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IN FOCUS

VISUAL EVIDENCE

Winning The Verdict With Videos And Virtual Reality

Many Traditional Forms Of Evidence Are Not Yet Obsolete, But Litigators
Increasingly Are Relying On Technology To Persuade The Jury.

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special to the national law journal

Trial lawyers always have known that the right picture can be worth a thousand words-or something more tangible, like a successful verdict. Today, even as litigators continue to use pictures, newer forms of demonstrative evidence are proving their worth.

Even virtual reality in the courtroom is no longer science fiction. Several years ago, in an apparent first, lawyers for Honda Motors actually took jurors on a three-dimensional, virtual-reality motorcycle ride.¹ Virtual reality, however, is not all that awaits juries of the 21st century. Lawyers increasingly are presenting jurors with dramatic new forms of demonstrative evidence, including computer animations

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and simulations. Animation, such as flight-path reconstructions, has become an almost routine demonstrative tool in airline crash litigation. Jurors in other cases have seen vivid, accurate medical animation of hypoxic brain injuries of babies in utero, closed-head injuries and ruptured disks.

As technology continues to evolve, making such presentations easier and cheaper to produce, some trial consultants predict that conventional photographs, diagrams, models and charts may take their places next to 45-rpm records.² Others, however, believe that traditional demonstrative evidence methods, including day-in-the-life videos and other forms of video that have become common in personal injury trial litigation, are unlikely to disappear anytime soon.³

In fact, many of the new presentations do not actually represent novel categories of demonstrative evidence; rather, they simply are old types of evidence to which new technologies have been applied. In the past, a plaintiff's lawyer in an automobile

collision case would offer into evidence a traditional drawing of a vehicle. Today, a computerized diagram might be offered instead. Courts, however, ordinarily treat the two no differently.⁴

Some lawyers have implemented more advanced technological methods. While continuing to use such standbys as photographs and medical records, a small but growing number have abandoned boxes, flip charts, blowups and videocassettes and are installing all of their evidence on laser disk or CD-ROM. Technology experts say that the new practice-called disk-based litigation technology, or DLT-is likely to catch on.⁵ The development of new forms of demonstrative evidence means new adaptations for jurors as well. Once called upon to pass one piece of evidence around the jury box, jurors today are viewing evidence on television sets, VCRs, laser-disks and computer-based display systems.⁶ Some courtroom technology experts predict that tomorrow's jurors will have individual stations with computer

notebooks and screens.⁷

It should come as no surprise that demonstrative evidence has taken a decided turn toward visual enhancement. Today's jurors come from the visual-video age. Several studies confirm that visual presentations have a much longer-lasting effect on individuals than do those that are not visual. One such study found that after three hours, participants retained 20 percent more information introduced in a combination visual-oral presentation than in a purely oral one. After 72 hours, they remembered more than five times more of a combination visual-oral demonstration than a purely oral one.⁸

The new highly visual forms of demonstrative evidence can be both persuasive and emotionally stimulating. So far, courts generally are admitting this evidence, provided that it sufficiently explains or illustrates relevant testimony, is fair and accurate, and does not mislead or prejudice jurors. Judges use wide discretion in balancing the probative value of and need for the evidence against the harm likely to result from its admission.

In 1992, in one of the most vivid examples of the application of that balancing test to new technology, a California trial court admitted a three-dimensional virtual-reality presentation that took jurors on a ride over terrain that a plaintiff, injured in a motorcycle accident, had driven.⁹ Lawyers for Honda, the defendant, argued that, in contrast to two-dimensional photos and videos, the 3-D ride would be much more realistic in providing the jury with a view of the wild and treacherous terrain. The court agreed, finding the 3-D view more informative, relevant and probative.¹⁰

Some lawyers believe that developing virtual reality demonstrations is beyond their ken, but it may not be as intimidating as they think. Virtual reality is a category of computer-generated simulation—generally, 3-D animation—that responds to the actions of the viewer in a programmed, realistic

fashion.¹¹ The most likely use of virtual reality in the courtroom is either to demonstrate or to re-create past conditions or events, or simply to portray them.¹²

Virtual reality may be displayed live or on tape and can include stereo sound and even a body suit that applies temperature and pressure. Wind and wetness also might be provided, along with such aids as body orientation or gravitational forces.¹³

Honda's virtual reality presentation grew rather unexpectedly from a series of stereoscopic photographs, taken at the accident site by an engineer for Honda, that originally were to be used as still photos at trial, according to Dennis Seley, who represented Honda and is now the managing partner in the Sacramento, Calif., office of Los Angeles' Lewis, D'Amato, Brisbois & Bisgaard L.L.P. The engineer shot the stills at 10-foot intervals while walking through the scene in the same direction the plaintiff had been traveling and at the plaintiff's approximate eye level.

Working with Honda, Menlo Park, Calif.'s Exponent—formerly Failure Analysis—decided to turn the series of stills into a video, displaying them so as to re-create the speed at which the plaintiff's motorcycle was traveling. When it came time for the presentation, the courtroom was darkened and each of the jurors was given a set of goggles.

The total presentation was within the goggles, Mr. Seley points out. What they saw in the pictures was a much more realistic view of how risky the situation was, which was exactly what we wanted. If you show still photos, it's just not there.

Honda won the case.

Rolling Out the Disks

That presentation was on videotape, but lawyers using new DLT may have an edge in coming years. DLT uses video laser disks and CD-ROMs that can hold as many as 10,000 images, including documents, graphics, photos, video and animation.

The lawyer puts evidence on a disk, assigns each image a bar-code number and, to present a particular piece of demonstrative evidence during trial, merely has to scan in the bar code with a light pen. The evidence then appears on a computer monitor or projection screen.

Lawyers using DLT benefit from not having to fumble through evidence, fast-forward or rewind tapes or sift through documents. In addition, they can decide at the last minute to include or exclude a piece of evidence. DLT also allows them to switch from text documents to photographs to video clips without rolling in multiple screens, projectors, or files, and without wasting the court's time and patience, or the jurors' attention, by switching among presentation machines.¹⁴

Video Not Vanquished

The use of videotapes, however, is by no means obsolete. Increasingly, lawyers are assembling demonstrative evidence before trial, recording it on video and showing the tapes to jurors. This is more efficient than bringing actual evidence to court and gives lawyers greater control over both actions and results.¹⁵

Videotapes can serve a variety of purposes in court, including providing views of objects or processes that cannot be transported easily to the courtroom or to which the jury cannot travel, recording experiments and demonstrating scientific principles. Videos now are common also for reconstructions or re-enactments of accidents or accident scenes, for computer-generated graphics, for taped depositions or confessions, and for day-in-the-life videos.¹⁶

Day-in-the-life videos, an effective mainstay of personal injury litigation, allow a jury to view the nature of a plaintiff's injury, and they help it to determine damages. In such a video, an entire day of a plaintiff's activities—such as dressing, eating, playing at home with children or attending a physical therapy session—is

filmed. Material from a day's shooting is edited to a manageable length for trial, with most presentations running between 15 and 30 minutes.

Other video forms, including progression videos, chronologies and documentaries, also can be extremely effective in personal injury litigation. Progression videos show the pain and suffering of a plaintiff over an extended period of time, including each stage in his or her rehabilitation and recovery.¹⁷ Chronologies collect photographs, slides, eight- and 16-millimeter film and home video of an injured or deceased plaintiff and turn them into a video timeline.¹⁸

Documentaries are detailed biographies of victims that include interviews with colleagues, family and friends, as well as photos and home videos. They can provide graphic depictions of wrongful-death plaintiffs in their pre-injured states.¹⁹

Techno for Tyros

Lawyers new to the world of sophisticated demonstrative evidence may consider its use out of reach. As DLT, videotape and other new technologies enter the courtroom, however, a number of companies and software programs are offering help. Companies such as Torrance, Calif.-based DecisionQuest and Virtual Courtroom Inc., of Bloomfield Hills, Mich., specialize in demonstrative evidence presentations and report that business is booming.

Denver's Technical Medical Animation Corp. has created several canned, videotaped computer graphics productions that can be adapted for particular cases. ADAM, or Animated Dissection of Anatomy for Medicine, is a computer anatomy book that enables an operator or attorney with basic computer skills to create individualized medical illustration presentations.

Even general-use software, such as Corel Draw, can help attorneys create demonstrative evidence packages.²⁰ For

animation production, a 486-based PC with a program like Autodesk's 3-D Studio, for example, can do the job.²¹

Animation, like virtual reality, scares some lawyers. At its simplest, animation is a sequence of illustrations that, when filmed, videotaped or computer-generated, creates the illusion that the illustrated objects are in motion.²² That illusion of movement is a result of each frame in a sequence being slightly altered.

Computer animations can be used to visualize or clarify a witness' testimony, to illustrate a litigation theory, to demonstrate scientific principles, to show results of experiments or to reconstruct events at issue.²³ So far, animations have been most widely used in cases involving toxic spills, building collapses, transportation accidents, building ordinance reviews and criminal prosecutions.²⁴

Producing a computer simulation of an event or process differs from computer animation in that a simulation involves manipulation by the computer of data that represents actual events.²⁵ A simulation continues the event beyond the stated mathematical or factual basis. In other words, it provides information about what would or could have happened, or an alternate theory of the accident.²⁶ The product of a computer simulation can be recorded in either videotape or laser-disk format. **NLJ**



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3. See, e.g., Joseph M. Herlihy, Note, Beyond Words: The Evidentiary Status of Day in the Life Films, 66 B.U. L. Rev. 133 (1986); Douglas A. Graham and Daryl J. Lapp, Day-in-the-Life Videos: Evolving Arguments on Their Making and Use at Trial, 27 Tort & Ins. L.J. 574 (1992); Windle Turley, The Video Documentary: A Powerful Settlement Tool, Trial,

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5. Jonathan D. Kissane-Gaisford, Note: The Case for Disc-based Litigation: Technology and the Cyber Courtroom, 8 Harv. J. Law & Tec 471, *507.

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12. *Id.* at para. 19.

13. Dunn, *supra* n.10.

14. Kissane-Gaisford, *supra* n.5, at 478.

15. Henry H. Perritt Jr., The Randolph W. Throver Symposium: Changing Litigation With Science and Technology: Video Depositions, Transcripts and Trials, 43 Emory L.J. 1071, 1076 (1994).

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18. *Id.*

19. *Id.*

20. Lederer, *supra* n.4, at 1114.

21. Mario Borelli, Note, The Computer as Advocate: An Approach to Computer-Generated Displays in the Courtroom, 71 Ind. L.J. 439, 439 (1996).

22. Joseph, *supra* n.11, at para. 8.

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23. *Id.* at 336.

24. Elaine M. Chaney, Note, Computer Simulations: How They Can Be Used At Trial and the Arguments for Admissibility, 19 Ind. L. Rev., 735, 735 (1986).

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