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Courting the Scientists

Fall Homecoming Convocation addresses the power and perils of genetic testing

In law, where the truth is often a matter of which attorney is more persuasive, incisive and powerful scientific tools are rare.

But the 150 alumni and others at UB Law School's Fall Homecoming Convocation got a glimpse of just such a tool: DNA testing, a highly effective means of determining truth in paternity and similar cases of identity, but one that raises disturbing questions of ethics and public policy.

"Biological Testing and the Law" was the theme for the convocation, held at the Center for Tomorrow on Oct. 24. For the first time, the convocation carried no fee for attendance. It was co-sponsored by the Law School, the UB Law Alumni Association and Roche Biomedical Laboratories, a subsidiary of Hoffmann-La Roche Inc.

Scott E. Friedman, a partner in the Buffalo law firm Cohen, Swados, Wright, Hanifin, Bradford & Brett, spoke first. Friedman's practice includes counseling clients regarding paternity claims, and he cited an old adage about this age-old dispute: "Maternity is a matter of fact, while paternity is a matter of opinion."

Historically, Friedman said, paternity has been extremely difficult to prove. There are generally no outside witnesses to the act of conception, he noted, and people — the mother, the alleged father — regularly lie or give self-serving testimony.

The historical rules of evidence have been of little validity. Friedman said. In ancient Carthage, for example, the child's resemblance to his alleged father was studied. If the resemblance was slight after two years, the child was

killed. (Interestingly, he noted, some states still have common-law rules of evidence that accept resemblance as one proof of paternity. New York State has rejected such rules.) In 12th century Japan, amateur chemists mixed in a bowl the blood of child and alleged father; if they mixed smoothly, paternity was established.

But until recently, a set of 10 common-law rules of evidence has governed in paternity cases. These rules included the presumption that a child born in wedlock is that of the husband, as well as arguments about the mother's promiscuity, the normal period of gestation, and evidence of the alleged father's impotence or sterility.

The Supreme Court, Friedman said, has lengthened the statute of limitations on paternity cases. "Cases are being decided over longer and longer periods of time," he said, making common-law

rules more difficult to apply. Memories fade; written evidence disappears.

"Fortunately," Friedman said, "science has impacted on this area."

He then gave a brief history of scientific approaches to paternity testing, beginning with development early in this century of the ABO blood type system. He cited a notorious 1946 case in which actor Charlie Chaplin was sued for paternity. His lawyers argued that, with Chaplin's blood type, he could not be the child's father. But the court disagreed, and found for the plaintiff based on Chaplin's physical resemblance to the child.

Now, Friedman said, DNA testing — study of the genes that make up each individual's unique biological structure — is adding a degree of certainty to the detection process. "Even siblings," he noted, "have only a 1 in 10 trillion chance of having the same genetic makeup."

However, he noted, "judicial response to DNA evidence has been very cautious."

One exception is a New York State Supreme Court case, *King v. Tanner*, a slander case in which the accused wanted to prove he was not the father of the child in question. The court's opinion, Friedman said, gave great weight to DNA testing: "Neither the courts nor



Left to right: Scott E. Friedman, Shari Jo Reich '86 and Dr. Gary M. Stuhmiller.

UB LAW

FORUM

Summer
1993

the parties need continue to operate by 19th century standards. ... In this court's opinion, all paternity cases should be subject to DNA testing."

Family courts, Friedman said, have been reluctant to admit DNA evidence. However, a 1992 family court case from New York City, *S.L.D. v. K.A.*, has prompted New York State to issue guidelines for licensing DNA testing laboratories in the state, perhaps signaling family courts' new willingness to admit such evidence.

Friedman closed with a cautionary note. The truth sometimes hurts. Shame and scandal can result from a surprising finding of paternity. "Proving paternity," he said, "is not always in the best interest of the child."

Shari Jo Reich '86, a solo practitioner in Buffalo, brought to the podium some issues of DNA testing in the criminal courts and in the workplace.

DNA "fingerprinting," Reich said, has been around in some form since the early 1960s. But each time it's introduced in court, she said, the technology is treated with skepticism as "novel."

Reich outlined the different standards that apply in New York State and federal cases. In New York cases, she said, the state Supreme Court ruled in *People v. Castro* that a pretrial hearing is required to decide whether DNA evidence is admissible. At issue, she said, is "whether *this* lab and *this* test meet scientific standards."

By contrast, Reich said, the federal standard enunciated in *U.S. v. Williams* speaks to the weight of DNA evidence, not its admissibility. In federal cases, she said, the jury is asked to decide what weight to give the DNA evidence. Simple affidavits are enough to demonstrate that such evidence is admissible.

Reich then detailed the seven-step process that genetics laboratories use to extract and analyze DNA samples from blood, semen or other materials found at a crime scene. "From a criminal lawyer point of view," she said, "you're going to want to know how to attack this evidence." This can be accomplished, she said, by:

* Arguing that the sample was contaminated at the crime scene with bacteria, viruses or non-human DNA (such as dog hair or dog saliva).

* Attacking possible imperfections in the analysis.

* Attacking assumptions made in interpreting the data, particularly assertions by the lab's population geneticist that there is "probability X" that another person in the general population has the same genetic characteristics.

One public-policy issue arising from the availability of this technology, Reich said, is cost. "In many cases you have an indigent defendant," she said, "and we, the public will be paying for these experts."

That can be hugely expensive. In the 1989 *Castro* case, for example, if the experts had charged their usual fees, the pretrial hearing alone would have cost more than \$1 million.

Reich also briefly discussed threats to privacy that may result from the Human Genome Project — a massive, 13-year, federally funded effort to codify the human body's entire gene sequence. The project may result in better disease treatments and other benefits — but, Reich said, it carries many risks.

Chief among these, she said, is the risk that employers, insurance companies and others will gain access to an individual's genetic information. They could know in advance, for example, whether a candidate for employment or insurance was predisposed to Alzheimer's disease or other illnesses. Could this lead to discrimination based on the genes one was born with?

Reich noted that such futuristic scenarios are closer than one might think. She cited a "huge warehouse" in Boston that serves as a repository for medical records. "Most insurance companies belong to it," she said. "Basically, if you've ever had a medical test, your information is in there."

Gary M. Stuhlmiller represented Roche Biomedical Laboratories at the convocation. A specialist in DNA testing for paternity cases, he used a slide presentation to explain the intricacies of

the technology.

"We can never issue a 100 percent finding of paternity," Stuhlmiller said. "We can never show for sure that a man is the father. We can, however, conclusively exclude a man as the father."

That can be accomplished in two ways: direct exclusion, when the child has a genetic marker that the father lacks, or indirect exclusion, when the child doesn't have a marker that he would have had if he had been sired by this father.

"When you group a number of these DNA tests together, you can get a very, very high probability of exclusion," Stuhlmiller said — better than 99 percent.

Roche has developed a new method — "We feel it's the DNA test of the future," Stuhlmiller said — of particular use in forensic testing. It needs only a tiny amount of specimen. A single DNA string is chosen, then copied a billion times to provide enough material to analyze. Another advantage of this "genetic amplification" system, called Amplified Fragment Length Polymorphism, is that it can be accomplished in days, not weeks, he said.

Despite the incisive nature of the technology, Stuhlmiller cautioned that it must be applied with caution in the courts. Roche and other companies, he said, have erred on the side of conservatism in estimating how unique a certain DNA sample is.

"DNA (evidence) has to be utilized with discretion, with the limitations of the technology and the calculations taken into account," he said. "I think if you try to say more than than, you're in trouble. That's why you'll never hear us say, 'That's the man.'"

The morning's final speaker, UB Law Professor Isabel Marcus, brought an element of philosophy to what had been largely a technical discussion.

"If we understand ourselves in terms of our own biological building blocks, I think we will have a changed philosophical understanding of ourselves," Marcus said.

She also said it's important to con-

sider the cultural context in which these technological advances are taking place, citing "Western society's love of science as projecting 'objective' facts into the world."

"There is an attempt to find biological explanations for a range of behaviors that we have trouble understanding," Marcus said. "This reflects our love affair with science and the laboratory. (But) you have to ask yourself, what is it we want to know and why do we want to know it?"

Marcus pointed out that even a seemingly straightforward issue as a question of paternity is socially constructed. The idea of the "real father" is a social one; for example, who is the "real father" of a child conceived with donated sperm?

Even the idea of race is socially constructed, Marcus said. She cited the case of a woman, the daughter of one black and one white parent. The woman's birth certificate listed her as black. The woman sought to have that listing altered to white. The U.S. Supreme Court said it didn't have the power to do so.

With the Human Genome Project, Marcus said, individuals' biology will become *visible*, and the danger is that society will "use biology as an explanation for behavior. It's a medical model of behavior and deviance."

The genome project, Marcus said, ignores the environmental factors that affect behavior. In the old nature-vs.-nurture debate, it comes down squarely on the side of nature.

"But if you focus on the biological," she said, "you lose the fact that the biological doesn't operate outside the environment in which it exists."

And the public policy consequences of the project, Marcus said, are frightening. What's being developed, she said, is no less than "a standard model of what is an acceptable range for a human being."

"When you ask the question, 'What is the knowledge,' you can't separate it from the question, 'What are you going to use it for?'" ■

Five Top Alums Lauded by Association



Left to right: Mark G. Farrell '72, Harold J. Boreanaz '56, Richard M. Tobe '74, Hon. Beryl E. McGuire '59, Pamela Davis Heilman '75 and William A. Niese '61.

The Hon. Beryl E. McGuire, Harold J. Boreanaz, Richard M. Tobe, Pamela David Heilman and William A. Niese were named distinguished alumni by the University at Buffalo Law Alumni Association.

The five outstanding alumni received the award at the association's annual meeting and dinner on Friday, May 7, at the Hyatt Regency Buffalo.

McGuire, U.S. bankruptcy judge for the Western District of New York, was honored "for his conscientious and diligent performance in the judiciary."

A member of the UB Law School Class of 1959, he lives in Amherst, N.Y. He has served as a judge in U.S. Bankruptcy Court for nearly 25 years. Prior to that, he was a confidential law clerk to the late U.S. District Judge John O. Henderson.

"Judge McGuire is considered an outstanding national authority in the area of bankruptcy," said the association's President Mark Farrell, when presenting the award. "He will be retiring at the end of September of this year and his departure leaves a void that

will be difficult to fill. His knowledge, ability, judicial temperament and scholarship have gained him the recognition of his peers and now of his law school." (See story on his impending retirement elsewhere in this issue).

Boreanaz, a member of the Class of 1956, is a partner in the Buffalo law firm of Boreanaz, Carra & Boreanaz. He was recognized "for his leadership by example as a private practitioner." He focuses his practice on criminal defense.

A resident of Williamsville, Boreanaz is a former secretary and director of the Western New York Trial Lawyers Association. He was named State Criminal Practitioner of the Year in 1987 by the New York State Bar Association.

"His career has been an example of outstanding dedication to and unflinching tenacity on behalf of the clients and causes he has espoused. His skill as a trial lawyer combines a thorough working knowledge of the law and a natural ability to deal with witnesses and evidence in the courtroom setting," said Farrell.

UB LAW

FORUM

Summer
1993