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The Courtroom Technology Wars are Here!

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by Fredric Lederer

It used to be science fiction:

The litigator steps up to the podium, connects her laptop computer, and begins a mesmerizing opening statement. Photographs, documents, diagrams, text slides, and perhaps even animations flow effortlessly while counsel introduces the case to come. Witnesses testify about documents that are displayed on flat screen computer monitors before judge and jury. To save time and money, an expert testifies by two-way video conferencing. Impeaching counsel confronts the witness with a multimedia deposition that contains audio, video, and scrolling transcript. Closing argument takes the opening and turns it into a highly persuasive tool for the jury. During deliberations, the jury views documents, other visual evidence, and the jury interrogatories on a large screen. The use of technology enables the jury to reach its verdict more effortlessly and efficiently than ever.

Rather than constituting the future, the above description actually reflects the present, a present in which trial is overwhelmingly a technologically enhanced visual experience. For defense counsel, this exciting and sometimes challenging form of trial practice raises the intriguing question: "How should an advocate use and respond to courtroom technology?"

The material that follows introduces the use of courtroom technology and attempts to at least partially answer that question through tips and suggestions learned through almost a decade of courtroom technology use and experiment.

Today's Trials

Trial lawyers have always been innovative. We take for granted diagrams, charts, models, and other forms of visual evidence and argument. Demonstrative evidence companies flourished with the preparation of clever ways of depicting case-specific material. It is not surprising then that trial lawyers have increasingly embraced computer and electronic visual display technologies to further enhance their cases. When one attorney augments offensive powers, opposing counsel often responds in kind. The courtroom technology wars have begun.

The technology battle is being waged on two fronts. The more commonplace is the use by one or more parties of technology on a case-specific basis. Having received the court's permission, counsel bring the technology into the courtroom for that one case. Less commonplace, but increasingly likely, is that the case will be tried in an integrated high technology courtroom, or at least a courtroom with some modern equipment, and that counsel will be invited, or directed, to use the court's technology.

No accurate statistics report the number of high-tech courtrooms. We estimate that about 500 courtrooms with some measure of modern electronic capacity exist, but the number remains only an estimate. What is certain is that more and more courtrooms are installing this equipment, and that various procedural rules have been amended to reflect its use. See, e.g., Rules 43 of the Federal Rules of Civil Procedure (permitting remote witness testimony when properly justified). Judges and lawyers are being trained in the use of courtroom technology and its consequences. Indeed, William & Mary Law School (the author's home base) trains every second year student in hands-on evidence presentation technology. For additional information, see Federal Judicial Center, Effective Use of Courtroom Technology: A Judge's Guide to Pretrial and Trial (National Institute for Trial Advocacy 2001); Siemer, Rothschild, Stein, & Solomon, PowerPoint for Litigators (NITA 2000).

Why Use Technology?

The primary justifications for the use of courtroom technology, especially evidence presentation technology, by trial lawyers have been that it enhances fact-finder memory, bolsters persuasiveness, and sharply decreases trial time (albeit at the cost of sometimes increasing pre-trial preparation). "Evidence presentation technology" is a subset of "courtroom technology" that refers to the use of technology to present evidence and to display images and text during opening statements and closing arguments.

Our population—and thus our juries—includes large numbers of visual learners, people who more easily absorb information by sight than by hearing. At the same time, much of the nation watches television frequently and has come to expect the visual delivery of important information. The party that best understands this preference for visual display has an inherent trial advantage. Technology is the ideal tool for delivery of information in a visual form. How else could counsel display a
large image of a document, dramatically pull out and enlarge a key paragraph, and then electronically circle a key phrase, all in seconds and without prior preparation.

Technology sometimes permits especially innovative trial practices that cannot take place without it. That includes 360-degree images that rotate about a central point, remote testimony from witnesses who cannot travel to the courtroom, and educational or reconstruction animations. New technology permits 3-D images from special flat screen computer monitors, a perhaps invaluable way of showing a fact finder an item's structure in three dimensions.

Defense trial lawyers have one additional reason to use technology—the risk that plaintiff's counsel will do so: it may be either essential or desirable to rebut plaintiff's presentation. Given that, in many cases, the plaintiff's case will be psychologically bolstered by sympathetic injured clients, defense counsel may need an impressive performance simply to give the defense a “force multiplier” (i.e., added weight) to help defeat the plaintiff's case. On the other hand, defense attorneys must weigh a common concern: “If my side uses technology, the jury (judge) may look at us as a 'city slicker' with neat toys trying to buy or confuse the case.” Interestingly, this is initially a plaintiff's concern. However, this does not appear to be a justifiable fear on the part of trial lawyers, especially if both sides are using these electronic toys. Jurors tend to expect such demonstrations, often mistakenly believing from television news coverage that technology is more common than it actually is.

Trial lawyers should have no hesitation in considering the use of technological tools in the courtroom whenever it appears to be helpful in any given case. In fact, it should be helpful in almost all cases when used carefully and with skill.

The Technologies

As all defense lawyers know, most of what we consider “litigation” is really pre-trial work. Most of our lawsuits terminate after discovery by settlement, in one form or another. Pre-trial technology is beyond the scope of this article. However, some cases really do go to trial, and it is essential to conduct discovery, especially electronic discovery of documents, in such a way as to permit their easy and economical use electronically at trial. If nothing else, the defense's ability and willingness to use technology to retrieve documents quickly at trial may prove unsettling to plaintiff's counsel.

At the risk of oversimplification, we can divide trial technologies into four primary categories: court record, counsel communication, remote appearances, and, most importantly, evidence and information presentation.

**Court Record**

The two primary types of high-technology court record are real-time transcription and digital audio recording. “Real-time” in this context means that the stenographic or voice-writer (voice recognition) court reporter creates an immediate rough draft transcript as the trial proceeds. (The official record is produced after editing and correction.) Real-time transcripts can be made available so that each lawyer and the judge has a copy, allowing private annotation by counsel. Because the transcript can be searched electronically quickly and easily, counsel can readily retrieve transcript for later use, such as impeachment and preparation of requested jury instructions. Depending upon the courtroom's equipment and the judge, the reporter may be able to display a "read back" electronically in front of the jury so that each juror can see the text transcript. Real-time transcription can be essential for a trial participant who is hard of hearing but can read.

A court making a digital audio record may have the capacity to supply counsel periodically with a CD recording of what was said in the courtroom. Absent a comprehensive accompanying index, however, neither an audio or video record permits easy location of key testimony. Audio and video are not themselves searchable. Audio and video court records do allow counsel to play back the actual voice (and image for video records) of a witness during impeachment or closing argument.

Some courtrooms can do far more. Will-iam & Mary Law School's Mcglothlin Courtroom can make an integrated multimedia record that combines the text transcript with video, audio, and the exhibits. This record can even be made available in real time via the Internet. This capability is a variation on the multimedia deposition so familiar to many trial lawyers.

All forms of high-tech court records may enhance the defense counsel's ability to quickly and accurately determine not only what has been said, but also how it was said.

**Counsel Communication**

Communication among members of a trial team is a relatively new technology of potentially major importance. Just as cell phones, pagers, and portable e-mail devices permit attorneys far from the office to reach others, the same technologies potentially permit counsel access to others from the courtroom proper. However, courtroom communications are more likely to stem from counsel's use of a silent notebook computer that accesses the Internet through a wireless connection or dial-up telephone connection. This not only provides e-mail, it also permits concurrent, real-time, instant messaging. If either a lawyer or the judge sends a court reporter's real-time text transcript out electronically, the lawyer's partners, associates, paralegals, and consulting experts can follow the trial as it takes place and respond to in-court counsel's requests for information or assistance. With the court's consent and an adequate broadband connection, counsel could even transmit audio and video to his or her law firm's office.

The ability to reach a potentially enormous support staff comfortably encounsonced in an office outside the courthouse could be of great help. At the same time, care must be taken to avoid potential disadvantages. Counsel communications might, for example, create undue reliance by in-court counsel on outside assistance. Of greater concern is that counsel communications are two-way. It takes very little to imagine a courtroom scene where a colleague, in the office following the trial transcript, is desperately messaging, "OBJECT—HEAR-SAY!!" Courtroom distraction should be avoided by prior planning. Like all other forms of technology, counsel communications can be highly beneficial if used properly.

Instant messaging from the counsel table also provides an alternative means of communication for judge and counsel. Anecdotal reports tell of judges resolving with counsel...
various matters outside the courtroom via instant messaging. Registering certain objections or moving for some types of relief silently via technology while still in the presence of a jury may now create possible alternatives to sidebars, provided that a complete court record is kept.

Remote Appearances
With many forms of modern communications, all the participants in a trial do not actually have to be in the courtroom physically. However, video conferencing is no longer new, and provides defense counsel with opportunities such as convenient and cost-effective depositions. The same technology permits remote witness testimony or even remote expert witnesses who cannot travel to the courtroom. Remote witnesses testifying via a life-size image immediately behind the witness stand, thus largely duplicating in-court testimony.

Remote witnesses often testify concerning documents or other exhibits. Such exhibits can be displayed remotely using document cameras (a form of TV camera aimed at the document), or documents can be faxed back and forth. More sophisticated equipment will show the witness on one monitor and the document or computer exhibit image on another.

Counsel interested in using remote witness appearances need to be personally familiar with the technology. Legal and practical concerns must be addressed, including assurances that the remote witness is not subject to tampering. Likewise, practical and technological considerations must be addressed.

Video conferencing devices used in court are either “roll-about” units (consisting of one or more television monitors, a television camera and microphone, and videoconferencing electronic equipment) or a permanently installed unit (sometimes with multiple cameras). People tend to look at the monitor showing the image of the remote person. If the television camera transmitting that person’s image is not roughly in line with the monitor, the jury may perceive that the remote person is looking elsewhere. Less obvious is the possibility, especially in a permanent courtroom installation, that the courtroom camera is somewhere other than near the monitor, and that the witness will see the lawyer in profile, which may result in unsettling the witness.

Some audio equipment does not deliver a clear sound. Usually, static or one-way audio can be cured by “hanging up” and reconnecting. However, some connections may nonetheless have a slight delay in audio transmission. That makes it difficult to interrupt the remote speaker. For all practical purposes, such a delay dooms any chance of playing “Perry Mason” via an interrupting and incisive cross.

Counsel seeking to block remote testimony should inquire about the proposed technical set-up and the non-courtroom remote site. Because remote witnesses do not ordinarily testify from other courthouses, the lack of appropriate formality in the remote location may prove an Achilles’ heel.

Evidence and Information Presentation
The heart of today’s technology-augmented trial practice is evidence presentation technology, a term that includes not only the formal presentation of evidence but also visual legal argument, opening statements, and closing arguments. Any description of evidence and information presentation technology is inherently complicated. At minimum, the technology consists of what we wish to show, the devices we use to initiate the process of showing the exhibits or other information, and the display devices used to show the exhibits or other information to judge and jury.

Suppose we wish to display a medical report. If the report is a paper document, we might put it under a document camera, a TV camera aimed down at the document. The document camera transmits a picture of the document, a picture that we can enlarge if we like and, with other equipment, annotate in color with a light pen. The fact finder will see the image of the document on the display screens, which could be large monitors, small flat computer monitors, or a large screen on which the image is projected from a bright front projection unit. If we wished to display a computer image to the jury, we would connect a computer to the courtroom display system, use software to create or call up the computer image, and then display the image on the courtroom monitors.
What are we showing?
The trial attorney will most often wish to display to the fact finder documents, photographs, charts, computer "slides," recorded audio and video (as in videotaped or multimedia depositions), and possibly computer animations. Although differing methods are often available to accomplish a given goal, generally a lawyer with paper documents or photographs has the option of either using a document camera and showing the image of the paper document, or converting the paper document into an electronic image by means of a device such as a computer scanner and then using a computer to show the image. E-mails, scanned documents, electronic diagrams, and animations all can be shown through use of a laptop computer and projector.

Many lawyers are using computer "slide shows," especially during openings and closings. A slide show is a series of computer images that is composed using popular programs such as Microsoft PowerPoint or Corel Presentations. A simple slide could be one with a colored background that displayed relevant text such as "Jennifer Handwerk, Pathologist" if counsel wished during opening to introduce a defense witness. A more detailed slide might have the doctor's picture, as well as subpoints, appearing individually or even fading into one another. Even audio can be added. To be useful, text slides should be simple, clear, and limited in number. Awesome productions may be entertaining but also distracting.

Slide software is cheap and is often included in the various office software packages. It is usually easy to use and simple to operate. But most types of the software suffer from one critical shortcoming—in its usual form, it is sequential. In other words, it is difficult or pragmatically impossible for counsel in the midst of trial to change quickly the sequence of images.

High-end presentation software such as TrialPro and Trial Director are "random access," allowing recall of images in any sequence desired, often by using a bar code reader and previously generated small images of the exhibits with accompanying bar codes. High-end software also allows search and integration with depositions and other high-end capabilities, and allows counsel to pull out, enlarge, and annotate key portions of exhibits on the fly.

The newest notebook computers and software may have the capability of allowing the lawyer to look at one image or program on his or her computer while showing another to the courtroom. This would permit, for example, counsel to privately consult her electronic trial notebook while displaying to the courtroom only the opening statement images desired.

How do we display it?
Most high-tech courtrooms have computer monitors at counsel tables and the bench. Courtrooms vary in their ability to visually display the lawyer's evidence and information to the jury. Early high-tech courtrooms (and the most inexpensive installations for a single case) often have single large screens and, in the case of an installed courtroom, a ceiling mounted projection unit. Newer courtrooms may have small flat screen monitors for the jurors, often one for every two jurors, with or without a large screen. Other courtrooms may have one or more large display monitors, perhaps mounted in front of the jury box.

Whether a single large screen or multiple small juror monitors are preferable for trial counsel is unclear. Many trial lawyers prefer the large screen, reasoning that it provides the jury with a single common focus and that the large size of the displayed image enhances the persuasiveness of the image. Faced with a highly visual plaintiff's case, defense counsel might wish to resist a single screen, arguing that the single large image is unduly impressive and thus unfairly prejudicial. Such an argument is unlikely to be successful if the large screen is permanently installed in the courtroom without alternative display options. Counsel could argue in an appropriate case, however, that it is not the large screen per se that is objectionable but rather the specific evidence to be shown on it.

Trial advocates should keep in mind that
with the electronic display of evidence and information, the fact finder's attention customarily shifts to the displays rather than on the lawyer. The more numerous the images shown, the higher the likelihood that jurors will focus almost entirely on the displayed images, leaving many lawyers to feel almost abandoned, especially if the lights must be turned down because of a dim display. When the courtroom design permits, some attorneys may attempt to compensate by standing near a large screen and using a remote control or an assistant to control the presentation. Given a choice between emphasizing counsel or emphasizing counsel's information, the information should win out.

**Tips and Suggestions**

Courtroom technology must be part of defense counsel's trial planning. He or she must consider which technology is practically available, given the courtroom, judge, budget, time, and the parties' ability to smoothly integrate the technology. At the same time, technology is only a tool. Counsel should use, or resist, technology only when it makes sense to do so in a particular case.

**Operating the Technology**

There is no definitive answer to the continuing question of who should operate the courtroom equipment during the defense attorney's case presentation. The lawyer should personally do so—if he or she can do so seamlessly and without risk to the presentation. Otherwise, counsel should use an assistant or employ a trial consultant. When defense counsel experiences technology problems, a jury may "warm" to the lawyer. Affection, however, does not necessarily equate to victory. The wisest approach is to be absolutely certain—before trial—that the person operating the equipment, be it the lawyer or a technician, knows exactly what to do to ensure an effective, error-free presentation.

There is a "chicken and egg" problem here also. Defense counsel cannot fully incorporate technology into the trial plan without understanding its use and effect on a near gut level. Watching someone else's technology presentation is not quite the same as making one. Counsel without personal experience in the area would be well advised to obtain basic training in technology-augmented trial practice to better understand what can be done and what should be done from that lawyer's personal perspective.

If the defense lawyer will personally operate the equipment, it is imperative that he or she understand any hardware or software peculiarities that might threaten the case. Notebook computers, for example, should have all powersaving or screen-saver functions disabled. Otherwise, counsel may experience perceived "sudden computer death" or a potentially embarrassing display of one's favorite screen saver.

**Coping with the Plaintiff's High-Technology Case**

The best way to prepare for the opponent's high-technology trial is to be aware of what plaintiff's counsel will do at trial. For example, Maryland Rule of Civil Procedure 2-504.3, "Computer-Generated Evidence and Material," provides a framework for considerations relating to the use of technology. In its most basic form, the Maryland rule requires advance notice of the intent to use computer-generated evidence and electronic copies of that evidence. Regardless of whether your jurisdiction has such a rule, it is a good idea for defense counsel to seek a pre-trial order requiring such disclosure, as well as a clear statement of how plaintiff's counsel will use technology to present his or her case. Such an order can be helpful in other ways as well. If both sides will use technology, the parties may be able to agree on what will be done and how, and arrange for cost-sharing.

Sometimes defense counsel, when faced with a planned technology-augmented opening statement, successfully request the court to order complete disclosure of the electronic part of the statement so they can inspect it and make a timely objection. Customarily, the lawyer relies on the court's concern about the use of boards and other visuals during the opening as the grounds for such a motion. However, there is no indication that such a request will lead to a full disclosure of the content of closing arguments.

**The Court Record and Displayed Evidence**

The attorney and the court should agree on how to designate and preserve for the record displayed exhibits that are modified by counsel or witness. If a party displays a document and then has the witness enlarge part of a paragraph and draw an electronic arrow to part of the paragraph, how will each separate image be denominated? Will the court print a copy of each step or simply describe what is occurring for purposes of the record? These are matters that should be discussed with the judge, and fully resolved, before trial.

**Evidence**

This article does not permit a lengthy discussion of how the rules of evidence affect the use of courtroom technology. For additional information on that topic, see 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). Ordinarily, however, technology does not present special evidentiary difficulties. Digital evidence or images can be altered or fabricated. So too, can written documents or photographs. The same rules for admissibility apply to digital evidence as to traditional evidence, including Federal Rule of Evidence 403, which allows counsel to argue that the proposed evidence on display is so unfairly prejudicial as to substantially outweigh its minimal probative value.

Defense counsel should also keep a special eye out for potential hearsay problems. These are most likely to occur when the opposing party uses a labeled graphic or animation, e.g., "location of negligent incision." The labeling may easily amount to testimonial hearsay. Certainly, defense counsel interested in using an expensive computer animation should give early notice to judge and opposing counsel if any risk exists that the court will reject the animation. In this way, objections may be considered ahead of time, thereby minimizing the risk that the court will prohibit the use of an animation that was expensive to develop.

When preparing for a high-tech trial of any type, counsel may wish to research the developing law of demonstrative evidence. Many of the visuals that counsel may wish to use to illustrate testimony may more properly be considered "demonstrative" rather than traditional evidence. In some jurisdictions, that label will mean their use is subject to the discretion of the judge.

**Conclusion**

The courtroom technology wars have begun. Technology-augmented trial practice is no longer science fiction. Instead, it is fast becoming commonplace. Every defense lawyer must stock his or her trial arsenal with the latest generation of "smart legal weapons." Victory belongs to the competent, ethical, and zealous counsel who is well prepared on the facts, the law, and the new technological tools of the legal profession.