

June 3, 2003

Unusual Use of DNA Aided in Serial Killer Search

By NICHOLAS WADE

In what appears to be the first use of DNA to extract details of a criminal suspect's appearance, investigators in the case of the Louisiana serial killer shifted their focus away from white suspects after an analysis of tissue from one of the crime scenes determined that the killer was probably black, the developer of the genetic test says.

DNA evidence has come into widespread use to identify individuals, but the identifying pieces of DNA are not part of the genes and have no influence on a person's physical makeup. Experts have long recognized that as knowledge of the human genome advances, other information could be extracted from DNA samples, including physical traits like race.

The developer of the test used in Louisiana, Dr. Mark Shriver, a geneticist at Pennsylvania State University, said investigators had been searching for a white man, based on profiling information suggesting that most serial killers are white.

But then they sent DNA samples to DNAPrint Genomics, a company in Sarasota, Fla., that owns the rights to Dr. Shriver's test. Of 20 samples tested, Dr. Shriver said, only one was linked to the suspect, and the company was not told which. It typed the crime scene sample as being 85 percent African ancestry and 15 percent American Indian.

The suspect arrested in the case, Derrick T. Lee, is black. Dr. Shriver said he did not know whether Mr. Lee had any Indians among his ancestors.

The scientific director of the company, Dr. Anthony Frudakis, said he had a

confidentiality agreement with the task force that investigated the serial killings and could not comment. He referred callers to the Baton Rouge district attorney, who did not return phone calls seeking information about the case.

Barry C. Scheck, director of the Innocence Project at the Benjamin N. Cardozo School of Law at Yeshiva University, which uses DNA evidence to reverse false convictions, said the possibility of obtaining physical indicators like skin and hair color and height from forensic DNA samples was being actively explored in Britain. But Mr. Scheck said he had not heard of the technique being used in the United States.

Mr. Scheck said that he was not familiar with the DNAPrint Genomics test, but that he had used DNA markers from a single gene to argue that a person was more likely to be one race than another.

Dr. Barry Duceman, director of biological sciences at the New York State Police forensic investigation center, said a suspect's sex was often determined from DNA. As far as cases where other physical characteristics were concerned, Dr. Duceman said, "This is the first that I'm aware of."

Dr. Shriver said he had identified markers, meaning specific units or short sequences of DNA, that are more often found in people from one continent than another. If enough markers are used, a researcher can say with reasonably high confidence to which of the major continental races — African, Caucasian, East Asian or American Indian — a person belongs, as well as the percentage of each ancestry in the case of people of mixed race.

"My prediction is that the test will become more utilized," said Dr. Mark Batzer, a population geneticist at Louisiana State University, where the killer's last victim, Carrie Lynn Yoder, was a graduate student.