

# STRANGE JUSTICE

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## GREAT MOMENTS IN FORENSIC SCIENCE

Moments before taking the stand to testify in a 1989 capital murder trial, Houston crime-lab analyst James Bolding still was testing blood evidence – not in the controlled conditions of a laboratory but in the courtroom itself. Experts who reviewed trial transcripts from the case of Preston Hughes III, who was sentenced to death and is awaiting execution, found Bolding's actions troubling and emblematic of a pattern of problems in the Houston Police Department crime lab's serology division. "It is ridiculous," said Keith Inman, a California-based scientist with expertise in serology – the science of typing body fluids – which was a precursor of DNA testing. "A lab is a lab, and a courtroom is a courtroom, and they are not interchangeable. The willingness to do this raises questions about standards at HPD."

A panel of scientists who reviewed HPD analysts' testimony about serology tests in that case and 12 others, culled from a sampling of more than 100 examined by the Houston Chronicle, found problems in more than half of the cases that mirror some found in the crime lab's troubled DNA division. Analysts overstated the strength of evidence in some cases, offered misleading statistics to juries and displayed a poor command of the principles of serology, said the experts, who reviewed the testimony at the request of the Chronicle. "They certainly were undertrained, undereducated and did not have a very sophisticated understanding of how to make sure results got expressed correctly," said Norah Rudin, an independent forensic consultant. "The potential for a miscarriage of justice is huge."

Concern within HPD: At least one of HPD's own serologists voiced concerns to

her superiors about ineffective management, lack of training and the poor quality of HPD's serology work years before problems were exposed publicly, according to a review of hundreds of personnel records. Several scientists from the serology division went on to fill the ranks of the crime lab's now-infamous DNA division after HPD began using that science in 1989. The DNA division was shuttered three years ago, amid questions about the quality of its work. Its closure prompted scrutiny that has revealed a sweeping forensics scandal.

Since then, flawed work has been uncovered in four other disciplines – ballistics, toxicology, controlled substances (drugs) and serology – casting doubt on thousands of cases and leading to the release of two men from prison thus far. Although serology was not used in every homicide and rape investigation prior to the advent of DNA testing, during the four-year period from 1985 through 1988, according to its own crime statistics, HPD investigated 1,630 homicides and more than 5,200 sexual assaults.

The independent investigator hired this year to conduct a comprehensive probe of the crime lab is devoting a significant portion of an ongoing case review to analyses from the serology division, whose faulty work contributed to the conviction of George Rodriguez. Rodriguez was released from prison last year after serving 17 years for a rape that DNA tests indicated he did not commit. The investigator, former U.S. Justice Department Inspector General Michael Bromwich, is expected to release his team's preliminary findings before the end of the year.

In the Hughes case, Bolding performed tests to determine whether there was blood on a knife and shoe from the murders of La Shandra Rena Charles, 15, and 3-year-old Marcell Lee Taylor. He tested the items in front of the judge, prosecutor and defense attorney in a Harris County courtroom just before he was to testify. Bolding apparently was unable to perform the tests earlier, according to testimony. The lack of quality control concerned state District Judge George Godwin. "I find this cavalier attitude and lackadaisical attitude of doing tests right while we've got jury waiting to come in and hear testimony unacceptable," said Godwin, who nonetheless allowed the tests into evidence over defense objections.

Experts who reviewed Bolding's testimony questioned why he agreed to perform analyses outside a lab. "He was an experienced analyst who should have known better," Rudin said. Bolding, who retired from HPD in 2003 to avoid being fired, did not return phone calls for comment.

Statistics skewed: Experts also questioned testimony about tests during the 1988 trial of Charles Lee Hawkins, accused in the rape of a deaf woman at a Houston motel. They concluded that Bolding's testimony overstated the probability that evidence from the crime came from Hawkins. Bolding, who at the time of the trial supervised the serology section, told jurors about tests on blood and semen samples from the crime scene and a rape kit. Using basic blood typing, he compared types for the victim and Hawkins with the evidence and testified that Hawkins and fewer than 40,000 other people in Houston could have contributed to the samples. So, it eliminated a large portion of the population in Houston?" Assistant District Attorney Leslie Brock asked. "That is correct," Bolding said.

But other scientists found that Bolding failed to include numerous other possible contributors. "Bolding botched his stats in a ludicrous way," said William Thompson, a professor at the University of California-Irvine, who was central to uncovering problems in the Houston crime lab's DNA division three years ago. "He is excluding large numbers of people who could have contributed to that sample." By Thompson's calculations, more than 50 percent of Houston's male population could have contributed to the sample. The case against Hawkins also included an identification by the victim. He was convicted and sentenced to life in prison.

Bolding's error, Rudin said, may have been caused by a problem prominent in HPD's DNA cases: that analysts often gave juries numbers for the prevalence of evidence itself and not for the statistical strength of a match between a suspect and the evidence — an error that leads to exaggerations of the evidence's strength. "This looks like the beginning of the same mistake, which skews the conclusions," Rudin said. "The testimony makes the conclusion too strong."

The overlapping problems in the DNA and serology divisions, experts said,

no doubt are related in part to their common personnel, several of whom have been at HPD for more than 15 years. Among them: Bolding, who led the DNA division when it was shut down; Joseph Chu, who received a written reprimand for shoddy DNA work on several cases but remains at the lab; and Christy Kim, who retired last year after surviving an attempt to fire her and who collects more than \$2,700 a month in a pension.

Bolding was the crime lab's only serologist when he assumed the job in 1982, after less than one year of training. "He had not yet received any formal training in fundamental serological techniques, including (blood) typing," Bromwich, the independent investigator, wrote in a June report. "Mr. Bolding told us that he 'took books home and did the best he could.' "

Also among the scientists in the serology division was Holly Hammond, who left HPD after three years. She alerted administrators to problems in the division as early as 1986 in a letter she filed in response to her largely positive evaluation. "It has been my observation and experience that training programs in this laboratory are ineffective, inconsistent and inefficient at the practical level and, in many cases, are simply nonexistent," she wrote. "Even requested training, on relatively simple procedures, is often put off indefinitely by supervisory personnel."

Hammond raised similar concerns in an August 1988 letter after that year's evaluation, noting that she was writing not in response to her review but because it was the only forum for expression. She repeated her concerns in her Nov. 21, 1988, resignation letter. "Problems with equipment, personnel, compensation and training are holding the laboratory in a position of inadequacy compared to much of the rest of the forensic community," she wrote.

Misstating basic rules: Just before Hammond lodged her protest, HPD analyst David Kaufman testified in the trial of Alphonse Norris Jr., who was convicted in a 1985 assault. In describing ABO typing tests to the jury, Kaufman misstated the most basic rules of determining how different blood types show up in such tests. In ABO typing, some people with the different blood types — A, B, AB and O — reveal themselves through the presence of different antigens in their body

fluids. If someone displays their blood type in their body fluids, they are called secretors. A secretor with type-A blood will display A and H antigens while one with type O will display only an H antigen. In his testimony, Kaufman confused how different blood types show up in tests. "Either he is a very poor communicator or he doesn't understand the technical issues involved," said Inman, the California serology expert. "It's hard to know exactly what the problem is, but clearly, his testimony is inaccurate." Kaufman could not be located for comment.

The problems in the Norris case, Thompson said, can be found in others from the serology section and suggest that problems in the Houston police crime lab were pervasive across divisions. "It is now clear to me that problems in the DNA division were just a continuation of earlier problems with serology," he said. "These problems stem from a long history of low standards and the tolerance of bad work. "The question is when we will stop finding more instances of errors," he said. "After seeing these cases, I am certain it won't be anytime soon."