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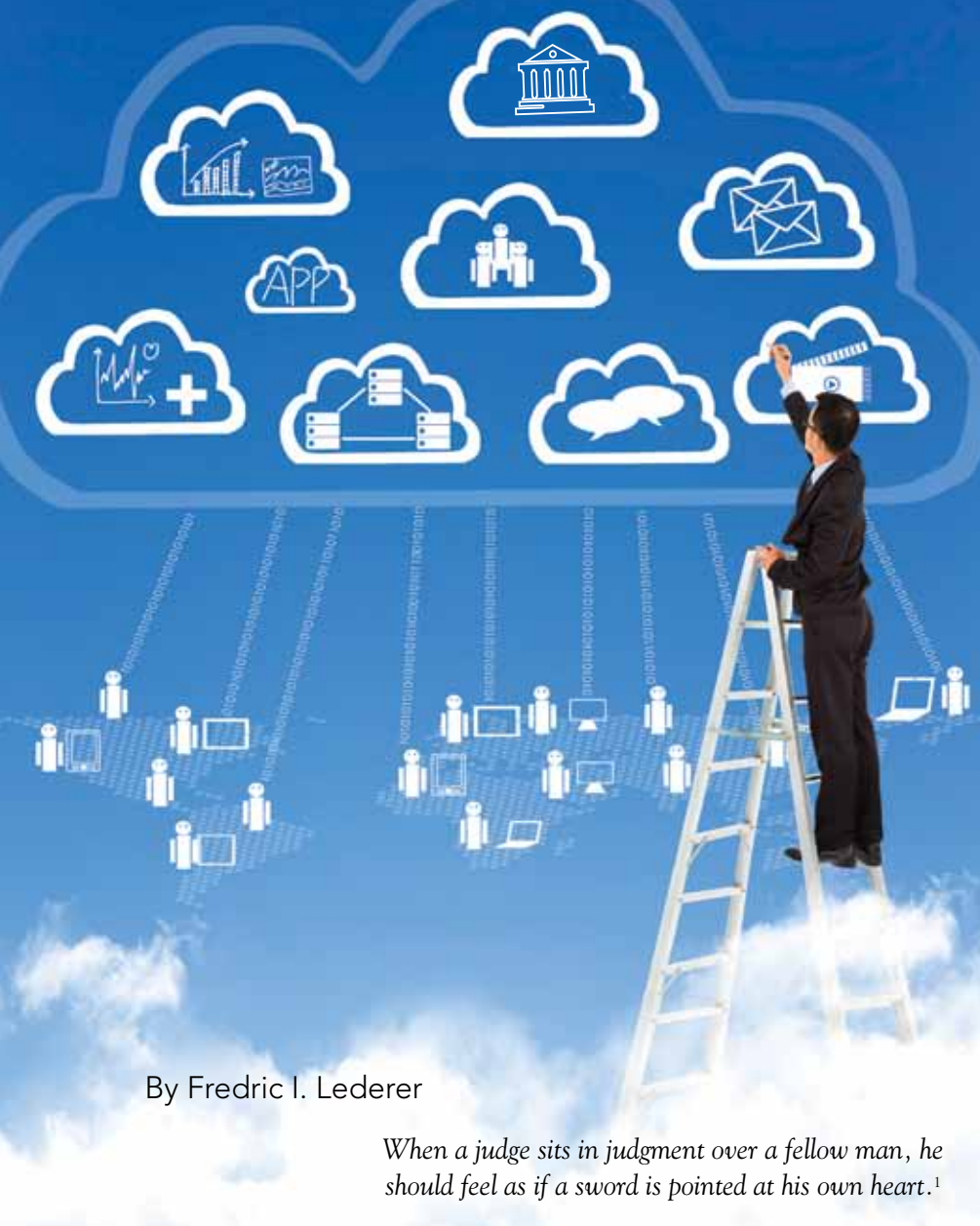
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Judging in the Age of Technology



By Fredric I. Lederer

When a judge sits in judgment over a fellow man, he should feel as if a sword is pointed at his own heart.¹

It has never been easy to be a judge. Socrates allegedly opined: “Four things belong to a judge: to hear courteously, to answer wisely, to consider soberly, and to decide impartially.”² Of course, an Athenian judge did not have to worry about her computer crashing, e-discovery, the ISP (Internet service provider) search warrant, that pesky invasion-of-privacy drone suit, and whether counsel’s iPad would communicate with the courtroom display system without splashing the judge’s iPhone wallpaper all over the courtroom monitors.

It is inherently difficult to extrapolate the effects of technological change on society, and the problem is not a new one. At the first international urban-planning

conference in 1898, experts were certain that New York City would cease to be inhabitable in the future because of the manure that would be produced by the number of horses that would be needed to support the [correctly] estimated future population size.³ Predicting the future is risky. Accordingly, I thought that it might be useful to take a moment and offer a “snapshot” of present reality from a judge’s perspective and then make the argument that technological competence is or soon will be a requirement for judges.

Contemporary Life for a Technology-Oriented Judge

Today’s judge may rise to the alarm of one’s smartphone, check e-mail in the shower,⁴ and then read the newspaper on the larger tablet screen, possibly while watching the refrigerator monitor noting the need to buy cream. Then it is off to the courthouse, idly wondering whether Google’s self-driving car will allow the judge in the future to catch up on the morning’s cases during the commute. Assuming no cell phone interruptions—and surely no texting—the judge parks at the courthouse and uses the judge’s entrance, avoiding the lawyer’s need for security screening. Once in chambers, it is a quick check of the case management system, then a brief moment to check Facebook. That pain of a lawyer wants the judge to friend him. Given conflicting professional ethics opinions,⁵ it is a poor idea. Besides, if the lawyer had been in court, he probably would have asked the judge for a selfie from the bench. A moment’s check on LinkedIn and Martin-dale.com, left over from the judge’s days as a lawyer, shows some interesting communications. Have to check those later.

First, motion practice. Following an inaugural experiment by Jefferson Parrish in Louisiana, the judge hears the first two motions remotely, using WebEx. Video and sound are okay, but maybe the court ought to upgrade to a dedicated software-based video platform such as the Cisco Jabber. This program was used a few years ago by the Center for Legal and Court Technology (CLCT) in an experiment with the U.S. Court of Appeals for the

Sixth Circuit in which all three of the panel's judges appeared remotely by computer from their chambers in different courthouses for an experimental argument. It is time for trial and the courtroom, but first there is an irritating buzz from the smartphone. The judge's dentist has texted with a reminder of an upcoming cleaning appointment. Muttering with aggravation, the judge pauses to wonder whether texting could be used to remind defendants of court dates, especially in traffic cases.

It is a personal injury civil jury trial in the court's technology-augmented trial courtroom. The judge reviews prior hearings using the case management system and the customized judicial dashboard. Counsel begin trial via opening statements with vivid images displayed on the courtroom monitors, all exchanged among court and counsel previously, pursuant to court rule. No unnecessary mistrials in this court. Counsel then present their evidence via iPads and convertible laptops. The judge has noticed a greater interest in counsel using technology so long as that technology is "bring your own device," especially if it is an iPad. After all, high-quality trial practice software such as TrialDirector and TrialPad are on the iPad. For that matter, most of the judge's colleagues and friends have tablets and, when possible, use them in lieu of more traditional computers. Even Corel WordPerfect is now available on the iPad. The judge has heard that Australian jurists may be experimenting with tablets for jury monitors.

Plaintiff's third witness speaks only Mandarin Chinese. No problem; the city has a centralized court interpreter's center and a remote Mandarin interpreter is online within two minutes. Of course, the court had reserved the interpreter for trial. "Taking pot luck" with unscheduled interpretation is done only as necessary in criminal arraignments when the interpreter's center is staffed to handle languages that customarily are needed regularly.

The defense team has a new lawyer, who is unable to hear. No problem; at counsel's request and in lieu of a remote American Sign Language interpreter, the

court has arranged for a real-time feed from the court reporter to counsel's devices. Stenographic and voice writer reporters are alternating in taking the verbatim record, an unusual luxury. Absent the need to supply counsel with near instant transcription, the judge's court record manager might have elected to use the digital audio and video court record instead, especially as remote transcription can be obtained in as little as about 15 minutes. The assistive technology is reassuring. The judge has had a tentative diagnosis of macular degeneration in the left eye. CLCT work has shown how to use technology and even a court explicator⁶ to cope with limited vision on the part of trial participants. The judge pauses for a moment to ponder what a judge ought to do if the jury pool includes a blind person who wishes to sit. Certainly, the juror ought to be competent for at least most cases. After all, it is not clear that visual demeanor "evidence" really is very useful or, if it is, whether it can be replaced by what may be alternative senses such as hearing.

Plaintiff's next witness examination is boring in the extreme. The judge wonders whether use of Google Glass might let the judge unobtrusively read a novel. Perhaps unfortunately, however, counsel's sudden evidentiary objection focuses the judge's attention immediately. Plaintiff has asked the witness to confirm that a plastic model of the device that allegedly injured the plaintiff, made by counsel personally on her 3D printer, is an accurate, nonworking scale model of the original device. As best the judge can tell, the objection is that counsel cannot make her own models—in her office at that. The judge overrules the objection.

Finally, the case is going well, and the judge has enough time to think about next month's case. Following the example of the bankruptcy court in Delaware that is trying a case concurrently with a Canadian court, the judge's court will jointly try a commercial case with a court in Vancouver.⁷ The time difference may be troublesome.

Lunch brings a text from the judge's younger child. She was working on her

doctoral dissertation when her hard drive failed. She has lost everything on the drive and despite the judge's periodic reminders (yes, nagging), the drive was not backed up for a year. The only possible recourse is an expensive commercial recovery company that may or may not work. This is even worse than your son-in-law's use of a toy helicopter (yes, a "drone" with camera) to buzz dogs in the neighborhood; at least he is not using it to hover outside bedroom windows, or so the judge hopes. The judge calls the court's IT chief to ask whether the court's computers, including every court gadget the judge uses, are backed up daily. The answer is, "Well, maybe; it depends." That spurs the judge's memory of a disturbing *Time* magazine article about the ease of hacking into computers.⁸ The judge calls the IT head again, this time to ask: "Are our computers secure from hacking; do we have any 'zero-day' exploit weaknesses?" The uncertain response is not reassuring. The judge's AndroidWear smartwatch reminds the judge that court is about to start, and the judge returns to the bench with an upset stomach that is not due to the instant mashed potatoes in the judges' dining room.

Happily, the rest of the trial appears straightforward, except for the need to resolve a hearsay objection. Counsel insisted on displaying case law and pages from a law review article to the judge on the judge's monitor. It was a highly persuasive effort, and the judge feels compelled to rule in counsel's favor, especially when opposing counsel's only reply is a half-hearted, "But, Your Honor, it's not fair." Although the judge is unsure of the accuracy of the hearsay decision, the judge is



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comforted by the knowledge that the court record captured the displayed images so the appellate court will be able to review them.

Much to the judge's surprise, however, after the midafternoon break, plaintiff's counsel moves to present 3D evidence using a WolfVision 3D document camera. Counsel wants to display plaintiff's very damaged leg to the jurors. Having attended the first known use of 3D evidence at CLCT's demonstration trial at the September 2013 Court Technology Conference, the judge realizes that this raises an unfair prejudice problem. The



Technological competence is or soon will be a requirement for judges.

brick used at the CLCT trial had been incredibly impressive with its jagged edges and bloody hair. Raising the Rule 403 issue and noting that counsel has only a limited number of 3D glasses, the judge decides that the appellate court will not be able to review the record properly and denies the request. At the same time, the judge reflects internally that press reports suggest that in a few years 3D evidence will be able to be projected in front of each trial participant without preparation or difficulty—assuming that Oculus Rift does not bring virtual reality into the courtroom instead.

Finally, it is time to go home. After some preparation for the forthcoming

meeting on how to protect personal privacy and personal identifiers when the court proudly places all of its records on the web for reasons of public transparency, the judge anticipates a quiet evening, binge watching *Orange Is the New Black*, courtesy of the judge's spouse's best friend, the family room TiVo. Unfortunately, the entertainment is interrupted by a FaceTime chat with the judge's grandchild, who is reporting how he has been bullied mercilessly on the huge teen-oriented website to which he seems addicted. Simple advice like "Stop using the stupid website" does not work. The judge knows of a number of suicides of teenagers who were captured by that website and swayed by the comments of thoughtless teens posting their mean-spirited replies.

Finally, the judge drifts off to sleep, helped by a vibrating bed and ocean noises from the judge's smartphone, thinking dreamily that if *StarTrek's Enterprise's* transporter system actually existed, the judge could materialize across the country to hug that grandchild as he needed or, failing that, perhaps grab the family and teleport to someplace without any technology at all.

The Effect on Cases

As technology permeates our lives, it also affects the types of cases that courts must resolve, the procedural and evidentiary law to be applied, and the court's culture.

We could plausibly argue that "nothing is new under the sun" and that technology-related problems are simply new manifestations of older issues.⁹ After all "peeping drones" or personal injury due to a collision with a camera drone is just a new manifestation of a traditional problem. But even if that is true on some levels, quantitative differences can be qualitative. Electronic discovery is just discovery, complete with privilege and spoliation issues, but the sheer magnitude of e-discovery alone can change everything, especially if inadvertent disclosure of privileged material is considered.¹⁰ When a party seeks access to every electronic device that might have relevant data, we are well past trying to find where the filing cabinets might be—to say

nothing of the accompanying costs. In June 2014, the Supreme Court recognized that the sheer quantity of information, much of which is intensely personal, means that cell phones are not subject to search incident to arrest without a warrant or other justification.¹¹ Will not the same rationale ultimately affect searches of tablets, personal computers, servers, and even Internet routers? We have always had identity theft, but theft by phishing and hacking, including penetration of national retailer's servers, and the modern consequences of identity theft are a whole new world indeed.

Procedure

The effect of technology on procedure remains to be seen. Remote testimony in civil cases is increasingly commonplace,¹² including remote appearances in mental health commitment proceedings,¹³ as are remote first appearances in criminal cases. But is remote prosecution testimony the same as "confrontation" for purposes of the Sixth Amendment? We have no decisive resolution as yet.¹⁴ Remote interpretation and remote motion practice do not pose the same legal issues as remote testimony, but they do unavoidably call into question judicial comfort levels. Can—should—we move most motion practice into the electronic world, with public access, in order to save at least lawyer time (and fees)? Current technology makes such practice easy.

Evidence

The interaction between technology and evidence is increasingly disturbing. Technology has given us new forms of evidence—and new ways to misuse it. DNA evidence for the first time may give us some form of evidentiary certainty—when done properly. But the history of forensic science in the courtroom is frightening in terms of the amount of error we have experienced, whether of fundamental science or, more usually, the accidental and intentional consequences of human error.¹⁵ Juries, of course, not only trust most "scientific evidence," but the CSI effect causes doubt when such evidence is absent.¹⁶ Some time ago, I

opined that the usual evidentiary rules ought to be adequate to deal with digital evidence.¹⁷ I still believe that I was correct in the sense that technology-based evidentiary issues can be resolved under the usual rules. However, as my colleague Jeff Bellin has so beautifully pointed out,¹⁸ applying those rules to unanticipated technologies such as Facebook posts and Twitter tweets yields unexpected and disturbing results. And we have not as of yet really had to deal with authentication and metadata.

Even if proffered evidence is admitted under evidentiary rules, it is unclear whether judges or jurors will or should believe that evidence given the possibility of technological tampering. In 2010, CLCT tried *United States v. Varic*, a one-day experimental (simulated) prosecution of an American citizen charged with attempted slavery¹⁹ in which nearly all of the evidence was obtained from computers, e-mails, and e-mail attachments.²⁰ CLCT's first conclusion from the trial was reassuring. The jury, chosen as well as was possible to emulate an average federal criminal case jury, had no difficulty following and understanding the expert forensic IT testimony from the prosecution and defense witnesses. However, CLCT's other two conclusions were profoundly disturbing. First, it appears that it does not take a great amount of IT skill to fabricate persuasive false IT evidence. Second, given adequate defense experts, it could be exceedingly difficult to convict a defendant charged with an IT crime. The conclusions obviously are interrelated. Because of the relative ease with which computer data can be altered or created, fact finders obviously will be hard to convince when faced with an allegation of crime. Of course, the CLCT Laboratory Trial was a single occurrence, and much more work needs to be done, but, if accurate, the conclusions drawn from it suggest that increased public knowledge of technology may bring with it evidentiary distrust. In short, technology will complicate the evidentiary landscape.

Culture

Technology changes how trials and hearings are conducted. If nothing else, technology-augmented trials and hearings

tend to be heavily visual in nature. Skilled lawyers learn that it is the "content" that ordinarily counts, although the quality of a lawyer's presentation remains important. Perhaps more importantly, the modern age brings with it large amounts of recorded images. Cell phones and tablets (and soon personal web cams and drones) ensure that anything of interest results in pictures and audio-video recordings, or, in other words, evidence. Trials and hearings will become far more visual than ever before. At the same time, the likely increase of remote video communications suggests that although the judge's function will remain unchanged, the way in which judging is conducted may well change. That in turn suggests the possibility of reengineering.

Reengineering

Although technology is a nearly unavoidable part of life, we are only now beginning to see its long-term effects on the legal professions, and the "Great Recession's" effects on legal practice surely were due in part to the direct and indirect effects of technology.²¹

Initially, courts largely used technology in an effort to improve traditional practices. Although there have been some exciting innovations, to include assisting pro se applicants and online minor case disposal, by and large, courts still function as they did in Jefferson's time, albeit, we hope, more efficiently. We could do more.

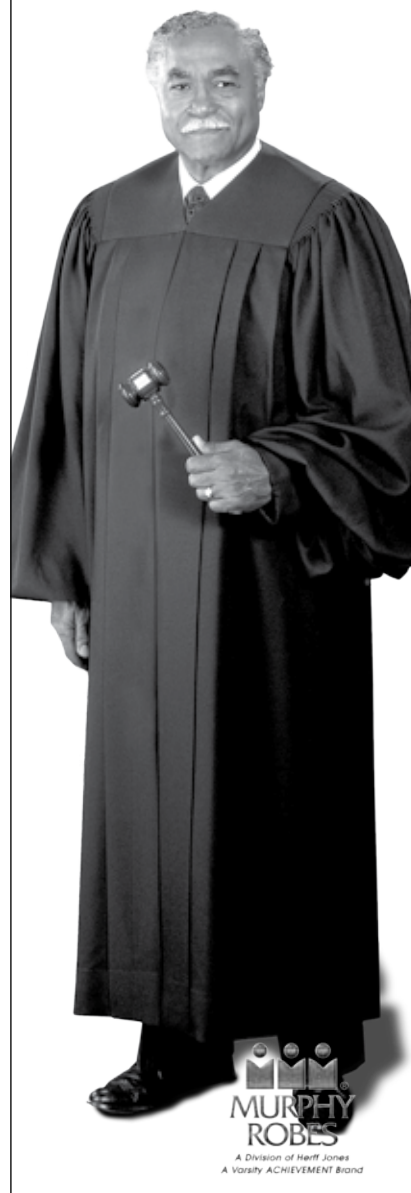
As used by CLCT, "reengineering" means the process by which an organization such as a court first determines its actual needs and goals—as distinguished from its long-accepted ones—and then asks how those can best be achieved in the modern world given available technologies. Conceding that the legal system is bound by constitutional constraints (statutes can be changed), reengineering presents interesting possibilities.²² How could we resolve disputes if we were to start with today's tools in mind? Reengineering is never easy—especially when it may change the established order and threaten people's jobs. Given our onrushing cultural change, however, perhaps judges should consider it.

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Conclusion

Perhaps the most important result of the Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals*²³ was its requirement that the judiciary be the "gatekeeper" for expert testimony and scientific evidence. In federal cases and then in those states that adopted *Daubert*, judges could no longer simply determine whether a given principle was "generally accepted" in a scientific community. Rather, judges now had to understand enough science, medicine, engineering, and other fields to be able to determine whether expert testimony should be



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allowed.²⁴ Numerous judges found it appropriate and necessary to address or readdress fields they likely had not spent much time in since university—if then. *Daubert* unavoidably can involve technology, but the impact of technology on contemporary life suggests that judicial familiarity with technology is likely more important than *Daubert*'s more limited and less frequent demands.

Recognizing the impact of technology, in 2012, the American Bar Association amended Comment 8 to Model Rule of Professional Responsibility 1.1., Competence, to require that

To maintain the requisite knowledge and skill, a lawyer should keep abreast of changes in the law and its practice, including the benefits and risks associated with relevant technology.

As our legal system's leaders and primary decision makers in our legal system, we should expect the same, or better, of judges. ■

Endnotes

1. QUOTABLE LAWYER 142 (David Shrager & Elizabeth Frost eds., 1986) (quoting The Talmud, *Sanhedrin*).

2. *Id.* (quoting FRANKLIN PIERCE ADAMS, F.P.A. BOOK OF QUOTATIONS (1952) (quoting Socrates)).

3. Stephen Davies, *The Great Horse-Manure Crisis of 1894*, THE FREEMAN (Sept. 1, 2004), http://www.fee.org/the_freeman/detail/the-great-horse-manure-crisis-of-1894.

4. See *Riley v. California*, 2014 U.S. LEXIS 4497 (June 25, 2014) (citing HARRIS INTERACTIVE, 2013 MOBILE CONSUMER HABITS STUDY (June 2013)).

5. See generally *Social Media and the Courts: State Links*, NAT'L CTR. FOR STATE CTS., [http://www.ncsc.org/Topics/Media/Social-Media-and-the-Courts/State-Links.aspx?cat=Judicial Ethics Advisory Opinions on Social Media](http://www.ncsc.org/Topics/Media/Social-Media-and-the-Courts/State-Links.aspx?cat=Judicial+Ethics+Advisory+Opinions+on+Social+Media) (last visited July 15, 2014).

6. This is a procedure developed by CLCT and first used in its 2006 experimental Laboratory Trial, *United States v. Culinary Enterprise of America d/b/a Mom's Place*. The court explicator is a court officer who uses a wireless audio connection to the judge to describe what the judge is unable to hear. Counsel have access to the description and can object if they believe it to be incorrect or biased; the court maintains an audio-video record so that the accuracy of the description can be verified.

7. CLCT's 2005 Laboratory Trial, *In re Blossom and Blossom*, a U.S.-Mexican pair of concurrent family law proceedings, demonstrated the feasibility of this type of procedure.

8. Lev Grossman, *The Code War*, TIME, July 21, 2014, at 18.

9. See Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207.

10. See, e.g., FED. R. EVID. 502 (dealing in part with inadvertent disclosure of privileged information).

11. *Riley v. California*, 2014 U.S. LEXIS 4497 (June 25, 2014).

12. See, e.g., FED. R. CIV. P. 43(a).

13. Such as those in King County, Washington.

14. *Compare* *United States v. Yates*, 438 F.3d 1307 (2006) (en banc), with *United States v. Abu Ali*, 528 F.3d 210 (4th Cir. 2008).

15. See, e.g., Tom Jackman, *Cellphone Evidence Called into Question*, WASH. POST, June 28, 2014, at A1, col. 1 (FBI and other experts regularly testify to cell phone locations not supported by science); Mark Hansen, *Crimes in the Lab*, ABA J., Sept. 2013, at 44; *Chemist Accused of Faking Evidence*, WASH. POST, Dec. 18, 2012, at A3 (forensic chemist indicted for "deliberately faking test results in drug sample," actions that shut down a state forensic drug testing lab).

16. The Honorable Donald E. Shelton, Young S. Kim & Gregg Barak, *A Study of Juror Expectations and Demands Concerning Scientific Evidence: Does the "CSI Effect" Exist*, 9 VAND. J. ENT. & TECH. L. 331 (2006) (the effect is real although it appears to be caused by technological expectations rather than the actual television programs). See also The Honorable Donald E. Shelton, Young S. Kim & Gregg Barak, *An Indirect-Effects Model of Mediated Adjudication: The CSI Myth, the Tech Effect, and Metropolitan Jurors' Expectations for Scientific Evidence*, 12 VAND. J. ENT. & TECH. L. 1 (2009).

17. Fredric I. Lederer, *The New Courtroom: The Intersection of Evidence and Technology: Some Thoughts on the Evidentiary Aspects of Technologically Produced or Presented Evidence*, 28 S.W.U. L. REV. 389 (1999).

18. Jeffrey Bellin, *Facebook, Twitter, and the Uncertain Future of Present Sense Impressions*, 160 U. PA. L. REV. 331 (2012).

19. Attempting to bring to the United States a young girl from another county to act as a household servant.

20. CLCT was both honored and fortunate to have support from the Federal Judicial Center, the Department of Justice's Computer Crime and Intellectual Property Section, and the FBI.

21. See, e.g., RICHARD SUSSKIND, *TOMORROW'S LAWYER: AN INTRODUCTION TO YOUR FUTURE* (2013).

22. Do we really need to go to the courthouse for traffic and other minor matters?

23. 509 U.S. 579 (1993).

24. See, e.g., FED. R. EVID. 702.