

How to cross-examine a machine in court

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As society becomes more automated, the structure of evidence rules needs to keep up with the times, argues Ed Cheng, the Hess Professor of Law at Vanderbilt Law School. "Beyond the Witness: Bringing a Process Perspective to Modern Evidence Law," coauthored with University of Arkansas law professor G. Alexander Nunn, will appear in the May issue of the *Texas Law Review*.

For centuries, trials have centered on witness testimony, a practice enshrined in the Sixth Amendment, which guarantees criminal defendants the right to confront witnesses in court. That focus on witnesses made sense a hundred years ago, when most evidence was created by

individuals, but that's not the case today. Today, sometimes the "witness" is a process or a machine.

Because the courts are so focused on witnesses, Cheng suggests, they are constantly searching for human surrogates that the parties can cross-examine instead of focusing on the evidence itself. "The classic example is how courts treat photographs," Cheng said. "In conventional trial practice, photographs are only treated as 'aids' used to illustrate a witness's testimony, not evidence in themselves. But we all know that the power of a photograph comes from the fact that it is the product of a mechanical or electronic process, not from the fact that some person vouches for its content."

With some kinds of forensic reports, Cheng said, finding a [witness](#) surrogate becomes even more absurd because a technician at a commercial lab is highly unlikely to remember that specific sample in the first place. "There's no reason to bring in that particular analyst to explain what they did. The lab treats every sample the same way," Cheng said. "What we care about is the lab's procedures in general. Yet, the individual analyst is precisely what recent Supreme Court precedent has required in criminal cases."

There are some exceptions to this, Cheng and Nunn note—business records, for one. The law does not require a cashier to testify about a store purchase. A store receipt or electronic transaction record is sufficient, because it is part of a regular business process assumed to be reliable enough to stand on its own.

The problem, Cheng argues, is that these business records then get something of a free pass. "Business records are an exception to the hearsay rule—the usual rule requiring live testimony—and that's a good start. But then, the parties never really get an analog to cross-examination. They have no meaningful opportunity to 'test' the process that produced the record." For example, they may want to verify that a piece of accounting software was

free of any bugs that might have created a discrepancy, or make sure a piece of drug testing equipment was calibrated correctly.

This is not to say that witnesses should go away entirely, Cheng said—there is always going to be evidence that needs to be explained and justified by a human being. Rather, process-based evidence is a category of evidence that the law needs to deal with in a different way.

"The world has changed a lot since evidence laws came about," he said. "Our trial system is based on the idea that individuals are what you want to test, but sometimes what you really want to test is the process. How we think about evidence hasn't gotten with the times, and we need to grapple with these problems."

Provided by Vanderbilt University

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