

Session 4 Focus on Science Forensics



A VIEWING AND DISCUSSION
PROGRAM IN
AMERICA'S LIBRARIES

As DNA fingerprinting becomes routine in serious crimes and disasters, we are becoming accustomed to a level of certainty that was previously unimaginable. Soon enough there will be little surprise left in the technique, but as the twenty-first century opens most of us over thirty are still a little stunned by it. As was the case with the telegraph, the phonograph, the atomic bomb, and space flight, there is a feeling that an improbable bit of the future has suddenly arrived.

Part of the sense of magic surrounding DNA identification comes from the ubiquity of DNA. It's in every cell in our body, repeated endlessly, and we shed it in all directions quite beyond the obvious blood and bits of tissue that might be expected in a violent encounter. If a baseball cap is recovered by police after a rape, it is almost certain to contain skin cells that might be matched against DNA in a bite mark from another crime scene; if a rope is used to strangle a murder victim, there will be cells from the perpetrator's hands embedded in the fibers to be compared to a suspect's DNA; even the saliva on a stamp or envelope seal is enough for identification.

Another factor working in favor of DNA fingerprinting is the remarkable chemical stability of DNA. Although Michael Crichton stretched things a little in *Jurassic Park*, DNA is perfectly capable of maintaining its integrity for decades, just sitting in the evidence freezer of your local police station or the slide collection of the state forensics laboratory. Even clothing sitting on a shelf in a fairly controlled environment will contain usable DNA for many years. This stability has recently made it possible to match criminals to crimes committed years ago, and, at least as important, it has led to the exoneration of a number of unjustly convicted individuals.

So, given the increasing public awareness of the precision and accuracy of DNA identification, can we expect that cat burglars will start wearing environmentally sealed suits on second-story jobs? Probably not. At least, not while most crimes are committed by folks like the 1980s bank robber who, when confronted in court with a blowup of an incriminating half-palm print, turned to his lawyer and smugly stage-whispered, "This is no problem. I've got a whole palm!"

How DNA Evidence Works

<http://www.howstuffworks.com/dna-evidence1.htm>

National Institute of Justice:

What Every Law Enforcement Officer should Know about DNA Evidence

<http://www.ncjrs.org/pdffiles1/nij/bc000614.pdf>