuracy in DNA testing).

33. In this context, "exonerated" means that either a court vacated the conviction or an executive action, such as a pardon, invalidated the conviction. This list excludes, however, cases in which DNA evidence undermined the conviction and led to a vacatur or pardon, but was not substantially probative of innocence. The list also excludes cases in which DNA evidence substantially undermined the conviction and convincingly demonstrated innocence but no vacatur or pardon has as yet been forthcoming. This list of DNA exonerations appears complete and accurate. See Appendix A below for a complete list. The Innocence Project at Cardozo Law School ("Innocence Project"), founded by Peter Neufeld and Barry Scheck, maintains an authoritative list on its website. See supra note 3 (citing Innocence Project's running list of DNA exonerations). The list here was cross-checked against two separate lists. The first was assembled by Professor Samuel Gross as part of his study. This list in turn relied upon both the Innocence

"innocence group" throughout, for convenience. An Illinois case provides an example.

Ronnie Bullock, a black twenty-seven-year-old man, was convicted in 1984 of the rape and kidnapping of a nine-year-old girl on the south side of Chicago and sentenced to sixty years in prison. The victim identified him in a lineup and then at trial, after a police officer noticed Bullock's similarity to a composite sketch; a twelve-year-old girl, the victim of a similar attack in the neighborhood, also identified him in a lineup.[34] On direct appeal, the court dismissed as meritless his claims regarding a suggestive eyewitness identification, prosecutorial misconduct, improper admission of evidence of another crime, and various evidentiary arguments.[35] After two state postconviction petitions were unfruitful, Bullock finally pursued a federal habeas petition, which was dismissed in 1991 for failure to exhaust and procedural default.[36]

In 1994, at the request of his postconviction attorney, Bullock obtained access to crime scene evidence which had been lost; DNA testing of the victim's underwear exonerated him after eleven-and-a-half years in prison.[37] The trial court vacated his conviction. Four years later, he received a Governor's pardon on the ground of innocence, which under

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Project's list, and two others that were also cross-checked: Ctr. on Wrongful Convictions, Nw. Univ. Law Sch., The Exonerated: Exonerations in All States, at http://www.law.northwestern.edu/depts/clinic/wrongful/exonerations/States.htm (last modified Jan. 22, 2003) (on file with the *Columbia Law Review*) (listing exonerations by state), and the Death Penalty Info. Ctr., The Innocence List, at http://www.deathpenaltyinfo.org/article.php?scid=6&did=110 (last updated on May 22, 2007) (on file with the *Columbia Law Review*). The list was also cross-checked against a list prepared by the law firm Winston & Strawn, LLP, which has assembled and shared with me a database of documents relating to the cases of DNA exonerees. The Innocence Project's list has been complete and accurate as measured against those other lists. The Innocence Project secured or helped to secure many of the 208 DNA exonerations to date, and has consulted on many others secured by postconviction attorneys or other innocence projects that are part of a larger Innocence Network. News searches did not locate any additional postconviction DNA exonerations. Finally, this list of the first 200 postconviction DNA exonerees does not include the case of Harold Buntin, who was formally exonerated by court order in 2005. This order was never entered or distributed due to a court clerical error. As a result, the exoneration did not come to light and Buntin was not released until April 2007, as reported on April 24, 2007, just a day after the study period ended with Jerry Miller's postconviction DNA exoneration, which was reported as the 200th. See Tim Evans, "I Never Should Have Been in Jail," Indianapolis Star, Apr. 24, 2007, at A1.

34. See People v. Bullock, 507 N.E.2d 44, 45–46 (Ill. App. Ct. 1987) (describing identification of Bullock). Demographic information regarding Bullock is available at Ctr. on Wrongful Convictions, Nw. Univ. Law Sch., The Illinois Exonerated: Ronnie Bullock: Convicted of Rape on the Strength of Mistaken Identification by Two Little Girls, at http://www.law.northwestern.edu/depts/clinic/wrongful/exonerations/Bullock_IL.htm (last modified May 18, 2006) (on file with the *Columbia Law Review*).

35. See *Bullock*, 507 N.E.2d at 45.

36. See U.S. ex rel. Bullock v. Roth, No. 91-C-0680, 1991 WL 127582, at *1–*2 (N.D. Ill. July 5, 1991) (discussing procedural posture of Bullock's postconviction petitions).

37. See Jeffrey Bils, Accusers Finally Agree: He's Innocent, Chi. Trib., Nov. 24, 1994, at 1.

Illinois law entitled him to compensation from the Illinois Court of Claims.[38]

Like Bullock, the other 199 individuals each had, before DNA testing, private information regarding their actual innocence—that is, each presumably knew they were innocent. This study examines how well these convicts conveyed that information to criminal justice actors at each stage, from trial through their appeals and post-conviction reviews. This study does not speculate how many other innocent convicts received relief without needing DNA testing, nor how many others have not requested DNA testing.

Information was collected for all 200 in the innocence group at the trial level. This included information regarding the demographics of the innocence group (race, age, race of victim, age of victim, county of trial, date of trial, sentence, etc.), what charges the prosecutor made against each person, and the crimes for which each was convicted. This information was gathered from reported decisions, and any gaps were filled with information from news reports.[39] From the same sources, information was collected regarding what types of physical or testimonial evidence were introduced at trial.[40] Appendix A provides a summary table of these data.

The demographics of the innocence group are not representative of the prison population, much less the general population: Twenty-two were juveniles (11%), 12 were mentally retarded (6%), and all except 1 were male. Fifty-seven were White (29%), 124 were Black (62%), 17 were Hispanic (9%), and 1 was Asian.

While minorities are overrepresented in the prison population and also among rape and murder convicts, these data show a troubling pattern: Many more exonerees were minorities (71%) than is typical even among average populations of rape and murder convicts.[41] Most strik-

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38. See Edgar Pardons Man Freed from Prison in 1994 by DNA Testing, St. Louis Post-Dispatch, Mar. 28, 1998, at 11.

39. The Innocence Project website provided descriptions that filled in some missing data and provided a useful source to check against news reports and details from reported judicial decisions. Maddy Delone at the Innocence Project provided the race of approximately thirty exonerees whose race was not described in any public source.

40. Examples include an eyewitness identification (by the victim or a witness), forensic evidence (blood serology, DNA, fingerprint, hair comparison), physical evidence, non-eyewitness testimony (inculpatory comments short of a confession, informant and jailhouse informant testimony, codefendant testimony), and confessions.

41. See Matthew R. Durose & Patrick A. Langan, U.S. Dep't of Justice, Bureau of Justice Statistics, Felony Sentences in State Courts, 2002, at 6 tbl.5 (2004), available at http://www.ojp.usdoj.gov/bjs/pub/pdf/fssc02.pdf (on file with the *Columbia Law Review*) [hereinafter Durose & Langan, Felony Sentences] (examining survey data from 300 counties selected to be nationally representative and reaching several conclusions: 63% of rape convicts were White and 45% of murder convicts were White; only 8% of rape and murder convicts were under twenty years old, and rape convicts were 33% Black and 4% Other). In contrast to that 37% figure (33% Black and 4% Other), in the innocence group, 73% of rape convicts were minorities (91 Black, 11 Hispanic, and 38 White). While

ingly, 73% of innocent rape convicts were Black or Hispanic, while one study indicates that only approximately 37% of all rape convicts are minorities.[42] Possible explanations for why such disparities exist among known false convictions appear below.[43]

The 200 exonerees are not evenly distributed geographically, but rather across thirty-one states and the District of Columbia. The highest numbers of exonerations were in Texas (28), Illinois (27), New York (23), Virginia (10), California (9), Louisiana (9), Massachusetts (9), Pennsylvania (9), Oklahoma (8), Missouri (7), Georgia (6), Florida (6), Ohio (6), and West Virginia (6). Many of those states have large death rows and many have established innocence projects, suggesting a combination of reasons for their higher numbers of exonerations.[44] Several counties also had particularly high numbers of exonerations, with the

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the BJS reported 55% of murder convicts as non-White, in the innocence group 65% of murder and rape-murder convicts were minorities (30 Black, 5 Hispanic, 1 Asian, 19 White). Thus, as scholars suggest, disproportionate conviction of minorities alone does not explain their proportion among those exonerated. See Gross et al., Exonerations, supra note 14, at 547–48; Karen F. Parker, Mari A. Dewees, & Michael L. Radelet, Racial Bias and the Conviction of the Innocent, *in* Wrongly Convicted: Perspectives on Failed Justice 114, 114–28 (Saundra D. Westervelt & John A. Humphrey eds., 2001).

In contrast, the BJS study of seventy-five large urban counties found more racial disparities than the 300 county study. The seventy-five county study found that 85% of felony defendants in murder cases were minorities and 68% of felony rape defendants were minorities. See Thomas H. Cohen & Brian A. Reaves, U.S. Dep't of Justice, Bureau of Justice Statistics, Felony Defendants in Large Urban Counties, 2002, at 4 tbl.3 (2006), available at http://www.ojp.usdoj.gov/bjs/pub/pdf/fdluc02.pdf (on file with the *Columbia Law Review*) [hereinafter Cohen & Reaves, 2002 BJS Study]. Furthermore, 121 out of the 200 exonerees (61%) were convicted in one of the seventy-five largest counties in the United States by population. Eighty-seven, or 62% of those convicted of rape, were convicted in one of the seventy-five largest counties. That number exceeds the degree to which felonies occur in those counties; according to the BJS, half of felonies and 36% of forcible rapes occurred in those seventy-five counties. Id. at 1. Thus, some part of the racial disparity may be due to geography, though the racial disparity among exonerees is greater than that reported in the seventy-five large urban counties. In addition, much of the innocence group concentration in the largest counties is due to high numbers of exonerations in New York City and Chicago. See infra note 45 and accompanying text.

42. See Durose & Langan, Felony Sentences, supra note 41, at 6 tbl.5 (offering statistics on convictions of minorities for rape).

43. See infra Parts II.A.2 and III.D.

44. See Gross et al., Exonerations, supra note 14, at 541 (analyzing similar list but including non-DNA exonerations, and noting that though list corresponds in part to population and size of death rows, New York and Illinois both have established innocence projects and were first two states to provide right to postconviction DNA testing). The states with the highest numbers of exonerations do not match the states with the highest capital reversal rates. See James Liebman, Jeffrey Fagan, Valerie West, & Jonathan Lloyd, Capital Attrition: Error Rates in Capital Cases, 1973–1995, 78 Tex. L. Rev. 1839, 1857 fig.2 (2000) [hereinafter Liebman et al., Capital Attrition] (graphing percentage of exonerations against percentage of death sentences carried out in various states).

leaders all in urban areas: Cook County, Illinois (23), Dallas County, Texas (12), and New York, New York (7).[45]

For most of the analysis of criminal justice responses, this study focuses on the 133 members of the innocence group who received written decisions during their appeals and postconviction proceedings. One cannot determine results reached or the bases on which the courts ruled for the sixty-seven cases without a written decision.[46] Only a few studies of criminal appeals and postconviction review have examined the types of claims brought and success rates, with leading studies by the National Center for State Courts (NCSC) and the Bureau of Justice Statistics.[47] Where relevant, these studies are cited for comparison.

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45. As noted supra note 41, 121 out of the 200 (61%) were convicted in one of the seventy-five largest counties in the United States by population.

46. By "written decisions" this study refers to decisions available on Lexis-Nexis or Westlaw that provided a reason for the decision, regardless whether they were characterized as "reported" or "unreported." Decisions were excluded if they did not provide a reason for a disposition. Many postconviction decisions are unpublished, and judges often rule on pro se petitions and face difficulties in deciphering claims. See Victor E. Flango, Nat'l Ctr. for State Courts, Habeas Corpus in State and Federal Courts 45–60 (1994), available at http://www.ncsconline.org/WC/Publications/KIS_StaFedHabCorpStFedCts.pdf#search=%22habeas%20tudy%22 (on file with the *Columbia Law Review*) [hereinafter Flango, 1994 NCSC Study] ("[P]etitioner claims are difficult to classify because most habeas corpus petitions are raised without counsel and claims raised are not always clear."). Similarly, published decisions often report only claims perceived to have merit or to be worthy of discussion.

47. See Flango, 1994 NCSC Study, supra note 46, at 45–59; Roger A. Hanson & Henry W.K. Daley, U.S. Dep't of Justice, Bureau of Justice Statistics, Federal Habeas Corpus Review: Challenging State Court Criminal Convictions 17 (1995), available at http://www.ojp.usdoj.gov/bjs/pub/pdf/fhcrcscc.pdf (on file with the *Columbia Law Review*) [hereinafter Hanson & Daley, 1995 BJS Study] (providing statistics concerning outcome of sample of habeas corpus petitions filed in eighteen federal districts in 1992); Nancy J. King, Fred L. Cheesman II & Brian J. Ostrom, Nat'l Ctr. for State Courts, Final Technical Report: Habeas Litigation in U.S. District Courts 27–31, 45–51 (2007), available at http://law.vanderbilt.edu/article-search/article-detail/download.aspx?id=1639 (on file with the *Columbia Law Review*) [hereinafter King et al., 2007 NCSC Study] (providing empirical analysis of sampled habeas corpus petitions filed by state prisoners from 2001–2005); Paul H. Robinson, U.S. Dep't of Justice, An Empirical Study of Federal Habeas Corpus Review of State Court Judgments 7 (1979) (offering "rough profile of those persons filing petitions in federal court complaining of unlawful state custody"); John Scalia, U.S. Dep't of Justice, Bureau of Justice Statistics, Prisoner Petitions Filed in U.S. District Courts, 2000, with Trends, 1980–2000, at 2 (2002), available at http://www.ojp.usdoj.gov/bjs/pub/pdf/ppfusd.00.pdf (on file with the *Columbia Law Review*) [hereinafter Scalia, 2000 BJS Study] (providing statistics concerning petitions filed in U.S. district courts by federal and state inmates from 1980–2000); Richard Faust, Tina J. Rubenstein & Larry W. Yackle, The Great Writ in Action: Empirical Light on the Federal Habeas Corpus Debate, 18 N.Y.U. Rev. L. & Soc. Change 637, 677–80 (1991) (providing empirical data on habeas corpus petitions filed between 1973–1975 and between 1979–1981 in Southern District of New York); Daniel J. Meltzer, Habeas Corpus Jurisdiction: The Limits of Models, 66 S. Cal. L. Rev. 2507, 2528–31 (1993) (providing secondary research on habeas corpus petitions filed in select years between 1965 and 1992).

For the 133 exonerees for whom written judicial decisions were located,[48] each of the claims that the 133 exonerees raised at each stage of criminal review, from the direct appeal through federal habeas corpus,[49] was coded. Only claims raised on appeal and in postconviction proceedings are studied here, and not claims raised at or before trial.[50] By a "claim," this study refers only to the assertion before a court of a legal right to obtain the reversal of a conviction or sentence, and not to any other type of assertion or request for relief not premised on a legal contention. How courts ruled on each claim at each stage was also coded, including whether a court reversed the conviction of an exoneree and granted a new trial, and whether such a reversal was upheld on appeal. Obviously, all of the convicts in the innocence group eventually received a vacatur or pardon and were released after the DNA testing was performed; this study focuses on whether they received any relief before the DNA testing resulted in their exonerations.[51] For the vast majority (86%) who never received any relief before their ultimate exoneration, the reasons why courts denied relief were coded. Finally, the study describes how all 200 exonerees finally obtained access to DNA testing and how their convictions were ultimately vacated.

B. *The Matched Comparison Group*

A matched comparison group was assembled to provide data with which to compare the reversal rates, claims raised, and other characteristics of the innocence group. This group consists of 121 convicts whose cases resemble in several respects the 121 noncapital cases in the innocence group that had written decisions. However, the 121 matched comparison group cases lack DNA evidence later showing innocence or guilt. This group thus stands in for the vast majority of convicts who never obtain DNA testing. All 133 in the innocence group were not matched, but

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48. Westlaw and Lexis-Nexis searches were run for each exoneree's name in the state in which they were convicted. Information from news articles regarding the year of their convictions and crimes of convictions was used to rule out prisoners with the same name. When possible from judicial descriptions of procedural history, information was added regarding rulings made by other courts in unreported decisions.

49. See infra notes 155–156 and accompanying text (explaining coding of criminal procedure claims raised by exonerees).

50. A work in progress examines the trial transcripts in the cases of those exonerated by postconviction DNA testing to assess which claims were raised during trials. See infra note 99. The process of locating and assembling those trial transcripts has not been completed, however, and the sources reviewed here that enabled determination of what types of physical or testimonial evidence were introduced at trial were not adequate to enable one to identify all legal claims asserted in motions made at trial or in pretrial proceedings.

51. For cases in which there was more than one DNA test, Part II includes decisions rendered after the initial DNA testing, i.e., any testing that occurred before the DNA testing that resulted in an exoneration through a vacatur or pardon.

rather just the 121 noncapital cases, because as discussed in the next Part, death penalty cases raise separate issues.[52]

The matched comparison group was randomly selected from decisions reporting criminal appeals or postconviction rulings, using criteria designed to obtain as near a match as possible, given the available data, to each one of the 121 innocence cases. For each of the 121 innocence cases, a search was conducted on Westlaw for all cases from the same state that had a reported decision in the same year and involved convictions for the same crimes (first-degree murder, aggravated rape, etc.).[53] A second Illinois case provides an illustrative example from this matched comparison group.

Daniel Holland's case was selected as a match for Ronnie Bullock's, since he was also sentenced in Illinois in the early 1980s to sixty years for rape and kidnapping and had appellate decisions in his case.[54] Holland, a white man, was convicted in 1981 of raping a suburban Cook County teenager based on the victim's identification, her boyfriend's identification, and his confessions to the police and prosecutor. The confessions were introduced despite the trial court's conclusions that there was a "very severe physical confrontation" with police and that on the day of his interrogation he suffered serious injuries including two fractured ribs.[55] The Illinois Appellate Court found his confessions coerced, reversed his conviction, and ordered a new trial. The Illinois Supreme Court reversed the appellate court, finding that Holland voluntarily confessed, that his attorney effectively represented him, and that exclusion of black jurors was not discriminatory (where he was white).[56] The U.S. Supreme Court

52. As discussed infra Part II.B.3.a, only the noncapital cases were matched, because for capital cases, James Liebman's study already provides comprehensive data for comparison, with data regarding every capital case from the mid-1970s to 1995. These data also provide another reason to treat capital cases separately: More than two-thirds received reversals. To study reversal rates, one must isolate capital cases, given their uniquely high reversal rates. See Liebman, et al., Capital Attrition, supra note 44, at 1846–50.

53. The first case meeting those detailed criteria was accepted. A check was later conducted to see if the conviction in that matched case was reversed. As with any matched comparison group, judgment calls had to be made in selecting similar cases. However, those decisions were made according to a common protocol and before checking to see whether each case received a reversal. Since these random cases lacked news media coverage, only the number of reversals they received and the claims they raised during appeals were examined. It was not possible to obtain much demographic data or other information about their convictions.

54. See People v. Holland, 520 N.E.2d 270, 271–72 (Ill. 1987) (describing procedural posture of Holland's case and presenting information about his conviction and appeal). The Westlaw search used to identify him was in the Illinois cases database for "(CONVICT! /P RAPE & DA(1987))" because the first reported decision in the Bullock case was in 1987.

55. Id. at 272–79 (discussing claims of physical coercion); id. at 287 (Simon, J., dissenting) (internal quotations omitted) (noting trial court's conclusions about police's treatment of Holland).

56. Id. at 278–81.

then granted certiorari and affirmed the conviction.[57] Holland's federal habeas petition was granted by the district court in 1990, but then dismissed by the Seventh Circuit Court of Appeals, which concluded that the coercive effects of any beatings he received from the police "dissipated" before his confession.[58] He sought DNA testing in 1996, but his motion was denied a year later. He apparently passed away in prison in 2005.[59]

As developed in Part II.B, the matched comparison group permits an assessment of whether the reversal rate among the exonerees represents a high rate, or rather involves a rate similar to the background rate amongst similar serious rape and murder convictions. The matched comparison group also permits other comparisons with the innocence group regarding the types of claims exonerees raised and the types of rulings courts rendered. Courts reported the race of very few of the convicts in the matched comparison group (only fourteen out of 121). Only about two-thirds had courts note what evidence supported convictions in the matched comparison group; what was available is discussed in Part II. Finally, one important difference between the matched comparison group and the innocence group is that the matched comparison group included more rape cases involving acquaintances, in which identity would tend not to be litigated.[60]

C. *The DNA Confirmation Group*

No study has collected, much less examined, the group of cases in which DNA testing confirms the guilt of convicted individuals. The group of DNA postconviction inculpation cases was assembled through searches of news articles and consists of sixty-three individuals identified

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57. See Holland v. Illinois, 493 U.S. 474, 487 (1990) (holding that Holland did not have valid Sixth Amendment claim).

58. See Holland v. McGinnis, 963 F.2d 1044, 1050 (7th Cir. 1992).

59. See United States ex rel. Holland, No. 90 Civ. 4359 (N.D. Ill. May 22, 1997) (Order by Hon. Marvin E. Aspen Denying Petitioner's Motion for DNA Testing). An entry of this order, though not the order itself, is available through PACER's online docket for the Northern District of Illinois. See Public Access to Court Electronic Records: PACER Web Links, U.S. District Courts: Illinois Northern District Court, at https://ecf.ilnd.uscourts.gov/cgi-bin/login.pl (last visited Nov. 8, 2007) (docket on file with the *Columbia Law Review*). Information about Holland's death was made available via telephone interview. See Telephone Interview by Michelle E. Morris with Derek Schnapp, Manager, Ill. Corrs. Media Relations Dep't, in Springfield, Ill. (Jun. 1, 2007) (confirming that Holland passed away while in custody of Logan Correctional Center in Lincoln, Illinois). Thanks to Michelle Moriss for her research, including contacting Illinois Corrections.

60. While 8 out of the 158 exonerees' cases involved acquaintance identifications, 18 out of 65 cases with eyewitnesses in the matched comparison group involved acquaintance identifications, typically where the rape victim was not a stranger to the perpetrator. Such acquaintance cases usually involve consent defenses but not defenses as to lack of identity. Furthermore, 5 additional cases in the matched comparison group involved stranger cases in which identity was not contested, but rather the defense was consent. The matched comparison group contains about the same proportion of guilty pleas, 6 out of 121, while the innocence group contains 9 out of 200.

as having been inculpated by postconviction DNA testing.[61] Additional cases were identified with the help of the Innocence Project at Cardozo Law, the organization which secured DNA testing and assisted in exonerating many of those in the innocence group.[62] The Innocence Project sent letter surveys to inculpated former clients asking if they would participate in this study.[63] I call this the "DNA confirmation group," though just as in the innocence group, DNA testing may have been faulty in some of these cases.[64]

The set of DNA confirmation cases is incomplete. Sixty-three cases have been located, including thirty-six with written decisions. At least one hundred additional DNA inculpations could not be identified through public sources.[65] No list is maintained of them. One reason may be the relative scarcity of information available. District attorneys often do not publicize such results, and the news media provide less coverage of inculpations than they do of exonerations. After all, inculpatory test results merely confirm the jury verdict. The cases with written decisions were disproportionately eleventh-hour attempts to avert executions: Fifteen of thirty-six (42%) were capital cases. These fifteen death row inmates, though actually guilty, had a strong incentive to pursue every avenue for review, regardless of whether their claims had merit.[66] Further, all members of the DNA confirmation group sought DNA testing despite their knowledge of their actual guilt. As Barry Scheck comments, perhaps they did "not want to admit it, or they [were] lying or psychopaths."[67] They may also have hoped for an error in the DNA testing. Perhaps they wanted the attention.

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61. News searches included Westnews searches for "DNA and guilt and confirm!" and "DNA and testing and guilt," after 1989.

62. See infra Part II.C.1 (discussing Innocence Project's work).

63. Sixteen individuals who were inculpated by DNA and received a letter survey from the Innocence Project regarding their willingness to participate in research efforts gave permission to have their records made available for this study as long as there was no identifying information linked to their results. Thus, only aggregate information from those cases is discussed below.

64. Indeed, in several cases included in the group, defense lawyers questioned DNA evidence and called for an independent test. See, e.g., Keith O'Brien, Till Death Do Us Part, NewCity, Feb. 2, 1998, available at http://weeklywire.com/ww/02-02-98/chicago_cover.html (on file with the *Columbia Law Review*) (describing questions raised regarding DNA testing in Willie Enoch case).

65. This is because at least until recently, in approximately 60% of the cases in which the Innocence Project requested testing, the results inculpated. See Barry C. Scheck, Barry Scheck Lectures on Wrongful Convictions, 54 Drake L. Rev. 597, 601 (2006).

66. Since fewer news stories exist for this group, information regarding causes of the trial convictions was available only in cases with written decisions and even then, such information was spotty.

67. Scheck, supra note 65, at 601. The case of Roger Coleman, the sole post-execution DNA inculpation, provides an example where the convict convinced some lawyers and supporters of his innocence. See John Tucker, May God Have Mercy: A True Story of Crime and Punishment 336 (1998).

Despite the obvious appeal of examining the DNA confirmation group, its small size and unusual selection make it unsuitable for direct comparison to the innocence group. Thus, this group plays only a marginal role in this study. Just as in the innocence group cases, the thirty-six DNA confirmation cases with written decisions were coded in a database with their case characteristics. The Appendix provides summary information about this group.

II. Results: From Trial to Exoneration

This study provides comprehensive data regarding the cases of those found innocent through postconviction DNA testing.[68] This Part tells the story of how these unique former convicts were charged and tried. It also tells how they brought appeals, sought postconviction review, and were ultimately exonerated through postconviction DNA testing. Proceeding chronologically, Part II.A begins with their trials, Part II.B examines their appeals and postconviction review, and Part II.C develops how they obtained DNA testing. At each stage, where possible, the innocence group is compared with the matched comparison group. From trial to exoneration, our criminal system poorly addressed the types of unreliable factual evidence at issue in these wrongful convictions.

A. *Criminal Trials*

This section describes how almost all of the 200 exonerees were convicted of rape and murder, typically based on eyewitness identifications, forensic evidence, informant testimony, or confessions. Yet very few raised, much less received relief on, claims relating to these pieces of factual evidence, many of which we now know were unreliable or false.

1. *Rape and Murder Convictions.* — The 200 exonerees were charged and convicted chiefly of rape (71%), murder (6%), or both murder and rape (22%).[69] This is not surprising; rape cases in particular often have relevant biological material for DNA testing. Fourteen were sentenced to death. Fifty were sentenced to life in prison. The table below depicts this distribution.

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68. The set of postconviction DNA exonerations does not include those cases in which DNA exonerated pretrial or during trial. Again, the innocence group, consisting of convicts, also cannot capture cases that did not result in a conviction, either because the prosecution ceased or because of an acquittal. See supra note 33 (discussing composition of innocence group); cf. Daniel Givelber, Lost Innocence: Speculation and Data About the Acquitted, 42 Am. Crim. L. Rev. 1167, 1198–99 (2004) ("If it is at least as likely that the acquitted are innocent as that they are guilty, we need to rethink both our treatment of acquittals as irrelevant to subsequent evidentiary and punishment issues and our assumptions about the extent of the problem of wrongful convictions.").

69. The three exceptions listed in Table 1 as "Other" are S. Cowans, who was convicted of attempted murder, A. Beaver, who was convicted of robbery, and J. Ochoa, who was convicted of armed robbery and carjacking.

TABLE 1: EXONEREES' CONVICTIONS AND CAPITAL SENTENCES

Conviction	Number of cases
Rape	141
Murder	12
Rape-Murder	44
Other	3

These 200 exonerees do not reflect the typical criminal convicts in that very few suspects are charged with rape or murder and even fewer are convicted. According to the Bureau of Justice Statistics (BJS), only 0.7% of felony defendants are convicted of murder and only 0.8% are convicted of rape.[70]

Only nine of the exonerees pleaded guilty.[71] Presumably, some refused to accept guilty pleas because they knew they were innocent,[72] although in these serious murder and rape cases prosecutors may not have offered plea bargains that were palatable to an innocent defendant. The members of the innocence group are thus very different from typical criminal defendants. All but the nine who pleaded guilty in the innocence group (96%) were convicted at criminal trials. In contrast, 68% of murder convictions and 84% of felony rape convictions were obtained through plea bargaining.[73]

70. See Cohen & Reaves, 2002 BJS Study, supra note 41, at 27 tbl.28 (presenting statistics on conviction types of felony defendants).

71. For example, Marcellius Bradford earlier confessed and then pleaded guilty to rape and murder and was sentenced to twelve years in prison; he also agreed to testify against O. Saunders, C. Ollins, and L. Ollins. In 1991, John Dixon pleaded guilty to rape and kidnapping after the victim identified him. Though he later claimed the plea was not voluntary and requested DNA testing, he was sentenced to forty-five years in prison and was released in 2001 after DNA testing. See Mary P. Gallagher, Why DNA Testing Isn't a Panacea, N.J. L.J., Dec. 10, 2001, at 1, 1, 14. Chris Ochoa pleaded guilty to murder after a coerced confession, serving twelve years before DNA exonerated him. See Innocence Project, Know the Cases: Christopher Ochoa, at http://www.innocenceproject.org/Content/230.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*). The others who pleaded guilty were Anthony Gray, Eugene Henton, James Ochoa, Jerry Townsend, David Vasquez, and Arthur Whitfield. Bradford, Gray, Chris Ochoa, Townsend, and Vasquez had falsely confessed. Only two, Dixon and Henton, were convicted of rape; the others were convicted of rape-murder or murder.

72. An NCSC study of 382 felony trials in 2000–2001 conducted a survey that found that defense counsel identified the defendant's claim of innocence as the reason why a plea was refused in about half of the jury trials examined. See Givelber, supra note 68, at 1177 & n.38 (citing and summarizing results of NCSC study).

73. Durose & Langan, Felony Sentences, supra note 41, at 8 tbl.9. The study of felony defendants in large urban counties shows a similar figure; there, 51% of the felony murder convictions involved plea bargains, while 90% of the felony rape convictions involved plea bargains. See Cohen & Reaves, 2002 BJS Study, supra note 41, at 24 tbl.23 (presenting statistics on adjudication outcomes for felony defendants in nation's seventy-five largest cities). Table 23 depicts how in the Bureau's 2002 study of convictions in seventy-five large urban counties, 41% of murder cases and 53% of rape cases were resolved through plea

Murder and rape cases are differently situated. BJS statistics show that while 16% of rape convictions were based on a trial verdict, 32% of murder convictions were based on a trial verdict.[74] Several additional features distinguish rape from murder convictions. Rape cases typically involve a victim identification and perhaps biological evidence from a rape kit. In the time before DNA testing could be performed, one would expect many stranger rape cases to plea bargain on the strength of the victim's identification, with more equivocal cases, perhaps often involving non-strangers and issues of consent, going to trial.[75] In contrast, in murder cases, if the victim was the only witness, law enforcement may face great difficulties identifying the perpetrator. Again, the more equivocal cases may go to trial, rather than result in convictions based on guilty pleas. However, given the seriousness of a murder case, police have far greater incentives to invest in their investigation and prosecution.[76] These reasons may explain why there is a higher conviction rate for felony defendants charged with murder than for those charged with felony rape, despite fewer guilty pleas in murder cases; in felony rape cases there are more dismissals, acquittals, and misdemeanor convictions.[77]

2. *Trial Evidence Supporting Wrongful Convictions.* — Due to DNA testing, we know now that at least some of the evidence introduced at trial against these 200 exonerees was false or misleading. Eyewitnesses were incorrect or misled by police suggestion, a confession was false, if not

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bargaining. However, those statistics include non-felony cases and cases that did not result in conviction, which are not a proper comparison to the cases of these exonerees, which all involved felony convictions. Thus, dividing the 41% of murder cases resolved through plea bargaining by the number of felony convictions reported, in 80% of cases, produces a 51% plea bargain rate for felony murder convictions. Dividing the 53% of rape cases by the 59% of cases in which there were felony convictions produces a 90% plea bargain rate for felony rape convictions. See id.

74. Durose & Langan, Felony Sentences, supra note 41, at 8 tbl.9.

75. The BJS data support this intuition. See supra notes 73–74 and accompanying text. Additional support for the intuition arises from the fact that only a third of those who pursue state postconviction review pleaded guilty. See Flango, 1994 NCSC Study, supra note 46, at 36 (stating that 32% of state habeas petitioners pleaded guilty compared with 24% of federal habeas petitioners).

76. Cf. Fed. Bureau of Investigation, Crime in the United States 2002: Uniform Crime Reports § III, at 222 fig.3.1 (2003), available at http://www.fbi.gov/ucr/cius_02/pdf/02crime3.pdf (on file with the *Columbia Law Review*) (estimating 2002 clearance rate of 64% for reported murders, 45% for rapes, and 13% for burglaries). Professor Gross has discussed why the additional resources that are invested in murder cases may produce such outcomes. See Samuel R. Gross, Lost Lives: Miscarriages of Justice in Capital Cases, 61 Law & Contemp. Probs. 125, 134–35 (1998) [hereinafter Gross, Lost Lives] (arguing that several factors, including ease of investigating some murders and public pressure to solve murder cases, give incentives to police to "cut corners, to jump to conclusions, and . . . perhaps to manufacture evidence" in weak cases where police nonetheless believe they have identified culprit).

77. See Cohen & Reaves, 2002 BJS Study, supra note 41, at 24 tbl.23 (finding that 80% of murder defendants were convicted of felony at trial or based on guilty pleas, compared with 59% of rape defendants; in rape cases, 26% were not convicted due to dismissal or acquittal and 8% were convicted of misdemeanors).

coerced, or expert testimony on hair or blood evidence was wrong or not probative. In this Part, I examine data regarding evidence supporting these wrongful convictions, including the interaction of multiple types of evidence. For example, one can assess how often the victim's testimony alone supported the conviction (in 26% of cases), or how many exonerees were sentenced to death based only on blood serology and a jailhouse informant. This assessment will provide a more complete picture of what evidence supported trial convictions of innocent defendants. The table below examines the main types of evidence that supported wrongful convictions.[78]

TABLE 2: EVIDENCE SUPPORTING EXONEREES' CONVICTIONS

Type of Evidence	Percentage whose convictions were supported by type of evidence (Number)[a]	
	(of all 200 cases)	(of the 133 cases with written decisions)
Eyewitness Identification	79 (158)	78 (104)
Forensic Evidence	57 (113)	58 (77)
Informant Testimony	18 (35)	23 (30)
Confession	16 (31)	15 (20)

[a] In the tables that follow, "N" stands for "Number."

The sections that follow will discuss these sources of evidence in turn: eyewitness identifications, forensic evidence, informant testimony, and confessions. The first column in Table 2 describes the percentage of the 200 exonerees whose convictions were supported by a particular type of evidence, analyzing only evidence introduced at trial.[79] The second column in Table 2 describes the same phenomenon, but narrows the pool of exonerees to the 133 exonerees whose convictions were supported by a particular type of evidence and who also received written decisions during their appeals or postconviction proceedings. These data relate to Table 3, which analyzes how many of those with written decisions asserted claims during appellate or postconviction proceedings to challenge particular types of evidence.

Table 3 demonstrates that, with the exception of defendants in cases relying on confessions, fewer than half of the defendants brought consti-

78. Not discussed here are less common sources of evidence, such as physical objects or clothing connecting a defendant to a crime, or various circumstantial evidence, such as presence in the neighborhood where the crime occurred. Nor does this study examine forensic evidence, such as autopsy evidence, that was intended to prove how a crime occurred or that it occurred, but that was not used to prove identity at trial.

79. Thus, for example, a confession or an eyewitness identification that the court ordered suppressed pre-trial would not be included here. The sections that follow explain what is meant by "eyewitness identification," "forensic evidence," "informant testimony," and "confession."

TABLE 3: FACTUAL CLAIMS BROUGHT BY EXONEREES

Type of Evidence	Percentage of those in Table 2, Col. 2, who brought a constitutional claim directly challenging the type of evidence (N)	Percentage who had their claim granted (N)[a]	Percentage who brought any claim to challenge evidence (N)	Percentage who brought any claim to challenge type of evidence and had that claim granted (N)[a]
Eyewitness Identification	28 (29)	0 (0)	45 (47)	4 (4)
Forensic Evidence	0 (0)	0 (0)	32 (25)	8 (6)
Informant Testimony	3 (1)	3 (1)	40 (12)	3 (1)
Confession	50 (10)	0 (0)	65 (13)	0 (0)

[a] These columns include only cases in which the court granted a vacatur of the conviction and where that reversal was affirmed on appeal.

tutional claims challenging the types of evidence supporting their wrongful convictions. In part this is because few such constitutional claims exist.[80] Nor did many who brought such claims succeed. The two columns on the right address how exonerees not only raised constitutional claims directly challenging particular evidence, but also raised additional factual challenges using other less direct constitutional claims or state law claims. For example, rather than bring a claim that a confession was involuntary, one might indirectly assert a claim that the attorney was ineffective for failing to challenge the confession. Furthermore, state law may provide broader avenues for attacking the reliability of factual evidence at trial.

80. By a constitutional claim "directly" challenging a type of factual evidence, this study means something quite narrow: a legal contention that testimonial or physical evidence introduced at the criminal trial was false or unreliable. Not included in this category are claims regarding prosecutors' mischaracterizations of evidence during closings, nor are rhetorical assertions regarding facts that are not claims or legal contentions. Nor does this category include claims that indirectly relate to facts at trial, such as a claim that trial counsel was ineffective for failing to challenge factual evidence. These claims are discussed next.

Few such constitutional claims exist. For eyewitness identifications, the only such constitutional challenge is a claim under Manson v. Brathwaite, 432 U.S. 98, 113 (1977) (adopting totality of circumstances test for admitting eyewitness identifications into evidence). Thus, in Table 3, the first two columns of row 1 refer only to *Manson* claims. Regarding forensic evidence and informant testimony, the only direct claim is a claim that the evidence was fabricated. See Miller v. Pate, 386 U.S. 1, 7 (1967) (holding that "state criminal conviction obtained by the knowing use of false evidence" is invalid). Regarding confessions, the first two columns refer only to *Miranda* claims and claims challenging an interrogation as involuntary, see infra notes 130–131, though such claims have been criticized for not making claims of unreliability sufficiently cognizable. See infra note 133.

All other claims that sought a new trial based on a legal contention regarding the introduction or prosecutorial use of an eyewitness identification, forensic evidence, an informant's testimony, or a confession, are included in the third and fourth columns. The third and fourth columns, regarding any claim brought to challenge such evidence, reflect the category of what are called "factual claims." The sections that follow list and describe which claims were brought by exonerees and which were granted.

Even including those claims, significant percentages of those exonerees falsely convicted based on a given type of factual evidence never challenged it.

Thirty-four percent of those with written decisions—forty-five exonerees—challenged *none* of the above categories of facts that supported their convictions during their appeals and postconviction proceedings. Plausible explanations include the possibilities that those exonerees had no legal contention that could provide relief, that they uncovered no new facts to support a claim, that their claims were defaulted at trial, or that they litigated without effective or resourceful counsel.

The matched comparison group, by way of contrast, included less available information in written decisions regarding the evidence supporting convictions. For eighty-six of 121, or 30%, there was no information regarding what evidence supported their convictions; after all, these matched comparison group data are based only on the written decisions, whereas the innocence group members each received news reports regarding their high profile exonerations. Of the eighty-five members of the matched comparison group for whom there was some information regarding the evidence supporting their convictions, 76% involved eyewitness identifications (65), almost the same as in the innocence group. Twenty-four percent involved forensic evidence (20), 19% involved confessions (16), and 11% involved informant testimony (9). Those figures are similar to those in Table 2 regarding the innocence group.[81]

In the matched comparison group, 43% of those identified by eyewitnesses brought claims challenging those identifications, 35% challenged forensic evidence, 56% challenged informants, and 62% challenged confessions. These percentages are roughly comparable to those in Table 3 regarding exonerees. While a more robust comparison may not be possible given that less information is available about the matched comparison group, these data suggest that the exonerees challenged factual evidence underlying their convictions no more than was typical at the time for a person convicted of such serious crimes.

a. *Eyewitness Misidentifications.* — The overwhelming number of convictions of the innocent involved eyewitness identification—158 of 200 cases (79%).[82] Though fewer than a third of rape cases involve assaults by strangers, almost all of these innocence cases involved identifications

81. The main difference is fewer cases involving forensic evidence, which again may be due to a lack of news reports and a lack of challenges to forensic evidence during the criminal appeals; few of the exonerees challenged forensic evidence introduced during their trials.

82. This result exceeds the findings in Professor Gross's study that 64% of exonerations, including non-DNA exonerations, involved eyewitness error. See Gross et al., Exonerations, supra note 14, at 542. The higher percentage found in this study may be explained by the limitation of the data set to DNA cases, which disproportionately consist of rape cases.

by strangers; only eight involved incorrect acquaintance identifications.[83] In 135 cases (68%), the victim provided identification testimony, while in thirty-three cases (17%), a non-victim eyewitness provided testimony (in some cases along with the victim). In fifty-six cases (28%), the victim's identification testimony was the central evidence supporting the conviction.

The high proportion of cases involving eyewitness identifications should be no surprise, for the prosecution of stranger rape cases will typically be predicated on the victim's identification. It would be difficult to go forward, obviously, if the victim does not identify the perpetrator (at least absent DNA evidence). For that reason, of 141 rape cases, 125 involved victim identifications (89%). Indeed, 126 of the 158 eyewitness identifications were in rape cases.[84]

The Innocence Project reports that 48% of exonerees convicted based on eyewitness testimony were identified cross-racially.[85] Social science studies have long shown that cross-racial identifications are particularly error prone. Cross-racial identifications may be one explanation for the disproportionate conviction of minorities among those exonerated by postconviction DNA testing.[86]

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83. See Cathy Maston & Patsy Klaus, U.S. Dep't of Justice, Bureau of Justice Statistics, Criminal Victimization in the United States 2005, Statistical Tables tbl.34(b) (2006), available at http://www.ojp.usdoj.gov/bjs/pub/pdf/cvus05.pdf (on file with the *Columbia Law Review*) (finding that 31.4% of rape and sexual assault cases involved stranger-perpetrators).

In the acquaintance cases in the innocence group, the misidentifications were due to alleged police coercion or suggestion, mental illness, or desire to obtain award money, but in some cases the cause was unclear. The cases are those of D. Davis, G. Davis, C. Elkins, M. Evans, K. Green, A. Hernandez, M. Williams, and A. Villasana.

84. In contrast, of forty-four rape-murder cases, six were victim identifications and one of the twelve murder cases involved a victim identification; one of the three "other" cases, an attempted murder, also involved a victim identification. The victim eyewitnesses in these murder cases were additional victims who were not killed. The additional rape-murder and murder cases with eyewitnesses involved non-victim identifications.

85. See Innocence Project, 200 Exonerated: Too Many Wrongfully Convicted 20–21, available at http://www.innocenceproject.org/200/ip_200.pdf (last visited Nov. 8, 2007) [hereinafter Innocence Project, 200 Exonerated] (on file with the *Columbia Law Review*). Data from judicial decisions produced only thirty-two cross-racial eyewitness identifications (20% of the 158 cases involving eyewitness identifications), but very few decisions reported the race of the eyewitness.

86. See Christian A. Meissner & John C. Brigham, Thirty Years of Investigating the Own-Race Bias in Memory for Faces: A Meta-Analytic Review, 7 Psychol. Pub. Pol'y & L. 3, 5–13 (2001) (reviewing literature); Andrew E. Taslitz, Wrongly Accused: Is Race a Factor in Convicting the Innocent?, 4 Ohio St. J. Crim. L. 121, 123 (2006) (speculating that race effects at each stage in criminal process may explain disparity in exonerations of minorities); Gary L. Wells & Elizabeth A. Olson, The Other-Race Effect in Eyewitness Identification: What Do We Do About It?, 7 Psychol. Pub. Pol'y & L. 230, 230 (2001) ("Eyewitnesses are less likely to misidentify someone of their own race than they are to misidentify someone of another race."); see also Gross et al., Exonerations, supra note 14, at 548 ("[T]he most obvious explanation for this racial disparity is probably also the most powerful: the perils of cross-racial identification.").

The Supreme Court has long recognized "[t]he vagaries of eyewitness identification," where "the annals of criminal law are rife with instances of mistaken identification."[87] As a result, the Due Process Clause embraces a right to be free from suggestive eyewitness identification procedures, such as where police encourage the eyewitness to pick out the suspect in a lineup.[88] With the benefit of DNA evidence, we now can be confident that the eyewitnesses misidentified the defendants in the innocence cases.

A total of forty-seven exonerees brought some kind of claim attacking the eyewitness identifications, or 45% of those with written decisions identified by eyewitnesses. Few raised constitutional claims challenging the reliability of these eyewitness identifications. Twenty-nine of the exonerees raised suggestive eyewitness identification claims during their appeals or postconviction proceedings; such claims allege that the police improperly indicated to the eyewitness who their suspect was. In other words, 28% of the 104 exonerees who had written decisions and who were convicted based on eyewitnesses' testimonies brought these claims.[89] None of the claims regarding suggestive eyewitness identifications were granted.[90] Four exonerees brought claims asserting their right, established by *United States v. Wade*, to have counsel present at a postarrest lineup; none of the claims were granted.[91] Thus, thirty-one, or 30% of those exonerees with written decisions, brought constitutional claims attacking their identifications. Sixteen additional exonerees brought state law claims (9) or used other constitutional claims to indirectly challenge the identification, such as ineffective assistance of counsel claims (5), newly discovered evidence of innocence claims (4), or challenges to jury instructions (2). (Two brought multiple claims.)

The Supreme Court has ostensibly focused the constitutional inquiry on the accuracy of eyewitness identifications. However, the Court held in *Manson v. Brathwaite* that even if the police engage in suggestive procedures so potentially misleading that their conduct violates due process, the identification may still be admitted at trial if it was otherwise "reliabl[e]." A reliable identification includes, for example, situations in which the witness seemed "certain[ ]" and had a good opportunity to view the attacker.[92] Social scientists studying the phenomenon of eyewit-

87. Manson v. Brathwaite, 432 U.S. 98, 119 (1977) (Marshall, J., dissenting) (internal quotations omitted) (quoting United States v. Wade, 388 U.S. 218, 228 (1967)).

88. See id. at 113 ("The standard, after all, is that of fairness as required by the Due Process Clause of the Fourteenth Amendment.").

89. Four brought *Wade* claims regarding the right to counsel at the lineup; two of the four did not also raise a suggestive identification claim. See infra app. A.

90. One suggestive identification claim was ruled harmless error, three were dismissed for procedural reasons, and the others were dismissed as lacking merit.

91. See *Wade*, 388 U.S. at 236–37 (holding that Sixth Amendment requires counsel's presence at postconviction lineups).

92. See *Manson*, 432 U.S. at 114; see also supra note 87 and accompanying text (discussing *Manson*).

ness memory have long argued that the Court's decision in *Manson* exacerbated the risks of error because the Court ruled that even identifications resulting from highly suggestive procedures may nevertheless be admitted given other indicia of eyewitness certainty. These additional indicia of certainty, however, may in turn represent false confidence that was precisely the product of police suggestion.[93]

The results in these innocence cases show that most exonerees had no successful basis for challenging what we now know to be incorrect eyewitness identifications. Courts denied relief on all suggestive eyewitness identification claims, even in instances where we know in retrospect that the eyewitness was not "reliable," but instead was in error. Moreover, only four exonerees succeeded in bringing indirect challenges to the eyewitness identification.

b. *Faulty Forensic Evidence.* — Forensic evidence was the second leading type of evidence supporting these erroneous convictions.[94] In many cases, little more than flimsy forensic evidence supported the conviction.[95] Some had more than one type introduced. One hundred and thirteen cases (57%) involved introduction of forensic evidence at trial, with serological analysis of blood or semen the most common (79 cases), followed by expert comparison of hair evidence (43 cases), soil comparison (5 cases), DNA tests (3 cases), bite mark evidence (3 cases), fingerprint evidence (2 cases), dog scent identification (2 cases), spectrographic voice evidence (1 case), shoe prints (1 case), and fiber comparison (1 case).

The forensic evidence was often fairly central to the prosecution's case even though it may have been known to have limited probative power at the time of trial. For example, exonerations in cases involving serology may not show misconduct, but rather either the limitations of old-fashioned serology as compared with more advanced DNA testing technology or unintentional error in conducting such testing. Serologi-

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93. See Garrett, Federal Wrongful Conviction Law, supra note 13, at 82–85 (discussing how *Manson* standard focuses on guilt, not on due process); see also Rosen, Reflections, supra note 13, at 250 (noting that science empirically shows that courts are incorrect in their assessments of reliability of certain identification factors); Gary L. Wells, Eyewitness Identification: Systemic Reforms, 2006 Wis. L. Rev. 615, 620–22 (discussing studies of eyewitness false confidence in inaccurate identifications); Gary L. Wells, What Is Wrong with the *Manson v. Braithwaite* [sic] Test of Eyewitness Identification Accuracy? 2 (2004), at http://www.psychology.iastate.edu/faculty/gwells/Mansonproblem.pdf (on file with the *Columbia Law Review*) (arguing that psychological studies demonstrate that two-pronged *Manson* test is flawed).

94. Of the 113 convictions based on forensic evidence, 80 were rape cases, 24 were rape-murder cases, 7 were murder cases, and 2 were "other."

95. For works regarding flawed forensic evidence, see Paul C. Giannelli, The Supreme Court's "Criminal" *Daubert* Cases, 33 Seton Hall L. Rev. 1071, 1072–73 (2003) (discussing difference between civil and criminal applications of *Daubert* standard); Michael J. Saks, The Legal and Scientific Evaluation of Forensic Science (Especially Fingerprint Expert Testimony), 33 Seton Hall L. Rev. 1167, 1170–86 (2003) (discussing courts' incorrect applications of *Daubert* test to forensic evidence).

cal testing sorts individuals into just a handful of different blood types, typically using the A, B, and H antigens, each shared by high percentages of the population; for example, approximately 40% of the population possesses only the H antigen, making them the O type.[96] In contrast, DNA testing can provide random match probabilities greater than all humans who have ever lived (for example, one in 100 trillion).[97]

Despite its relative lack of probative power, serological evidence was often all that law enforcement could use at the time of the investigation. In this group of cases, which chiefly consist of rape convictions in the pre-DNA era, serological evidence was the most common type of forensic evidence introduced at trial, and it typically involved analysis of materials from a rape kit prepared after an assault. Serological evidence was usually not the only evidence at trial—though in one case the serological evidence was the central evidence at trial and in another case serology and hair evidence were the central evidence at trial.[98] In forty-six of the exonerees' cases (23%), there was an eyewitness identification added to the serological evidence. In four cases, the serology was added to a confession. In three more it was added to alleged self-inculpatory remarks. In two cases, the serological evidence was added to informant testimony. Thus, despite its typical lack of probative power, serological evidence often bolstered other evidence at trial.

Many, and perhaps most, cases, however, appear to have involved not merely use of evidence with limited probative value, but the improper use of then-existing forensic science. To a surprising extent, the forensic testimony at trial was improper based on science at the time.[99] A preliminary review of serological testimony during these exonerees' trials disclosed that more than half involved improper testimony by forensic examiners.[100]

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96. Butler, supra note 28, at 5.

97. See id. at 439 (discusssing use of STR markers and CODIS database by crime laboratories).

98. The cases were those of J. Richardson and P. Kordonowy (serology and hair).

99. The author is currently examining, as part of a further study, the trial transcripts of each of those wrongfully convicted in part based on forensic expert evidence at trial. As of the time of publication, a preliminary review examined the testimony of forensic experts in sixty-one trial transcripts of the 113 DNA exonerees convicted based on forensic evidence; these transcripts were obtained with the help of Winston & Strawn, LLP. Remarkably, 57%, or thirty-five of these cases, involved improper testimony by forensic experts at trial. Adding to that number twelve more cases involving misconduct beyond just the face of the trial testimony, forty-seven, or 77%, of the trial transcripts reviewed to date involved improper science. Thus, these wrongful convictions were more often than not premised on not just forensic evidence that was not probative, but rather on improper exaggeration of the probative significance of the evidence.

100. Improper serology testimony was involved in twenty-two of the forty-one trials of those exonerated by postconviction DNA testing in which transcripts have been located so far and in which there was testimony regarding serological analysis. Most of these cases involved improper testimony failing to account for the phenomenon of "masking." This phenomenon occurs when the blood type of a mixed specimen collected from the victim is consistent with the victim's own type, such that it is not possible to reach any further

The second most common type of evidence in these cases, visual hair comparison testimony, is notoriously unreliable.[101] Absent any data regarding probabilities that hair or fiber may match visually, experts can make only a subjective assessment whether two hairs or two fibers are "consistent" and share similarities.[102] Forty-three cases (22%) involved false visual hair or fiber comparison. Hair evidence was used in forty-two cases. In some cases that visual hair comparison evidence was particularly central to the prosecution's case. Calvin Scott spent twenty years behind bars based largely on hair comparison evidence alone, in a case where the victim did not get a good look at her attacker and could not identify Scott.[103] In eleven cases, visual hair comparison testimony was added to eyewitness testimony as evidence of identity. In five cases, hair comparison testimony and an informant were presented at trial.

Just as with the serological cases, a preliminary review suggests that microscopic hair comparison testimony at trial often distorted or misstated the forensic evidence to inflate its probative significance. Errors were due not merely to the underlying unreliability of visual hair comparison, but were at a minimum compounded by improper and misleading testimony regarding comparisons conducted. Most commonly, state experts mischaracterized their results by purporting to "match" hairs or constructing the probability of such a match, rather than merely visually comparing hairs and either observing certain similarities or excluding

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conclusions about the donor of the specimen without information about the quantity of the donor's contribution to the sample. See Comm. on DNA Tech. in Forensic Sci., Nat'l Research Council, DNA Technology in Forensic Science 158 (1992) ("Conventional serology is further limited, in that analysis of mixed-fluid stains in which two or more contributors are involved can mask an individual donor.").

101. See Barry Scheck, Peter Neufeld & Jim Dwyer, Actual Innocence: Five Days to Execution and Other Dispatches from the Wrongly Convicted 204–18 (2000) [hereinafter Scheck et al., Actual Innocence] (noting that proficiency testing of hair evidence has indicated error rates higher than chance); D. Michael Risinger & Michael J. Saks, Rationality, Research and Leviathan: Law Enforcement-Sponsored Research and the Criminal Process, 2003 Mich. St. L. Rev. 1023, 1048–50 (describing FBI study data and deriving 12.5% error rate for visual hair comparison from that data); Clive A. Stafford Smith & Patrick D. Goodman, Forensic Hair Comparison Analysis: Nineteenth Century Science or Twentieth Century Snake Oil?, 27 Colum. Hum. Rts. L. Rev. 227, 242–45 (1996) (discussing seminal forensic hair experiment's problems with validity).

102. See Fed. Bureau of Investigation, U.S. Dep't of Justice, Proceedings of the International Symposium on Forensic Hair Comparisons 107–10 (1985). The Symposium's Subcommittee on Report Writing, Conclusions, and Court Testimony concluded that there are a limited class of permissible conclusions one can draw based on forensic hair comparisons: (1) The hair "could have come from" the alleged source; (2) the hair "is consistent with having come from" the alleged source; (3) a particular source "qualifies as being the donor" of a particular hair; (4) the hair "could not have originated" from the alleged source; (5) the hair "is not consistent with having come from" the alleged source, or (6) "no conclusion" could be reached. The Subcommittee then noted the possibility of "coincidental match" and called for "[f]urther research" on whether probabilities can be used. Id. at 110.

103. See Jack Money, "Justice Has Been Done": Exonerated Man Eager to Restart Life, Oklahoman, Dec. 4, 2003, at A1 (describing Scott's exoneration).

any common source.[104] For example, in the case of Paul D. Kordonowy, convicted of rape where the victim did not see her assailant, the conviction rested on forensic evidence. Montana Forensic Science Laboratory specialist Arnold Melnikoff did not correctly explain the lack of probative power of hair comparison. Instead, he testified that he could distinguish head hairs in 99 of 100 cases, telling the jury that Kordonowy's hair and blood type matched those found at the scene.[105] In fact, an enzyme in the blood sample did not match Kordonowy, nor did the hairs, and yet Melnikoff's testimony contributed to Kordonowy's wrongful imprisonment for thirteen years.[106] Melnikoff was later fired, but not before he falsified testimony in at least one other case. In the case of Jimmy Ray Bromgard, Melnikoff used made-up probabilities that he then improperly multiplied as follows: "[T]he odds were one in one hundred that two people would have head hair *or* pubic hair so similar that they could not be distinguished by microscopic comparison and the odds of *both* head and pubic hair from two people being indistinguishable would be about one in ten thousand."[107] Another example is the Ron Williamson case, in which the prosecutor cited a "match" with seventeen hairs taken from the crime scene, and the State's expert opined on the additional significance of a "match" of both scalp and public hairs, though later it was determined that none of the hairs were consistent, and one actually belonged to the victim.[108]

Each of three cases in which faulty DNA evidence was introduced at trial involved experts who offered misleading testimony and mischaracterized their own laboratory reports. Two cases involved improper analysis and testimony that resulted in false inclusions. In one case, that of Gilbert Alejandro, the criminalist claimed a DNA match even though neither he nor anyone else had even conducted the DNA testing.[109] Bite

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104. Among the sixty-one trial transcripts located to date were thirty-three cases involving hair testimony (i.e., most of the forty-three total cases in which hair comparison testimony was introduced at trial), of which twenty-one cases, or 64%, involved improper testimony. Again, a study in progress will complete the review of this testimony and examine these cases in greater detail. The ubiquity of improper testimony, however, shows that improper testimony by analysts regarding visual hair comparison is not limited to highly publicized repeat misconduct by actors such as Arnold Melnikoff or Joyce Gilchrist, but rather that it is far more pervasive.

105. See Innocence Project, Know the Cases: Paul D. Kordonowy, at http://www.innocenceproject.org/Content/194.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

106. Id.

107. State v. Bromgard, 862 P.2d 1140, 1141 (Mont. 1993).

108. See Scheck et al., Actual Innocence, supra note 101, at 165 (discussing use of hair samples in Williamson case); see also Williamson v. Reynolds, 904 F. Supp. 1529, 1558 (E.D. Okla. 1995).

109. The three cases are those of G. Alejandro, T. Durham, and J. Sutton. Timothy Durham was convicted chiefly based on a DNA test of raping an eleven-year-old girl; he was convicted and sentenced to 3,000 years in prison, though his defense lawyer elicited testimony at trial from eleven alibi witnesses who said he was in another state the day of the crime. Postconviction DNA retesting excluded Durham, and indicated lab error: "The lab

mark evidence, also notoriously unreliable, was relied on in three cases, in one providing the only evidence of guilt in a capital case.[110]

The forensic evidence was rarely challenged with any success on appeal or postconviction, though six exonerees obtained reversals based on challenges to forensic evidence at trial.[111] None of the 113 persons who were convicted based on forensic evidence raised a fabrication of evidence claim under the Due Process Clause.[112] However, some exonerees raised state evidence law claims (15), ineffective assistance claims (11), or prosecutorial misconduct claims (2) to challenge the forensic evidence introduced at trial. These figures represent a total of twenty-five exonerees, or 32% of the seventy-seven cases with written decisions involving convictions based on forensic evidence. One reason for the dearth of challenges to forensic evidence may be that indigent defendants could not afford to hire a forensic expert. Indigent defendants frequently fail to receive funding for such independent experts.[113] Thus, until the DNA

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had failed to separate completely the male and female DNA from the semen stain . . . ." See Tania Simoncelli, HR 3214 (The "Advancing Justice Through DNA Technology Act of 2003") and the Tolling of Statutes of Limitations (Nov. 6, 2003), at http://www.aclu.org/privacy/genetic/14995pub20031106.html (on file with the *Columbia Law Review*). Similarly,

> Josiah Sutton spent nearly five years in jail for a rape he could not have committed. Sutton's conviction rested almost entirely on the basis of a DNA tests [sic] performed by the Houston Police Crime Laboratory. Re-analysis of the lab report showed that the lab technician had mistakenly reported that Sutton's DNA profile was included in the profile of a semen sample taken from the back of the car, where the rape was committed, when it was not. In addition, she presented the DNA data to the jury in a misleading way that overstated its value . . . .

Id.

In the case of Gilbert Alejandro, the expert, Fred Zain, claimed a DNA match when in fact Zain had never conducted any testing beyond initial inconclusive testing, and final DNA testing conducted after the trial excluded Alejandro. Innocence Project, Know the Cases: Gilbert Alejandro, at http://www.innocenceproject.org/Content/47.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

110. The cases are those of R. Brown, W. Jackson, and R. Krone.

111. See infra notes 161–175 and accompanying text (discussing reasons for reversals among exonerees' cases).

112. See Miller v. Pate, 386 U.S. 1, 7 (1967) (citing Mooney v. Holohan, 294 U.S. 103 (1935), for proposition that conviction knowingly obtained through use of false evidence runs afoul of Fourteenth Amendment); *Mooney*, 294 U.S. at 112 (holding that due process "is a requirement that cannot be deemed to be satisfied . . . if a State has contrived a conviction . . . through a deliberate deception of court and jury by the presentation of testimony known to be perjured"). Regarding civil rights claims brought concerning fabricated evidence, see Garrett, Federal Wrongful Conviction Law, supra note 13, at 95–99 (describing circumstances under which fabrication of evidence claims typically arise and manner in which courts generally evaluate such claims).

113. See, e.g., Am. Jur. 2d Criminal Law § 1276 (1998) ("[T]he right of an indigent defendant to the appointment of an expert witness at the state's expense generally rests in the discretion of the trial court."). The Supreme Court has ruled that there is a right in capital cases to certain expert assistance, and that right has been extended to some noncapital cases. See Ake v. Oklahoma, 470 U.S. 68, 83 (1985) (holding that when sanity of defendant is "significant factor at trial, the State must . . . assure the defendant access to

testing was done, these exonerees may simply have been unable to show that the forensic evidence at trial was false or unreliable.

c. *False Informant Testimony.* — In thirty-five cases (18%), an informant, jailhouse informant, or cooperating alleged coperpetrator provided false testimony.[114] In twenty-three of those cases it was a jailhouse informant. The Supreme Court has approved the use of informants so long as proper discovery is provided regarding the relationship between the informant and the defendant.[115] Police use such informants frequently, though "jailhouse informants are considered among the least reliable witnesses in the criminal justice system."[116] These DNA exonerations provide cases in point. Since DNA testing proved these people innocent, we know now that they likely did not "confess" to jailhouse informants. We also know they likely could not have told these informants anything nonpublic about how the crimes happened, since they did not commit the crimes. Instead, we know that these informants often lied, which should not be surprising given their great incentives to cooperate with law enforcement (though any preferential treatment must be disclosed to the jury).[117]

Twelve of thirty-five, or 34%, of those convicted based on informant testimony brought claims to challenge it. No exoneree raised fabrication claims under the Due Process Clause regarding jailhouse informant testi-

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a competent psychiatrist"); Little v. Armontrout, 835 F.2d 1240, 1245 (8th Cir. 1987) (finding that district court committed reversible error in failing to appoint expert in hypnosis to assist defendant at trial); Paul C. Giannelli, *Ake v. Oklahoma*: The Right to Expert Assistance in a Post-*Daubert*, Post-DNA World, 89 Cornell L. Rev. 1305, 1339–41 (2004) (exploring variations in state provision for expert assistance). A preliminary review, see supra note 99, has so far uncovered only two trials in which the defendants had a forensic expert.

114. Nine were rape cases, twenty-one were rape-murder cases, and five were murder cases.

115. See Hoffa v. United States, 385 U.S. 293, 311 (1966) (discussing "established safeguards of the Anglo-American legal system [that] leave the veracity of a witness to be tested by cross-examination, and the credibility of his testimony to be determined by a properly instructed jury"). The Court has also held that defendants have a right to have counsel present when a charged suspect is interrogated; thus, the government cannot actively place informants in or near the cell of a charged suspect for the purpose of obtaining information. Cf. Massiah v. United States, 377 U.S. 201, 203–06 (1964) (overturning conviction based on testimony of officer who overheard incriminating conversation between defendant and cooperating coperpetrator while informant was wearing recording and transmitting device and defendant was free on bail).

116. Steve Mills & Ken Armstrong, Another Death Row Inmate Cleared, Chi. Trib., Jan. 19, 2000, at N1; see also James S. Liebman, The Overproduction of Death, 100 Colum. L. Rev. 2030, 2088–89 n.149 (2000) [hereinafter Liebman, Overproduction of Death] (providing additional examples of jailhouse informants giving false testimony).

117. See Alexandra Natapoff, Snitching: The Institutional and Communal Consequences, 73 U. Cin. L. Rev. 645, 660–63 (2004) (examining arguments for and against use of jailhouse informants); cf. Ian Weinstein, Regulating the Market for Snitches, 47 Buff. L. Rev. 563, 578 (1999) ("Under the current sentencing regime, cooperation is the only option that significantly alters the most important set of considerations for most defendants—those that relate to the ultimate sentence to be imposed.").

mony, probably because they could not locate any evidence to prove that the informants testified falsely. Two brought *Massiah* claims that they were denied the right to have counsel present during an interrogation by a government informant.[118] Verneal Jimerson brought the only fabrication claim regarding a codefendant, and he received a reversal on it. In Jimerson's case, police concealed that they obtained the testimony of codefendant Paula Gray by offering her inducements. Gray's testimony is now known to be false: She was a juvenile, mentally retarded, innocent, and also wrongly convicted along with three others in what became known as the Ford Heights Four case.[119] Nine additional exonerees who were convicted based on informant testimony brought a range of indirect claims challenging this testimony, such as *Brady* claims (4), state evidence law claims (3), *Strickland* claims (2), and one claim regarding the jury instruction.[120]

Particularly disturbing were three cases in which the codefendant, cooperating witness, or informant had ulterior motives beyond seeking special treatment from law enforcement: DNA testing later revealed that they were the actual perpetrators.[121]

Jailhouse informant testimony was the central evidence leading to the conviction of Jerry Watkins. Three others were convicted based on jailhouse informant testimony together with hair or blood evidence (one,

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118. For a description of a *Massiah* claim, see supra note 115.

119. See People v. Jimerson, 652 N.E.2d 278, 282–86 (Ill. 1995) (remanding for new trial "because the State allowed perjured testimony of its witness [Paula Gray] to stand uncorrected"); see also Ctr. on Wrongful Convictions, Nw. Univ. Law Sch., Police and Prosecutorial Misconduct Put Verneal Jimerson on Death Row (2004), at http://www.law.northwestern.edu/depts/clinic/wrongful/exonerations/jimerson.htm (on file with the *Columbia Law Review*) (summarizing Jimerson's case).

120. Some brought more than one claim. These claims are explained infra note 155 and Part II.B.2.

121. John Grisham's new book tells the stories of the first two cases. Grisham details Ron Williamson's and Dennis Fritz's wrongful convictions and DNA exonerations. See Grisham, supra note 7. The third case was that of Dana Holland, in which the actual perpetrator was a codefendant found not guilty by the judge. See Ctr. on Wrongful Convictions, Nw. Univ. Law Sch., Dana Holland Exonerated After Serving 10 Years of a 118-Year Sentence for Two Wrongful Convictions (2006), at http://www.law.northwestern.edu/depts/clinic/wrongful/exonerations/Holland.htm (on file with the *Columbia Law Review*).

Two other exonerees, Alejandro Hernandez and Rolando Cruz, had reversals based on claims regarding unfair prejudice from joinder of their trials; both were innocent, as DNA later showed. See Ctr. on Wrongful Convictions, Nw. Univ. Law Sch., Police Perjury and Jailhouse Snitch Testimony Put Rolando Cruz on Death Row (2005), at http://www.law.northwestern.edu/depts/clinic/wrongful/exonerations/cruz.htm (on file with the *Columbia Law Review*).

In one additional case, that of Arthur Mumphrey, it was a codefendant who confessed and testified against Mumphrey in exchange for a reduced sentence. Postconviction DNA testing later inculpated the codefendant along with Mumphrey's brother Charles (who had confessed to police yet was not prosecuted). See Innocence Project, Know the Cases: Arthur Mumphrey, at http://www.innocenceproject.org/Content/3.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

Charles Fain, was sentenced to death); four more were convicted based on jailhouse informant testimony and eyewitness testimony; one was convicted based on jailhouse informant testimony and a bite mark comparison (R. Brown), and one was sentenced to death based on jailhouse informant testimony and a confession (R. Cruz). As discussed below, jailhouse informants testified in almost half of the false capital convictions in the innocence group.

None brought claims that jailhouse informant testimony was fabricated. This fact is unsurprising, since it would be very difficult for one to obtain evidence to show fabrication. In addition, despite the dangers of lying and unreliable informants illustrated by these cases, most states have not enacted any protections requiring review of informant testimony. Illinois, after experiencing heightened numbers of exonerations, is now the only state to require that trial courts conduct reliability hearings to evaluate jailhouse informants in capital cases.[122] The Oklahoma Criminal Appellate Court requires enhanced disclosure regarding informant testimony, but so far, other states have not followed suit, though some have adopted instructions cautioning the jury regarding the reliability of informants.[123]

d. *False Confessions.* — In thirty-one cases (16%), a false confession was introduced at trial. As noted below, this excludes cases in which the exoneree had allegedly made self-inculpatory remarks but not a confession to a crime of which he was convicted.[124] This also excludes eleven cases in which a codefendant falsely confessed.[125] Seven of those who

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122. See 725 Ill. Comp. Stat. Ann. 5/115-21(d) (West Supp. 2007) ("The court shall conduct a hearing to determine whether the testimony of the informant is reliable . . . .").

123. See Dodd v. State, 993 P.2d 778, 784 (Okla. Crim. App. 2000) (adopting procedure for jailhouse informant testimony that ensures "complete disclosure"); see also Cal. Penal Code § 1127a(b) (West 2004) (requiring courts to instruct jury on in-custody informant testimony); United States v. Villafranca, 260 F.3d 374, 381 (5th Cir. 2001) ("The testimony of a plea-bargaining defendant is admissible if the jury is properly instructed."); State v. Bledsoe, 39 P.3d 38, 44 (Kan. 2002) (noting that trial court "gave a cautionary jury instruction regarding the testimony of an informant"); Alexandra Natapoff, Beyond Unreliable: How Snitches Contribute to Wrongful Convictions, 37 Golden Gate U. L. Rev. 107, 112–15 (2006) (proposing model statute requiring pretrial evaluations of informant testimony).

124. There are thirteen such cases: S. Avery, K. Bloodsworth, M. Bravo, R. Criner, E. Karage, M. Mitchell, B. Nelson, M. Pendleton, F. Saecker, F. Smith, W. Snyder, C. Washington, and K. Waters. Adding those thirteen cases involving inculpatory remarks to the thirty-one involving confessions results in forty-four cases, or 22% of the 200 exonerations, a figure similar to the 25% figure that the Innocence Project cites. See Innocence Project, False Confessions, at http://www.innocenceproject.org/understand/False-Confessions.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

125. This study does not include as "convictions supported by confessions" cases in which an exoneree did not confess, but instead was implicated by the false confession of another exoneree. Paula Gray's false confession was central to the prosecution of what have become known as the Ford Heights Four (K. Adams, V. Jimerson, W. Rainge, and D. Williams) but when she later recanted she was herself tried and convicted. See supra note 119 and accompanying text (discussing Ford Heights Four case). Similarly, M. Bradford,

confessed were sentenced to death (half of the fourteen capital cases). Eleven of those who falsely confessed were mentally retarded (35%), but nevertheless the confession was introduced at trial and led to a wrongful conviction. Twelve of those who confessed were juveniles (39%), five of whom were also mentally retarded; there were twenty-two juveniles amongst the exonerees (five in the "Central Park Jogger" case).[126] In eighteen false confession cases, the defendant was either mentally retarded or under eighteen at the time of the offense, or both.

The confessions were particularly powerful at trial, perhaps in part because in some cases law enforcement supplied false facts to bolster false confessions. Furthermore, in most cases, having obtained a confession, the State relied on little else to convict. In seven cases, the confession was the central evidence of guilt. In nine more cases, the confession was accompanied by only one other type of evidence (a jailhouse snitch, an eyewitness, or blood or hair evidence).

In retrospect, DNA evidence tells us that these confessions were false. Courts often highlighted in their opinions the corroborated nonpublic details that made these confessions appear to be particularly credible at the time. For example, in the case of Earl Washington, the Fourth Circuit emphasized that:

> Washington had supplied without prompting details of the crime that were corroborated by evidence taken from the scene and by the observations of those investigating the [victim's] apartment. He had confessed to the crime not in a general manner, but as one who was familiar with the minutiae of its execution.[127]

Now that we know that convicts like Washington were actually innocent, we may also know that they could not have, "without prompting," offered accurate and nonpublic details in their confessions. Unless the person was an accomplice, if those details were truly nonpublic, they could have come only from law enforcement. Thus, in some cases DNA proves not only that the defendant was innocent, but also that police fed facts, asked leading questions, supplied details, and in cases such as Earl

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R. Danziger, D. Halstead, R. Matthews, L. Ollins, J. Restivo, and O. Saunders were all convicted after other exonerees confessed and also implicated them to the police. These cases are included in the informant/codefendant category. As noted in that section, Jimerson successfully challenged Paula Gray's testimony as fabricated. See People v. Jimerson, 652 N.E.2d 278, 282–86 (Ill. 1995) (granting new trial based on Gray's perjured testimony).

Walter Snyder's case raises interesting and close questions, because the police officer claimed that Snyder had not confessed to an act of rape, but had rather stated that the victim had "'raped him.'" See Scheck et al., Actual Innocence, supra note 101, at 60. Snyder explains that he never made any confession and consistently denied any involvement in any such crime, but merely expressed incredulity when police encouraged him to admit that the victim made advances on him. Id. at 79.

126. See People v. Wise, 752 N.Y.S.2d 837, 843 (N.Y. Sup. Ct. 2002) (noting that five "Central Park Jogger" defendants had confessed).

127. Washington v. Murray, 4 F.3d 1285, 1292 (4th Cir. 1993).

Washington's, lied later about what happened and claimed that the suspect offered the details "without prompting."[128]

Confessions were obtained more frequently in murder and rape-murder cases. This may be due to victim identification of the defendants in rape cases, making confessions less necessary to secure a conviction.[129] In contrast, in murder cases, where a victim is dead, police often need to rely on other evidence. Therefore, police may pursue a confession more vigorously in murder cases. Nine out of 141 rape cases involved false confessions (6%), whereas in eighteen out of forty-four rape-murder cases (41%) there was a false confession. Three of twelve murder cases included false confessions (25%).

To deter law enforcement coercion that would violate the Fifth Amendment right against self-incrimination as incorporated against the states, the Supreme Court enacted *Miranda* protections that require police to give warnings before beginning an interrogation.[130] The Court also requires the trial court to exclude involuntary confessions from the trial. Courts must assess the voluntariness of confessions flexibly, based on "the totality of all the surrounding circumstances," including any coercion applied and the "characteristics of the accused."[131]

Persons who falsely confessed did not always raise constitutional claims challenging their confessions, at least as reported in written decisions. Seven of the twenty exonerees who confessed falsely and had written decisions (35%) raised Fifth Amendment claims that their confessions were involuntary. Three more (15%) alleged that their confessions were obtained in violation of *Miranda*. Thus, ten of twenty (50%) raised constitutional claims directly challenging their confessions. None who brought claims regarding *Miranda* or coercion received any relief. Three others raised state law claims or indirect constitutional claims, increasing the number of those who raised constitutional claims to 65%. One of these three received a reversal on an ineffective assistance claim.[132] The

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128. See Frank Green, $2.25 Million Verdict in False Confession, Richmond Times-Dispatch, May 6, 2006, at A1 (reporting federal jury's finding that "a state police investigator fabricated [Washington's] confession").

129. See Gross et al., Exonerations, supra note 14, at 544 tbl.3 (finding similar correlation in exonerations, including non-DNA exonerations).

130. Miranda v. Arizona, 384 U.S. 436, 444 (1966). For criticisms of the Court's treatment of false confession claims, see Garrett, Federal Wrongful Conviction Law, supra note 13, at 88–94 (arguing that "criminal law remains hostile to scrutiny of false confessions"); Rosen, Reflections, supra note 13, at 244–47 (arguing that "despite language in *Miranda* condemning secret police interrogations . . . the actual *Miranda* ruling did little to change the way interrogations are carried out in this country").

131. Schneckloth v. Bustamonte, 412 U.S. 218, 223, 226 (1973); see also Stein v. New York, 346 U.S. 156, 185 (1953) (stating that determination of coerciveness "depend[s] upon a weighing of the circumstances of pressure against the power of resistance of the person confessing").

132. T. Hayes raised a Sixth Amendment claim that he should have been permitted to challenge his competence and his confession using expert testimony at trial; R. Williamson raised an ineffective assistance of counsel claim relating to failure to challenge his

others, though they falsely confessed and were intimately familiar with what had gone wrong, may have had no evidence to prove coercion under the Court's deferential voluntariness test, which examines the circumstances surrounding the examination.

There is no constitutional claim that offers relief from a false confession, as opposed to a confession secured because of coercion or lack of capacity.[133] The exoneree could raise a fabrication claim under the Due Process Clause if police officers told the suspect what to say, but then falsely testified at trial that the suspect volunteered nonpublic information about the crime that only the perpetrator could know.[134] No exoneree brought such a claim during appeals or postconviction proceedings. Without a recording of the interrogation and before obtaining DNA testing, these exonerees likely had no way to prove fabrication by law enforcement.

In thirteen cases the exoneree allegedly made self-inculpatory statements but not a full confession to the crime of which he or she was convicted. Five such exonerees brought coerced confession claims regarding their self-inculpatory statements to police. None of these alleged voluntary statements, as reported by police or witnesses, were successfully challenged on appeal or postconviction, likely because a claim of coercion would be difficult to make for a statement that was putatively volunteered.

3. *False Capital Convictions.* — False capital convictions are of particular salience to the administration of the death penalty. The Supreme Court has recently noted that "a disturbing number of inmates on death row have been exonerated,"[135] and polls suggest that DNA exonerations may explain lagging public support for the death penalty.[136] The study by James Liebman, Jeff Fagan, and Valerie West examining error rates in all capital cases from 1973 to 1995 found not only that the vast majority of all capital cases are reversed on appeal or postconviction, but also that

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competency and confession, and Y. Salaam raised a state evidence law claim relating to interrogation of a juvenile without parents present.

133. See Richard A. Leo & Richard J. Ofshe, The Consequences of False Confessions: Deprivations of Liberty and Miscarriages of Justice in the Age of Psychological Interrogation, 88 J. Crim. L. & Criminology 429, 440–49 (1998) (critiquing inability of current doctrine to prevent or remedy false confessions).

134. See supra note 112 (describing fabrication claims).

135. See Atkins v. Virginia, 536 U.S. 304, 320 n.25 (2005); supra note 4 (discussing Supreme Court's debate regarding legal significance of mounting empirical evidence of wrongful convictions in capital cases); see also O'Connor Questions Death Penalty, N.Y. Times, July 4, 2001, at A9 (quoting Justice O'Connor as saying that "[i]f statistics are any indication, the system may well be allowing some innocent defendants to be executed" (internal quotations omitted)).

136. See Bureau of Justice Statistics, U.S. Dep't of Justice, Sourcebook of Criminal Justice Statistics 2003, at 147 tbl.2.56, available at http://www.albany.edu/sourcebook/pdf/t256.pdf (on file with the *Columbia Law Review*) (showing that in 1991, 11% of populace stated possibility of wrongful convictions as reason to oppose death penalty, while in 2003, 25% did so).

7% of those whose sentences were overturned later obtained a determination on retrial that they were not guilty of the capital crime.[137]

Fourteen of the 200 members of the innocence group had been convicted of capital crimes.[138] Appendix B summarizes the characteristics of these erroneous capital convictions and sentences.[139] Many more capital prisoners have been released from death row based on non-DNA evidence of innocence; capital cases usually involve murders, while only a small percentage are rape-murders for which biological evidence is available to test.[140]

Many capital convictions of the innocent were predicated on surprisingly weak evidence, perhaps because they involved difficult stranger homicide cases that tended not to have had any witnesses. As a result, these capital trials typically involved few types of evidence.[141] Two of the cases involved death sentences resting on a single type of evidence—Ray Krone based on a mere bite mark comparison[142] and Frank Smith based on eyewitness identifications by non-victims. Another troubling capital case, that of Charles Fain, involved only a jailhouse informant and hair

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137. James S. Liebman, Jeffrey Fagan & Valerie West, A Broken System: Error Rates in Capital Cases, 1973–1995, at 5 (2000) [hereinafter Liebman et al., Broken System].

138. A fifteenth former death row inmate, Curtis McCarty, was exonerated by postconviction DNA testing after the study period closed, in May 2007. Jay F. Marks and Ken Raymond, Ex Death-Row Inmate Freed, Oklahoman, May 12, 2007, at 1A.

139. For book length treatments of three of these cases, see Margaret Edds, An Expendable Man: The Near-Execution of Earl Washington, Jr. 6 (2003) (recounting case of Earl Washington, Jr., and calling it "a prototype for many of the things that can go wrong in a capital conviction"); Grisham, supra note 7, at 20 (describing how Ron Williamson became wrongly suspected of murder); Tim Junkin, Bloodsworth: The True Story of the First Death Row Inmate Exonerated by DNA 4–5 (2004) (describing murder conviction and death sentence of Kirk Noble Bloodsworth, who was the first person on death row exonerated by DNA).

140. Postconviction DNA exonerations represent only 12% of the 124 cases since 1973 in which capital convictions were reversed based on innocence. See Death Penalty Information Ctr., Innocence and the Death Penalty, at http://www.deathpenaltyinfo.org/article.php?scid=6&did=110 (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

141. Only three of fourteen had more than two main types of evidence introduced at trial (an eyewitness, forensic evidence, an informant, and in one also a confession). The other eleven only had one or two of those types of evidence, and for many the bolstering evidence was fairly weak. Yet the quantity and quality of evidence could be quite great in a case with one type of evidence. For example, in one case a hundred eyewitnesses could have a clear view of the crime. In another case, highly probative DNA test results could be the only forensic evidence.

142. On bite mark comparisons' unreliability, see 4 Faigman et al., supra note 28, § 38:33, at 185 (surveying literature investigating reasons for unreliability in bite mark testimony and predicting that "the future may contain a forensic revamping of bitemark analysis testimony where a positive identification is not allowed, but, rather, only a lesser opinion is admissible"); Fernanda Santos, Evidence from Bite Marks, It Turns Out, Is Not So Elementary, N.Y. Times, Jan. 28, 2007, at WK 4 ("In spite of the evolution of other forensic sciences, bite-mark analysis remains an inexact tool.").

evidence. Three more capital cases involved eyewitness evidence together with an informant or jailhouse informant.

Six capital cases (43%) involved jailhouse informants. In Ron Williamson's case, the actual perpetrator was a witness testifying for the State at trial. Other studies of non-DNA cases confirm that perjury by prosecution witnesses is a leading cause of erroneous capital convictions.[143]

In seven capital cases the defendant falsely confessed; three of the seven involved mentally retarded persons. (In its *Atkins* decision, the Court noted that one such case existed; there have actually been several.)[144] In each of the cases involving a false confession, some other evidence supported the conviction.

These data suggest that erroneous death sentences can flow from unreliable evidence ranging from jailhouse informants to unreliable forensic and eyewitness evidence. These false capital convictions already have spurred action by lawmakers. The Illinois legislature, for example, has enacted a statute barring death sentences based solely on uncorroborated eyewitness or informant testimony.[145]

In conclusion, a few categories of evidence introduced at trial commonly supported wrongful convictions of the innocent: eyewitness identifications, forensic evidence, informant testimony, and confessions. Few exonerees raised claims relating to those types of evidence and even fewer succeeded in obtaining reversals on appeal or during postconviction proceedings. This was true even in erroneous capital convictions, which were often premised on particularly flimsy informant evidence. These findings, developed further in Part III, suggest the reluctance or inability of defendants to raise resource-intensive factual challenges during appeals and postconviction proceedings, and the reluctance or inability of courts to grant relief on claims relating to facts. The next section

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143. See Bedau & Radelet, supra note 14, at 57 tbl.6 (noting that 117 of 350 erroneous capital convictions studied involved perjury by prosecution witness); Ctr. on Wrongful Convictions, Nw. Univ. Law Sch., The Snitch System 3 (2004–2005), at www.law.northwestern.edu/wrongfulconvictions/documents/SnitchSystemBooklet.pdf (on file with *Columbia Law Review*) (describing informant testimony as leading cause of convictions in cases of death row exonerations, including non-DNA exonerations); see also Gross, Lost Lives, supra note 76, at 138–40 (describing evidence that "witness perjury is a far more common cause of error in murders and other capital cases than in lesser crimes"); Liebman, Overproduction of Death, supra note 116, at 2087 n.148 (2000) (describing acquittals following perjury by prosecution witness).

144. The cases are Earl Washington, Ryan Matthews (Matthews was also a juvenile), and Alejandro Hernandez (who was borderline mentally retarded). The Court referred to Earl Washington's case in *Atkins*. See Atkins v. Virginia, 536 U.S. 304, 320 n.25 (2002) ("[W]e cannot ignore the fact that in recent years a disturbing number of inmates on death row have been exonerated. These exonerations have included at least one mentally retarded person[, Earl Washington,] who unwittingly confessed to a crime that he did not commit.").

145. See 720 Ill. Comp. Stat. Ann. 5/9-1(h-5) (West Supp. 2005).

explores in greater depth why the innocent failed to obtain relief during their appeals and postconviction proceedings.

B. *Appeals and Postconviction Proceedings*

This section develops how courts failed to remedy the wrongful convictions of the factually innocent. This failure flowed from the inability of appellate and postconviction courts to effectively review claims relating to the unreliable or false evidence supporting these convictions. The failure was not because courts did not examine the perceived innocence or guilt of exonerees; they typically did. Rather, current doctrine excuses constitutional error on grounds of guilt, yet does not provide innocence claims that convicts can assert. Most reversals that exonerees received were due to courts granting factual claims. Furthermore, the matched comparison group of rape or murder convictions, like the innocence group, received a relatively high 9% reversal rate, suggesting that rate is the norm during the review of rape and murder convictions.

1. *Stages of Criminal Review.* — The claims just discussed were raised at three different stages of review: direct appeal, state postconviction proceedings, and federal habeas proceedings. As of right, the direct appeal occurs immediately following the conviction, and proceeds from the trial court to state intermediate courts to the state supreme court, with an opportunity to seek certiorari from the U.S. Supreme Court.[146] Next, the appeal may be followed by state postconviction proceedings that run again through the state courts, with another opportunity to seek certiorari from the U.S. Supreme Court.[147] Once these sets of review are exhausted, a federal habeas corpus petition may be filed in a district court, with possible appeals to a circuit court, and a third opportunity to seek certiorari from the U.S. Supreme Court.[148] The table below summarizes the stages of review pursued by these exonerees.

All of these exonerees pursued their direct appeals, as most others for whom we lack written decisions must also have done. Less than half with written decisions filed state postconviction petitions. While 23% of these 133 exonerees filed federal habeas petitions, generally only 1% to 2% of state inmates file a habeas petition.[149] One explanation for the high percentage of habeas filings among these exonerees may be that they are almost all rape and murder convicts, most of whom did not

146. See, e.g., Clay v. United States, 537 U.S. 522, 527 (2003) (discussing direct appeal as of right and certiorari review in context of AEDPA's statute of limitations).

147. See 1 Donald E. Wilkes, Jr., State Postconviction Remedies and Relief Handbook 1–25 (2007 ed.) (discussing procedural progression of state postconviction remedies).

148. See Liebman et al., Broken System, supra note 137, at 21 (describing federal habeas review).

149. See Scalia, 2000 BJS Study, supra note 47, at 1–2 (stating that in year 2000, for every 1,000 inmates in state prisons, 17 filed habeas petitions). Of 441 judicial decisions in the innocence group, 236 were issued during direct appeals, 120 were issued during state postconviction, while 82 were issued during federal habeas corpus.

TABLE 4: STAGES OF CRIMINAL REVIEW PURSUED BY EXONEREES

Stage of Review	Percentage of 133 with written decisions who pursued review at each possible stage (N)
Direct Appeal	100 (133)
State Postconviction	45 (60)
Fed. Habeas Corpus	23 (30)
Cert. to U.S. Sup. Ct.	23 (31)

plead guilty, and who had the time and incentive to appeal during their long sentences.[150] However, those in the matched comparison group did not pursue postconviction review nearly as often as the group of exonerees.[151] Perhaps the exonerees or their attorneys pursued such review more aggressively.

The Supreme Court, though the Justices did not know it at the time, summarily denied thirty petitions for certiorari filed by actually innocent exonerees.[152] In the one exceptional case, that of Larry Youngblood, the Court granted certiorari and denied Youngblood relief on his claim that law enforcement failed to properly preserve biological evidence. Ironically, this evidence exonerated him twelve years later, once technology permitted testing of the degraded samples.[153]

As noted, 133 of 200 exonerees (67%) received written public decisions during their criminal appeals and postconviction proceedings. These numbers are higher than in state court review generally,[154] but courts may tend to publish decisions in appeals of serious crimes like murder and rape.

150. The 2007 NCSC study shows that a significant number of persons who file federal habeas petitions were convicted of homicide or sexual assault and are facing long sentences. According to the study, 28.2% of federal habeas petitioners were convicted of a homicide, and 15.4% were convicted of a sexual assault. See King et al., 2007 NCSC Study, supra note 47, at 19–20. Furthermore, the study found that of those for whom sentencing information was available, 27.7% were serving life sentences and the rest were sentenced to an average of twenty years. Id. at 20.

151. Only 9% (11 out of 121 in the matched comparison group) filed federal habeas petitions, while 15% filed state postconviction appeals; all filed direct appeals. The matched comparison group excludes capital cases; among the exonerees with noncapital cases, 17% filed federal habeas petitions (20), and 31% filed state postconviction appeals (38).

152. This includes all certiorari petitions that were filed by exonerees after state direct appeals and after state postconviction proceedings (none reached the Court following federal habeas corpus petitions).

153. See Arizona v. Youngblood, 488 U.S. 51, 58–59 (1988) (denying relief); infra note 237–238 and accompanying text (discussing *Youngblood*).

154. According to the NCSC study, about 75% of state courts that dismissed or denied petitions (which they do about 99% of the time) did so summarily without giving any reason (while in contrast nearly 75% of the time federal courts gave reasons). See Flango, 1994 NCSC Study, supra note 46, at 65–67.

2. *Types of Criminal Procedure Claims Brought.* — This study examines which constitutional and state claims each exoneree brought. While an earlier section discussed the number of claims that challenged certain evidence at trial, this section describes all of the claims these exonerees brought. The table below provides a breakdown of the percentage of exonerees with written decisions who raised certain claims under the U.S. Constitution or state law; the claims raised by the most exonerees are listed first.

TABLE 5: CRIMINAL PROCEDURE CLAIMS RAISED BY EXONEREES

Claim: U.S. Constitution unless noted[155]	Percentage of the 133 with written decisions who raised each claim (N)	Percentage of those who raised each claim who received reversals (N)
State law evidence claim	60 (80)	8 (6)
Jackson claim	45 (60)	2 (1)
Prosecutorial misconduct	29 (38)	0
Ineffective assistance of counsel	29 (38)	11 (4)
Jury instructions unconstitutional	26 (34)	6 (2)
Suggestive eyewitness identification	22 (29)	0
Brady claim	16 (21)	14 (3)
Destruction of evidence	15 (20)	0
Jury selection	14 (18)	0
Coerced confession	12 (16)	0
State law newly discovered evidence	12 (16)	0
Fourth Amendment claim	12 (16)	0
Right to counsel	8 (11)	9 (1)
Bruton claim	5 (6)	33 (2)
Herrera actual innocence claim	4 (5)	0
Fabrication of evidence claim	2 (3)	33 (1)

155. All claims included in Table 5 are outlined below in order:

(1) A wide variety of state law evidence claims, statutory, common law and those asserted under state constitutions, including any evidentiary claim not asserted under the U.S. Constitution;

(2) Claims, under Jackson v. Virginia, 443 U.S. 307, 316 (1979), described infra notes 213–214 and accompanying text, that no reasonable juror could have found guilt beyond a reasonable doubt; this category includes any supplementary state law sufficiency of the evidence standards;

(3) Prosecutorial misconduct claims, including any non-*Brady* claims that prosecutors so inflamed the proceedings that they created an unfair trial, see, e.g., Darden v. Wainwright, 477 U.S. 168, 181 (1986);

The winning claims, namely those for which a new trial was granted and that ruling was upheld on appeal, were as follows: state evidentiary claims (6); ineffective assistance of counsel claims (4); *Brady* claims (3); claims concerning jury instructions (2); *Bruton* unconstitutional joinder claims (2); prosecutorial misconduct claims (2); *Jackson* claims (1); due process and right to counsel claims (1), and a fabrication of evidence claim (1).[156] As Table 5 shows, the winning claims were not necessarily the claims raised most often.

The members of the matched comparison group raised similar claims, but at lower rates across the board than the exonerees in the innocence group, though as noted, they challenged the facts underlying their convictions at similar rates.[157] The NCSC study of postconviction pro-

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(4) Ineffective assistance of counsel claims, under Strickland v. Washington, 466 U.S. 668, 687 (1984), which are described further infra notes 196, 221 and accompanying text;

(5) Claims that jury instructions violated the Due Process Clause, including because the court impermissibly suggested to the jury that they could find guilt with less than proof beyond a reasonable doubt, misstated elements of the offense, or failed to include a lesser included offense instruction as required by Beck v. Alabama, 447 U.S. 625, 627 (1980), as well as state law claims regarding improper jury instructions, see, e.g., State v. Cromedy, 727 A.2d 457, 459 (1999);

(6) Suggestive eyewitness identification claims, under due process decisions such as Manson v. Brathwaite, 432 U.S. 98, 114 (1977), which are discussed further supra notes 92 93 and accompanying text;

(7) Claims under Brady v. Maryland, 373 U.S. 83, 86 (1963), alleging suppression of material exculpatory evidence, discussed further infra note 197 and accompanying text;

(8) Claims of bad faith destruction of exculpatory evidence, under *Youngblood*, 488 U.S. at 58–59, discussed further infra notes 237–238 and accompanying text;

(9) Claims of racially discriminatory jury selection, under Batson v. Kentucky, 476 U.S. 79, 89 (1986), or other constitutional claims concerning jury selection;

(10) Claims of a coerced interrogation, under the totality of the circumstances or a violation of Miranda v. Arizona, 384 U.S. 436, 444 (1966), discussed supra notes 130–132 and accompanying text;

(11) Claims under a state statute or rule that sufficient newly discovered evidence of innocence should result in the grant of a new trial, see, e.g., N.Y. Crim. Proc. § 440.10(1)(g) (McKinney 2005);

(12) Fourth Amendment claims, including lack of probable cause for arrest;

(13) Sixth Amendment right to counsel claims;

(14) Claims under Bruton v. United States, 391 U.S. 123, 137 (1968), regarding prejudicial joinder of codefendants' cases for trial;

(15) Claims, only hypothetically recognized by a plurality in Herrera v. Collins, 506 U.S. 390, 398 (1993), under which a capital convict might secure relief based on a very persuasive showing of actual innocence, discussed further infra text accompanying notes 209–211;

(16) Claims regarding the State's knowing use of false or fabricated evidence, discussed supra note 112.

156. Some who received reversals had more than one claim granted.

157. In the matched comparison group, 45% brought state law claims (54), 38% brought *Jackson* claims (46), 21% brought ineffective assistance claims (26), 21% brought prosecutorial misconduct claims (25), 17% brought jury instruction claims (20), 12% brought Fourth Amendment claims (15), 12% brought coerced confession claims (14), 10% brought suggestive eyewitness identification claims (12), 8% brought jury selection claims (10), 7% brought *Brady* claims (9), 4% brought destruction of evidence and right to

ceedings found that the vast majority of claims raised are claims regarding ineffective assistance of trial counsel and *Brady* claims regarding suppression of exculpatory evidence by police or prosecutors, typically alongside other due process claims.[158] The 1994 NCSC study also concluded that in federal habeas proceedings the type of claim brought has little effect on the low chances, about 1%, that a prisoner will receive any relief.[159] Furthermore, although only convicts with long sentences will pursue lengthy postconviction proceedings, any zealousness is severely limited where states and federal courts have exhaustion, statute of limitation, abuse of the writ, and procedural default rules that prevent premature, late, and repetitive petitions. Routine dismissals for procedural noncompliance accompany efforts to circumvent such rules.[160]

3. *Reversals, Retrials, and Vacated Convictions.* — This section develops a central finding that appellate or postconviction courts reversed 14% of exonerees' convictions, or 9% if one excludes capital cases. Throughout, this study defines a "reversal" as a reversal in a strong sense, that is, an order upheld on appeal that resulted in the grant of a new trial and a vacating of the conviction or convictions. The reversal rate found here, though high when compared to criminal review in general, may be no higher than the rate during the review of comparable rape or murder convictions. These complex trials thus appear to be more error-prone than the norm.

a. *Reversals in the Innocence Group.* — Eighteen exonerees of the 133 with written decisions in their cases received reversals, for a 14% reversal rate. Twelve of the exonerees were retried after reversal of the original conviction. Nine percent were tried multiple times because they received multiple reversals and each time were convicted again by new juries (ten had two trials and two had three trials before being freed as result of DNA

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counsel claims (5), 2% brought *Herrera* claims (3), 2% brought newly discovered evidence of innocence claims and *Schlup* gateway claims (3), and 1% brought fabrication of evidence and *Bruton* claims (1).

Table 5 above includes capital cases. While the matched comparison group includes only noncapital cases, the results in the innocence group change very little even if one subtracts from the equation the claims brought by the twelve capital defendants with written decisions (for example, 60% still brought state law evidence claims and only 1% fewer brought ineffective assistance claims).

158. See Flango, 1994 NCSC Study, supra note 46, at 45–59 (discussing types of claims raised).

159. See id. at 62 (charting reversal rates). As the study stated, "[t]he picture in state courts is somewhat different." There, defendants prevailed at slightly higher rates for ineffective assistance of counsel claims, trial court error claims, Eighth Amendment claims, and Fourteenth Amendment claims. Once, however, the oversampling of Texas criminal appeals was accounted for, the rates in state proceedings began to look like those in federal proceedings. In particular, only Eighth Amendment claims received relief from state courts at a rate greater than 2%, and this figure owed much to the unusual case of New York, which issued a series of reversals on questions of excessive bail. Id. at 62–63 & tbl.18.

160. See id. at 65 & tbl.19 ("[S]tate courts, when they give a reason, deny petitioners on the merits or because of procedural default.").

testing).[161] Furthermore, six more exonerees' convictions were vacated, but they had no retrials because DNA testing was conducted and exonerated them before their scheduled retrials.[162] Thus, eighteen total exonerees had reversals upheld on appeal.[163]

TABLE 6: EXONEREES' REVERSAL RATES

Number of cases with written decisions (N)	Number of cases receiving reversals	Percentage of cases with written decisions reversed
All Exonerees (133)	18	14
Noncapital cases (121)	11	9
Capital cases (12)	7	58

Table 6 displays the reversal rates in capital and noncapital cases. As documented in the landmark Liebman study of all capital cases from 1973 through 1995, there are extremely high (68%) reversal rates in all capital cases, both in state and federal postconviction review.[164] In this study, the reversal rate among all exonerees with written decisions is 14%. Removing the capital cases from the analysis, the reversal rate for noncapital cases falls from 14% to 9%. Few exonerees received capital sentences—fourteen out of 200, or 7%.[165] Yet the percentage of exonerees with capital sentences who received reversals was very high; seven out

161. Among the entire study group of 200 exonerees, fifteen were tried twice and five were tried three times. Eight of these, however, were excluded. Four of those excluded (R. Alexander, D. Holland, W. Nesmith, A. McGee) were tried two to three times according to news reports, but lacked written decisions. Additionally, four exonerees had retrials due to hung juries, not reversals (S. Fappiano, D. Gray, E. Lowery, J. Ruffin), and were therefore excluded. Subtracting those eight cases leaves twelve cases out of the 133 with written decisions.

An additional case, that of Michael Evans, was not counted as a reversal. The trial judge granted Evans a new trial after his conviction but before sentencing, and he was then retried several months later. See People v. Evans, 399 N.E.2d 1333, 1335 n.1 (Ill. App. Ct. 1979). As no written decisions could be located regarding the initial conviction and its vacatur, and only a later decision revealed that it was reversed on a *Brady* violation, it was not included.

162. They are P. Gray, L. Jean, V. Jimerson, S. Linscott, J. Watkins, and R. Williamson.

163. The conviction reversal rate is slightly different from the aggregate reversal rate because some exonerees had more than one conviction vacated. The total number of convictions reversed is twenty convictions vacated out of 142 total convictions with written decisions; 14% were reversed totally. While 133 exonerees had written decisions, 142 convictions had them (several had two or three convictions each that were reversed). Nine with written decisions had more than one conviction for which they sought review: K. Bloodsworth (2) (capital case), R. Cotton (2), R. Cruz (2) (capital case), W. Dedge (2), A. Hernandez (2) (capital case), D. Hunt (2), R. Krone (2) (capital case), W. Rainge (2), and D. Williams (2) (capital case).

164. See Liebman, et al., Broken System, supra note 137, at 5 (discussing reversal rates in capital cases).

165. Here, the full set of 200 exonerees is examined because sentence data were available for all cases in the group, including for those without written decisions.

of twelve with written decisions received one or more reversals (58%).[166] The capital attrition rate among exonerees is 58%,[167] which is similar to the 68% capital attrition rate found in the Liebman, Fagan, and West study.[168] Exonerees sentenced to life also accounted for many of the reversals; five received reversals out of fifty sentenced to life in prison, or 10%.

The table below depicts the reversals that exonerees received, broken down by crime of conviction, separating rape, rape-murder, and murder cases.

TABLE 7: REVERSALS FOR EXONEREES BY CRIME OF CONVICTION

Type of conviction	Total with written decisions	Number reversed	Percentage reversed
Rape	88	6	7
Rape-Murder	34	11	32
Murder	9	1	11

Rape cases had a lower reversal rate than murder cases. One explanation may be that in almost all rape cases, the victim identified the defendant, albeit incorrectly, making it more difficult to challenge the factual support for the conviction due to the difficulty of prevailing on a *Manson* claim. However, rape-murder cases had higher reversal rates than murder cases.[169] This is perhaps surprising, because one would ex-

166. Similarly, nine out of seventeen capital convictions with written decisions received reversals (or 53%).

167. The aggregate figures do not separate the reversal rates at each level of criminal appeal, or what Liebman, Fagan, and West term the "attrition" rate. See Liebman et al., Capital Attrition, supra note 44, at 1850 ("The result of very high rates of serious, reversible error among capital convictions and sentences, and very low rates of capital reconviction and resentencing, is the severe attrition of capital judgments."). Criminal review is like an assembly line with three stages. At each level of review the denominator changes as some drop out either because they win or because they give up and stop pursuing review or because nothing is reported regarding any subsequent review. The attrition rate, a slightly higher 58%, is calculated as follows: DIRECT APPEAL (5 / 12 convictions = 42%) + STATE POSTCONVICTION ((1 out of 7 convictions = 14%) x (percent left from the original pool = 58%) = 8%) and FEDERAL HABEAS ((one out of 3 convictions = 33%) x (percent left from original pool = 25 %) = 8%) = A TOTAL OF 58%.

Subtracting the reversals in capital cases, the innocent appellant's non-capital attrition rate is 10%. The non-capital attrition rate is: DIRECT APPEAL (8 / 121 noncapital cases = 7%) + STATE POSTCONVICTION (0%) + FEDERAL HABEAS ((3 out of 30 cases = 10%) x (percent left from original pool = 25%) = 3%) = A TOTAL OF 10%.

168. See Liebman et al., Broken System, supra note 137, at 124 nn.40–41 (concluding that "[a]t least 68% of the capital judgments that were fully inspected were found seriously flawed at some stage"). The NCSC study, which did not calculate an attrition rate or review all capital sentences, found 3% reversals in state courts and 17% in federal courts in 1990. See Flango, 1994 NCSC Study, supra note 46, at 86 tbl.22.

169. The seven capital reversals were all rape-murder cases. The noncapital rape-murder reversal rate, with four reversed of twenty-one cases, is 19%.

pect that rape-murder cases would be more likely to have semen and blood evidence from the perpetrator, and thus be less prone to reversal.

During the direct appeal, more vacaturs were granted but more appeals were brought; 10% of exonerees who received vacaturs received them during the direct appeal, while 1% were granted during state postconviction and 3% were granted during federal habeas corpus.[170] State supreme courts ordered thirteen of the eighteen reversals. Legal change did not play an important role in these figures, since the underlying legal claims did not significantly change during this period.[171] The passage of the Antiterrorism and Effective Death Penalty Act (AEDPA), legislation which includes a range of rules that restrict federal habeas corpus review, nevertheless did not significantly impact the habeas petitions in this innocence group, as almost all were filed before its effective date in 1996.[172]

The 9% noncapital reversal rate is higher than the rate in criminal appeals generally. Studies have shown that approximately 1% of federal postconviction petitioners receive relief, with similar figures (1% to 2%) in state courts.[173] Federal habeas petitioners are disproportionately persons convicted of homicide (23%) and rape or other violent crimes (39%).[174] Yet 13% of federal habeas corpus petitions presented by ex-

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170. Of the decisions in which vacaturs were granted and then upheld on appeal, four were granted in federal habeas petitions, fifteen were granted during the direct appeal, and one was granted during state postconviction. The total attrition rate, including capital and noncapital cases, turns out to be 14%, the same as the reversal rate: DIRECT APPEAL (13 reversed / 133 convictions in cases with written decisions = 10%) + STATE POSTCONVICTION ((1 out of 60 convictions = 2%) x (percent left from the original pool 60/133 = 45%) = 1%) and FEDERAL HABEAS ((4 reversals out of 30 cases = 13%) x (percent left from original pool 30/133 = 23%) = 3%) = A TOTAL OF 14%.

171. Only three exonerees received decisions that cited to the AEDPA's limitations. Only a handful filed federal habeas petitions after the AEDPA's 1996 enactment. The relevant precedents regarding *Brady*, ineffective assistance of counsel, and harmless error rules, see infra Parts II.B.5 and II.B.6, were in place during the review sought by almost all in the group. Thus, none had courts dismiss claims on nonretroactivity grounds.

172. See, e.g., 28 U.S.C. § 2254 (2000) (stating that AEDPA amendments to statute were effective on April 24, 1996).

173. This point held true for the claims at issue here. See Flango, 1994 NCSC Study, supra note 46, at 62–63 (showing similarly low rate in both federal and state courts for most types of habeas claims). The 1994 NCSC Study showed higher figures for certain claims that are not at issue in the vacaturs examined here (excessive bail, sentencing errors, probation/parole issues, and cruel and unusual punishment claims). See id. at 63 tbl.18. Table 18 of the NCSC Study shows state court reversal rates from 1% to 2%—except regarding bail and sentencing, and finally, excepting Texas death penalty cases, which sustained a series of sentencing and ineffective counsel claims following Supreme Court decisions in the 1980s. Id. at 63 tbl.18. The 2007 NCSC Study examined federal habeas petitions filed no earlier than 2000, after the passage of the AEDPA. That study found that 0.35% of petitions were granted, far lower than the 1% rate observed before AEDPA. See King et al., 2007 NCSC Study, supra note 47, at 58 (finding rate of one in 284 habeas petitions granted post-AEDPA).

174. See Hanson & Daley, 1995 BJS Study, supra note 47, at 11 (providing statistics and concluding that "[a]pproximately two-thirds of the sampled prisoners had been convicted of homicide or other serious, violent crimes").

onerees received reversals. To date, studies of federal habeas corpus have not isolated reversals for particular crimes, nor have they examined reversal rates in murder and rape convictions. Therefore, in the limited set of cases involving murder and rape charges, reversal rates could be much higher than current studies suggest, just as reversal rates are much higher in capital cases.[175]

b. *Reversals in the Matched Comparison Group.* — If average rape and murder convictions have a similarly high reversal rate, perhaps the 9% rate of noncapital reversals in the innocence group is not higher than the background rate. The matched comparison group permits examination of this question. It allows this study to isolate the 121 noncapital cases with written decisions and then compare each of them to a case located on Westlaw with an appeal brought in the same state, involving the same crimes of conviction, and having a written decision issued in the same year.

In the matched comparison group there was a 10% noncapital reversal rate (twelve reversals out of 121 cases). The claims that received reversals in the matched comparison group mirrored the claims on which exonerees received relief: five state law evidentiary claims, four ineffective assistance of counsel claims (one accompanied by a prosecutorial misconduct claim), a *Jackson* claim, a right to counsel claim, and a suggestive eyewitness identification claim.

The innocence group had just one fewer reversal, for a 9% rate (eleven reversals out of 121 noncapital cases.) This small difference between the reversal rates in the innocence and matched comparison groups is not statistically significant. Thus exonerees fared no better during review proceedings than the matched rape and murder cases.

This similarity in reversal rates could be because serious rape and murder convictions share a background reversal rate of about 9%. Under this explanation, the reversal rates might have nothing to do with judges detecting innocence, but instead arise from higher rates of procedural error in serious cases. The trials and convictions for murder and rape may simply be more error prone than other less serious or less complex criminal trials. After all, serious crimes may demand that the court make more complex criminal procedure rulings, attorneys may better defend their clients against such crimes, and the State may pursue a case with less evidence due to pressure to clear serious cases.

A second and related explanation for the statistically insignificant difference in reversal rates may be that in a subset of the reversed exonerees' cases, judges accurately detected innocence, and, in a similar percentage of the matched comparison group appeals, judges did the same. A similarity in reversal rates between the two groups suggests similarly high levels of reversals based on factual errors among rape and murder

175. See Liebman et al., Broken System, supra note 137, at 5, 124 nn.40–41 (calculating overall error rate nationally in capital cases at 68%).

convicts. Six of the twelve claims receiving reversals in the matched comparison group involved a ruling that the jury was seriously misled by unreliable or incomplete factual evidence at trial. Thus, half of the error rate had something to do with a perception of innocence, or relatedly, weakness of the evidence of guilt, and not just with a common rate of procedural error across all serious criminal trials.[176] As discussed in the next section, seven out of eleven noncapital reversals in the innocence group were based on factual challenges.

One explanation for the degree to which reversals were based on factual grounds may be that rape and murder cases disproportionately involve equivocal evidence.[177] Justice Department data suggest that reversal rates may be higher in those rape and murder cases that go to trial. According to BJS statistics, in the 8% of rape cases that went to trial, one-fourth resulted in acquittals, and many more had charges dismissed or resulted in misdemeanor convictions.[178] Murder cases also had high numbers of acquittals: 9% of those that went to trial.[179]

Some number of those who received reversals in the matched comparison group may have been actually innocent, but we cannot know how many. While we know that most in the innocence group did not receive reversals despite their innocence, we obviously do not know whether any innocent people in the matched comparison group received reversals, because in that group none received postconviction DNA testing. The incidence of reversals on factual claims in the matched comparison group suggests, however, that in the views of appellate and postconviction judges, substantive error was prevalent in such cases. Furthermore, the similarity in reversal rates is surprising from another perspective. One might have expected there to be even higher reversal rates in the innocence group, which had fewer acquaintance rape cases than the matched comparison group. In acquaintance cases, consent is more often a de-

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176. Beyond reversals on factual claims, judges often also grant a reversal for more than one reason, including both procedural error and a perception that the convict may be innocent; the latter reason may be particularly important when a judge finds a procedural error to be harmful error.

177. See Daniel Givelber, Meaningless Acquittals, Meaningful Convictions: Do We Reliably Acquit the Innocent?, 49 Rutgers L. Rev. 1317, 1349–55 (1997) (canvassing rape and murder cases with equivocal evidence and referring to study in which "[a]ll twenty-eight cases of wrongful convictions . . . involve[d] sexual assault or rape").

178. See Bureau of Justice Statistics, U.S. Dep't of Justice, Sourcebook of Criminal Justice Statistics Online: Adjudication Outcome for Felony Defendants in the 75 Largest Counties, By Arrest Charge, United States, 2002, at tbl.5.57.2002 (2002), at http://www.albany.edu/sourcebook/pdf/t5572002.pdf (on file with the *Columbia Law Review*) (finding 2% of rape defendants acquitted while only 8% percent of rape cases went to trial; finding additional 24% had charges dismissed pretrial while 8% more pleaded guilty to misdemeanors).

179. See id. (finding 4% of murder defendants acquitted where 39% of murder cases went to trial; 13% more were dismissed pretrial; 1% were convicted at trial only of misdemeanor).

fense and an identity defense would face great difficulties if raised at trial or postconviction.

The similarity in reversal rates suggests a common incidence of error in comparable appeals of rape and murder convictions, particularly factual error. Though we cannot know how many in the matched comparison group are innocent, the incidence of reversals on factual claims in these appeals of serious convictions provides cause for concern regarding the accuracy of such criminal trials.

c. *Cases Where the Innocent Received Reversals.* — The cases where persons later exonerated by postconviction DNA testing received reversals deserve further examination, because in these cases courts provided relief without the benefit of that DNA evidence. Within the select group who received reversals, courts often granted claims relating to the facts supporting the convictions. By "a factual claim," as discussed earlier, this study does not mean an assertion about trial facts, but rather a legal contention that seeks to reverse a conviction or sentence based on the unreliability of the evidence that the State presented at trial. In the matched comparison group, half of the reversals involved granting factual claims. In the innocence group, slightly more than half of the reversals, eleven out of eighteen, involved granting factual claims. The other reversals related not to factual but to purely procedural claims, such as faulty jury instructions, ineffectiveness of counsel unrelated to failure to suppress or challenge factual evidence, or to factual evidence of innocence that the jury did not hear during trial. In four additional cases, reversals were not related to the reliability of the State's case at trial, but were innocence related, since they were based on the trial court's suppression of evidence of third party guilt.[180] This bolsters the conclusion that approximately half of the reversals in the innocence and matched comparison groups had to do with postconviction judgments of the possibility of innocence.

Four of the reversals that exonerees received related to challenges to eyewitness identifications. Among the group of eighteen exonerees that received reversals, thirteen had convictions supported by eyewitness identifications, but for none was a reversal granted based on a claim challenging the identification as unconstitutionally suggestive. Nevertheless, in four cases the claims on which a court granted a reversal related to the eyewitness identification (three state law evidence claims and one *Brady* claim related to a hypnotized victim's statement). Six more reversals were based on challenges that related to forensic evidence introduced at

180. Two reversals were granted for *Brady* claims that alleged the state concealed police reports relating to third party guilt (K. Bloodsworth, J. Watkins), one more involved the trial court's decision to bar evidence that another victim of similar attacks identified another person (R. Cotton), and a fourth occurred after the trial court barred evidence of a third party's pattern of similar crimes and confessions (R. Cruz).

trial, and the last of the eleven reversals related to testimony of a cooperating codefendant.[181]

Though it was infrequent, when judges made a statement that suggested that an exoneree might be innocent, typically by way of describing how the State's case appeared quite weak, they often reversed. A court made such a statement for eight of the eighteen reversals. This was not typically an outright finding of innocence, but rather a strong acknowledgement of the flimsiness of the evidence of guilt adduced at trial. For example, in the Ron Williamson case, his so-called "dream confession" was admitted at trial despite his manifest mental illness. The federal district court vacated his conviction, citing to the "weakness of the case" against him,[182] which relied on evidence the court of appeals later called "largely circumstantial and hardly overwhelming."[183] Likewise, in the Ronald Cotton case, the state court also vacated the conviction, noting that the excluded evidence "tended to show that the same person committed all of the similar crimes in the neighborhood in question on that night and that the person was someone other than the defendant."[184]

Thus, while many exonerees did not pursue factual claims and while very few obtained any relief on any claims, the subset who did receive reversals most often received reversals on claims regarding seriously erroneous or unreliable factual evidence at their trials.

d. *Relief Provided Beyond Reversals.* — The reversal rate does not reflect all of the relief provided to exonerees. Twenty-five, or 20% of exonerees, had a court grant a vacatur at some point, though of those twenty-five, only eighteen had the grant of a new trial upheld on appeal. Thirteen exonerees had their sentences reduced.[185] Nine more received a remand for an evidentiary hearing, and four others received a remand

181. The eleven include the four reversals relating to eyewitness identifications. These cases involve three state law evidence claims, a reversal for failure to provide a jury instruction explaining the dangers of cross-racial misidentification (M. Cromedy), a state evidentiary violation relating to an eyewitness identification (M. Webb), an improper introduction of prior unsworn statements by an eyewitness (D. Hunt), and a *Brady* claim regarding hypnotism of the victim in order to elicit an identification (L. Jean). The seven additional reversals included: one state law evidence claim related to a dog scent identification (W. Dedge); another related to expert evidence on a bite mark central to the case (R. Krone); prosecutorial misconduct for misrepresenting hair and blood evidence (S. Linscott); ineffective assistance of counsel relating to expert issues regarding competence, a confession, and forensic testimony (R. Williamson); a fabrication claim regarding testimony of a cooperating codefendant (V. Jimerson), and two appeals involving ineffectiveness of counsel including failure to move to suppress central physical evidence such as hair evidence (W. Rainge and D. Williams). For just the noncapital cases, that figure is seven of eleven reversals.

182. See Williamson v. Reynolds, 904 F. Supp. 1529, 1546 (E.D. Okla. 1995).

183. See Williamson v. Ward, 110 F.3d 1508, 1520 (10th Cir. 1997) (upholding vacatur, citing limited evidence against defendant).

184. State v. Cotton, 351 S.E.2d 277, 280 (N.C. 1987) (awarding new trial when evidence that trial court excluded pointed toward guilt of another party).

185. None were originally capital sentences.

for merits reconsideration. Seventy percent of the exonerees with written decisions (ninety-three) received no relief of any kind during their appeals or postconviction proceedings. They had their requests and claims dismissed at every stage.

4. *Merits and Procedural Rulings.* — This study next tracked the disposition for each claim raised at each stage: direct appeal, postconviction appeal, and federal habeas corpus. All told, 86% of the exonerees with written decisions during their appeals (115) ultimately had their claims denied. Analysis of these decisions sheds light on why this happened.

Courts typically denied relief on the merits, as opposed to denying relief based also or instead on procedural grounds, at least in the claims that they discussed. Certainly, many more procedurally defaulted claims were likely rejected summarily or without any mention.[186] By contrast, a court reached the merits of the case in 132 out of the 133 innocence group cases with reported decisions.[187] Sixty-one exonerees (46%) had a court rule that a claim had merit, though for all but eighteen this ruling was reversed on appeal. In the present study, forty prisoners (30%) had at least one court during their appeals state that it relied on procedural grounds in reaching its decision. The chief reasons cited were procedural default (i.e., a failure to satisfy a procedural requirement in the state courts) and lack of exhaustion of state remedies.[188] Most exonerees did not pursue federal habeas petitions, however, and the high rates of merits rulings may be explained by the fact that most pursued only the first round of direct appeals, in which there is less of a chance to procedurally default claims.[189]

Each instance in which judges dissented during the various criminal appeals was also collected, since dissents indicate disagreement of sufficient strength to preclude a judge from joining the result reached. In the innocence group, thirty-three received dissents (25%). Nineteen of those dissents were dissents from rulings denying relief; these nineteen dissents

186. The NCSC study suggests that federal courts reach the merits of a third of claims raised in habeas petitions, dismiss another third for procedural reasons, and dismiss most of the remainder summarily. See Flango, 1994 NCSC Study, supra note 46, at 67 (breaking down rulings by constitutional claim and not by habeas petition); see also Hanson & Daley, 1995 BJS Study, supra note 47, at 17 (stating that 36% of issues raised in habeas petitions were determined on merits).

187. Looking at the total numbers of claims ruled upon, the figures are similarly high. In cases with written decisions, courts reached the merits regarding 792 claims, versus 112 claims in which procedural grounds for dismissal were cited. Similarly, in the matched comparison group, 119 out of 121 exonerees received merits rulings, reaching the merits regarding 447 claims versus 47 claims in which procedural grounds were cited.

188. Procedural default was cited in fifty-one claims and lack of exhaustion in forty-six claims (the AEDPA was cited for only six claims).

189. Similarly, the 1994 NCSC Study found that when state postconviction courts give reasons for denying relief on claims, which they rarely do, they ruled that about a third of claims were procedurally defaulted and the rest lacked merit. See Flango, 1994 NCSC Study, supra note 46, at 65–66.

also commented on the weakness of the prosecution's case.[190] Other dissents commented on the merits of procedural claims, and six exonerees only received dissents from decisions in their favor, some of which commented on their guilt.[191]

5. *Guilt and Innocence Rulings.* — When they ruled on the merits, the courts that ruled on these exonerees' claims frequently had to rule on the exonerees' perceived guilt or innocence. Over the past several decades, the Supreme Court has increasingly emphasized that our complex system for appeals serves to remedy the egregious miscarriages of justice in which an innocent person might have been wrongly convicted.[192] In so doing, the Court has developed several methods for assessing guilt or innocence during appeals and postconviction proceedings. The innocence cases in this study suggest that the Court's framework may not serve its intended purpose of sorting the guilty from the innocent. The table below summarizes guilt-based rulings by courts in innocence cases; some exonerees received more than one type of ruling.

Starting with the least deferential test, quite a few exonerees who received rulings on the merits during their appeals had courts rule that errors at trial were harmless. Under the *Chapman* harmless error test, a court denies relief for a constitutional error if the State can show "beyond a reasonable doubt" that the constitutional error did not contribute to the guilty verdict at trial.[193] Often courts did not explain why they deemed error to be harmless. However, when the State's case is strong, an error may be less likely to contribute to the outcome, and conversely, error may be more likely to affect the outcome when the State's case is

190. See, e.g., Arizona v. Youngblood, 488 U.S. 51, 72 (1988) (Blackmun, J., dissenting) ("Because semen is a body fluid which could have been tested by available methods to show an immutable characteristic of the assailant, there was a genuine possibility that the results of such testing might have exonerated respondent. The only evidence implicating respondent was the testimony of the victim."); State v. Jean, 311 S.E.2d 266, 274 (N.C. 1984) (Exum, J., dissenting) ("Unlike the majority, I believe the issue of defendant's guilt is close."); State v. Goodman, 763 P.2d 786, 789–90 (Utah 1988) (Stewart, J., dissenting) ("The evidence in this case falls far short of proving that the defendant committed the crime charged. . . . [In addition,] [t]here is *no probative evidence* at all that the defendant was at the scene of the crime . . . .").

191. See, e.g., People v. Cruz, 643 N.E.2d 636, 688 (Ill. 1994) (Heiple, J., dissenting) ("After two verdicts of guilty and 11 years after the murder, the defendant now gets a third roll of the dice. The pressure on the prosecutor to negotiate a plea . . . may be irresistible. In any event, justice is the loser.").

192. See, e.g., Herrera v. Collins, 506 U.S. 390, 420 (1993) (O'Connor, J., concurring) (arguing that Constitution offers "unparalleled protections against convicting the innocent").

193. See Chapman v. California, 386 U.S. 18, 24, 26 (1966); Garrett, Federal Wrongful Conviction Law, supra note 13, at 56–63 (discussing *Chapman* test). The *Brecht v. Abramson* test, see 507 U.S. 619, 639 (1993), which requires that the state show that error did not substantially influence the jury, applies during federal habeas corpus review, but with fewer exonerees pursuing habeas petitions and only a handful pursuing them after 1993 when *Brecht* was decided, that more stringent test was never cited in these cases.

TABLE 8: GUILT-BASED RULINGS DURING REVIEW OF EXONEREES' CONVICTIONS

Type of Appellate or Postconviction Ruling	Percentage of the 133 with written decisions who received ruling (N)
Court referred to exonerees' guilt	50 (67)
Harmless error (total rulings)	32 (43)
Claim had merit, but error was harmless	16 (21)
Claim lacked merit, and error was harmless	14 (18)
Claim lacked merit, and there was no prejudice	13 (17)
Court referred to "overwhelming" evidence of guilt	10 (13)
Claim had merit, but no prejudice	2 (2)

weak.[194] A harmless error ruling may also involve a judgment that the error would not have impacted the jury given outweighing evidence of guilt, though the Court has expressly cautioned against employing harmless error analysis in that improper fashion.[195] Of exonerees with written decisions, 32% had a court rely on harmless error, and 16% had a court agree that a claim had merit, but nevertheless deny relief due to harmless error (this occurred for twenty-two of the sixty, or about one-third, for whom a court ruled that a claim had merit).

Other tests incorporate a more stringent harmless error standard into the structure of the right itself. The *Strickland* test provides an example: A trial attorney's provision of consitutionally ineffective assistance is not a constitutional violation if that performance did not "prejudice" the outcome, given the totality of the evidence admitted at trial.[196] The *Brady v. Maryland* test incorporates the same standard, as do other due process

194. See, e.g., *Brecht*, 507 U.S. at 638 (holding that court should assess harmlessness "in light of the record as a whole").

195. Properly applied, harmless error analysis should ask only whether the state can demonstrate that error did not sufficiently affect the outcome at trial and not, conversely, whether evidence of guilt outweighed the impact of any error. See Sullivan v. Louisiana, 508 U.S. 275, 279 (1993) ("The inquiry . . . is . . . whether the guilty verdict actually rendered in this trial was surely unattributable to the error. That must be so, because to hypothesize a guilty verdict that was never in fact rendered—no matter how inescapable the findings to support that verdict might be—would violate the jury-trial guarantee."); Jason M. Solomon, Causing Constitutional Harm: How Tort Law Can Help Determine Harmless Error in Criminal Trials, 99 Nw. U. L. Rev. 1053, 1085–98 (2005) (arguing that judges should look at evidence of influence on jury rather than focusing primarily on untainted evidence of guilt).

196. See Strickland v. Washington, 466 U.S. 668, 693–94 (1984) (requiring defendant to show attorney error affected trial outcome in order to earn reversal).

claims.[197] For only two defendants did a court rule that a claim with merit would be denied because the error lacked prejudice, though for 13%, lack of prejudice was part of the merits dismissal.

The remaining rows show how often courts referred to the likely guilt of the exoneree (in 50% of cases), typically by describing the reliability of the prosecution's case. The rows also show the subset of those cases in which courts were so sure of guilt that they called the evidence of guilt "overwhelming" (10%).[198] Statements regarding guilt provide additional evidence that judges rarely detected innocence. Some cases citing "overwhelming" evidence of guilt or harmless error are particularly instructive (and ironic) in retrospect. An example is the case of Larry Holdren, in which the Fourth Circuit found harmless the State's forensic expert's false hair comparison testimony, even after initial DNA testing excluded Holdren.[199]

In the matched comparison group, fewer received such rulings: 26% had a court rule that error was harmless, 11% had a court rule that a claim had merit but error was harmless, and 9% had a court rule that a claim lacked merit and error was harmless. However, 8% had a court call the evidence of guilt "overwhelming."

In addition to judging evidence of guilt, courts may rule on evidence of innocence. Courts (typically only state courts) ask whether newly discovered evidence of innocence would have changed the outcome at trial. In limited circumstances federal courts also examine new evidence of innocence. Still other hybrid tests have both guilt and innocence prongs; for instance, the *Brady* test asks whether favorable evidence was sup-

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197. See Brady v. Maryland, 373 U.S. 83, 90–91 (1963) (affirming capital sentence where evidence improperly withheld by prosecution would not have reduced defendant's offense below murder in the first degree).

198. Those cases, alphabetically by defendant, are: D. Brown, State v. Brown, No. L-82-297, 1983 WL 6945, at *14 (Ohio Ct. App. Sept. 16, 1983); R. Bullock, People v. Bullock, 507 N.E.2d 44, 49 (Ill. App. Ct. 1987); F. Daye, People v. Daye, 223 Cal. Rptr. 569, 580 (Cal. Ct. App. 1986); J. Deskovic, People v. Deskovic, 607 N.Y.S.2d 957, 958 (N.Y. App. Div. 1994) ("There was overwhelming evidence of the defendant's guilt in the form of the defendant's own multiple inculpatory statements, as corroborated by such physical evidence as the victim's autopsy findings."); B. Godschalk, Godschalk v. Montgomery County Dist. Attorney's Office, 177 F. Supp. 2d 366, 367, 369 (E.D. Pa. 2001) (quoting criminal trial court); H. Gonzalez, State v. Gonzalez, 696 N.Y.S.2d 696, 697 (N.Y. App. Div. 1999); L. Holdren, Holdren v. Legursky, 16 F.3d 57, 63 (4th Cir. 1994); D. Hunt, State v. Hunt, 457 S.E.2d 276, 293 (N.C. Ct. App. 1994); L. McSherry, People v. McSherry, 14 Cal. Rptr. 2d 630, 636 (Cal. Ct. App. 1992) (referring to "the unusual circumstances in this case, overwhelmingly identifying appellant as the perpetrator") (depublished); A. Newton, Newton v. Coombe, No. 95-9437, 2001 WL 799846, at *6 (S.D.N.Y. July 13, 2001) (noting evidence of guilt "extremely strong"); D. Pope, Pope v. State, 756 S.W.2d 401, 403 (Tex. App. 1988); A. Robinson, Robinson v. State, No. C14-87-00345-CR, 1989 WL 102335, at *7, *10 (Tex. App. Sept. 7, 1989); Y. Salaam, People v. Salaam, 590 N.Y.S.2d 195, 196 (N.Y. App. Div. 1992).

199. See *Holdren*, 16 F.3d at 61 ("Although the DNA testing produced results that were opposite to the trial testimony regarding the hairs, we are of opinion that the discrepancy was not prejudicial and was at most harmless error.").

pressed by the State and whether, given other evidence of guilt in the case, that evidence was material.[200] Added to these various constitutional tests, states have developed state constitutional law[201] and statutory tests regarding relief based on newly discovered evidence of innocence.[202]

Only thirty-three exonerees, or 25% of those with written decisions, raised innocence-related claims (*Brady*, *Schlup*, *Herrera*, or newly discovered evidence claims); several of those exonerees raised more than one innocence-related claim. Of those, three received vacaturs. These results are summarized in the table below.

TABLE 9: EXONEREES AND INNOCENCE CLAIMS

Type of Claim	Percentage of 133 with written decisions who raised claim (N)	Percentage with claim granted and upheld on appeal (N)[203]
Brady claim	16 (21)	1 (3)
State law newly discovered evidence	12 (16)	0 (0)
Herrera actual innocence claim	4 (5)	0 (0)
Schlup (habeas only)	0 (0)	0 (0)

Not one exoneree was granted a freestanding claim that they should be released based on newly discovered evidence of their innocence; only twenty asserted such innocence claims, or 15% of those with written decisions.

Only three exonerees out of the thirty-three who brought innocence-related claims had reversals granted, all on *Brady* claims.[204] Again, though *Brady* claims do not provide relief expressly on the ground that the petitioner is innocent, they do relate closely to innocence. *Brady*

200. See, e.g., Kyles v. Whitley, 514 U.S. 419, 435 (1995) (concluding that *Brady* violation is premised on "showing that the favorable evidence could reasonably be taken to put the whole case in such a different light as to undermine confidence in the verdict").

201. See, e.g., Miller v. Comm'r, 700 A.2d 1108, 1132 (Conn. 1997) (affirming grant due to "clear and convincing evidence" of actual innocence); People v. Washington, 665 N.E.2d 1330, 1336–37 (Ill. 1996) (concluding that claim of innocence based on newly discovered evidence raises constitutional issue under state Due Process Clause).

202. For example, New York requires a reasonable probability of a different outcome, and a motion may be made at any time. N.Y. Crim. Proc. Law § 440.10 (McKinney 2005). In contrast, Virginia bars motions for relief due to newly discovered evidence made twenty-one days after trial, unless one can satisfy restrictive conditions for filing a writ of actual innocence. Va. Code Ann. § 19.2-327.1 to -327.6 (Supp. 2003); Va. Code Ann. Rule 1:1 (2007) (providing Virginia Supreme Court rule). For an overview of rules across jurisdictions, see Brandon L. Garrett, Claiming Innocence, 92 Minn. L. Rev. (forthcoming 2008) (manuscript at app., on file with the *Columbia Law Review*) [hereinafter Garrett, Claiming Innocence].

203. Three more *Jackson* claims, three more *Brady* claims, and two state law newly discovered evidence claims received reversals that were not upheld on appeal.

204. Put differently, of the eighteen exonerees whose convictions were reversed, only three won on innocence-related claims (i.e., 2% of all exonerees with written decisions and 17% of those who won reversals).

claims require a showing that the prosecutor concealed from the defense material exculpatory evidence and a reasonable probability that suppressing the evidence of innocence prejudiced the outcome at trial.[205] This study does not include a statistic regarding how many exonerees were convicted based in part on prosecutorial or police misconduct involving suppression of exculpatory evidence, because the number of known cases would be at best highly incomplete. The number may be far higher than just those who brought *Brady* claims, because improper concealment of evidence may often avoid detection even after an exoneration.[206]

Directly asserting freestanding innocence claims, sixteen exonerees raised state law claims seeking a new trial based on newly discovered evidence of their innocence. None received relief during proceedings prior to obtaining DNA testing. Typically these claims require a reasonable probability that the newly discovered evidence would have changed the outcome at trial and, moreover, many include short statutes of limitation.[207]

None raised *Schlup*, the "innocence gateway" that excuses procedural defaults of constitutional claims on the basis of newly discovered evidence. Under the *Schlup* standard, a petitioner must show a reasonable probability of innocence to obtain federal review of a constitutional claim in the face of a state procedural default.[208] Prior to DNA testing, most exonerees likely did not have new evidence of their innocence to bring forward, and thus they could not assert a *Schlup* theory or a newly discovered evidence claim.

Five exonerees raised claims under *Herrera v. Collins* that their conviction should be vacated based solely on their actual innocence (4%),

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205. While 16% of all exonerees with written decisions raised such claims, perhaps more relevant is that 35% of the sixty who pursued state postconviction appeals brought such claims; *Brady* claims are raised less often during direct appeals. See supra tbls. 4, 9 (summarizing levels of criminal review pursued by exonerees, noting that sixty pursued state postconviction appeals, and summarizing exonerees' innocence claims, respectively).

206. A number of such cases in which police or prosecutorial suppression of exculpatory evidence have been discussed. These cases involve forensic fraud, suggestion with respect to eyewitnesses, and fabrication. See supra note 181. Again, one reason why relatively few exonerees brought *Brady* claims is that suppression of exculpatory evidence is difficult to uncover. Absent discovery of the police and prosecution files, even after exoneration potential *Brady* violations may not come to light. Furthermore, even where police or prosecutors did in fact conceal exculpatory evidence, the *Brady* materiality and prejudice standard may not be violated.

207. See supra note 202 (discussing various jurisdictions that require reasonable probability of different outcome had newly discovered evidence been introduced at trial); see also Garrett, Claiming Innocence, supra note 202 (manuscript at Part II.C) (reviewing limits and standards imposed on use of DNA testing by various states' DNA statutes); Daniel S. Medwed, Up the River Without a Procedure: Innocent Prisoners and Newly Discovered Non-DNA Evidence in State Courts, 47 Ariz. L. Rev. 655, 667–86 (2005) (discussing historical and contemporary treatment of newly discovered evidence).

208. Schlup v. Delo, 513 U.S. 298, 326–27 (1995).

and none received relief. This comes as no surprise: No petitioner has ever received relief under a constitutional theory that they were actually innocent.[209] The Supreme Court only hypothetically indicated in *Herrera* that a petitioner might receive relief in a capital case if he or she could provide a "truly persuasive" demonstration of innocence.[210] The Court thus did not reach whether a freestanding actual innocence claim exists under the Constitution. Any actual innocence right remains so conjectural that the five innocent petitioners who raised such claims were denied relief. Only one of the twelve innocent capital petitioners brought, unsuccessfully, a *Herrera* claim that he was actually innocent.[211]

These exonerees, lacking any means to claim innocence, did assert in large numbers sufficiency of the evidence claims governed by the Court's ruling in *Jackson v. Virginia*.[212] In contrast to the thirty-two who raised innocence claims, sixty exonerees (45%) brought a *Jackson* claim, based not on allegations of new evidence of innocence, but rather based on a claim that there was not sufficient evidence presented during their trial to convict them. Such sufficiency claims sometimes highlighted unreliable factual evidence at trial, thereby providing a quasi-factual challenge, though one was based on the context of the entire trial record.[213] In bringing a *Jackson* claim, a petitioner must show that, viewing the evidence in the light most favorable to the prosecution, no rational juror could find beyond a reasonable doubt that the prosecution proved the essential elements of the crime.[214] Perhaps due to this stringent standard (though states have more relaxed sufficiency standards), only one of the exonerees received a reversal upheld on appeal.

Thus, the above shows just how difficult it remains to obtain relief on a claim of innocence, which explains why few of these actually innocent people raised such claims and why none succeeded.[215] In addition to analyzing such claims, this study collected instances where courts made

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209. See Nicholas Berg, Turning a Blind Eye to Innocence: The Legacy of *Herrera v. Collins*, 42 Am. Crim. L. Rev. 121, 135–37 (2005) (surveying more than 170 cases in which actual innocence claims were asserted and concluding that no court has granted relief solely on basis of such claims).

210. See Herrera v. Collins, 506 U.S. 390, 417 (1993) (assuming arguendo that persuasive demonstration of actual innocence would render execution unconstitutional, but stating that if such claim existed, threshold would be "extraordinarily high").

211. The four others were not facing execution and therefore did not even fall under the limited claim the Court considered in *Herrera*; their claims were dismissed.

212. See 443 U.S. 307, 324 (1979) (holding that habeas relief is available if petitioner shows that no rational trier of fact "could have found proof of guilt beyond a reasonable doubt" based on evidence presented at trial).

213. Twelve exonerees who did not bring suggestive eyewitness identification claims highlighted the weakness of eyewitness evidence when bringing a sufficiency of the evidence claim. A handful highlighted the weakness of confession or forensics evidence.

214. See *Jackson*, 443 U.S. at 319 (describing sufficiency of evidence review).

215. See King et al., 2007 NCSC Study, supra note 47, at 29–30 (concluding that 3.9% of noncapital cases and 10.8% of capital cases raised new evidence of innocence claims and none received relief).

statements in their decisions that referred to the guilt or innocence of the exonerees, even if these statements were not necessarily connected to a particular claim. As noted earlier, sixty-three exonerees had statements referring to their perceived guilt (twelve courts noted "overwhelming" evidence of guilt). In contrast, courts only made statements that in a way correctly perceived the innocence of thirteen. That is, none of the statements directly asserted outright innocence in the way that judges frequently directly asserted outright guilt. Instead, judges found error to be prejudicial, and, in doing so, referred to the weakness of the prosecution's case. For nine of the eighteen who received reversals, a court referred to innocence in that manner.[216] This is most likely because in order to reverse, judges must almost always find prejudice, and can more readily do so if the State's case is weak.[217]

Exonerees did not frequently raise innocence claims, but, as described, legal avenues for claiming innocence remain extremely narrow. Absent a sound legal theory, simply raising a claim of innocence could signal their innocence, but raising a claim that lacked factual or legal support might negatively color judges' perceptions of their other claims. These exonerees may have felt that the claims were futile, which is borne out by the experience of those who raised innocence claims, none of which received any relief. In addition, state statutes of limitations restrict assertion of innocence claims. Moreover, prior to obtaining DNA evidence, most may have lacked any probative new evidence of innocence that could plausibly support an innocence claim; for some such evidence may have been concealed by law enforcement.[218] Again, this group of known DNA exonerations does not include innocent convicts who obtained reversals without DNA testing, perhaps because some had substantial non-DNA evidence of their innocence.

In the matched comparison group, fewer raised innocence claims, just as fewer raised other claims. Nine raised *Brady* claims, or 7%. Two percent raised *Herrera* claims, state newly discovered evidence claims, and *Schlup* claims. Judges referred to innocence in three of the decisions that granted reversals in the matched comparison group.[219]

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216. See, e.g., Jean v. Rice, 945 F.2d 82, 87 (4th Cir. 1991) ("Apart from the identifications, there was little independent corroborating evidence to sustain Jean's conviction . . . ."); State v. Hunt, 378 S.E.2d 754, 760 (N.C. 1989) ("Although there were three witnesses who identified defendant as the one they had seen with the victim the morning of her murder, the record reflects doubt about the testimony of each . . . ."); State v. Cotton, 351 S.E.2d 277, 280 (N.C. 1987) ("The excluded evidence therefore tended to show that the same person committed all of the similar crimes in the neighborhood in question on that night and that the person was someone other than the defendant.").

217. See Strickland v. Washington, 466 U.S. 668, 696 (1984) ("[A] verdict or conclusion only weakly supported by the record is more likely to have been affected by errors than one with overwhelming record support.").

218. Indeed, the decisions for the thirty-three who raised innocence related claims indicated not all actually had new evidence of innocence to offer prior to the DNA testing.

219. See Leonard v. Michigan, 256 F. Supp. 2d 723, 734 (W.D. Mich. 2003) ("There is a reasonable probability that had defense counsel offered any defense to the State's DNA

6. *Ineffective Assistance of Counsel.* — Many states and localities have long provided inadequate indigent defense funding, with predictably persistent poor assistance of trial counsel as a result.[220] The Supreme Court ruled in *Strickland v. Washington* that indigent defendants are constitutionally entitled to minimally effective representation. This representation, however, need only fall "within the wide range of reasonable professional assistance."[221] Studies of postconviction filings show that ineffective assistance of counsel is the most commonly raised claim during appeals. The NCSC study found that 41% to 45% raised such claims.[222] Only thirty-eight exonerees (29%) raised ineffective assistance of counsel claims.[223]

The majority of the thirty-eight exonerees in the innocence group who raised ineffective assistance of counsel claims did not raise procedural errors by counsel. Instead, they presented claims based on ineffectiveness of counsel relating to important evidence introduced at trial, including failures to use blood evidence, to present alibi witnesses, and to challenge eyewitness identification or informant testimony. Of the thirty-eight, four received reversals of their convictions due to grossly ineffective representation of trial counsel.[224] Ron Williamson's claim related to fail-

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experts, the trial judge would have found Petitioner not guilty. In light of the lack of evidence against Petitioner, this is the only conclusion that can reasonably be reached."); People v. Tillman, 589 N.E.2d 587, 598 (Ill. App. Ct. 1992) ("[T]he totality of counsel's deficient performance establishes ineffective assistance of counsel. But for those errors, there was a reasonable probability that the defendant would not have been convicted."); People v. Colas, 619 N.Y.S.2d 702, 706 (N.Y. App. Div. 1994) ("The evidence of defendant's guilt in this case is far from strong.").

220. See, e.g., The Spangenberg Group, State and County Expenditures for Indigent Defense Services in Fiscal Year 2002, at 34–37 (2003), available at http://www.abanet.org/legalservices/downloads/sclaid/indigentdefense/indigentdefexpend2003.pdf (on file with the *Columbia Law Review*) (showing annual state expenditures on indigent defense); Standing Comm. on Legal Aid and Indigent Defendants, Am. Bar Ass'n, *Gideon's* Broken Promise: America's Continuing Quest for Equal Justice 7–9 (2004) (citing reports and testimony on "grave inadequacies in the available funds and resources for indigent defense"); Stephen B. Bright, Counsel for the Poor: The Death Sentence Not for the Worst Crime but for the Worst Lawyer, 103 Yale L.J. 1835, 1866–70 (1994) (discussing adverse effects of low compensation for indigent defense lawyers).

221. *Strickland*, 466 U.S. at 689–90.

222. See Flango, 1994 NCSC Study, supra note 46, at 46–47 (providing these data and citing to additional studies finding similarly high percentages of ineffective assistance of counsel claims). The 2007 NCSC Study of federal habeas petitions found that 50.4% of noncapital cases and 81% of capital cases raised ineffective assistance of trial or appellate counsel claims. King et al., 2007 NCSC Study, supra note 47, at 28. In the matched comparison group, 21% raised ineffective assistance of counsel claims, fewer than in the innocence group and the NCSC results.

223. The figure is higher using only the seventy-eight who filed state postconviction petitions that more typically include ineffective assistance of trial counsel claims (41%). Five additional exonerees raised ineffectiveness of appellate counsel.

224. Those are: P. Gray, W. Raingc, D. Williams, and R. Williamson. In other words, 11% of the exonerees who raised ineffective assistance of counsel claims received reversals. This is in contrast to the 1% of state and federal habeas corpus petitioners who raise

ure of trial counsel to develop evidence of his lack of mental competency and to the confession of another man.[225] The other three, Paula Gray, William Rainge, and Dennis Williams, were all represented by the same lawyer, who was later disbarred in an unrelated matter. Rainge and Williams had their convictions reversed for ineffectiveness, including failure to move to suppress central physical evidence, such as hair evidence.[226] Gray's reversal related instead to conflicts created by the joint representation.[227]

To prevail on an ineffectiveness claim, a convict must show that the attorney's ineffectiveness materially prejudiced the outcome at trial, so that "there is a reasonable probability that, but for counsel's unprofessional errors, the result of the proceeding would have been different."[228] In retrospect, however, some courts appear to have improperly conducted that inquiry in cases where ineffectiveness implicated areas of evidence that centrally supported the convictions. For example, the federal district court granted Willie Jackson relief because his trial lawyer failed to hire an expert to challenge the bite mark evidence central to his trial, finding prejudice where Jackson provided a strong showing of innocence, including that his brother confessed to the crime.[229] Yet the Fifth Circuit reversed without an opinion in 1997,[230] and in 2006 Jackson was exonerated when DNA testing excluded him and matched his brother.[231] Ironically, four other exonerees specifically asserted the failure of trial counsel to request then-available DNA testing that would have proved inno-

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ineffective assistance of counsel and who receive relief on ineffective assistance claims according to the 1994 NCSC study. See Flango, 1994 NCSC Study, supra note 46, at 63.

225. See Williamson v. Ward, 110 F.3d 1508, 1522 (10th Cir. 1997) (granting Williamson new trial "both on the ground that his counsel was ineffective in failing to pursue a competency determination and on the ground that counsel's failure to conduct pretrial investigation precluded him from properly dealing with the confessions at trial").

226. See People v. Williams, 444 N.E.2d 136, 138, 143 (Ill. 1982) (reversing after disbarment, citing "unique circumstances under which counsel . . . was operating[,]" including representing three capital defendants before two juries, and also citing failures to move to suppress central evidence including hair evidence); People v. Rainge, 445 N.E.2d 535, 547 (Ill. App. Ct. 1983) (reversing on similar grounds).

227. U.S. ex rel. Gray v. Dir., Dep't of Corr., 721 F.2d 586, 597 (7th Cir. 1983) (reversing due to conflicted counsel).

228. Strickland v. Washington, 466 U.S. 668, 693–94 (1984); see also Flango, 1994 NCSC Study, supra note 46, at 45–50 (addressing specific claims of ineffectiveness of counsel in study in context of *Strickland* standard); John C. Jeffries, Jr. & William J. Stuntz, Ineffective Assistance and Procedural Default in Federal Habeas Corpus, 57 U. Chi. L. Rev. 679, 681–90 (1990) (discussing *Strickland* threshold and arguing that "[i]n essence . . . *Strickland* require[s] habeas lawyers and federal judges and magistrates to work through the equivalent of a law school exam every time a defendant tries to escape procedural default").

229. See Jackson v. Day, No. CIV.A.95-1224, 1996 WL 225021, at *4–*6 (E.D. La. May 2, 1996) (describing Milton Jackson's admissions in the record).

230. Jackson v. Day, 121 F.3d 705 (5th Cir. 1997).

231. See Innocence Project, Know the Cases: Willie Jackson, at http://www.innocenceproject.org/Content/194.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

cence.[232] One of the four, Anthony Hicks, received a reversal, but only after DNA testing had already excluded him.

While most of the ineffective assistance claims related to facts that the trial lawyer failed to develop or challenge, ten instead related to procedural ineffectiveness of counsel, including conflicts of interest and failures to make new trial motions.[233] As noted in the previous section, for only two exonerees did the courts conclude that a claim had merit, but nevertheless denied relief due to lack of prejudice.[234]

This section described how, during the exonerees' criminal appeals and postconviction proceedings, courts not only failed to effectively review factual claims relating to evidence supporting convictions, but also consistently denied relief on innocence claims. In contrast, they often ruled that exonerees appeared guilty. Moreover, exonerees and the rape and murder cases in the matched comparison group received a similar reversal rate of about 9%. Furthermore, the groups had similar rates of reversals based on claims of factual error. The next section describes how similar failings were manifested even when postconviction courts were confronted with DNA evidence of innocence.

C. *DNA Testing and Exoneration*

This section examines how exonerees obtained the DNA tests that ultimately exonerated them in order to understand how these miscarriages of justice were ultimately remedied. This third set of results describes how the known exonerees are only a subset of innocent convicts, as we only know about the cases in which convicts sought and successfully obtained DNA testing. Even after DNA testing became available, courts and law enforcement imposed obstacles to conducting DNA testing and then denied relief even after DNA proved innocence. These data show how reluctant our criminal system remains to redress false convictions.

1. *Access to DNA Testing.* — First, DNA evidence is not available or probative in the vast majority of criminal cases. DNA testing can only be used to show identity when biological evidence from the perpetrator has been left at the scene of the crime; the vast majority of criminal cases lack such biological evidence.[235] In addition, DNA testing may only be conducted when such evidence was preserved after trial. Even given its po-

232. The four are M. Bravo, A. Hicks, B. Piszczek, and J. Sutton.

233. For nine additional exonerees, it was not clear from the decisions what alleged ineffectiveness was asserted.

234. See supra notes 197–198 and accompanying text.

235. See Protecting the Innocent: Proposals to Reform the Death Penalty: Hearing Before the S. Comm. on the Judiciary, 107th Cong. 221 (2002) (statement of Prof. Barry Scheck, Co-Dir. of the Innocence Project) ("The vast majority (probably 80%) of felony cases do not involve biological evidence that can be subjected to DNA testing."); Nina Martin, Innocence Lost, S.F. Mag., Nov. 2004, at 78, 105 (noting that "only about 10 percent of criminal cases have any biological evidence—blood, semen, skin—to test"). However, advancements in DNA technology will likely continue to produce new exonerations in cases that currently cannot be tested. See Seth F. Kreimer, Truth

tential as exculpatory biological evidence, in a high percentage of cases DNA evidence is not preserved.[236] Often only in rape and murder cases does law enforcement traditionally deem such biological evidence sufficiently relevant to collect it. Nor does law enforcement have a strong legal incentive to preserve evidence properly. In 1989 the Supreme Court ruled that Larry Youngblood could not obtain any relief because he could not show that the police had acted in bad faith when they improperly stored biological evidence from the victim, causing the evidence to degrade.[237] In 2000 the science of DNA testing had advanced such that the degraded evidence could be tested; it exonerated Youngblood and produced a "cold hit" with another individual.[238] During their appeals and postconviction, seventeen exonerees raised destruction of exculpatory evidence claims without any success. Like Youngblood, each was later fortuitously able to test degraded evidence or to locate other evidence that could be subjected to DNA testing.

Second, even if relevant DNA evidence exists, a prisoner might not obtain access to testing. Our criminal justice system has long been hostile toward postconviction claims of innocence and requests for DNA testing. For sixteen exonerees, courts at least initially denied motions for DNA testing (sometimes multiple times), often referring to evidence of their guilt. For example, in the case of Bruce Godschalk, the court denied DNA testing because "appellant's conviction rests largely on his own confession which contains details of the rapes which were not available to the public."[239] This practice is changing, not because many courts have reconsidered when postconviction discovery should be granted, but because forty-four jurisdictions have passed statutes providing a right to postconviction DNA testing. Most of these statutes were enacted in the

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Machines and Consequences: The Light and Dark Sides of 'Accuracy' in Criminal Justice, 60 N.Y.U. Ann. Surv. Am. L. 655, 658–59 (2005).

236. According to data gathered by Huy Dao of the Innocence Project, about 36% of requests for DNA evidence did not provide usable DNA. However, that figure is based on a still-in-progress survey of all closed Innocence Project cases. Risinger, Convicting the Innocent, supra note 24, at 13; see also Richard A. Rosen, Innocence and Death, 82 N.C. L. Rev. 61, 73 (2003) (observing "that for every defendant who is exonerated because of DNA evidence, there have been certainly hundreds, maybe thousands" whose cases lack physical evidence). Twenty-two states and the District of Columbia currently have statutory requirements to preserve biological evidence taken from crime scenes. Innocence Project, Preservation of Evidence, at http://www.innocenceproject.org/Content/253.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*). For examples of DNA evidence used to exonerate as well as to locate actual perpetrators, see Cynthia E. Jones, Evidence Destroyed, Innocence Lost: The Preservation of Biological Evidence Under Innocence Protection Statutes, 42 Am. Crim. L. Rev. 1239, 1267 n.133 (2005).

237. Arizona v. Youngblood, 488 U.S. 51, 57–59 (1988) ("[U]nless a criminal defendant can show bad faith on the part of the police, failure to preserve potentially useful evidence does not constitute a denial of due process of law.").

238. See Innocence Project, Know the Cases: Larry Youngblood, at http://www.innocenceproject.org/Content/303.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*).

239. Commonwealth v. Godschalk, 679 A.2d 1295, 1297 (Pa. Super. Ct. 1996).

last five years.[240] However, many require difficult preliminary showings to obtain DNA testing, much less relief.[241] Absent such a statute or court order, DNA testing may often not be obtained unless law enforcement consents to it.[242]

Despite those many obstacles to obtaining relief, these 200 former prisoners were able to obtain DNA testing and vacatur of their convictions. In order to shed light on how DNA testing allowed those exonerees to prove their innocence, data were compiled on how exonerees requested DNA testing. For the vast majority of the innocence cases, 158 (79%), the prisoner sought DNA testing by contacting an innocence project or requesting it through postconviction attorneys.[243] While innocence projects and postconviction attorneys do not request DNA testing for every prisoner who makes a request, the Innocence Project, for example, pursues DNA testing in all cases in which DNA evidence exists and could be probative.[244] Twenty-three exonerees (12%) initially pursued DNA testing pro se, either by filing petitions in states that had statutory or court-made rules permitting postconviction DNA testing or by seeking out legal assistance independent of any court-appointed lawyer.

Law enforcement deserves credit for its role in exoneration. Though most exonerees contacted an innocence project or postconviction attorney, in twenty-two cases (12%) police or prosecutors or the FBI initiated the DNA testing. This occurred where law enforcement conducted DNA testing as part of a project to test backlogged evidence, or as part of a program to retest cases where a forensic scientist engaged in a pattern of misconduct, or as part of an unrelated criminal investigation, or, in one case, as a result of an anonymous phone tip. In these cases, the State

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240. See Garrett, Claiming Innocence, supra note 202 (manuscript at app.).

241. See Kathy Swedlow, Don't Believe Everything You Read: A Review of Modern "Post-Conviction" DNA Testing Statutes, 38 Cal. W. L. Rev. 355 (2002) (reviewing innocence statutes and arguing that their effectiveness is limited by traditional limitations on postconviction relief).

242. See Seth F. Kreimer & David Rudovsky, Double Helix, Double Bind: Factual Innocence and Postconviction DNA Testing, 151 U. Pa. L. Rev. 547, 554 (2002) ("After trial . . . in the states that have not adopted statutes giving convicted defendants the right to seek DNA testing, the disposition of physical evidence rests largely in the discretion of prosecutors, police officers in evidence rooms, and court clerks." (citation omitted)).

243. It is difficult to separate those exonerees that were represented solely by postconviction attorneys from those that also received assistance from an innocence project. For example, the Innocence Project at Cardozo Law was counsel of record or, alternatively, consulted with postconviction attorneys on most of the exonerees' cases. Other Innocence Network groups similarly represented exonerees but also consulted on additional cases.

244. See The Innocence Project, About the Organization: FAQs, at http://www.innocenceproject.org/Content/103.php (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*) ("The Innocence Project has a very specific mandate: we accept cases where postconviction DNA testing can yield conclusive proof of innocence. The Innocence Project does not require evidence to be found before we accept a case. In 2006, we received about 200 new requests each month.").

presented the exoneree with the news that DNA testing proved their innocence.

Importantly, seventy-four DNA exonerations (37%) resulted in the inculpation of the actual perpetrator, providing a significant law enforcement benefit. The degree to which DNA exonerations have resulted in inculpation has not been sufficiently appreciated and should affect the cost-benefit analysis of devoting resources to preventing wrongful convictions.[245] In forty-nine cases a "cold hit" in a DNA database resulted in identification of the actual perpetrator.[246] In twenty-five more cases, the actual perpetrator was identified in other ways, such as where the actual perpetrator came forward and was subjected to DNA testing. In the remaining 126 cases, the perpetrator remains at large.

Lest one think that these exonerees all aggressively litigated their innocence, many exonerees waited for quite some time before they or their lawyers sought DNA testing. They served an average of twelve years before ultimately being exonerated, for a total of 2,475 years in prison.[247] Almost all of the 200 were exonerated long after DNA testing had already been available.[248]

What explains the delay? Many exonerees faced difficulties obtaining access to DNA testing absent willing cooperation of law enforcement. In at least seventy-one out of 200 exonerations (36%), the exoneree applied for a court order to gain access to DNA testing.[249] In at least twenty-four instances, the exoneree obtained testing pursuant to a state statute providing for postconviction DNA testing; as noted, states have increasingly enacted such statutes. In the largest category, however, 119 exonerees (60%) received access to DNA testing through the consent of law enforcement or prosecutors. This finding credits law enforcement for its role in correcting miscarriages of justice. Access to testing sometimes came from overlapping sources, however, making these statistics less than definitive. For example, law enforcement sometimes consented only after a court reversed the conviction or was planning to order test-

245. See Jones, supra note 236, at 1262–69 (arguing that "integrity of the criminal system" outweighs any "fiscal and administrative burden that preservation [of biological evidence] would impose" as well as any governmental "interest in finality of judgments").

246. Law enforcement can search for a match (a "cold hit") with a DNA sample in the Combined DNA Index System (CODIS), pooling fifty state databanks with the federal databank the FBI created in 1990. See Fed. Bureau of Investigation, CODIS Program: Mission Statement & Background, at http://www.fbi.gov/hq/lab/codis/program.htm (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*) (defining CODIS program); Fed. Bureau of Investigation, CODIS Program: Participating States, at http://www.fbi.gov/hq/lab/codis/partstates/htm (Aug. 2007) (on file with the *Columbia Law Review*) (displaying participating states).

247. Innocence Project, 200 Exonerated, supra note 85, at 2–3.

248. For example, only thirteen of the 200 were exonerated by the end of 1993, when more advanced PCR DNA testing was available. Even a few years later, at the end of 1997, only forty-nine had been exonerated. Id. at 2–11.

249. That figure is "at least" seventy-one exonerees because information on how DNA testing was obtained was not available in press reports for all 200 exonerees.

ing. However, in approximately half of the cases law enforcement did not cooperate, at least initially, and the exonerees had to secure DNA testing through other means. These findings highlight the need for a broader right of access to postconviction DNA testing.

Upon obtaining DNA test results, the still-incarcerated among the 200 exonerees were finally released. Nevertheless, some waited for quite some time before obtaining their release. Twelve had already been convicted at trial, despite DNA testing performed at the time that excluded them; they were all later exonerated after DNA testing identified another person.[250] Others obtained DNA testing during their appeals. Many lacked a judicial forum in which to argue that "actual innocence" should provide grounds for a vacatur. Strikingly, courts denied at least twelve exonerees relief despite at least preliminary DNA test results excluding them; each was later exonerated after an executive or higher court granted relief.[251] Forty-one (21%) received a pardon from their state executive, often because they lacked any available judicial forum for relief. Only two received DNA testing and a vacatur through federal habeas corpus. The others received a vacatur in state courts, typically on the basis of newly discovered evidence of innocence. Thus, for some, even once DNA evidence excluded them, our judicial system was unwilling or unable to provide a remedy.[252]

2. *Compensation.* — To date most exonerees have not obtained civil compensation for injuries suffered. Eighty-two (41%) have thus far received some kind of compensation for their years of imprisonment for crimes they did not commit, according to news reports located for most of the 200 exonerees. One explanation may be that to pursue a federal civil rights action, exonerees must be able to show that government offi-

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250. There is analysis of these cases in Garrett, Claiming Innocence, supra note 202 (manuscript at 1–15). An example is the case of Leonard McSherry, who, in 1988, before his sentencing, introduced RFLP DNA testing results that excluded him, yet the trial court denied the new trial motion. In 1991, after Dr. Edward Blake conducted more sophisticated PCR testing that again excluded McSherry, the California appellate court concluded that the evidence of guilt was still "overwhelming[ ]." People v. McSherry, 14 Cal. Rptr. 2d 630, 633–36 (Cal. Ct. App. 1992) (depublished). The court emphasized the seeming certainty of the victim's identification and all of the details she offered describing the perpetrator's house, which matched McSherry's, stating that "[i]n these circumstances, the fact that a scientific test establishes appellant was not the source of semen stains on the victim's panties does not undermine the entire structure of the prosecution case, point unerringly to innocence or show that appellant did not commit the charged crimes." Id. at 636. McSherry was released after yet another round of DNA testing in 2001, which excluded him and also resulted in a "cold hit" with a convict in a DNA database. See Daniel Hernandez & Monte Morin, Man Is Cleared in 1 Case, but Jailed in Another, L.A. Times, May 1, 2003, at B1.

251. Those are: S. Avery, R. Criner, W. Dedge, C. Elkins, D. Halstead, A. Hicks, L. Holdren, D. Hunt, J. Kogut, L. McSherry, J. Restivo, and J. Watkins.

252. Even the more recently enacted postconviction DNA testing statutes typically present obstacles to relief. See Garrett, Claiming Innocence, supra note 202 (manuscript at Part II.C) (cataloguing range of restrictions enacted by statute or created by judicial interpretation, including barriers to access to postconviction DNA testing and relief).

cials acted with sufficient fault.[253] Seventy-eight exonerees filed civil claims, mostly in federal courts. Several were dismissed; however, forty-nine who brought wrongful conviction lawsuits have received favorable judgments or settlements. These few judgments or settlements are often for many millions of dollars; consequently, an important impact of post-conviction DNA testing may be that civil rights actions filed by a select group of exonerees disproportionately deter law enforcement and prosecutors from violating fair trial rights.[254] Finally, some states have passed no-fault compensation statutes for those exonerated by DNA,[255] which have provided compensation for eighteen exonerees, and fifteen more received compensation through special legislative bills.

To conclude this section, not only do we only know about the limited subset of convicts for whom DNA evidence was relevant, preserved, and sought, but also we know that even those few who were later exonerated often faced obstacles in successfully obtaining DNA testing. Indeed, many faced obstacles obtaining relief even after the DNA exonerated them. Furthermore, more than half have so far not received any compensation for their injuries.

III. Innocence, Sources of Error, and Implications

While U.S. Supreme Court Justices debate whether false convictions remain "extremely rare,"[256] or instead exist in "disturbing number[s]"[257] that we "never imagined,"[258] innocent persons have been convicted in sufficiently large numbers that they provide a unique set of data from criminal trials through the many levels of criminal appeals designed to remedy trial error. At each stage, facts that could have shed light on innocence were not developed. Such was the reluctance to question the findings of guilt at trial that even after DNA was obtained the state frequently resisted exoneration. This Part discusses the larger implications of those failings for future scholarship and reform efforts, focusing in particular on reforms that create a more accurate factual record at the front end, so that our system does not later place actors in the difficult position of judging innocence based on an insufficient record.

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253. See Garrett, Federal Wrongful Conviction Law, supra note 13, at 54 (noting that "wrongful conviction . . . is actionable under civil rights law only if it was the result of official misconduct, and not only coincidence, mistake, or negligence").

254. See id. at 111–13 (arguing that wrongful conviction suits may lead to systematic reform of criminal procedure).

255. See Adele Bernhard, Justice Still Fails: A Review of Recent Efforts to Compensate Individuals Who Have Been Unjustly Convicted and Later Exonerated, 52 Drake L. Rev. 703, 704–06 (2004) (discussing state adoption of compensation schemes).

256. Schlup v. Delo, 513 U.S. 298, 321 (1995).

257. Atkins v. Virginia, 536 U.S. 304, 320 n.25 (2002).

258. Kansas v. Marsh, 126 S. Ct. 2516, 2544 (2006) (Souter, J., dissenting).

A. *Criminal Investigation and Trial Reform*

Postconviction DNA exonerations provide a unique opportunity to conduct a "post mortem" investigation into the sources of wrongful convictions.[259] At the trial court level, four types of evidence often supported these 200 erroneous convictions: eyewitness identification evidence, forensic evidence, informant testimony, and confessions. The types of evidence supporting rape convictions versus murder convictions differed, as one might expect, with rape convictions more typically involving eyewitnesses. Common to all cases, however, were errors that might have been avoided had additional steps been taken to create a more accurate record during the criminal investigation.

A series of reforms have been advanced to improve accuracy during criminal investigations and trials, particularly in the areas of eyewitness identifications, false confessions, and forensic science. Though "[d]ue process does not require that every conceivable step be taken, at whatever cost, to eliminate the possibility of convicting an innocent person,"[260] research increasingly suggests that procedures such as videotaping interrogations, conducting double blind and sequential eyewitness identifications, and implementing oversight of forensic crime laboratories, could have prevented many such costly miscarriages, without reducing correct conviction rates.[261]

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259. See Barry Scheck, Closing Remarks, 23 Cardozo L. Rev. 899, 902–03 (2002).

260. Herrera v. Collins, 506 U.S. 390, 399 (1993) (internal quotations omitted) (quoting Patterson v. New York, 432 U.S. 197, 208 (1977)).

261. See, e.g., Ad Hoc Innocence Comm. to Ensure the Integrity of the Criminal Process, ABA Criminal Justice Section, Achieving Justice: Freeing the Innocent, Convicting the Guilty xv–xxix (Paul Giannelli & Myrna Raeder eds., 2006) (offering overview of ABA resolutions on systematic remedies, false confessions, eyewitness identification procedures, forensic evidence, jailhouse informants, defense counsel practices, investigative policies and personnel, prosecution practices, and compensation for wrongfully convicted); Bruce W. Behrman & Sherrie L. Davey, Eyewitness Identification in Actual Criminal Cases: An Archival Analysis, 25 Law & Hum. Behav. 475, 480–84 (2001) (providing statistics on suspect identification rates in variety of situations including photographic lineups, field showups, live lineups, delay, same versus cross-racial conditions, weapon presence, and witness type); Drizin & Leo, supra note 14, at 932–43, 997–98 (compiling proven cases of false confessions and advocating for taped confessions as prevention method); Garrett, Federal Wrongful Conviction Law, supra note 13, at 87–88, 93–94, 98–99 (arguing that civil actions for wrongful conviction would encourage measures to prevent use of unreliable eyewitness accounts, coerced confessions, and fabrication of evidence); Amy Klobuchar, Nancy Steblay & Hilary Caligiuri, Improving Eyewitness Identifications: Hennepin County's Blind Sequential Lineup Pilot Project, 4 Cardozo Pub. L. Pol'y & Ethics J. 381, 411 (2006) (testing blind sequential identification in practice and finding that it results in increased protection for innocent suspects); Otto H. MacLin, Laura A. Zimmerman & Roy S. Malpass, PC_Eyewitness and Sequential Superiority Effect: Computer-Based Lineup Administration, 3 Law & Hum. Behav. 303, 317–20 (2005) (discussing the accuracy of sequential identification and computerized identification as compared to simultaneous identification and paper and pencil identification, respectively); Gary L. Wells et al., From the Lab to the Police Station: A Successful Application of Eyewitness Research, 55 Am. Psychologist 581, 581–87 (2000)

Some jurisdictions have adopted these reforms at the investigative stage, and though most still have not done so, there has been remarkable change in recent years, partly in response to these postconviction DNA exonerations.[262] Police and prosecutors increasingly consider whether additional steps before trial can avoid costly appeals or reversals later. A number of police departments have begun videotaping interrogations, with many more considering it and increasing numbers of states contemplating legislation to require it.[263] Six jurisdictions now require videotaping of at least some interrogations by statute, and in five more state supreme courts have either required or encouraged electronic recording of interrogations.[264] A wave of eyewitness identification reform legislation has been seen across the country, with several states recently enacting

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(describing psychological research on variables affecting eyewitness accounts in light of Department of Justice guidelines).

262. See Darryl Fears, Exonerations Change How Justice System Builds a Prosecution, Wash. Post, May 3, 2007, at A3 (discussing reforms to criminal procedure as response to DNA exonerations); Solomon Moore, DNA Exoneration Leads to Change in Legal System, N.Y. Times, Oct. 1, 2007, at A1 ("State lawmakers across the country are adopting broad changes to criminal justice procedures as a response to the exoneration of more than 200 convicts through the use of DNA evidence."); see also Garrett, Federal Wrongful Conviction Law, supra note 13, at 45–46 & n.34, 87–88 & n.262 (describing systemic reforms adopted in response to civil wrongful conviction suits brought by exonerees).

263. See Thomas P. Sullivan, Police Experiences with Recording Custodial Interrogations 4–6 (2004), available at http://www.state.il.us/defender/CWC_article_with%20Index.final.pdf (on file with the *Columbia Law Review*) (surveying 238 law enforcement agencies nationwide that adopt videotaping of interrogations); Fears, supra note 262, at A3 (noting that more than 500 departments have adopted videotaping of interrogations and twenty states are considering legislation to require it).

264. See D.C. Code Ann. § 5-116.01 (LexisNexis Supp. 2007) (requiring police to record all custodial investigations); 725 Ill. Comp. Stat. Ann. 5/103-2.1 (West 2006) (same); Me. Rev. Stat. Ann. tit. 25, § 2803-B (2007) (mandating policy of recording "interviews of suspects in serious crimes"); N.M. Stat. § 29-1-16 (Supp. 2006) (requiring police to record all custodial investigations); Tex. Code Crim. Proc. Ann. art. 38.22, § 3 (Vernon Supp. 2007) (rendering unrecorded oral statements inadmissible); Stephan v. State, 711 P.2d 1156, 1158 (Alaska 1985) ("[A]n unexcused failure to electronically record a custodial interrogation conducted in a place of detention violates a suspect's right to due process . . . ."); Commonwealth v. DiGiambattista, 813 N.E.2d 516, 535 (Mass. 2004) (allowing defense to point out state's failure to record interrogation and calling unrecorded admissions "less reliable"); State v. Scales, 518 N.W.2d 587, 592 (Minn. 1994) ("[A]ll questioning shall be electronically recorded where feasible and must be recorded when questioning occurs at a place of detention."); State v. Cook, 847 A.2d 530, 547 (N.J. 2004) ("[W]e will establish a committee to study and make recommendations on the use of electronic recordation of custodial interrogations."); In re Jerrell C.J., 699 N.W.2d 110, 123 (Wis. 2005) ("[W]e exercise our supervisory power to require that all custodial interrogation of juveniles in future cases be electronically recorded where feasible, and without exception when questioning occurs at a place of detention."). In addition to its eyewitness reform legislation, North Carolina recently passed a law requiring recording of interrogations, making it the sixth state to do so by statute. Act of Aug. 23, 2007, 2007 N.C. Sess. Laws 434 (to be codified at N.C. Gen. Stat. § 15A-211) (requiring complete electronic recording of custodial interrogations in homicide cases).

reforms.[265] More states have created independent bodies to review their crime laboratories in response to misconduct uncovered.[266] Additional reforms include establishing and standardizing technical procedures, conducting further research on forensic techniques, performing regular audits, testing examiners for proficiency, enhancing disclosure obligations of analysts, and providing the defense with access to experts.[267] Some prosecutors have also adopted reforms and conducted case reviews to locate additional erroneous convictions.[268] In contrast, few states cur-

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265. See Georgia H.R. 352 (Sub) (Apr. 20, 2007), available at http://www.legis.state.ga.us/legis/2007_08/pdf/hr352.pdf (on file with the *Columbia Law Review*) (creating commission to study eyewitness identification procedure reform); Act of May 17, 2007, 2007 Md. Laws 590, 590 (to be codified at Md. Code Ann., Pub. Safety § 3-505) (requiring law enforcement agencies to adopt written policies on eyewitness identification); Eyewitness Identification Reform Act, 2007 N.C. Sess. Laws 421 (to be codified at N.C. Gen. Stat. §§ 15A-284.50–53) (requiring reforms in eyewitness identification practices and creating task force to study additional reforms); W. Va. Code Ann. § 62-1E-2 (West, Westlaw through 2007 Second Ex. Sess.) (requiring reforms in eyewitness identification practices and creating task force to study additional reforms); Vesna Jaksic, States Look at Reforming Lineup Methods, Nat'l L.J., Apr. 20, 2007 at 6, 6 (noting bills introduced in ten states); Nat'l Ass'n Criminal Def. Lawyers, State Legislation: Eyewitness Identification Reform, at http://www.nacdl.org/sl_docs.nsf/freeform/EyeID_legislation (last visited Nov. 8, 2007) (on file with the *Columbia Law Review*); see also State v. Delgado, 902 A.2d 888, 895–96 (N.J. 2006) (requiring that written or electronic record be made of out-of-court eyewitness identifications); Office of the Att'y Gen., N.J. Dep't of Law and Pub. Safety, Attorney General Guidelines for Preparing and Conducting Photo and Live Lineup Identification Procedures (Apr. 18 2001), available at http://www.state.nj.us/lps/dcj/agguide/photoid.pdf (on file with *Columbia Law Review*) (offering New Jersey model policy on conduct of eyewitness identifications); Training & Standards Bureau, Wis. Dep't of Justice, Model Policy and Procedure for Eyewitness Identification (Sept. 12, 2005), available at http://www.doj.state.wi.us/dles/tns/EyewitnessPublic.pdf (on file with the *Columbia Law Review*) (recommending improved eyewitness identification procedures).

266. See, e.g., Minn. Stat. § 299C.156 (2007) (establishing forensic laboratory advisory board); N.Y. Exec. Law § 995a-b (McKinney 2003) (establishing forensic science commission and requiring accreditation); Okla. Stat. Ann. tit. 74, § 150.37 (West 2007) (requiring accreditation); Tex. Code Crim. Proc. Ann. art. 38.35(d) (Vernon 2005) (requiring accreditation by Texas Department of Public Safety); Va. Code An. § 9.1-1101 (2006) (creating separate Department of Forensic Science and oversight committee); Nat'l Ass'n of Criminal Def. Lawyers, State Legislation: Crime Labs and Forensic Evidence Reform: Md. Puts Teeth in Bill to Regulate Crime Labs (May 7, 2007), at http://www.nacdl.org/sl_docs.nsf/issues/CrimeLab?OpenDocument (on file with the *Columbia Law Review*) (featuring Associated Press article describing pending Maryland bill and its provision for more rigorous enforcement of crime lab regulations than oversight efforts in other states). The federal government has encouraged reform. See 42 U.S.C. § 3797k(4) (Supp. IV 2007) (requiring that DNA laboratories receiving federal grants create mechanisms for external independent investigations).

267. See, e.g., Paul C. Giannelli, Regulating Crime Laboratories: The Impact of DNA Evidence, 15 J.L. & Pol'y 59, 72–76, 87–89 (2007) (discussing proficiency testing, accreditation of crime laboratories, and other avenues of reform); Henry C. Lee, Forensic Science and the Law, 25 Conn. L. Rev. 1117, 1124 (1993) ("Perhaps the most important issue in forensic science is the establishment of professional standards.").

268. See Garrett, Aggregation, supra note 13, at 440–41 (discussing self-regulation and internal case review by prosecutors as ways to remedy systemic problems). Perhaps the most remarkable recent example has been the Dallas County prosecutor's creation of an

rently conduct reliability hearings or require disclosure or jury instructions regarding jailhouse informants.[269]

This movement represents one of the most significant efforts to reform our criminal procedure in decades, and it largely has not originated in the courts. Most state courts have not required such measures to improve the reliability of adjudication at trial, perhaps out of deference to the legislature and law enforcement. As noted, a few state supreme courts have required videotaping interrogations or eyewitness identification reform. Few state courts require instructions to juries on the unreliability of such evidence. In the case of Kirk Bloodsworth, one of the exonerees who was sentenced to death, the Court of Appeals of Maryland upheld the trial court's omission of expert testimony on the dangers of eyewitness misidentifications. The trial court excluded this testimony on the grounds that such evidence would be unnecessary and would "confuse or mislead" the jury.[270] We now know, of course, that the jury was in fact gravely misled when it believed the eyewitnesses in that case.

On the other hand, in Michael Cromedy's appeal the New Jersey Supreme Court announced a new rule requiring jury instructions regarding the dangers of cross-racial misidentifications.[271] Still, judicial solutions involving jury instructions have downsides. In the eyewitness identification context, experts are expensive, juries may not understand instructions or expert testimony, and, more importantly, a misidentification may be very difficult for any expert, juror, or judge to detect if suggestion misled an eyewitness.[272] Efforts to better conduct and record eyewitness identifications, interrogations, forensic analysis, and other crucial steps during investigations may better ensure reliability.[273] While the potential benefits and costs of the various types of investigative reform or enhanced factual review are beyond the scope of this piece, lawmakers and judges are increasingly considering such options as part of ongoing efforts to improve the accuracy of our system's judging of innocence.

B. *Substantive Errors and Criminal Review*

These findings also bolster scholarship contending that our criminal procedure rights skew the way lawyers litigate toward procedure and away

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inhouse innocence project to review hundreds of old cases. See Sylvia Moreno, New Prosecutor Revisits Justice in Dallas, Wash. Post, Mar. 5, 2007, at A4.

269. See supra notes 122–123 and accompanying text (discussing fact that few states protect defendants from the unreliability of jailhouse informants' testimony).

270. Bloodsworth v. State, 512 A.2d 1056, 1063 (Md. 1986).

271. State v. Cromedy, 727 A.2d 457, 458–59 (N.J. 1999).

272. Cf. supra note 90 and accompanying text (stating that no exoneree received relief on suggestive eyewitness identification claim).

273. See Richard A. Leo et al., Bringing Reliability Back in: False Confessions and Legal Safeguards in the Twenty-First Century, 2006 Wis. L. Rev. 479, 520–35 (arguing for recording of custodial interrogations of suspects, use of hearings to assess reliability of confessions before trial, and new standard for judges to use in assessing reliability of confessions).

from substance.[274] These exonerees often did not invoke factual claims during their appeals and postconviction proceedings, much less claims of their innocence. Once we look at state law and indirect means for challenging the facts at trial, higher percentages brought factual claims, but significant percentages still did not. Very few succeeded on any claims related to the factual evidence supporting their convictions. However, innocent convicts who did succeed on such factual claims would not have needed to later obtain DNA testing; we do not know how many innocent convicts receive relief in our system without a DNA exoneration.

Our system of criminal review certainly does not privilege factual claims. Locating an alibi witness, obtaining experts to challenge forensic evidence or undermine eyewitness identifications, or presenting evidence of defendants' lack of capacity requires substantial resources and time. Where neither law enforcement nor defense counsel develop crucial facts, perhaps due to underfunding,[275] reviewing courts may be placed in a difficult position, tasked with judging innocence based on an inadequate record. William Stuntz has argued that our system biases appellate and postconviction advocacy toward procedural claims, which may be far more commonly raised at trial and on appeal because of their greater likelihood of success and ease of litigation, due to the fact that these claims may not require resource-intensive factual investigations.[276] Given difficult constitutional standards, winning motions raising factual challenges remains unlikely, particularly postconviction, not only due to the doctrine, but also due to the practical difficulty of reviewing a trial record years later without documented factual investigation from closer to the time of the offense. Nor will defense lawyers likely be held accountable for their failure to develop a factual record at trial; only in unusual cases will a failure to investigate be deemed ineffective.[277]

Our system need not privilege procedural over factual claims. Most states have recently passed statutes to permit postconviction DNA testing and relief. Further reforms aimed at providing more robust factual review would come at a cost that our system has so far not been willing to bear. Reform efforts have chiefly focused on reform of law enforcement procedures during the criminal investigation and not on later assessment of the reliability of the evidence gathered. Enhanced factual review might, for example, require provision of costly investigative resources to allow trial attorneys to effectively develop facts in the first instance. If

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274. See William J. Stuntz, The Uneasy Relationship Between Criminal Procedure and Criminal Justice, 107 Yale L.J. 1, 37–45 (1997) (discussing "defense attorneys' incentive to skew their investment in the direction of more constitutional litigation and less litigation about the facts").

275. See supra note 220 and accompanying text (describing underfunding).

276. See Stuntz, supra note 274, at 45 (describing how criminal procedure displaces "attorney investigation and litigation of the merits").

277. See, e.g., Wiggins v. Smith, 539 U.S. 510, 524 (2003) (finding that "[c]ounsel's decision not to expand their investigation . . . fell short of the professional standards that prevailed" in state at that time).

resources are provided for post-trial review, they may be best provided during the direct appeals, when convicts have counsel, and when sufficiency of the evidence claims can be raised. Most of those who did receive relief did so during the direct appeal, which bolsters the notion that factual review during direct appeals can play a crucial role in remedying miscarriages. However, given how long it took for evidence of innocence to surface in these exoneration cases, our system should also examine ways to enhance factual review during postconviction proceedings.

Reform efforts may also continue to develop alternatives to our current postconviction system that are designed to locate and prevent miscarriages of justice. Several states have responded to exonerations by creating new bodies tasked with judging innocence, called "innocence commissions," empowered to examine possible wrongful convictions, study and propose reforms, and sometimes recommend the grant of a new trial.[278] Such institutions may over time develop administrative expertise in judging innocence, authority to recommend measures to prevent wrongful convictions, or even formal regulatory authority. While innocence commissions remain a new and largely untested institutional approach, an investment in such specialist institutions remains entirely justified where generalist appellate and postconviction courts face such difficulties in assessing innocence.

C. *Reversal Rates in Serious Criminal Trials*

Reversal rates in serious rape and murder cases suggest reasons to invest in enhanced factual investigation and review. Regardless of how many unknown innocent convicts cannot be identified using DNA testing, these reversals themselves represent factually flawed cases. The members of the innocence group received a reversal rate of 14%, or 9% excluding capital cases. Several endured multiple criminal trials and convictions, with the cycle continuing until DNA testing finally intervened. Yet the matched comparison group, which included random rape and murder cases in the same states with the same convictions and reported decisions in the same years, had a statistically insignificant difference in the reversal rate.

Rape and murder appeals and postconviction proceedings may receive similarly high numbers of reversals due to the complexity of such cases, particularly where the evidence itself often consists of highly probative but also highly unreliable evidence such as eyewitness evidence. A second possibility is that high numbers of rape and murder convicts are innocent. Again, we cannot assess that second possibility, because we do not know how many in the matched comparison group were innocent;

278. Garrett, Aggregation, supra note 12, at 435–40 (describing development and models for innocence commissions in United States and United Kingdom, as well as alternative models for institutional reform).

none received DNA testing. We only know about the system's failures, and do not know how many other innocent convicts received reversals.

What these data show is that many serious criminal cases receive reversals on factual grounds. Half of the reversals in the matched comparison group were for errors relating to the reliability of key factual evidence at trial, and not solely procedural error. Similarly, slightly more than half of the reversals in the innocence group involved serious factual error. Studies documenting high acquittal and dismissal rates also suggest that murder and rape cases with equivocal evidence proceed to trial. Enhanced factual development and review may justify its cost if it can avert these reversals due to underlying factual errors. Though in most cases DNA testing cannot tell us whether a defendant is actually innocent, avoiding the need to redo factually flawed trials in serious criminal cases itself accomplishes an important goal.

D. *Misjudging Innocence*

Although the Supreme Court, over the past few decades, has oriented postconviction appeals away from procedural error and established the central relevance of "the likely accuracy of convictions" to the scope of habeas corpus,[279] no claim of innocence is available under the U.S. Constitution.[280]

While both the Court and commentators agree that, in aspiration at least, "the central function of habeas is to redress constitutional errors that bear on the factual innocence of the defendant,"[281] many exonerees received rulings that error was harmless, given other error free and prejudicial evidence of their guilt. Few brought claims alleging their actual innocence, and almost none brought them with any success. Though these individuals knew they were innocent and should have desired to convey that information to courts, there may have been no cognizable claim available to do so. As discussed, federal courts lack any constitutional innocence claim, and while states have increasingly adopted postconviction DNA testing statutes, most continue to retain a series of barriers to relief. During the time period when most of these exonerees were litigating, most states had strict time limitations regarding claims based on newly discovered evidence of innocence. Until they obtained DNA evidence, many exonerees also lacked any new evidence of innocence. In

279. See Teague v. Lane, 489 U.S. 288, 313 (1989) (plurality opinion) ("[O]ur cases have moved in the direction of reaffirming the relevance of the likely accuracy of convictions in determining the available scope of habeas review."); Murray v. Carrier, 477 U.S. 478, 495 (1986) ("[P]rinciples of comity and finality . . . 'must yield to the imperative of correcting a fundamentally unjust incarceration.'" (quoting Engle v. Isaac, 456 U.S. 107, 135 (1982))).

280. Cf. supra notes 200–202 (discussing how federal courts will sometimes examine new *evidence* of innocence under, for example, *Brady* claims).

281. See Jordan Steiker, Innocence and Federal Habeas, 41 UCLA L. Rev. 303, 363 (1993) (citing Stone v. Powell, 428 U.S. 465, 491 n.31 (1976)).

some cases, the reason may have been that evidence of innocence was never investigated, preserved, or disclosed by law enforcement. Some may not have been ably represented, or may have lacked counsel during postconviction proceedings, in which some states do not provide counsel.[282] While some courts denied relief in the face of strong evidence of innocence, including DNA evidence, in other cases the fact that courts misjudged innocence is entirely understandable, given strict legal standards and the reality that, prior to DNA testing, many innocent convicts lacked meaningful evidence of innocence. Due to each of those structural features of our current system, the innocent could not successfully assert their innocence prior to obtaining DNA testing.

Even under a regime in which courts could more broadly grant relief postconviction based on evidence of innocence, neither judges nor any other actors could be expected to assess innocence absent a more comprehensively documented and reliable factual record. Developing such a record, as described, would require investment in accuracy enhancing procedures such as videotaping, providing resources for investigation, auditing of forensic evidence, and eyewitness identification reform. Most jurisdictions have not yet made these changes, though some reforms, such as blind administration of line-ups, are extremely inexpensive and may increasingly take hold.

These innocence cases include a disproportionate number of minorities, for reasons that may reflect their overrepresentation among convicts in the criminal system, as well as the role of race in rape investigations. Some scholars have suggested that a range of factors could explain this, particularly the incidence of cross-racial eyewitness identifications in these cases, as well as a relative lack of resources available to minority criminal defendants and patterns of bias in the criminal system.[283] If, as described in the last section, DNA exonerations represent the tip of an iceberg, then the base of the iceberg, whatever its size, may also disproportionately consist of minority convicts. This racial justice concern should only elevate our unease over how effectively our system judges innocence.

Finally, the system did not work in some respects even after DNA technology offered the truth; rather, after many years of unsuccessful criminal appeals, most exonerees still faced obstacles to relief once DNA testing was available. Exonerees faced difficulties in obtaining DNA testing without law enforcement cooperation. Even after they obtained the DNA testing that exonerated them, forty-one had to obtain an executive pardon, often because they lacked any judicial remedy or because courts

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282. See supra note 220 and accompanying text (discussing provision of indigent defense).

283. See Parker, Dewees & Radelet, supra note 41, at 127; see also Gross et al., Exonerations, supra note 14, at 548 ("[O]ne of the strongest findings of systematic studies of eyewitness evidence is that white Americans are much more likely to mistake one black person for another than to do the same for members of their own race.").

denied relief. For example, in two cases, the Fourth Circuit denied relief to innocent men after initial DNA testing exonerated them.[284] This reluctance suggests that our criminal system can make very poor cost-benefit decisions. After all, DNA testing is inexpensive and often provided by an innocence project, while continuing to incarcerate an innocent person is costly. Furthermore, despite the state's frequent intransigence, DNA testing provided important additional law enforcement benefits. In the DNA confirmation cases located, testing confirmed guilt, and in innocence cases, due to the reach of DNA databanks, a "cold hit" often inculpated the perpetrator.

Analysis of data regarding known innocent convicts, from their trials through their appeals and DNA exoneration, does not provide reasons to be optimistic that our system effectively prevents serious factual miscarriages at trial, detects them during appeals or postconviction proceedings, or remedies them through DNA testing. In time, as DNA testing is increasingly used earlier in the process to catch errors before criminal trials, fewer postconviction DNA exoneration cases may come to light.[285] Nevertheless, in cases without relevant DNA evidence, the underlying sources of error, such as eyewitness misidentifications, coercive interrogations, lying jailhouse informants and unreliable forensic experts, will persist.

Moreover, a final statistic should disturb us: More than one quarter of all postconviction DNA exonerations (fifty-three) occurred in cases where DNA was available at the time of the criminal trial (the trial occurred from 1990 to the present).[286] Even if they do not occur at the same rate, DNA exonerations may still occur in disturbing numbers. DNA exonerations may then for some time provide us with the opportunity to study miscarriages, so that we can try to prevent future miscarriages.

CONCLUSION

Though as Justice Powell wrote, "a prisoner retains a powerful and legitimate interest in obtaining his release from custody if he is innocent of the charge for which he was incarcerated,"[287] the experiences of 200 innocent former convicts provides a body of examples in which our crimi-

284. The two cases are those of Larry Holdren, cited supra notes 198–199, and Darryl Hunt, where the panel found the DNA evidence "simply not sufficiently exculpatory to warrant a new trial." Hunt v. McDade, No. 98-6808, 2000 WL 219755, at *3 (4th Cir. Feb. 25, 2000) (unpublished opinion).

285. See Garrett, Federal Wrongful Conviction Law, supra note 13, at 110 (discussing implications of "[t]he [e]nd of [e]xoneration").

286. This data is further developed in Garrett, Claiming Innocence, supra note 202 (manuscript at 19–20). The reasons why the prisoners were wrongly convicted despite the availability of DNA at the time of the criminal trial include forensic fraud, advances in DNA technology since the time of trial, conviction despite DNA exclusion, the failure of defense counsel to request DNA testing, and the court's decision to deny the DNA request.

287. Kuhlmann v. Wilson, 477 U.S. 436, 452 (1986).

nal system failed to address, much less remedy, the sources of wrongful convictions. These exonerees could not effectively litigate their factual innocence, likely due to a combination of unfavorable legal standards, unreceptive courts, faulty criminal investigation by law enforcement, inadequate representation at trial or afterwards, and a lack of resources for factual investigation that might have uncovered miscarriages. Some exonerees were reconvicted by multiple juries. These innocence cases are not anomalies. Rape and murder convictions appear prone to reversals based on factual error. And lest one think that with the hindsight of DNA courts would rule differently, many exonerees had difficulty obtaining a vacatur even after DNA testing excluded them.

Our criminal system can judge innocence with greater accuracy. This study uncovers a range of areas in which courts misjudged innocence due to institutional constraints and legal doctrine. A range of policy choices can flow from these findings, and academics have begun to explore the implications of wrongful convictions for our criminal system.[288] Our criminal system need not remain structurally averse to the correction of factual errors. However, to improve the judging of innocence by all involved in the criminal system would require an investment in additional resources for factual investigation and review, and a sustained effort to analyze the costs and benefits of such reforms. Legislators and criminal courts have begun to consider such changes, including the adoption of trial reforms, implementation of accuracy enhancing changes in law enforcement practices, and the creation of innocence commissions to investigate claims of innocence.[289] Additional studies should be undertaken to examine the growing number of DNA exonerations, so that future efforts to reform our criminal system benefit from the lessons that we now can learn about how to better judge innocence.

288. See supra note 13 (offering academic perspectives).

289. See supra notes 258–269 and accompanying text (discussing reforms that would develop more accurate factual records).

APPENDIX A: THE FIRST 200 PERSONS EXONERATED BY POSTCONVICTION DNA TESTING, 1989-2007[290]

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)[291]	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Abdal, Habib Warith (aka Vincent H. Jenkins)		R		DNA, SEI		FH	E	NY	B
Adams, Kenneth		MR		BU, EV, IAC, JC, JI, PM, SC		DA	E, F, I	IL	B
Alejandro, Gilbert		R		NR			E, F	TX	H
Alexander, Richard		R		NR			E, F	IN	B
Anderson, Marvin		R		NR			E	VA	B
Atkins, Herman		R		NR			E, F	CA	B
Avery, Steven		R		BR, FA, IAC, JC, JI, NDE, SEI		PC	E, F	WI	C
Bauer, Chester		R		EV, JS, SEI		DA	E, F	MT	C
Beaver, Antonio		O		EV, SEI		PC	E	MO	B
Bibbins, Gene		R		NR			E, F	LA	B
Bloodsworth, Kirk	1	MR	Y	BR, EV, JC, NDE, PM	BR	DA	E, F	MD	C
Booker, Donte		R		JC, PM		DA	E, F	OH	B
Boquete, Orlando		R		NR			E	FL	H

290. See supra Part I.A regarding methodology. This summary chart includes nine selected result columns and totals from a larger study database.

291. Abbreviations for Claims: AI (*Herrera* Actual Innocence), BR (*Brady*), BU (*Bruton*), CC (Coerced Confession), CE (Cumulative Error), CS (Improper Capital Sentencing Instructions), CU (Cruel and Unusual), DE (Willfull Destruction of Material Evidence), DP (Due Process Claim of Fundamental Unfairness at Trial), DJ (Double Jeopardy), DNA (Motion for DNA Testing), EV (State Law Evidence Claim), FA (Fourth Amendment (Search, Seizure, Arrest, etc.)), FAB (Fabrication of Evidence, IAAC (Ineffective Assistance of Appellate Counsel), IAC (Ineffective Assistance of Counsel), JC (*Jackson* Claim Regarding Insufficient Evidence for Reasonable Doubt), JI (Jury Instructions), JM (Jury Misconduct), JS (Jury Selection), MF (*Miranda* or *Edwards* Claim), NDE (State Court Newly Discovered Evidence Claim), PM (Prosecutorial Misconduct), PP (Pre-trial Publicity), RC (Sixth Amendment Right to Counsel), SC (Sentencing—Noncapital), SEI (Suggestive Eyewitness Identification), SCH (*Schlup* Claim to Excuse Default), WD (*Wade* Counsel at Lineup Claim), O (Other). State law evidentiary claims were not broken down, due to high levels of variation, while federal constitutional claims were itemized. See supra note 155 (describing these claims).

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Bradford, Marcellius		MR		NR			C, F	IL	B
Bravo, Mark		R		EV, IAC, JC, JM, PM		FH	E, F	CA	H
Briscoe, Jonny		R		DJ, EV		DA	E, F	MO	B
Brison, Dale		R		BR, DNA, JC		DA	E, F	PA	B
Bromgard, Jimmy Ray		R		IAC, JC, JM		PC	E, F	MT	C
Brown, Danny		MR		CE, EV, IAAC, JC, JI, SEI		PC	E	OH	B
Brown, Dennis		R		NR			C, E, F	LA	B
Brown, Roy		M		EV		PC	F, I	NY	C
Bullock, Ronnie		R		BR, DE, EV, FA, IAAC, JI, PM, RC, SC, SEI		FH	E	IL	B
Butler, A.B.		R		IAAC		PC	E	TX	B
Byrd, Kevin		R		EV		DA	E, F	TX	B
Callace, Leonard		R		DNA, JC, SC, SEI		PC	E, F	NY	C
Capozzi, Anthony		R		EV, JC, JI, SEI		DA	E	NY	C
Chalmers, Terry		R		JC, SEI		DA	E	NV	B
Charles, Clyde		R		CC, EV, FA, JS, PM, SEI, WD		FH	E, F	LA	B
Charles, Ulysses Rodriguez		R		NR			E	MA	B
Clark, Robert		R		NR			E	GA	B
Coco, Allen		R		NR			E, F	LA	B
Cotton, Ronald	1	R		EV	EV	DA	E	NC	B
Cowans, Stephan		O		EV, JC, JI		DA	E, F	MA	B
Criner, Roy		R		JC		DA	F	TX	C
Cromedy, McKinley	1	R		JI	JI	DA	E	NJ	B
Crotzer, Alan		R		NR			E, F	FL	B
Cruz, Rolando	2	MR	Y	BU, EV, JC	BU, EV	DA	C, I	IL	H
Dabbs, Charles		R		EV		DA	E, F	NY	B
Danziger, Richard		R		NR			F, I	TX	C
Davidson, Willie		R		NR			E	VA	B
Davis, Dewey		R		EV, JC, SC		DA	E	WV	C
Davis, Gerald		R		EV, JC, JI, PM, SC		PC	E, F	WV	C

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Daye, Frederick Renee		R		EV, FA, IAC, JC, JI, JS, NDE, SC, SEI		FH	E, F	CA	B
Dedge, Wilton	1	R		DNA, EV, NDE, SC	EV	DA	E, F, I	FL	C
Deskovic, Jeff		MR		CC, DP, EV, 5th Am., 6th Am.		FH	C	NY	C
Diaz, Luis		R		EV, NDE		PC	E	FL	H
Dixon, John		R		NR			E	NJ	B
Dominguez, Alejandro		R		NR			E, F	IL	H
Doswell, Thomas		R		NR			E	PA	B
Dotson, Gary		R		JC, NDE, PM, SC		PC	E, F	IL	C
Durham, Timothy		R		NR			E, F	OK	C
Echols, Douglas		R		NR			E, F	GA	B
Elkins, Clarence		MR		EV, IAC, JC, NDE, PM		PC	E	OH	C
Erby, Lonnie		R		IAC, SC		PC	E	MO	B
Evans, Michael		MR		JC, JI, PM		DA	E	IL	B
Fain, Charles Irvin		MR	Y	CS, DE, EV		PC	F, I	ID	C
Fappiano, Scott		R		BR, JC, NDE, PM, SC, SEI		DA	E, F	NY	C
Fountain, Wiley		R		NR			E	TX	B
Fritz, Dennis		M		BR, CE, EV, IAAC, IAC, JC, JI, JS, PM, SC		FH	F, I	OK	C
Fuller, Larry		R		NR			E, F	TX	B
Godschalk, Bruce		R		DNA		PC	C, E, F, I	PA	C
Gonzalez, Hector		M		EV, IAAC, JC		PC	E, F	NY	H
Good, Donald Wayne	1	R		PM	PM	DA	E, F	TX	C
Goodman, Bruce Dallas		MR		JC		DA	E, F	UT	C
Gossett, Andrew		R		JC		PC	E	TX	C
Gray, Anthony		MR		NR			C	MD	B
Gray, David A.		MR		EV, IAAC, JC, JS, PM, SC		FH	E, I	IL	B
Gray, Paula	1	MR		DNA, IAC, JC, SC	IAC	FH	C, E, F, I	IL	B
Green, Anthony		R		EV, IAC, JI, PM, SEI		DA	E, F	OH	B
Green, Edward		R		NR			E, F	DC	B

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Green, Kevin Lee		M		NR			E	CA	C
Gregory, William		R		NR			E, F	KY	B
Halstead, Dennis		MR		BU, EV, JC		DA	F, I	NY	C
Harris, William		R		NR			E, F	WV	B
Harrison, Clarence		R		EV, JC, SC		DA	E	GA	B
Hayes, Travis		M		EV, JC, RC		DA	C, E	LA	B
Henton, Eugene		R		NR			E	TX	B
Hernandez, Alejandro	2	MR	Y	BU, JC	BU	DA	C, E, I	IL	H
Hicks, Anthony		R		NR			E, F	WI	B
Holdren, Larry		R		DE, DJ, EV, IAC, JC, JI, PM, SEI		FH	E, F	WV	C
Holland, Dana		MR		NR			F	IL	B
Honaker, Edward		R		NR			E, F	VA	C
Hunt, Darryl	1	M		AI, BR, EV, IAC, JI, PM, SEI, WD	EV	FH	E, I	NC	B
Jackson, Willie		R		IAC, NDE, SC		FH	E, F	LA	B
Jean, Lesly	1	R		BR, DP, EV, JC, RC, SEI	BR, DP, RC	FH	E, F	NC	B
Jimerson, Vermeal	1	MR	Y	CS, EV, FAB, IAC, JC	FAB	PC	I	IL	B
Johnson, Albert K.		R		IAC, JI, SC		FH	E	CA	B
Johnson, Calvin Crawford		R		EV, JI, SC		PC	E, F	GA	B
Johnson, Larry		R		JS		DA	E, F	MO	B
Johnson, Richard		R		NR			E	IL	B
Jones, David Allen		MR		NR			C, F	CA	Unknown
Jones, Joe		R		BR, NDE, RC		DA	E	KS	B
Jones, Ronald		MR	Y	CC, CS, EV, FA, JI, JC, PM		DA	C, E	IL	B
Karage, Entre Nax		M		JC		DA		TX	A
Kogut, John		MR		CC, PM		DA	C, F, I	NY	C
Kordonowy, Paul D.		R		EV, JC		DA	F	MT	C
Kotler, Kerry		R		SC		DA	E, F	NY	C
Krone, Ray	1	MR	Y	EV, JI	EV, JI	PC	F	AZ	C

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Laughman, Barry		MR		NR			C	PA	C
Lavernia, Carlos Marcos		R		AI, IAC, JC, SEI		FH	E, F	TX	H
Linscott, Steven	1	MR		BR, DE, JC, JM, JS, PM	JC, PM	DA	C, F	IL	C
Lloyd, Eddie Joe		MR		BR, CC, EV, MF		FH	C	MI	B
Lowery, Eddie		R		NR			C	KS	C
Mahan, Dale		R		EV, JS		DA	E	AL	C
Mahan, Ronnie		R		EV, JS		DA	E	AL	C
Maher, Dennis		R		NR			E	MA	C
Matthews, Ryan		M	Y	NR			E, I	LA	B
Mayes, Larry		R		EV, JC, PM, SC		DA	E	IN	B
McCray, Anton		R		CC, EV		DA	C, E, I	NY	B
McGee, Arvin		R		NR			E, F	OK	B
McMillan, Clark Jerome		R		AI, BR, DNA, EV, FAB, IAC, JC, SEI		FH	E, F	TN	B
McSherry, Leonard		R		JC, NDE, SC		PC	E	CA	C
Mercer, Michael		R		DNA, IAC, SC		PC	E	NY	B
Miller, Billy Wayne		R		NR			E	TX	B
Miller, Neil		R		NR			E, F	MA	B
Miller, Jerry		R		FA, IAAC, IAC, PM, RC, SEI		FH	E	IL	B
Miller, Robert		MR	Y	NR			C, F	OK	B
Mitchell, Marvin		R		CC		DA	E, F	MA	B
Mitchell, Perry		R		EV		DA	E	SC	B
Moon, Brandon		R		NR			E, F	TX	C
Moto, Vincent		R		AI, DP, EV, IAC, SC		PC	E	PA	B
Mumphrey, Arthur		R		EV		PC	E, F, I	TX	B
Nelson, Bruce		MR		MF, RC		FH	I	PA	B
Nesmith, Willie		R		NR			E	PA	Unknown
Newton, Alan		R		IAC, JI, SC, SEI		FH	E	NY	B
O'Donnell, James		R		NR			E	NY	C

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Ochoa, Christopher		MR		NR			C, F	TX	H
Ochoa, James		O		NR			E, F	CA	H
Ollins, Calvin		MR		FA, CC		FH	C, F, I	IL	B
Ollins, Larry		MR		CE, EV, PM		DA	F, I	IL	B
Ortiz, Victor		R		EV, IAC, JC, JI, SC		DA	E	NY	H
Pendleton, Marlon		R		RC		DA	E	IL	B
Peterson, Larry		MR		NR			F, I	NJ	B
Pierce, Jeffrey Todd		R		EV, IAC, JI, JM, NDE, PM		DA	E, F	OK	C
Piszczek, Brian		R		IAC, JC, SEI		DA	E	OH	C
Pope, David Shawn		R		EV, JI		DA	E, F	TX	C
Powell, Anthony		R		NR			E	MA	B
Rainge, Willie	1	MR		EV, FAB, IAC, JC, JI, JS, PM, SC	IAC, SC	DA	E, F, I	IL	B
Restivo, John		MR		BR, EV, JC		DA	F, I	NY	C
Reynolds, Donald		R		DNA, SC		DA	E	IL	B
Richardson, James		MR		NR			F	WV	B
Richardson, Kevin		R		JC, MF, RC		DA	C, F, I	NY	B
Robinson, Anthony		R		EV, FA, JI, JS, PM, WD		DA	E	TX	B
Rodriguez, George		R		DJ, SC		DA	E, F	TX	H
Rollins, Lafonso		R		NR			C	IL	B
Rose, Peter		R		NR			E	CA	C
Ruffin, Julius		R		IAC, JS		FH	E, F	VA	B
Saecker, Frederic		R		NR				WI	C
Salaam, Yusef		R		BR, BU, EV, JM		DA	C, F, I	NY	B
Salazar, Ben		R		NR			E, F	TX	H
Santana, Raymond		R		NR			C, F, I	NY	B
Sarsfield, Eric		R		NR			E	MA	C
Saunders, Omar		MR		BU, EV, PM, SC		DA	F, I	IL	B
Scott, Calvin Lee		R		FA, SC		DA	F	OK	B
Scott, Samuel		R		NR			E, F	GA	B
Scruggs, Dwayne D.		R		IAAC		FH	E	IN	B

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Shepard, David		R		NR			E, F	NJ	B
Smith, Billy James		R		NR			E, F	TX	B
Smith, Frank Lee		MR	Y	CS, DNA, EV, IAC, JC, NDE, PM		PC	E	FL	B
Smith, Walter D.		R		BR, DNA, EV, IAC, JC, PM, SEI		DA	E	OH	B
Snyder, Walter		R		CC, FA, SEI		DA	E, F	VA	B
Sutherlin, David Brian		R		EV, JC, SC		DA	E, F	MN	B
Sutton, Josiah		R		IAC		DA	E, F	TX	B
Terry, Paul		MR		JC, JI, PM		DA	E	IL	B
Thomas, Victor Larue		R		NR			E	TX	B
Thurman, Phillip Leon		R		NR			E, F	VA	B
Tillman, James		R		EV, IAAC, IAC, JI, JS, JI		PC	E, F	CT	B
Toney, Steven		R		DNA, DP, EV, IAC, JI, JS, PM, SC, SEI		FH	E	MO	B
Townsend, Jerry		MR		EV		DA	C	FL	B
Turner, Keith		R		PM		DA	E	TX	B
Vasquez, David		M		NR			C, E, F	VA	H
Velasquez, Eduardo		R		NR			E, F	MA	H
Villasana, Armand		R		NR			E	MO	H
Waller, James		R		NR			E	TX	B
Wallis, Gregory		R		NR			E, I	TX	C
Wardell, Billy		R		EV, JC, SC, SEI		DA	E	IL	B
Warney, Douglas		M		EV, IAC, MF, RC		FH	C, F	NY	C
Washington, Calvin		MR		EV, FA, PM		DA	E, I	TX	B
Washington, Earl		MR	Y	BR, CC, CS, EV, IAC, MF, PP, RC		FH	C, F	VA	B
Waters, Kenneth		M		BR, CC, EV, JC, JI		DA	F	MA	C
Waters, Leo		R		BR, EV, JI, SEI		PC	E, F	NC	C
Watkins, Jerry	1	MR		BR, EV, NDE	BR	FH	I	IN	C
Webb, Mark	1	R		DJ, EV, JC	EV	DA	E, F	TX	C

Exoneree name	Convictions Reversed preDNA testing (1, 2)	Murder (M) / Rape (R) conviction / (O) Other crime of conviction	Capital Case	Claims Raised During all Appeals and Post-conviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeal reached: Direct Appeal (DA), State Postconv. (PC), Fed. Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Ev. (F), Informant or cooperating witness testimony (I)	State	Race (B) (C) (H) (A)
Webb, Thomas		R		EV, JC, JI, SEI		DA	E, F	OK	B
Webb, Troy		R		JS		DA	E, F	VA	B
Webster, Bernard		R		WD		DA	E, F	MD	B
Whitfield, Arthur Lee		MR		NR			E	VA	B
Whitley, Drew		M		DNA, EV, IAC, PM		PC	E, F, I	PA	B
Williams, Dennis	1	MR	Y	EV, FA, IAC, JC, JS, PM	IAC	DA	E, F, I	IL	B
Williams, Michael Anthony		R		NR			E	LA	B
Williams, Willie		R		EV		DA	E	GA	B
Williamson, Ronald	1	MR	Y	BR, CS, EV, IAAC, IAC, JC, JI, PM, RC	IAC	FH	C, E, F, I	OK	C
Willis, Calvin		R		NR			E, F	LA	B
Willis, John		R		DNA, EV, NDE		PC	E	IL	B
Wise, Kharey		R		FA, JC, MF		DA	C, F, I	NY	B
Woodall, Glen		R		DJ, DNA, EV, JC, JI, JM, SC, SEI		PC	F, F	WV	C
Woods, Anthony		R		JI, JS		PC	F, F	MO	B
Wyniemko, Kenneth		R		EV, IAC, PM		FH	E, F	MI	C
Yarris, Nicholas		MR	Y	AI, BR, CC, CS, DE, DNA, DP, EV, IAC, JC, JI, JM, JS, NDE, PM, RC, SC, SEI		FH	C, E, F, I	PA	C
Youngblood, Larry		R		DE		DA	E	AZ	B

Appendix B: Persons Sentenced to Death and then Exonerated by Postconviction DNA Testing, 1989-2006

Exoneree name	Convictions Reversed (0, 1, 2)	Murder (M) / Rape (R) conviction	Claims Raised During all Appeals And Postconviction or Nothing Reported (NR)	Claims granted, resulting in reversal	Highest level of appeals reached: Direct Appeal (DA), State Post-Conv. (PC), Federal Habeas (FH)	Evidence supporting the conviction: Confession (C), Eyewitness (E), Forensic Evidence (F), Informant or cooperating testimony (I)	State	Race (B), (C), (H), (A)
Bloodsworth, Kirk	1	MR	BR, EV, JC, NDE, PM	BR	DA	E	MD	C
Cruz, Rolando	2	MR	BU, EV, JC	BU, EV	DA	C, I	IL	H
Fain, Charles Irvin		MR	CS, DE, EV		PC	F, I	ID	C
Hernandez, Alejandro	2	MR	BU, JC	BU	DA	C, E, I	IL	H
Jimerson, Vermeal	1	MR	CS, DP, EV, FAB, IAC, JC	FAB	PC	I	IL	B
Jones, Ronald		MR	CC, CS, EV, FA, JC, JI, PM		DA	C, E	IL	B
Krone, Ray	1	MR	EV, JI	EV, JI	PC	F	AZ	C
Matthews, Ryan		M	NR			E, I	LA	B
Miller, Robert		MR	NR			C, F	OK	B
Smith, Frank Lee		MR	CS, DNA, EV, IAC JC, NDE, PM		PC	F	FL	B
Washington, Earl		MR	BR, CC, CS, EV, IAC, MF, PP, RC		FH	C, F	VA	B
Williams, Dennis	1	MR	EV, FA, IAC, JC, JS, PM	IAC	DA	E, F, I	IL	B
Williamson, Ronald	1	MR	BR, CS, EV, IAAC, IAC, JC, JI, PM, RC	IAC	FH	C, E, F, I	OK	C
Yarris, Nicholas		MR	AI, BR, CC, CS, DE, DNA, DP, EV, IAC, JC, JI, JM, JS, NDE, PM, SC, SEJ, RC		FH	C, E, F, I	PA	C

APPENDIX C: CHARACTERISTICS OF THE DNA CONFIRMATION GROUP

The group of individuals for whom DNA testing confirmed guilt raises selection issues, because the cases uncovered, chiefly through news reports, involved higher percentages of rape-murders, murders, and capital sentences than the innocence group. Fifty-seven percent, or thirty-six, of the sixty-three DNA confirmation cases located had written decisions. Unlike the innocence group, which is dominated by rape convictions, this group of thirty-six involves fifteen rape convictions, eleven murder convictions, ten rape-murder convictions, and fifteen death sentences. Perhaps for this reason, a substantially higher percentage of these guilty convicts persisted in filing federal habeas corpus petitions—fourteen of thirty-six with written decisions (39%).

Far less information was available about the cases in which DNA evidence confirmed the conviction. From what could be gathered from written decisions, eyewitness testimony supported the convictions of twelve, forensic evidence supported the convictions of seventeen, and confessions supported the convictions of at least five. Few raised claims regarding eyewitness identifications, destruction of evidence, or fabrication of evidence, though all who confessed raised claims on appeal.

The thirty-six with written decisions in their cases received two reversals, but they raised similar claims, including innocence claims,[292] and did so in far higher percentages than exonerees.[293] The selection issues noted may explain this, including the willingness of the persons in this group to seek DNA testing despite their guilt, and also the disproportionate number facing execution. Furthermore, many in this group may have had comparatively weak cases; after all, those arrested at the crime scene would be unlikely to later receive postconviction DNA testing.

There were two reversals in the DNA confirmation group, both in noncapital cases. One involved an improper jury instruction and the

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292. Eighteen, or half of those with written decisions, raised *Jackson* claims, and none received relief. Five raised actual innocence claims and one a state newly discovered evidence claim; 17% of those with written decisions raised such claims and none received relief. Four raised *Brady* claims and none received any relief. Twelve statements were made by judges regarding guilt, three noting "overwhelming" evidence of guilt. One statement was made in the group regarding perceived innocence; as one might expect, fewer statements were made regarding innocence.

293. Of the thirty-six in the DNA confirmation group with written decisions, twenty-four raised state law evidentiary claims (67%), twenty raised ineffective assistance of counsel claims (56%), eighteen raised challenges to jury instructions (50%), eighteen raised *Jackson* claims (50%), thirteen raised prosecutorial misconduct claims (36%), thirteen raised suggestive eyewitness identifications claims (36%), twelve raised challenges to jury selection (33%), five raised coerced confession claims (14%), five raised *Herrera* actual innocence claims (14%), four raised *Brady* claims (11%), four raised *Schlup* claims and destruction of evidence claims (11%), and one raised fabrication of evidence and double jeopardy claims (3%). Comparing these numbers to the innocent in Table 4 shows that for many claims, the guilty were far more litigious.

other chiefly involved a violation of the Sixth Amendment right to confront adverse witnesses. None of the fifteen capital cases in the group received reversals.[294] This suggests that the unusual selection of these cases makes them atypical, even among capital cases, because, according to the Liebman study, more than two-thirds of all capital cases receive reversals.[295] There were only twenty-one noncapital cases in the group with written decisions, meaning that with two reversals, the noncapital reversal rate was 10%. No comparison can be made with any confidence, however, given the very small sample size and, again, the unusual selection of the DNA confirmation group.

294. The group included far more procedural default rulings and also more dissents: the higher proportion of capital cases likely explains these higher numbers. Courts dismissed fifty-five claims for procedural default reasons, indicating a high degree of procedural noncompliance. Twelve in the group, or 33% of the thirty-six with written decisions, received a dissent, indicating greater division among judges.

295. See Liebman et al., supra note 137, at 5, 124 nn.40–41 (finding 68% reversal rate nationally in capital cases).

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