



licitation process over.

Despite all the publicity DNA testing has received, for now, fingerprints are more useful because they are easier to collect than DNA, forensic experts say. But critics say the profession of fingerprint analysis is not as rigorous as generally believed. On a 1995 proficiency test of 156 examiners conducted with the approval of the International Association of Identification, the profession's certifying organization, one in five examiners made at least one "false positive" identification – linking a mock crime-scene print to the wrong person. Fingerprint experts point out that the error rate was lower on subsequent tests.

The challenges have also attacked the variability in training methods for examiners, pointing out that agencies like the FBI have tougher standards than smaller police departments.

And while the International Association of Identification has a rigorous certifying test, about half the current or would-be-examiners who take it fail, without apparent career consequences.

"There's very few employers who will terminate an employee for not passing the test," said Ken Smith, the association's certification chairman. Mr. Smith added that most of the 5,000

examiners in the country have taken the test.

While fingerprint misidentifications are rarely discovered, they do happen. Richard Jackson was cleared of a murder conviction in Philadelphia in 1999 because three examiners had erroneously matched his prints to those found at the scene. A similar reversal occurred in 1983 in Minnesota. In that case, both the prosecution and defense fingerprint experts mismatched a print to the defendant.

Paul Sarmousakis, the assistant United States attorney who prosecuted Mr. Epstein's client, said that the occasional human error did not invalidate fingerprinting. "Because a doctor misdiagnoses someone, does that make the science of medicine invalid?" Mr. Sarmousakis asked.

But Simon A. Cole, a science historian and the author of a forthcoming book on fingerprinting, said print examiners undermined their legitimacy by claiming absolute certainty, which the International Association of Identification's bylaws require.

"If they want to go in and testify, 'I think it's his print and 1 percent of the time I'm wrong,' then that would be more reasonable," Mr. Cole said.

Mr. Epstein said a test conducted by

the FBI in his first challenge showed the lack of rigor. After he filed the challenge but before it was heard by the court, the FBI sent the defendant's official prints and the crime-scene prints to 53 law enforcement agencies.

But 8 of the 34 laboratories that responded were unable to find a match for at least one of the two latent prints.

The bureau sent the prints out again, with bigger photographs and red dots marking where it thought the crime-scene prints matched those of the defendant. This time, all the laboratories declared the prints a match.

Mr. Epstein has moved for a new trial. However his motion fares, challenges to fingerprinting are likely to continue.

"Every time the state has a fingerprint that's going to be used as evidence against one of my clients, I'm going to do the same thing over and over again," said B. Michael Mears, the chief public defender for capital cases in Georgia, who brought a fingerprint challenge last year. "And I am going to keep doing it until we win it." ■

(This article appeared on the web site www.nytimes.com and in print in The New York Times dated 7 April 2001.)

Fingerprint Evidence Faces Hurdles

By: Malcolm Ritter

For nearly a century, fingerprints have been superstars in American courtrooms. If an expert said a fingerprint at the crime scene matched yours, you had some explaining to do. Who could doubt a match?

But today, some legal experts say that may be headed for a change. Within a year, one authority expects, a judge will block fingerprint evidence as unscientific. Another thinks such evidence will still be admitted, but its credibility will be taken down a notch.

And the author of a book out next month speculates that fingerprint evi-

dence could be eclipsed by DNA identification within a few decades.

What is going on? The Supreme Court recently raised the bar for scientific evidence, and critics say that fingerprinting can't make the jump.

Fingerprint evidence is based on the idea that no two people have the same fingerprints. But how much confidence should we have in the accuracy of a match between prints carefully taken in a police station and often less-than-perfect prints recovered at crime scenes?

Fingerprint evidence was first admitted to an American court in 1911,

and "fingerprints still have a kind of hold on our shared cultural imagination," said Jennifer Mnookin, a University of Virginia Law School authority on expert evidence. Most people, "think if they found your fingerprints at the scene, that means you were there."

Judges in the early 20th century accepted fingerprint evidence without much scrutiny, she said. For one thing it seemed to provide certainty in identifications. Defense attorneys rarely found experts to fight it.

"So fingerprinting wasn't disputed, and therefore came to be seen as especially authoritative," Mnookin said.



It “looked like science to judges,” said Simon A. Cole, author of the forthcoming book, “Suspect Identities: A History of Fingerprinting and Criminal Identification” (Harvard University Press).

The popularity continued after a 1923 federal appeals court ruling that said judges should admit scientific evidence if it’s based on a technique generally accepted by the relevant scientific community.

But in 1993, a Supreme Court decision required judges to take a more active role in deciding what scientific evidence to admit. In the case of fingerprints, the so-called “Daubert” guidelines would lead to questions such as: Has the practice of fingerprint identification been adequately tested? What is the error rate? Are there standards and controls?

Under these criteria, critics say, fingerprint identification could be challenged on the grounds that it has not been adequately tested, that the error rate has not been calculated, and that there are no standards for what constitutes a match.

For example, critics say it’s not clear how many matching points of comparison, like a ridge splitting into two or the contours of individual ridges, are sufficient for an examiner to make an identification.

The Daubert guidelines cover federal courts, and other courts in half of the states have decided to follow that approach. So any ruling against fingerprint evidence could affect courts across the country.

The first challenge to fingerprint evidence under the Daubert guidelines was played out at a federal court hearing in July 1999 in Philadelphia, before the trial of a man accused of driving a getaway car in a robbery. The prosecution said the man’s prints were on the gearshift and the door of the car. In the end, the judge allowed the fingerprint evidence in the trial, and the man was convicted.

At least 10 other such challenges have been filed since, but none has yet kept fingerprints out of a trial.

That shows judges have recognized

fingerprint evidence as meeting Daubert criteria, said Stephen Meagher, unit chief for latent print work at the Federal Bureau of Investigation laboratory.

The fingerprint discipline has 100 years of history,” Meagher said. “There is extensive documentation to the scientific basis which has been published, peer-reviewed and challenged many times It has withstood those challenges.”

A year ago, in an announcement seized on by critics of fingerprinting, the Justice Department’s National Institute of Justice said it was ready to spend \$500,000 for studies of the discipline.

It said the field needed more evidence for the idea that fingerprint analysis really can link a print to only the person who made it, and that the field needed standardized analysis procedures that are shown to work with acceptable error rates.

Last June, however, the institute issued a clarification, declaring that it had no reason to doubt that fingerprints are unique. It said the announcement sought studies only “to further confirm the already existing basis that permits fingerprints to be used” for identification.

Citing “the success of current procedures,” the institute said fingerprint analysis should still be periodically studied to improve its experimental backing.

The institute is now looking over four proposals to do the research, and it’s not yet clear whether it will accept any of them, institute spokesman Doug Johnson said.

So what happens now with fingerprint evidence? Should it continue to be admitted into court?

“I think you can make good arguments on both sides of that one,” Mnookin said. But if it’s admitted, she added, judges should also allow it to be challenged by defense experts critical of fingerprint evidence.

In fact, that has happened in some recent cases, and that itself is a major victory for the defense, said Robert Epstein, an attorney in Philadelphia’s fed-

eral public defender’s office. “That shows judges are recognizing the legitimacy of this issue,” said Epstein, who filed the first Daubert challenge to fingerprints.

Others expect a different fate.

“I would predict ... that within the next year, if not within the next six months, some judge somewhere in the country will write an opinion excluding fingerprinting,” said professor David Faigman of the University of California, Hastings, College of Law. “It’s inevitable. The research is just too thin to let it in.”

Not that Faigman thinks fingerprint evidence is bunk. “My common sense tells me at some level, fingerprinting will be valid, and it will continue to be an incredibility good forensic tool,” he said.

But so far, he said, “no judge has been courageous enough to stand up and do what Daubert absolutely demands, and that this is to exclude fingerprinting until the research is done.”

Edward Imwinkelreid, a law professor at the University of California, Davis, and co-author of a text on scientific evidence, said he’d be surprised if that happened in the foreseeable future. He does expect that gradually, over maybe a decade, judges will continue to admit the evidence but begin to handle it differently.

Fingerprints “may not be treated as full-fledged scientific evidence,” he said. Instead, judges may tell jurors that identifications are based on the experience of fingerprint examiners, and that jurors should consider that in deciding how much weight to give to fingerprint testimony.

If a defense attorney exploits that jury instruction, he said, it sometimes could make a difference in the verdict.

Cole, the author, speculates that eventually – maybe over 30 years – fingerprints will be replaced by DNA for identification. He noted that fingerprinting itself had replaced a popular method of criminal identification that was based on bodily



measurements and careful physical description.

At first, that older system “seemed much more scientific than fingerprinting,” he said. “Then, gradually, our opinion of what was scientific shifted. It seems to me we might be in the middle of another such shift.”

“We’re clearly living in the genetic age,” he said. “I think a time will come when people will feel more comfortable with saying identifications are based on

DNA rather than fingerprinting. Fingerprinting will look antiquated to us.”

At a crime scene, DNA can be recovered from more than just blood or semen. It can be lifted from objects handled by people, for example. Florida police recently arrested a murder suspect after he spat in a parking lot and police recovered DNA from his saliva. Another source from which DNA has been recovered: the fingerprint.

But FBI fingerprint expert Meagher, noting that identical twins have identical DNA but different fingerprints, doubt genetic material will completely replace the intricate ridges on skin.

Rather, he says, “we will continue to take advantage of both of them.” ■

(Malcolm Ritter is a Science writer for the Associated Press. This article appeared on the AP news wire on 7 April, 2001

Regarding Recent News Articles on Fingerprint Evidence Credibility in Court

By: Ed German

Several recent news articles have indicated that some persons interviewed were bashing forensic applications of fingerprint identification. A New York Times article, along with AP wire distribution, has resulted in publication of inaccurate or incomplete articles in a number of major newspapers. Among those interviewed were Attorney Robert Epstein who continues to lose his arguments in *US v. Mitchell*, and Simon Cole who is promoting his new fingerprinting-expose book.

As seen at <http://onin.com/fp> (click on Daubert) there have been increasing challenges to the reliability of fingerprint expertise... all unsuccessful. The checks and balances in the justice system have always enabled challenges to individual expert's credentials (training, experience, ability, etc.).

Some readers may believe the sky is falling insofar as future use of fingerprints in court. The sky is not falling. The latent print examination community continues to prove the reliability of the science despite the existence of practitioner error. Math is not bad science despite practitioner error. And, air travel should not be banned despite occasional crashes due to pilot error.

Readers might believe no quality assurance exists in any manner. The articles fail to mention that 100 percent of the fingerprint experts in 100 percent of the accredited laboratories in Amer-

ica are proficiency tested every year. For 24 years a voluntary certification program has existed, and many laboratories require individual fingerprint expert certification for journeyman status. For 20 years there has existed a laboratory accreditation program requiring annual proficiency testing of forensic scientists including fingerprint experts.

The FBI survey errors pointed out by Defense during the *US v. Mitchell Daubert* hearing were not identification errors. The errors are at worst errors of omission and not erroneous identifications. Several practitioners testified about receiving third or fourth generation evidence for comparisons. The practitioners were unwilling to make comparisons using such materials. The articles would lead one to believe that refusing to make decisions using less than best quality images equals incompetence.

In a worst case scenario involving an incompetent expert, Defense can easily locate their own expert. And, for less money than it cost to tune up a car, an identification can be independently reviewed. Defense has never claimed the latent fingerprints from the gear shift lever and door handle of the stolen get-away car were NOT made by Byron Mitchell (who is already serving time in prison for a murder unrelated to the robbery). Indeed, Defense could easily have hired an expert to compare the more than twenty individual character-

istics present in each of the two latent fingerprints identified as being made by their client.

The NY Times was furnished cropped photos in an attempt to show how fingerprint experts could have mistakenly “matched” two impressions from different fingers (the photos were not included in online versions of Andy Newman’s article). At http://onin.com/fp/israeli_daubert are the full, uncropped images of the same impressions from the Israeli National Police, which no expert would confuse as coming from the same finger. Even the cropped versions printed in the NY Times are obviously different to a competent expert.

There have always been challenges to practitioners and expert reliability. The novelty now is to package challenges in the Daubert/Kumho format (in addition to conventional attacks). To date, 100% of the attacks have failed. An example of the continued faith in forensic fingerprint applications was the October 2000 ruling for the Daubert hearing in *US v. Havvard*. The court ruled that under Daubert criteria, “... latent print identification is the very archetype of reliable expert testimony...”

There will probably be some court, somewhere, which will have reservations about fingerprint identification. That has not yet happened because all challenges have been able to use the