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Lederer, Fredric I., "Courtroom Technology in the 21st Century" (1999). *Popular Media*. 28.
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Courtroom practice in the 21st century

Fredric I. Lederer

Today's high-technology trial may lead to tomorrow's virtual courtroom. How far will technology take us? The future will bring surprise and challenge.

The new millennium will bring the beginnings of substantial change in the way that we try cases. How do we envision an opening statement? Is the attorney standing at a lectern and speaking to the jury, pausing periodically to use a flip chart or place a photograph or graphic on an easel? Or is counsel standing before a control podium, speaking to the jury while smoothly illustrating remarks with a multimedia slide show, pausing periodically to circle key portions of images displayed on a flat-panel plasma screen using an electronic light pen?

In the 21st century, the latter approach likely will be common. Indeed, counsel may not even need to be in the courtroom.

Interrelated technology trends will combine to alter what we consider "normal" in the arena of courtroom litigation. Primary among these trends will be remote appearances, visual trial and appeal, and ubiquitous information. The 21st century virtual courtroom may combine these trends.

Let us consider how an integrated high-technology trial can be tried today.

The Courtroom 21 Project at William and Mary Law School is an international demonstration, experimentation, and education training program.¹ Annually, it

conducts a "laboratory trial." This jury trial is designed to determine how a judge, counsel, and jury handle the technologies available in the project's McGlothlin Courtroom—the world's most technologically advanced courtroom. For example, the 1999 trial before U.S. District Judge Donald Walter—*Noland v. Engines International, Inc.*—is a case in which a jetliner crashed after an engine malfunctioned, ejecting debris into the fuselage and causing a cargo compartment fire. Let us review how this case may develop.

Before trial, both counsel will have filed all pleadings electronically. As defense counsel prepares to argue a motion in limine to prohibit or curtail the plaintiff's state-of-the-art animation, the court will review the electronic pleadings either in chambers or on the bench computer monitor. The defense motion, submitted on CD-ROM, will include hot-linked legal authorities; a single click on the citation marked in blue will bring up the full citation. If appropriate, the motion may include key aspects of the animation.

Counsel will argue from a rotatable control podium, complete with a built-in liquid crystal display (LCD) monitor, that includes all the technology a lawyer might use to present the case. As the attorneys argue, they may seek permission to display key aspects of the brief on the judge's monitor. The judge may respond by displaying on counsel's monitor material from either

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C. JAMES GLEASON

In February 1999, a court-martialed Army captain's federal appeal was presented in the McGlothlin Courtroom, home of the Courtroom 21 Project at William and Mary Law School. Former U.S. Attorney General Ramsey Clark argued the appeal in United States v. Rockwood. Four judges were physically present, and Judge Eugene Sullivan participated from 150 miles away, appearing on a 40-inch television monitor via two-way video conferencing.

the defense or plaintiff's brief. The judge may also display legal authority from LEXIS or WESTLAW, CD-ROMs, or the Internet. Thus, traditional legal argument becomes visually supported argument.

Voir dire begins. The judge or counsel goes over the list of witnesses. As each name is mentioned, the jury sees a photograph of the witness, displayed either as a computer "slide show" or on monitors connected to the courtroom's document television camera. Visually augmented voir dire diminishes the possibility of a juror finding out during trial that he or she knows the witness.

Trial may be interrupted before openings if one or both parties ask the court to order disclosure of the opponent's visuals. There may be debate over what, if anything, must be disclosed in advance. For example, assuming that photographs and animations may be subject to disclosure, must the basic component parts of a computer-generated slide show or WordPerfect text page also be disclosed?

Both sides present opening statements. The lawyers use computer slide shows, document cameras, and computer white boards to introduce their cases.

The plaintiff testifies. On cross-examination, as she and the jury look at her multimedia deposition on their individual monitors, they see and hear the witness impeach herself while the transcript of the deposition scrolls by in front of them.

Foundation witnesses testify. Because the lab trial requires that counsel lay the foundation for admissibility in the courtroom rather than rely on pretrial order, document after document and e-mail after e-mail are brought up on monitors for witness, counsel, and judge. After admission into evidence, the documents are shown to the jurors on their monitors. Documents that were not included in the computer evidence presentation are shown to the witness, judge, counsel, and, when appropriate, the jury via document camera.

The witness may point with an electronic light pen to explain aspects of the

document. Or counsel may place the document under the document camera in the witness box. The witness can write directly on the paper with colored markers, and the resulting image will be displayed on the jury monitors or a 40-inch display screen, or even projected on the 10-foot diagonal screen. The image can also be printed on the courtroom's printer for later use.

Back in the office, cocounsel have access to the real-time trial transcript via the Internet. Plaintiff's counsel can send an e-mail request for backup information from the office "war room," receive an e-mail reply, then use the counsel table computer to e-mail the judge and opposing counsel asking for a brief recess. As the case proceeds, the attorney may use the same system to suggest settlement to the opposing counsel. If the case is running long, the judge may use a preprogrammed messaging system to have chambers notify family members of the delay.

The experts testify. One testifies from a remote location, possibly from overseas.

Because the Courtroom 21 Project's experimental evidence consistently shows that remote and in-court expert witnesses yield exactly the same jury results—at least when the remote witness is life-size and testifies from a monitor behind the witness stand—the direct and cross seem routine, especially when the expert testifies to the meaning of an engine graphic on the other monitors.

Another expert witness, who is not a native English speaker, testifies. The foreign engineer's testimony is translated via a remote telephone connection to AT&T Language Line. To create the record, a reporter speaks into a mask and a computer turns the spoken word into text, using voice recognition technology. The record also incorporates multiframe video and digital audio. The court must decide whether the "read-back" will be spoken by the reporter or recorder or displayed visually to the jury.

A state-of-the-art animation is played on the 10-foot screen, and cross-examination of the graphics preparer begins. Component after component of the animation is displayed on the rear-projection screen, and counsel uses electronic light pens to circle questionable elements.

The defense begins its case, attempting to prove, among other matters, pilot error. With an expert on the stand, a 360-degree immersive photo of the cockpit of an identical jetliner is displayed. In the photo, the picture can be rotated around the camera location so that viewers can see around, up, and down, as if they were immersed in the center of a photo "bubble."

As jurors lean forward to examine their monitors, the witness uses his mouse to show how the pilots could have switched the burning engine off, perhaps saving the plane.

As the other defense witnesses testify, the sight of counsel standing at the podium repeatedly clicking a barcode reader to call up and display the associated CD-ROM-based exhibits becomes routine.

Closing arguments use the entire panoply of technology. Although each attorney is careful not to let the imagery distract from the argument, both construct arguments in which integrated visuals critically augment their statements. They know

when it's time for the lawyer to be the focal point of the jury's attention and when a document or other image should be.

As the judge reads the written jury instructions, they scroll by on juror monitors. In deliberations, if jurors need to review the electronic evidence, they must return to the courtroom. In the next year or two, the jury room may be equipped to review admitted evidence—should that prove desirable.

The lab trial uses commercial technology available now. What will the 21st century bring?

Remote appearances

The new century will be the age of remote appearances. Cost-effective video conferencing is already here. An increasing number of lawyers, for example, are using two-way video for depositions. William & Mary Law School even uses the technology for remote law firm placement interviews.

In state courts across the country, those arrested may make initial appearances or even "appear" at arraignments from detention facilities using two-way television. State and federal courts now have witnesses testify remotely from foreign countries.² Counsel in the Second Circuit may elect to appear before the court from remote appearance rooms, and judges have also appeared this way.

Today, video conferencing requires at each end at least a television monitor, camera, and microphone, plus video-conferencing hardware called a "codec." Unless two or more locations are permanently connected, one unit dials the other using one or more ISDN lines (each the equivalent of two ordinary phone lines). Although single camera images are customary, sophisticated systems permit six separate images to be displayed at the same time. Individual roll-about, high-end units are now available for less than \$20,000, and an increasing number of law firms and courts are purchasing them.

In the next decade or so, the computer will merge with the telephone, video system, and Internet to create a multifaceted information appliance. Bandwidth—the amount of information that can be trans-

mitted over the communication lines—will be expansive so that high-quality video will be routine and cheap. Society will take doing business by remote, two-way video for granted. (At present, video conferencing audio isn't quite the same as being there. It takes a second or two to interrupt the person at the other end, making rapid-fire cross difficult, if not impossible.)

Thus, aided by almost costless Internet-based video conferencing, the 21st century will be characterized by routine appearances of key participants from remote locations. The debate will be how far we ought to go. Do we want jurors appearing from their homes or offices? While this would reduce cost and aggravation, the nature of jury deliberations would change. We are closer to that technological possibility than most would believe.³

The visual trial

Every good lawyer knows the value of photographs, charts, diagrams, models, and other visual information. Many people are visual learners, absorbing best the information that they see rather than hear. Still others benefit from seeing while hearing. Not only can jurors—or judges—best understand evidence and arguments presented in both mediums, but it seems probable that persuasion is also enhanced.

As the lab trial illustrates, a technology-augmented trial is usually replete with visual images. Evidence consists of previously scanned computer images rather than paper documents. Computer slide shows and document cameras supply core components of openings and closings, and testimony takes on new meaning as a witness electronically annotates evidence. Immersive, 360-degree photos foreshadow the immersive moving video and three-dimensional holograms that may be ahead.

Video conferencing likely will result in live testimony from witnesses who today appear only in deposition pages. Exceptions to the hearsay rule may be affected if the ease of remote testimony creates a preference for it in lieu of hearsay testimony.

The visual trial increases witness comprehension and counsel persuasion, but trial practice changes. The high-tech trial

goes by quickly. Our conservative estimate is that such trials are at least one-fourth to one-third shorter than traditional trials. For example, the elimination of the need to walk about the courtroom saves time. However, this also eliminates the opportunity for reflection that the traditional pace permits. Litigation in the 21st century may be more demanding and stressful than it is today.

Ubiquitous information

Legal practice relies on the creative use of information.

The courtroom is a place of adjudication, but it is also an information hub. Outside information is assembled, sorted, and brought into the courtroom for presentation. Once presented, various theories of interpretation are argued to the fact finder who then analyzes the data according to prescribed rules (determined by the judge through research, analysis, and interpretation), and determines a verdict and result. That result, often with collateral consequences, is then transmitted throughout the legal system as necessary. The courtroom is thus the center of a complex system of information exchange and management.⁴

Some years ago, Melbourne, Australia, was the site of *Estate-Mortgage*, a \$2.1 billion (Australian) case with about 300 lawyers and 35 parties. It was tried in a specially constructed courtroom. The real-time transcript and all the evidence were available to counsel on the Internet. Within the first week, many lawyers found no reason to be in the courtroom; they could follow the proceedings from their homes or offices.

The Internet and World Wide Web are changing commerce and society. Some children now regard the Net as their primary research source, treating libraries as less immediate and less desirable information sources. We no longer care about *where* information is, just about its accuracy and availability. Some law firms are now creating vast electronic libraries of forms, cases, manuals, and files. In the 21st century, we can expect more: interacting networks of data interchange. Instead of seeing evidence presented in the courtroom, participants will be able to access whatever they need via the data networks, including an instantly available electronic

appellate record at any point in the trial.

Rapid progress in central processing unit (CPU) design and broad bandwidth will give us computers of amazing power. The next century will eventually see the birth of the virtual courtroom, present only in cyberspace, with all participants able to interact with each other solely as computer images. While this will be a boon to administrative proceedings, we will have to think long and hard about other types of proceedings for the virtual courtroom.

At present, most courtrooms have little, if any, technology. Most of us practice in the age of ad hoc technology, in which increasing numbers of lawyers ask the court's consent to introduce case-specific technology.

There are now about 50 integrated high-tech courtrooms in the United States, but many more are in the design or construction stage. By the mid-21st century, these courtrooms should be common. Law schools will extend trial advocacy instruction to litigation technology as well as to more traditional subjects.

As high-technology courtrooms become "traditional," the legal system will have to cope with an increasing number of remote appearances by trial participants. The true virtual courtroom, with its elimination of distance and expense, will tempt us. Bar, bench, and society will have to decide what a "trial" means and what "due process" connotes in a technological age. Immersive, three-dimensional hologram virtual evidence may strain traditional evidentiary rules.

How far will we go? In the Courtroom 21 Project we live in the present, predicting only the near future. The true future will bring invigorating surprise and challenge to us all. □

Notes

1. A joint project with the National Center for State Courts. See <http://www.courtroom21.net>.

2. See, e.g., Fed. R. Civ. P. 43(a); Harrell v. State, 709 So. 2d 1364 (Fla.), cert. denied, 119 S. Ct. 236 (1998).

3. See Fredric I. Lederer, *The Road to the Virtual Courtroom?* __ S. CAL. L. REV. __ (forthcoming 1999).

4. Fredric I. Lederer, *The Courtroom as a Stop on the Information Superhighway*, 4 AUSTRALIAN J.L. REFORM 71 (1997).

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