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E-DISCOVERY & BEYOND: TOWARD *BRAVE NEW WORLD* OR *1984*?

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E-Discovery & Beyond: Toward *Brave New World* or *1984*?

Richard L. Marcus*

I. INTRODUCTION

Anniversaries are occasions for reflection about the past and the future. As *The Review of Litigation* completes a quarter century of publication, we may use the occasion to reflect on where litigation is going in this country. I will focus on the impact of technology on litigation. In the foreground will be the advent of discovery of electronically stored information, commonly called E-Discovery. In

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the background will be the much broader question of the overall impact of technology on litigation in the coming century.

Looking back a quarter century, one would have to say that the rise of the computer has been the major technological innovation. E-Discovery, of course, directly results from the vast and growing importance of computers in our business and personal lives. The potential impact of that revolution is only now being felt. Two famous books of the pre-computer age provide effigies of the future to which such technology might take us. Both portray technology as a device to enforce conformity to a repressive social order. Aldous Huxley's *Brave New World*,[1] published in the early 1930s, offered a vision of technology as a seducer. It foresaw a world in which technology controlled almost all aspects of life, starting by brainwashing infants with whispered prejudices and relying among adults on an opiate (called soma) for the masses. George Orwell's *1984*,[2] published shortly after the end of World War II, offered a far different vision of a world dominated by technology—technology as the enabler of the tyrannical government called Big Brother. Each citizen was observed at almost all times by the omniscient Big Brother via TV cameras. Both of these visions should haunt those who contemplate the implications of technology for our present and future, particularly technology writ large with the pervasive importance of the digital revolution. And yet, as one judge said thirty years ago, "[t]he court should not be like an ostrich, sticking its head in the sand and being oblivious to advances in technology which can aid the judicial process."[3]

The question, however, is whether the courts should embrace technology as broadly as it can be embraced, perhaps as broadly as it has been embraced by society at large. I will turn first to considering the potential impact of digital technology on litigation in light of more general social trends affected by the computer. My particular focus will be on the potential impact of technology on trial.

Against that general background, I will turn to the actual experience of dealing with the issues raised by E-Discovery. Although the possibilities of such discovery might seem similarly momentous, the outcome of a fairly comprehensive effort to grapple with its problems is hardly revolutionary. At the same time, the

1. ALDOUS HUXLEY, BRAVE NEW WORLD (Harper Perennial) (1932).
2. GEORGE ORWELL, 1984 (1948).
3. *In re* Daniels, 69 F.R.D. 579, 581 (N.D. Ga. 1975).

introduction of an important set of new Federal Rules of Civil Procedure keyed to new technology represents a qualitative break with a past in which technological change was not important to those rules. And this change has been accompanied by strong statements of concern that it will usher in an era of significantly changed discovery, and therefore significantly altered litigation. Although only time will tell the eventual story, the E-Discovery episode is sufficiently ambiguous that it could support arguments about a coming *Brave New World* or *1984*.

This specific episode, then, provides a basis for reflecting on the general potential impact of digital technology on litigation. Although that impact could be very dramatic, to date it has not and there are reasons to think that in the future it will not. To the contrary, at least with regard to our method of trying cases, there seem to be important reasons for being skeptical about the ways in which digital technology could transform litigation.

II. LIVING AND LITIGATING IN THE DIGITAL WORLD

A. A Quick Profile of the Effects of the Computer on Society at Large

This introduction proceeds at the level of pop sociology. One does not need to be a sociologist to see that the computer has, in a generation, effected some major changes in the way our society operates. Contrast the activities of the average American twenty-five years ago to Americans today. There was no instant messaging, there were no cell phones, there was no email, almost nobody had access to the Internet, there was no fax machine, few people had voice mail, and cable TV was almost unknown. ATMs were a recent development: one who wanted to get cash usually had to do so during normal bank hours (which were shorter than they are now). Personal computers were almost unknown and word processing was a relatively specialized activity.

For those who grew up with these digital advances of the last quarter century, it must seem somewhat difficult to understand how ordinary life managed to function even twenty-five years ago. Yet that sort of contrast has been a hallmark of American society. The social historian Frederick Lewis Allen, for example, made a career of exploring the impact that the introduction of various new

technologies such as the automobile, the radio, and the telephone had on U.S. social activities.[4] As sociologists tell us, all of those devices changed the lives of Americans.

Owing to the computer, it seems that big changes have occurred more rapidly. For the cognoscenti, we are told, text messaging by cellphone is now the default mode of communication; email is for those who are relying on somewhat passé means.[5] For all of us, the advent of the ATM now means that getting cash is possible at almost all time, across much of the globe. Internet commerce permits people to make transactions around the world at almost any time. Credit cards provide the grease with which those transactions can be accomplished.

A key question for sociologists is the extent to which these changes may move our society toward *Brave New World* or *1984*. At least some trends suggest that technology could produce changes akin to those portrayed in these novels. In *1984*, Big Brother kept tabs on citizens using TV cameras trained on them virtually all the time. That no longer seems so far-fetched. In Britain, for example, there are plans to use surveillance cameras to record every car traveling on the country's roads, storing the date, time, and license number of the car.[6] *The Economist* reports that there is a growing impulse toward guarding privacy in China, leading to resentment among the younger generation about intrusive parents, but that "[i]n the public sphere it is usually technology, rather than nosy parents, that attracts complaints."[7] China is gaining on Britain in installing surveillance cameras. Altogether, these developments—made possible by the computer—raise concerns voiced by scholars of information management: "The amount of data currently collected as we go about our everyday lives . . . strongly suggests that we are

4. *See* FREDERICK LEWIS ALLEN, ONLY YESTERDAY (1931) (contrasting American social conditions at the turn of the 20th century with the conditions in 1930); FREDERICK LEWIS ALLEN, THE BIG CHANGE (1952) (making a similar comparison between 1900 and 1950).

5. Tom Zeller, Jr., *A Generation Serves Notice: It's a Moving Target*, N.Y. TIMES, Jan. 22, 2006, at C1 (describing text messaging as the "default mode" of communication, surpassing email, instant messaging, or even talking on the phone itself); s*ee also Getting the Message*, ECONOMIST, Mar. 4, 2006, at 61 (reporting that Americans "have finally embraced texting" and have overtaken the Germans, Italians, and French in their enthusiasm for this mode of communication).

6. *See Watch Your Driving—They're Watching You*, S.F. CHRON., Jan. 22, 2006, at E2 (reporting on British plan).

7. *The Long March to Privacy*, ECONOMIST, Jan. 14, 2006, at 45.

moving into a panoptic society. Even if the data are not collected by a single, Orwellian-like entity, . . . the possibility of synthesis remains."[8]

In this country, concerns along this line have recently been stimulated by revelations that since September 11, 2001, the U.S. government has focused national security surveillance partly on Americans, leading to uneasiness about such everyday activities as use of the Internet.[9] At the other end of the spectrum is the astonishing fact that some people have decided to emulate Big Brother by placing video cameras in their own homes and making the goings on there available to any who want to watch on the Internet.[10]

Parallels to *Brave New World* are less striking. At least in a 1960s sense, the various substances relied upon to do the work of soma have not depended on digital development. But technology has produced the iPod, and before it the Walkman, which seem to some extent to provide the whispered brainwashing or entertainment "fix" technology supplied. In some ways, these devices remind us more of a Kurt Vonnegut forecast than Aldous Huxley's projections.[11] The advent of cable entertainment channels and TiVo technology to store the selected fruit of this digital cornucopia similarly permit on-demand entertainment fixes unknown to former generations, as does the downloading of movies and music from the Internet. Perhaps not surprisingly, there are reports that members of

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8. Jean-Francois Blanchette & Deborah G. Johnson, *Data Retention and the Panoptic Society: The Social Benefits of Forgetfulness*, 18 INFO. SOC'Y 33, 34 (2002). *See also* Tresa Baldas, *New Data Used as Evidence*, NAT'L L.J., Aug. 16, 2004, at 1 [hereinafter Baldas, *New Data*] ("[C]riminal and civil attorneys alike say that in recent years they have tapped into new sources of electronic data—from cellular towers, electronic tollbooths, and automatic location-tracking devices—that make it easier to prosecute crimes and support claims.").

9. *See* Katie Hafner, *Internet Users Thinking Twice Before a Search*, N.Y. TIMES, Jan. 25, 2006, at A1 (describing uneasiness among Internet users about making certain types of searches for fear of attracting the attention of the government).

10. *See, e.g.*, Marshall Stella, *The Electronic Fishbowl*, N.Y. TIMES, May 21, 2000, §6 (Magazine), at 50 (describing the founder of www.nerdman.com, who makes available online a continuous video stream from six cameras stationed in his home).

11. *See* KURT VONNEGUT, *Harrison Bergeron*, *in* WELCOME TO THE MONKEY HOUSE at 7 (1970) (imagining a world in which the intelligent must wear earphones that emit loud sounds that interrupt their thoughts in order to even the playing field for those with lesser mental powers).

Generation X and Generation Y have lower attention spans from their predecessors (important to trial lawyers who see such people on their juries),[12] and of "groupthink" among those born in the last twenty-five years.[13]

Obviously the foregoing is superficial, but it lends some force to the suggestion that the digital revolution could produce unnerving consequences. If digital technology also transforms litigation, that could be unnerving as well.

B. The Potential Digital Impact on Litigation

Digital technology has had a big impact on law: "One can hardly pick up a report on current legal developments without finding references to the dramatic challenges posed to law, lawyers, and legal systems by emerging technologies."[14] The *Cornell Law Review* even has a position on its editorial board entitled Internet Editor.[15]

Litigators' lives similarly have been affected a great deal. They now have 24/7 lives rich in communications. BlackBerries and the like permit them to be constantly in touch with their offices and other lawyers while traveling. E-filing has become an increasingly widespread reality. Electronic access to court records has even bred its own problems as parties cringe at the revelation online of matters that would formerly have remained "hidden" in the "public" court records in which they were filed.[16]

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12. *See, e.g.*, Lisa Brennan, *Pitching the Gen-X Jury; As Jurors Get Younger, Law Schools Are Thinking More Like MTV*, NAT'L L.J., June 7, 2004, at 1 (describing "alphabet jurors" raised on MTV, CNN, AOL, USA Today and accustomed to getting information visually, graphically, and in ten- to thirty-second sound bites); Samuel H. Solomon, *Generation X in the Jury Box: Thinking Visually in Today's Society*, N.Y.L.J., May 5, 1997, at S2 (same).

13. *See* Zeller, *supra* note 5, at C1 (quoting a researcher investigating the "group-mentality dynamics that the Internet and instant messaging may be fostering").

14. Joseph W. Dellapena, *Law in a Shrinking World: The Interaction of Science and Technology with International Law*, 88 KY. L.J. 809, 810 (2000).

15. *See* Masthead, vol. 91, No. 1, CORNELL L. REV. (Nov. 2005).

16. *See* Richard Marcus, *A Modest Proposal: Recognizing (at Last) that the Federal Rules Do Not Declare that Discovery is Presumptively Public*, 81 CHI.-KENT L. REV. (2006) (forthcoming) [hereinafter Marcus, *Modest Proposal*] (describing privacy objections to online access to matters contained in court filings).

Whether digital technology has altered the core of the litigation process is not so clear. Certainly computers could work substantial changes. Consider personal jurisdiction limitations. In 1957, the Supreme Court recognized "a trend . . . toward expanding the permissible scope of state jurisdiction over foreign corporations and other nonresidents."[17] It explained that this expansion had resulted in large measure from technology's effects:

> Today many transactions touch two or more States and may involve parties separated by the full continent. With this increasing nationalization of commerce has come a great increase in the amount of business conducted by mail across state lines. At the same time modern transportation and communication have made it much less burdensome for a party sued to defend himself in a State where he engages in economic activity.[18]

Since 1957, these trends in technology and commerce have accelerated. Recall that in 1957 it was still not possible to dial a long-distance, land-line telephone call; one had to contact an operator to accomplish such a feat. Commercial jet travel was not a common thing. Credit cards were essentially unknown, making it necessary for travelers to bring cash, which they could only obtain during regular banking hours.

Contrast the ease of traveling and dealing with others at a distance in the 21st century. Email allows lawyers and clients to be in instantaneous and almost continuous communication no matter where they are. It also allows people to exchange lengthy documents—such as a draft answer—almost instantaneously. E-filing permits lawyers to file documents instantaneously in distant courts. And even the original complaint might theoretically be served by email, thus further reducing the impediments of distance on litigation. Discovery could proceed online; lawyers could question witnesses from a distance, perhaps by video hookup. For the pretrial phase, at least, computers could work (or complete) a transformation of American litigation.

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17. McGee v. Int'l Life Ins. Co., 355 U.S. 220, 222 (1957).
18. *Id.* at 222-23.

What of the trial itself? In the mid-20th century, the view was that "[t]he heart of the judicial process is the trial in court. All that precedes the trial is but preparation. All that follows is but correction of error, if error there be."[19] Should the trial remain untouched by technological development?

Several years ago, Dean Carrington undertook to peer into the possible future for trial in the age of "virtual civil litigation."[20] He concluded that "[t]he traditional trial is becoming obsolete."[21] He assumed that the role of the jury should remain sacrosanct, and that the jury should therefore be assembled in the courthouse to observe the "trial." But he saw no reason for the "trial" itself to be dependent on live testimony in the courtroom. To the contrary, as witnesses were likely to be dispersed over wider and wider areas, it would become more and more important to replace live testimony with recorded testimony, perhaps itself the product of discovery conducted by video conference hookup. That way, all the evidence could be recorded in advance and all evidentiary issues would also be resolved in advance. In this Brave New World, "trial counsel become co-producers of a multi-media presentation,"[22] and "trial advocacy will more closely resemble the work of the Hollywood film producer and less that of the Hollywood actor."[23] The jurors, having been summoned to the courthouse, would there watch the movie. But before that happened, the court could rule on any motions for judgment as a matter of law. And appellate review of all pretrial rulings (including motions in limine) would be accomplished before the "trial" since there would be no development at trial to await in addressing such rulings. There would thus never be a need for a motion for a new trial.

One can certainly cavil about the introduction of appeal before trial. That would seemingly require a vast expansion of appellate capacity, and delay the beginning of trial even more than is currently true. It might even be that providing the appellate court

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19. Sidney Post Simpson, *The Problem of Trial*, in DAVID DUDLEY FIELD CENTENARY ESSAYS CELEBRATING ONE HUNDRED YEARS OF LEGAL REFORM, at 141, 142 (1949).

20. Paul D. Carrington, *Virtual Civil Litigation: A Visit to John Bunyan's Celestial City*, 98 COLUM. L. REV. 1516, 1517 (1998).

21. *Id.* at 1524.

22. *Id.* at 1526.

23. *Id.* at 1524.

with the video version of the trial would actually delay appellate review, whenever that happened.[24]

Other scenarios suggest themselves for the trial itself. Why not have the witnesses give "live" testimony by video hookup during the "trial" rather than relying on a pre-recorded video? Why require the jurors to come to the courthouse to see that presentation; couldn't they view it online from home? And couldn't the jurors deliberate online—in the jury chatroom?

The possibilities for dramatic change clearly exist. Whether these would usher in features of *Brave New World* or *1984* could be debated. Certainly online jury deliberations would be more susceptible to surveillance and threaten the normal sanctity of juror deliberations. More basically, a shift to Hollywood productions in place of conventional trials would seem a major transformation in the nature of the event. Whether these possibilities are likely to become realities will be addressed in Part IV. The E-Discovery episode provides one illustration of coping with technological development in the current litigation apparatus.

III. ADAPTING TO E-DISCOVERY: THE FIRST BIG STEP TO VIRTUAL CIVIL LITIGATION?

A. The Setting

E-Discovery could be the first big step into the world of digital litigation. Dean Carrington had a forecast for the impact of the computer on discovery—that production of documents in digital form would allow parties to find the needle in the haystack much more easily.[25] He was ahead of the pack in recognizing that E-Discovery might prove important. Other academics have been more vehement about its potential impact: "[T]he technological explosion simultaneously has given rise to an entirely new set of difficulties

24. *See* Henry H. Perritt, Jr., *Video Depositions, Transcripts and Trials*, 43 EMORY L.J. 1071, 1087-88 (1994) (observing that people can usually read a transcript of trial proceedings five times as fast as they can watch a video of them, making that aspect of appellate review much more time-intensive).

25. Carrington, *supra* note 20, at 1534.

that threaten to distort the discovery process and significantly skew the delicate balance of values the procedural system serves."[26]

Among lawmaking bodies, the Texas state courts were the leaders of the pack. In 1996, Texas adopted a provision specifically addressed to E-discovery.[27] Others have joined in since. As detailed below, the federal rulemakers have developed a full package of E-Discovery rule amendments that are expected to become effective on Dec. 1, 2006. Many others have begun to consider similar moves. Both the United Kingdom[28] and Canada[29] have examined possible rule responses to these issues. The California state courts have begun study of changes to correspond to the anticipated changes to

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26. Martin H. Redish, *Electronic Discovery and the Litigation Matrix*, 51 DUKE L.J. 561, 565 (2001).

27. TEX. R. CIV. P. 196.4. The provision holds:

> To obtain discovery of data or information that exists in electronic or magnetic form, the requesting party must specifically request production of electronic or magnetic data and specify the form in which the requesting party wants it produced. The responding party must produce the electronic or magnetic data that is responsive to the request and is reasonably available to the responding party in its ordinary course of business. If the responding party cannot—through reasonable efforts—retrieve the data or information requested or produce it in the form requested, the responding party must state an objection complying with these rules. If the court orders the responding party to comply with the request, the court must also order that the requesting party pay the reasonable expenses of any extraordinary steps required to retrieve and produce the information.

Id.

28. *See* DEP'T FOR CONSTITUTIONAL AFFAIRS (U.K.), PRACTICE DIRECTION-DISCLOSURE AND INSPECTION, http://www.dca.gov.uk/civil/procrules_fin/contents/practice_directions/pd_part31.htm (last visited May 16, 2006) (providing rules of disclosure of electronic evidence).

29. *See* ONTARIO BAR ASS'N, GUIDELINES FOR THE DISCOVERY OF ELECTRONIC DOCUMENTS IN ONTARIO, http://www.oba.org/en/pdf_newsletter/E-DiscoveryGuidelines.pdf (last visited May 16, 2006); COURTS OF BRITISH COLUMBIA, ELECTRONIC EVIDENCE PROJECT, http://www.courts.gov.bc.ca/sc/ElectronicEvidenceProject/ElectronicEvidenceProject.asp (last visited May 16, 2006); *see also* SUP. CT. OF JUSTICE, MINISTRY OF THE ATT'Y GEN., REPORT OF THE TASK FORCE ON THE DISCOVERY PROCESS IN ONTARIO, 64 (Nov. 2003), http://www.ontariocourts.on.ca/superior_court_justice/discoveryreview/index.htm (reporting that only four percent of attorney respondents said that E-Discovery was a factor in their cases).

the Federal Rules.[30] The Commissioners of the Uniform State Laws have begun a project to develop a model set of rules.[31]

Before most of this rulemaking hoopla occurred, there was a great deal of hoopla in the bar. To say that the CLE market has taken note of E-Discovery is an understatement. At the request of the Advisory Committee on Civil Rules, the Federal Judicial Center monitored CLE programs on E-Discovery and found that, over a period of several years, such programs occurred at a rate of about two per week.[32] Entire issues of *Trial* magazine[33] and *The Federal Lawyer*[34] devoted front-page coverage to these concerns. Thick books are devoted to the topic.[35] Even mainstream media have focused on E-Discovery; Yahoo News offered a story on Jan. 29, 2006, entitled "Electronic Discovery Industry Booming." One could ask what the hoopla is all about.

(1) *Big Brother concern*: One answer is something of a Big Brother concern. Particularly in the employment context, the advent of email has greatly magnified employers' ability to monitor what their employees are doing. Privacy-based arguments against such surveillance have been rejected by the courts.[36] A 2001 survey reported that seventy-four percent of U.S. companies monitor employee use of the Internet and seventy-two percent spy on employee email.[37] Similar efforts evidently occur in other

30. It is anticipated that proposed amendments to the California Rules of Court to address certain E-Discovery issues will be circulated in time to go into effect on Dec. 1, 2006. In addition, proposals may be made to the California Legislature to amend provisions of the California Code of Civil Procedure to address E-Discovery concerns. Telephone Conference with Patrick O'Donnell, Judicial Council of California, Mar. 13, 2006.

31. NAT'L CONF. OF COMM'RS ON UNIFORM STATE LAWS, 2004-05 ANNUAL REPORT 15 (2005) (announcing drafting committee on Discovery of Electronic Records Act).

32. Richard Marcus, *Only Yesterday: Reflections on Rulemaking Responses to E-Discovery*, 73 FORDHAM L. REV. 1, 11 (2004).

33. *See* TRIAL, Oct. 2005.

34. *See* FED. LAW., July 2002; Aug. 2002.

35. *See, e.g.*, ADAM I. COHEN & DAVID J. LENDER, ELECTRONIC DISCOVERY: LAW AND PRACTICE (2005); JOAN E. FELDMAN, ESSENTIALS OF ELECTRONIC DISCOVERY (2003); ALAN M. GAHTAN, ELECTRONIC EVIDENCE (1999); MICHAEL R. OVERLY, OVERLY ON ELECTRONIC EVIDENCE IN CALIFORNIA (1999).

36. *See* Fraser v. Nationwide Mut. Ins. Co., 352 F.3d 107, 114 (3d Cir. 2003) (holding that an employer did not violate an employee's federal privacy protections by sifting through the employee's email).

37. *See* Kevin Livingstone, *Battle Over Big Brother*, S.F. RECORDER, Aug. 30, 2001, at 1.

countries.[38] "Snoop software" has been developed to assist in such activities; concerned with privacy, its maker actually weakened it to reduce intrusion.[39] Cellphone records may be purchased online, and lawyers are among the top customers.[40]

(2) *Explosive potential impact*: Another explanation is a recognition of the explosive potential impact of electronically stored information as evidence, particularly of email. In the words of *Fortune* magazine, email is the corporate equivalent of DNA.[41] Lawyers are not proof against the risks of email. For example, a recent news story described a quarrelsome exchange of email messages between two Boston-area lawyers about whether one had accepted a job working for the other.[42] Eventually, the prospective employer sent the exchange to a colleague, who got permission to forward it elsewhere, and the exchange rapidly was circulated throughout the country and abroad. In the words of the Boston Bar Association president-elect: "It almost sounds too obvious, but I'll say it: You should never write an email that you are not willing to see preserved forever in history."[43] Some law schools have actually started offering instruction on the pitfalls of unprofessional emails.[44] And nonlawyers have come to rely on email as a substitute for face-to-face and telephone conversations, including off-the-cuff and other potentially embarrassing remarks. Such remarks can become

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38. *See* Dan McLean, *Watch Your On-Line Chit-chat, The Boss is Reading It*, TORONTO GLOBE & MAIL, July 28, 2005, at B7. This report on activities in Canada says that "Big Brother may not be watching, but your employer most likely is." It reports that Canadian companies are regularly reviewing employee computer use.

39. *See* John Schwartz, *Snoop Software Gains Power and Raises Privacy Concerns*, N.Y. TIMES, Oct. 10, 2003, at A1.

40. *See* Tresa Baldas, *Who Surfs for Cellphone Records? Lawyers*, NAT'L L.J., Feb. 6, 2006, at 1 ("These attorneys include divorce lawyers, who want to know who feuding spouses are talking to; business lawyers, who want to know who their clients' competitors are talking to; and employment lawyers, who want to know if employees are selling any trade secrets.").

41. Nicholas Varchaver, *The Perils of E-mail*, FORTUNE, Feb. 17, 2003, at 96, 96.

42. Sacha Pfeiffer, *Lawyers' Testy E-Mail Exchange Pulls Audience*, S.F. DAILY J., Feb. 17, 2006, at 4 (reprinting story from *Boston Globe*).

43. *Id.*

44. *See* Eron Ben-Yehuda, *Sending Unwise E-Mails Can Be Hazardous to Your Career*, S.F. DAILY J., Oct. 11, 2004, at 4 ("USC Law School is part of a growing list of law schools with legal writing programs offering instruction on the pitfalls of crafting unprofessional e-mails.").

extremely important when they are used in court; blather of this sort can sink a case.

(3) *Unfamiliarity*: A third reason is unfamiliarity. Lawyers who realize that emails and other items obtainable through E-Discovery can have explosive importance may nonetheless feel that they don't know how to handle this new form of discovery. Certainly those who provide E-Discovery services seek to capitalize on this attitude. A full-page advertisement in the *National Law Journal*, for example, showed a distraught litigator and bore the legend "Does e-Discovery have to be so daunting?"[45]

(4) *Vendor hype*: A fourth reason flows from the previous two—vendor enthusiasm and occasional overstatement. E-discovery has become big business in a very short time. One estimate is that revenues of E-Discovery vendors increased from $40 million in 1999 to $430 million in 2003, with projections of further increases to more than $2.8 billion in 2007.[46] To achieve such results, vendors have found it attractive to cultivate dread among members of the bar. One message that those marketing services assisting in E-Discovery want to get across is "you can't do this without me."[47] There is even a new law firm devoted primarily to providing legal advice about E-Discovery.[48]

(5) *Effectiveness in obtaining accurate evidence*: A fifth reason builds on several others: getting access to such evidence, particularly email messages, is critically important to building a case. Probably the first case to bring that home was *United States v. Microsoft*, in which the government used Microsoft email messages

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45. NAT'L L.J., Mar. 17, 2003, at C12.

46. SOCHA CONSULTING, THE SOCHA-GELBMANN 2005 ELECTRONIC DISCOVERY SURVEY RESULTS, www.sochaconsulting.com/2005surveyresults.htm (last visited Mar. 11, 2006); *see also* Leigh Jones, *The Surging Evolution of E-Discovery*, NAT'L L.J., Aug. 2, 2004, at 1 (projecting $1.8 billion E-Discovery costs in 2006).

47. *See, e.g.*, Julie Noble, *Dangers in E-Discovery*, LEGAL TIMES, June 3, 2002, at 15 (describing "common mistakes in the digital discovery industry" and identifying mistake number one as "[t]rying to go it alone.").

48. *See* Petra Pasternak, *New Law Firm Targets E-Discovery*, S.F. RECORDER, Oct. 20, 2005. This article describes the new law firm Redgrave, Daley, Ragan & Wagner, which "will offer strategic advice to businesses on improving the management of their digital information and records, how best to respond to electronic discovery requests, and the risks involved in the integration of different information systems in the aftermath of a merger or acquisition." The four partners are located in Washington, D.C., San Francisco, Minneapolis, and Kansas City.

to devastating effect during the trial. As all litigators know, getting a witness to acknowledge or "recall" things often depends on getting the relevant documents; documents don't forget. But hard-copy materials disappear altogether. Indeed, for some types of litigation hard-copy materials may be disappearing. Consider medical records as an example; hard-copy is probably on its way out for such records. Nowadays one follows the emails, not the money. As the *Wall Street Journal* observed, "[c]orporate investigations used to mean following a paper trail, but these days many follow an electronic one."[49] The *ABA Journal* similarly reported, regarding an investigation by New York Attorney General Eliot Spitzer, that "[a]s with many damaging revelations produced in court during the last decade, these statements did not come from wiretaps . . . but from e-mails produced in the normal course of discovery."[50] In the words of a Houston attorney, "What I've found is that when you've got the e-mails, people remember lots and lots of things."[51]

(6) *Volume of material*: A sixth reason is pure volume. There is so much electronically stored information that it may tend to dwarf all other information. According to *The Economist*, between 1999 and 2002, the amount of information produced in the world more than doubled.[52] A much-cited illustration of the effect of this growth on litigation comes from the *ABA Journal*—that some major cases now involve a terabyte of information, sufficient if printed to paper to fill the Sears Tower four times.[53]

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49. Ellen Byron, *Computer Forensics Sleuths Help Find Fraud*, WALL ST. J., Mar. 18, 2003, at B1; *see also Dusting for Digital Fingerprints*, ECONOMIST, Mar. 12, 2005, at 32 (describing the growing field of forensic computing).

50. Jason Krause, *Discovery Channels*, A.B.A. J., July, 2002, at 49, 49-50; *see also* Alex Berenson, *Once Again, Spitzer Follows E-Mail Trail*, N.Y. TIMES, Oct. 18, 2004, at C1 (describing investigation of Marsh & McLennan); *Dusting for Digital Fingerprints*, ECONOMIST, Mar. 12, 2005, at 32 (describing use of forensic computer techniques to solve crimes); Orrin S. Kerr, *Searches and Seizures in a Digital World*, 119 HARV. L. REV. 531 (2005) (exploring Fourth Amendment complications caused by increasing importance of digital evidence in criminal cases).

51. Peter Geier, *A Defense Win in "Enron Country*," NAT'L. L.J., Jan. 23, 2006, at 6.

52. *See Measuring the Data Mountain*, ECONOMIST, Dec. 6, 2003 (reporting that the amount of information being produced is increasing by thirty percent per year, and that ninety-two percent is stored on magnetic media).

53. Jason Krause, *What a Concept!: New Computer Search Methods Promise Better E-Discovery Results*, 89 A.B.A. J. 60, 60 (2003).

(7) *A sense that the litigation world has changed*: Finally, a seventh explanation is that, owing to the foregoing considerations, the discovery world has changed significantly. Thus, it has been said that "the document production of 2003 bears little resemblance to that of the 1980s or the 1990s."[54] The *Wall Street Journal* quoted a leading vendor of E-Discovery services as predicting in 2003 that "[w]ithin three years, I'm sure almost all evidence collected in discovery will be electronic-based."[55] Needless to say, we have arrived at the watershed year of 2006. Acknowledgement that E-Discovery is the new 600 pound gorilla of discovery seems in order.

B. The Rules Process Reacts

The foregoing considerations can tempt one toward apocalyptic visions. Some who approached the Advisory Committee on Civil Rules seemed to have in mind aggressive rulemaking. Besides ringing the tocsin of technological transformation, arguments for aggressive change could be based on two themes. One is that since the late 1970s the rules process has been engaged in a containment effort to constrain aspects of discovery that appeared unrestrained.[56] A second is that despite these efforts, American discovery is still the most intrusive in the world. Thus, other countries have adopted "blocking" statutes to prevent American discovery on their soil,[57] and the American Law Institute's proposed *Transnational Rules of Civil Procedure* explicitly disavow American-style discovery.[58] In the view of some, at long last the time had come to replace the prevailing view that discovery should normally come at the cost of the responding party.

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54. David Horrigan, *Producing Those Documents*, NAT'L. L.J., Mar. 17, 2003, at C3.

55. Byron, *supra* note 49, at B1 (quoting the president of Computer Forensics).

56. *See generally* Richard Marcus, *Discovery Containment Redux*, 39 B.C. L. REV. 747 (1998) (chronicling discovery containment effort from mid-1970s through late 1990s).

57. *See* Richard Marcus, *Retooling American Discovery for the 21st Century: Toward a New World Order?*, 7 TUL. J. INT'L & COMP. L. 153, 154 (1999) (describing reaction of other countries to U.S. discovery).

58. *See* Richard Marcus, *Putting American Procedural Exceptionalism Into a Globalized Context*, 53 AM. J. COMP. L. (forthcoming 2006) (examining the ALI proposal).

At the same time, one could argue that the existing rules provided all the tools that were needed. Rule 26(c) permits protective orders in a variety of situations for a range of reasons. Rule 26(b)(2) provides a set of directives the court can use to limit or forbid overly intrusive or burdensome discovery. Changing or adding to those provisions solely because a new technology had appeared on the scene could be seen as unwarranted. There was no change to the discovery rules to accommodate the advent of the photocopier, for example, but it surely had a powerful effect on discovery.

The prospect of change could also be viewed as a reactionary response to a modest problem. An article in *Trial Magazine*, for example, lamented "the ever-increasing contraction of discovery rights," and warned that "changing the e-discovery rules is a high priority among corporate counsel, defense attorneys, and e-discovery consultants and contractors."[59] Sometimes such views seemed to be reflected among the proponents of change. Thus *Business Week* saw the emergence of Federal Rule amendments as resulting from "[c]orporate America's effort to get the Judicial Conference . . . to enact new procedures for electronic evidence" because "[d]igital evidence has revolutionized the litigation battlefield."[60] From this view, "the proposed rules would give defense counsel a variety of new weapons."[61]

Actually, the proposed amendments are quite modest. To put them into context, consider some alternative ideas that were seriously suggested at various points:[62]

(1) Declaring that an email is not a "document" and therefore not discoverable;

(2) Mandating the exact form for electronic recordkeeping that would be regarded as "reasonable" for purposes of the rules;

(3) Requiring that backup tapes always be searched to determine whether responsive material exists on them;

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59. James Rooks, *Will E-Discovery Get Squeezed?*, TRIAL, Nov. 2004, at 18, 20.

60. Mike France, *Taking the Fear Factor Out of E-Mail*, BUS. WK., Dec. 20, 2004, at 68.

61. *Id.*

62. This list is based on my recollection of suggestions or views expressed at various times during the multi-year process of consideration of E-Discovery amendments. Many of these were never made formally to the Advisory Committee.

(4) Requiring that whenever backup tapes must be restored and searched, the party seeking discovery must pay the entire cost of that effort when done in the manner selected by the party providing discovery;

(5) Mandating the exact form in which electronically stored information must be exchanged through discovery and prescribing other similar technical details.

The proposed rules do not include such aggressive ideas. Instead, they essay to do some rather specific and modest things:

(1) *Recognizing "electronically stored information" as a separate object of discovery*:[63] Until now, discovery of electronically stored information has proceeded on the assumption that it falls within the broad definition of "documents" under Rule 34.[64] That has not posed a major problem; indeed, since 1970 "data compilations" have been included in the rule as an example of "documents." But the emerging reality has been that various sorts of electronically stored information do not readily fit into any sensible definition of a "document." Dynamic databases, for example, are capable of providing a variety of information in response to a query, but it is hard to conceptualize them as a "document" that exists and can be "produced" independent of such a query. They are, moreover, constantly changing as data are added or modified. Somewhat similarly, web pages may be difficult to conceive as "documents," and also difficult to locate since they change so often.[65] Perhaps more importantly, there is at least some reason to think that in the future the primary source or object of discovery will be electronically stored information. Treating that as one subcategory of "documents" (along with "drawings," "graphs," "charts," and other items) seems not to acknowledge its centrality. Under the revised rule, it may not be recognized as central, but it is at least recognized as co-equal to "documents."

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63. *See* Proposed Amendments to FED. R. CIV. P. 34(a), *in* Summary of the Report of the Judicial Conference Committee on Rules of Practice and Procedure, at C-70 to C-71, *available at* www.uscourts.gov/rules/Reports/ST09-2005.pdf [hereinafter Judicial Conference Report].

64. *See* FED. R. CIV. P. 34(a) (authorizing a request for inspection of "documents").

65. *See* Gwendlolyn Mariano, *Missing Links*, CAL. LAW., Jan., 2003, at 27 (describing special methods to locate superseded Web pages).

(2) *Directing the parties to discuss issues relating to electronically stored information at the outset*:[66] Far too numerous among the tales of woe concerning E-Discovery are those that could have been avoided had the parties thought about them before they arose. It is not surprising that a new phenomenon will often produce some such contretemps. But with the passage of time, parties should be able to discuss and plan to avoid future predicaments of this sort. Amendments to Rule 26(f) seek to accomplish that result. Besides generally directing that the parties consider any electronically stored information issues, the rule also specifically calls for them to discuss the form of production and preservation of discoverable information, as well as suggesting that they consider ways of handling problems of privilege waiver.

(3) *Providing default rules for the form of production of electronically stored information*:[67] With hard-copy information, there are few occasions to worry about form of production. True, there could be concern about whether the producing party simply provided photocopies or delivered original documents for inspection. And organization of the documents could generate controversy. In 1980, for example, Rule 34(b) was amended to forbid altering the sequence of documents for purposes of production unless the producing party organized them according to the requests themselves.[68] This requirement was introduced to address concerns that producing parties might remove the "hot" documents from their usual location and secrete them among invoices or other unimportant materials.[69]

With electronically stored information, form of production became a major issue. Information produced on a normal computer program contains more than what we might call the "document." In general, it contains "metadata," which provide the means for accessing or manipulating the information using a computer program, and often also contains "embedded data" including such

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66. *See* Judicial Conference Report, *supra* note 63, at C-31 to C-33 (discussing proposed amendments to FED. R. CIV. P. 26(f)).

67. *See* Judicial Conference Report, *supra* note 63, at C-71 to C-73 (describing proposed amendments to FED. R. CIV. P. 34(b)).

68. *See* FED. R. CIV. P. 34(b) (requiring that a party producing documents do so "as they are kept in the usual course of business" or "organize and label them to correspond with the categories in the request").

69. *See* FED. R. CIV. P. 34(b) advisory committee's notes on 1980 amendments ("It is apparently not rare for parties deliberately to mix critical documents with others in the hope of obscuring significance.").

things as prior edits of the material and notations about it inserted by the creator or other users. Form of production would often be crucial to the utility of the produced information because the receiving party might be unable to make any use whatsoever of the material if it did not have the proper software. That problem might be solved if the producing party provided all the material in hard-copy form, but then the receiving party would have to key it into some computer system to be able to search it using a computer. At the same time, much sensitive information might be disclosed if "native format" data were produced. Many large organizations have developed software tailored to their needs, and there may be proprietary interests that could be harmed by dissemination of that metadata. Embedded data might contain information protected under the attorney-client privilege, the work product doctrine, or otherwise, and identifying and reviewing that information could be quite challenging.

Reports on actual conduct in discovery of electronically stored information emphasized the access concern. Some producing parties converted information to TIFF or PDF format, which could be unidimensional in the same way a hard-copy document was, requiring scanning or re-keying to permit electronic searching. Although conversion to TIFF or PDF images could entail considerable expense, it was justified on the ground that there was otherwise no way to make a record (as with Bates numbering machines for hard-copy material) of what was produced, that otherwise the integrity of the evidence could not be assured since it could be modified after production, and that proprietary software had to be protected.

One rule response, noted above, was to direct the parties to talk about form of production up front if discovery of electronically stored information was anticipated in the case. But finding a good solution when that did not lead to agreement proved a challenge. An easy first step was to authorize the party requesting information under Rule 34 to specify the form for production of electronically stored information, permitting the responding party to object and leaving it to the court to decide if the parties could not agree.[70]

Although the rule sets no standards for the court to apply if presented with such a dispute, one reference might be the form the objecting party uses for other sorts of electronic interaction. An

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70. *See* Proposed Amendment to FED. R. CIV. P. 34(b), *in* Judicial Conference Report, *supra* note 63, at C-71.

analogy may be provided by the Freedom of Information Act (FOIA), which calls for governmental agencies to provide data in the requested form if it is "readily reproducible by the agency."[71] The pertinent regulations call for a "business as usual" approach to what is "readily reproducible," focusing on what format the agency uses in its ordinary business dealings. In one case, the Department of Defense refused to provide materials in "zip" drive format despite evidence that it would provide information in the format to its contractors.[72] The Department contended that the pertinent "business as usual" focus should be limited to the department's usual practice in responding to FOIA requests. The Ninth Circuit rejected this argument:

> The language of the FOIA does not support a reading that distinguishes between "business as usual" for FOIA requests and "business as usual" for activities that are part of the agency's business. . . . [I]t would seem anomalous for an agency that is regularly reproducing documents in a particular format as part of its ongoing business to be able to shield itself from similar production under FOIA. . . . When an agency already creates or converts documents in a certain format—be it for FOIA requestors, under as contract, or in the ordinary course of business—requiring that it provide documents in that format to others does not impose an unnecessarily harsh burden . . . .[73]

The question remained what the responding party should do if the request did not so specify. At first, the Advisory Committee proposed to require that electronically stored information be produced in a form that is "electronically searchable,"[74] but commentary suggested this might often be a meaningless phrase. For example, did this mean that the requesting party could insist that the material be produced in a form suitable for its system, no matter how unorthodox that system might be? Ultimately, the resolution

71. 5 U.S.C.A. § 552(a)(3)(B) (West 2006).

72. TPS, Inc. v. U.S. Dep't of Defense, 330 F3d 1191, 1193 (9th Cir. 2003).

73. *Id.* at 1195.

74. *See* Preliminary Draft of Proposed Amendments to the Federal Rules of Bankruptcy, Civil, and Criminal Procedure, and the Federal Rules of Evidence 46-47 (2004).

was to give the producing party a choice should the requesting party not specify the desired form of production—either produce in a form in which it maintained the information or produce in a form "reasonably usable" to the requesting party.

(4) *Inaccessible information*:[75] Durable though electronically stored information may be in many ways, it is not proof against system failure. As a result, almost all organizations with electronic information systems also have some sort of "backup" technique to make a copy of the active information on the system on a regular basis. Since September 11, 2001, such backup tapes have usually been stored off site. They are generally intended solely for disaster recovery, rather than to serve as archival resources (although it may be that they are sometimes employed in that manner also). The problem is whether, in making initial responses to Rule 34 requests, producing parties have to dredge through their backup tapes to determine whether responsive information might be found on them.

A related problem involved "legacy data." As many will recall, a number of word processing systems showed early promise but ultimately lost out in a competition that favored a relatively small number of providers. For example, I started out in practice relying on Wang systems for word processing. Those went out of production long ago. Many organizations that have so relied still possess relics of that earlier era containing data. But often there is no existing machine or software to access those data. Should Rule 34 put the producing party to the challenge of disinterring data from a superseded system?

Frankly, the early impression was that nobody really expected responding parties to go to such lengths to provide discovery unless there were a special need, and as long as six years ago there were proposals for some recognition of that shared assumption in the rules.[76] But one could argue that the rules already

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75. *See* Judicial Conference Report, *supra* note 63, C-45 to C-47 (discussing proposed amendments to FED. R. CIV. P. 26(b)(2)).

76. *See* Memorandum to Participants in Oct. 27, 2000, Conference on Computer-based Discovery at Brooklyn Law School (Oct. 4, 2000), at 9-11 (on file with author and with Rules Committee Support Office, Administrative Office of the U.S. Courts, Washington, D.C.). This memorandum was used for a mini-conference held by the Discovery Subcommittee of the Advisory Committee on Civil Rules. For purposes of discussion only, it offered a possible Rule 26(h) that would have excused initial provision of electronically stored information deleted

contained a guideline suitable to this problem—the "proportionality" provisions of Rule 26(b)(2), introduced with fanfare in 1983 as a "180 degree shift" in the orientation of discovery[77] and available to show whether "heroic measures" to dredge material from backup sources or legacy data might be warranted. Relying on existing rules had some drawbacks, however. For one thing, the proportionality provisions had remained in obscurity for two decades,[78] although they seemed to be getting more attention. Perhaps more important, reliance on Rule 26(b)(2) seemed cumbersome in light of how pervasive this problem might become. That rule imposes a duty on the judge to limit discovery, and presumably permits a party who believes that it should receive relief from discovery obligations to make a motion for a protective order. Requiring a motion or court action every time a Rule 34 request sought information that might be contained on backup tapes or in legacy data could be a gross waste of judicial and litigant time.

The proposed amendments instead add a provision to Rule 26(b)(2) recognizing that a party is not required to produce electronically stored information it identifies as "not reasonably accessible because of undue burden or cost," thus obviating the flurry of motions or court action that could otherwise be needed. Obviously, this is one of the issues the parties might profitably discuss during their Rule 26(f) conference. Should a motion nonetheless prove necessary, the producing party has the burden to show that the information really is not reasonably accessible. Even if that showing is made, the court may direct discovery, and it may then require the party seeking discovery to pay some or all of the resulting costs of restoring the inaccessible media.[79]

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in the regular course of business or accessible only from a back-up medium not ordinarily accessed by the producing party.

77. ARTHUR MILLER, THE AUGUST 1983 AMENDMENTS TO THE FEDERAL RULES OF CIVIL PROCEDURE: PROMOTING EFFECTIVE CASE MANAGEMENT AND LAWYER RESPONSIBILITY, 32-33 (1984).

78. *See* 8 CHARLES A. WRIGHT, ET AL., FEDERAL PRACTICE & PROCEDURE § 2008.1, at 121 (2d ed. 1994) (describing the "paucity of reported cases" applying the proportionality provisions and concluding "that no radical shift has occurred," but "only a ripple in the caselaw").

79. *See* Proposed Rule 26(b)(2)(B), *in* Judicial Conference Report, *supra* note 63, at C-51 to C-52.

This proposal excited great controversy, including criticism in *The Review of Litigation*.[80] Those opposing it argued that it was not needed because Rule 26(b)(2) is already in the rules, and that the new provisions would be abused. The concern about abuse focused on the possibility that certain repeat litigants might modify their electronic information systems so as to make most information "inaccessible." A response to that is that enterprises arrange their systems so as to accomplish business purposes that would be thwarted if they could not access data. So long as the arrangement appears designed to accomplish a business purpose, that argument seems forceful, although courts may be presented with contentions that some arrangements do not actually serve business purposes. One issue might be the extent to which materials have been accessed for nonlitigation purposes. Certainly, the argument that materials accessible for other purposes are deemed inaccessible for purposes of responding to litigation would be hard to justify.[81] Prescribing a more detailed rule would be extremely difficult.

(5) *Sanctions for failure to preserve*:[82] Preservation of discoverable material has always been a serious concern. Since Rose Mary Woods became famous due to her reported role in creating an 18 minute gap on a Watergate tape, the risks that technologically stored information might be lost have been clear.

Before the advent of E-Discovery, the contending positions on preservation had also become clear. Information seekers (generally plaintiffs) urged that their opponents frequently culled embarrassing material from their files to frustrate those seeking to prove their misdeeds. Sometimes that surely did happen.[83] Information producers (generally defendants) contended that plaintiffs demanded excessive preservation and sometimes sought to convert cases that were weak on the merits into winners by

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80. See Daniel B. Garrie, Matthew J. Armstrong, & Bill Burdett, *Hiding the Inaccessible Truth: Amending the Federal Rules to Accommodate Electronic Discovery*, 25 REV. LITIG. 115, 118 (2006) (arguing that the rule change would encourage software programmers and software engineers to render data inaccessible).

81. *See supra* text accompanying notes 72-73 for a discussion of a similar point in regard to form of production.

82. *See* Proposed FED. R. CIV. P. 37(f), *in* Judicial Conference Report, *supra* note 63, at C-86.

83. *See* Carlucci v. Piper Aircraft Corp. 102 F.R.D. 472, 481 (S.D. Fla. 1984) (describing "purge" of company's files whose "stated purpose was . . . the elimination of documents that might be detrimental to Piper in a law suit").

exploiting supposed "suppression" of information. In recognition of general concerns about preservation of information, an amendment to Rule 26(f) directs the parties to discuss preservation at their discovery conference.[84]

Computers introduce issues that go beyond these familiar problems. Modifications to data can occur without the user being aware of them; merely turning a computer on may change some data. Even forensic "specialists" have been known to inadvertently alter or destroy data when seeking to extract it for discovery purposes.[85] More generally, computer systems routinely supersede and replace data, and most also discard data according to some directions installed with them. But the loss of data raises a constant concern about suppression of information. For example, after the new Prime Minister assumed office in Spain following a terrorist bombing attack in Madrid, he claimed that the outgoing government had erased data on the bombing.[86]

Sanctions ultimately depend, of course, on a decision by a judge that they are warranted. Limitations on sanctions, therefore, are also limitations on the latitude available to judges presented with alleged misconduct to respond forcefully. Initially, the Advisory Committee proposed a new Rule 37(f) that would have provided protection against sanctions only when the loss of information resulted from the "routine operation of a party's computer information system," and even then only in very narrow circumstances.[87] This proposal elicited objections that it was illusory because it provided protection only in situations in which no judge would impose serious sanctions anyway. It also elicited

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84. *See supra* text accompanying note 66.

85. *See, e.g.*, Gates Rubber Co. v. Bando Chem. Indus., 167 F.R.D. 90, 111-12 (D. Colo. 1996) (discovering party's "expert" loaded software onto responding party's drives that overwrote existing data).

86. Renwick McLean, *Premier Says Ex-Government Erased Data on Madrid Attack*, N.Y. TIMES, Dec. 14, 2004, at A8.

87. *See* Preliminary Draft of Proposed Amendments to the Federal Rules of Bankruptcy, Civil, and Criminal Procedure and the Federal Rules of Evidence 73-74 (2004). The Preliminary Draft offered two alternatives. The text version provided protection against sanctions with regard to loss of information due to the routine operation of the party's electronic information system only if "the party took reasonable steps to preserve the information after it knew or should have known the information was discoverable in the action." A footnoted alternative allowed sanctions only if the party "intentionally or recklessly failed to preserve the information."

counter-objections that it would prompt some repeat litigants to re-calibrate their computer systems so as to discard as much as possible as soon as possible.

Eventually, new Rule 37(f) was revised to retain the focus on "routine operation of a computer information system," but more simply to forbid sanctions when that routine operation was in "good faith." The good faith concept permits inquiry into whether a system was arranged to remove embarrassing information, and also into whether the party took suitable measures—sometimes called a "litigation hold"—to curtail discarding of information when the prospect of litigation arose.[88] Even if all those provisions are satisfied, sanctions may be imposed in "exceptional circumstances."

(6) *Privilege waiver*:[89] Like preservation, privilege waiver has been a long-term concern of the rulemakers. Before discovery of electronically stored information was a possibility, there was widespread recognition that hair-trigger rules of privilege waiver could make discovery slower, more complicated, and more costly.

Addressing these concerns is tricky, however. One way to do it would be as Texas has—by declaring that inadvertent production

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88. The Committee Note accompanying Rule 37(f) explains:

> Rule 37(f) applies to information lost due to the routine operation of an information system only if the operation was in good faith. Good faith in the routine operation of an information system may involve a party's intervention to modify or suspend certain features of that routine operation to prevent the loss of information, if that information is subject to a preservation obligation. A preservation obligation may arise from many sources, including common law, statutes, regulations, or a court order in the case. The good faith requirement of Rule 37(f) means that a party is not permitted to exploit the routine operation of an information system to thwart discovery obligations by allowing that operation to continue in order to destroy specific stored information that it is required to preserve. When a party is under a duty to preserve information because of pending or reasonably anticipated litigation, intervention in the routine operation of an information system is one aspect of what is often called a "litigation hold." Among the factors that bear on a party's good faith in the routine operation of an information system are the steps the party took to comply with a court order in the case or party agreement requiring preservation of specific electronically stored information.

Judicial Conference Report, *supra* note 63, at C-87.

89. *See generally* Richard Marcus, *The Perils of Privilege: Waiver and the Litigator*, 84 MICH. L. REV. 1605, 1633-37 (1986) (exploring the issues raised by inadvertent production of privileged material through discovery).

of privileged material through discovery works no waiver.[90] But the federal rulemakers operate under a limited mandate; a statute forbids them from altering rules of privilege without the affirmative support of Congress.[91] That limitation would not seem to preclude all regulation of discovery that might affect privilege claims, however. For example, the addition in 1993 of Rule 26(b)(5), which requires that parties withholding information on grounds of privilege provide specifics about what was withheld on pain of waiver might have been challenged on this ground. Similarly, the addition that same year of Rule 26(a)(2), requiring revelation of materials turned over to an expert witness, could affect assertion of privilege. Yet no suggestion was made that these provisions regulating the conduct of discovery were invalid because they might affect the assertion of privilege claims.

Privilege review concerns can be more acute with regard to electronically stored information than hard-copy materials. Volume is one reason. Another is that "embedded" data—possibly including privileged information—may be difficult to expose and evaluate during privilege review. Included in the E-Discovery package therefore is proposed Rule 26(b)(5)(B), which sets up a method for presenting privilege claims regarding material produced through discovery. It does not purport to alter existing rules on when a waiver has occurred, but does permit a party claiming privilege to "freeze" the status quo pending a ruling from the court. The Advisory Committee on Evidence Rules, meanwhile, is studying

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90. *See* TEX. R. CIV. P. 193.3(d). The rule states:

> A party who produces material or information without intending to waive a claim of privilege does not waive that claim under these rules or the Rules of Evidence if—within ten days or a shorter time ordered by the court, after the producing party actually discovers that such production was made—the producing party amends the response, identifying the material or information produced and stating the privilege asserted. If the producing party thus amends that response to assert a privilege, the requesting party must promptly return the specified material or information and any copies pending any ruling by the court denying the privilege.

Id.

91. *See* 28 U.S.C. § 2074(b) (2006) (providing that a rule "creating, abolishing, or modifying an evidentiary privilege" is ineffective unless approved by act of Congress).

further responses to the issues presented by inadvertent production of privileged information.[92]

C. The Future of E-Discovery Under These Rules

Given the rapidity of technological change, the newness of the topic of E-Discovery, and the fact that the proposed rules have not even gone into effect yet, it would be foolish to make hard predictions about what the future holds. Nonetheless, some soft predictions look to be warranted.

(1) *Electronically stored information will remain critical to litigation*: These issues will not go away. It is already true that a huge amount of information is available electronically, and the amount of information that is so available is likely to continue to increase. New sources of electronically stored information usable in litigation emerge with some frequency. For example, some divorce lawyers call toll-booth records that reflect use of digital transit passes "hidden gems" because they can be used to establish an opposing spouse's whereabouts and driving habits.[93] Instant messaging may increasingly become accessible during discovery. Computers in cars can be analyzed (somewhat like the "black box" on an airplane) to gain insights into why an accident happened.

Already, many investigations focus first and foremost on electronic communications. Email is likely to be the first resort of many prosecutors in white-collar cases and to plaintiffs in securities and antitrust litigation. It was an email message that felled Arthur Andersen. Agencies charged with enforcement of such regulatory schemes are likely to attend more closely to preservation of e-mail and related information from the main actors in the field, as the SEC has already done.[94] Plaintiffs in medical malpractice cases may have nowhere else to look than to electronically stored information to obtain records on their treatment. And much litigation not involving businesses—such as divorce litigation—may come to turn more and more on information gleaned from computers.

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92. *See* Advisory Committee on Evidence Rules, Minutes of Meeting of Apr. 28, 2005, http://www.uscourts.gov/rules/minutes.htm (describing ongoing work on inadvertent disclosure of privileged materials).

93. Baldas, *New Data*, *supra* note 8, at 18.

94. *See* 17 C.F.R. § 240.17a-4 (2004) (requiring that every broker and dealer preserve for three years the originals of all communications received, and also copies of all sent).

(2) *The resulting changes in discovery practice will be evolutionary, not revolutionary*: Most changes in procedure are evolutionary, not revolutionary. In part, this may be due to "[t]he astonishing conservatism of most lawyers and most judges drawn from their ranks."[95] The major exception to that generalization might be the adoption of the Federal Rules of Civil Procedure, which made what appeared to be a significant break with the past in several important areas.[96] Even there, elements of continuity can be found to raise questions about whether a true revolution occurred.[97]

The E-Discovery amendments are consciously evolutionary. They often draw upon, and seek to identify, "best practices." More generally, the process of adapting to discovery of electronically stored information has gone on for a generation. More than thirty-five years ago, Rule 34 was amended in expectation that discovery of this material would become important. More than twenty-five years ago, major decisions on how to handle discovery of this material began to occur.[98] More than twenty years ago, a district judge said that disputes about discovery of electronically stored information were commonplace.[99] Nearly ten years ago, lawyers began urging the Advisory Committee to develop rules to deal with this form of discovery. Only now is that process yielding fruit in the form of actual amendments.

Those amendments should contribute to the handling of this form of discovery, but they will hardly revolutionize it. Indeed, one strong objection to adopting several of them was that they don't really add a great deal to the current rules. On balance—like much of the discovery reform of the last quarter century—they rely on sensible action by the parties under the direction of the court.

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95. Charles McCormick, *The Borderland of Hearsay*, 39 YALE L.J. 489, 504 (1930).

96. *See* Richard Marcus, *Reform Through Rulemaking?*, 80 WASH. U. L. REV. 901, 901-03 (2003) (describing dramatic reforms made by the Federal Rules of Civil Procedure in 1938).

97. *See id.* at 902 n.10 (describing comments of Judge Patrick Higginbotham concerning extent to which Federal Rules drew on past developments).

98. *See* Nat'l Union Elec. Corp. v. Matsushita Elec. Indus. Co., 494 F. Supp. 1257, 1262 (E.D. Pa. 1980) (addressing question whether defendants could require plaintiff to provide interrogatory answers in a computer-readable format).

99. *See* Bills v. Kennecott Corp., 108 F.R.D. 459, 462 (D. Utah 1985) ("Computers have become so commonplace that most court battles now involve discovery of some type of computer-stored information.").

Unavoidably, such an orientation builds on and adapts prior experience to new issues in a gradual manner.

(3) *Judges will be increasingly adept at dealing with E-Discovery issues*: One concern about relying on judges to supervise E-Discovery is that they might lack the technological expertise needed to do so effectively. Some early E-Discovery cases suggested reasons to worry about judges' grasp of these issues. One judicial view, for example, seemed to be that having to produce backup tapes and otherwise undertake expensive operations was simply a consequence of making the choice to rely on computers.[100] As another judge put it in rejecting that attitude:

> But that assumes an alternative. It is impossible to walk ten feet into the office of a private business or government agency without seeing a network computer, which is on a server, that, in turn, is being backed up on tape (or some other media) on a daily, weekly, or monthly basis. What alternative is there? Quill pens?[101]

Judges can learn. Already, judges recognize on occasion that discovery that would be too taxing in a hard-copy world can properly be ordered *because* the information is computerized and can therefore be readily searched.[102] And increasingly judges will know

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100. One case often cited in support of this conclusion, *In re Brand Name Prescription Drugs*, Nos. 94 C 897, 1995 WL 360526 (N.D. Ill. June 15, 1995), probably does not go so far. The court did say that "if a party chooses an electronic storage method, the necessity for a retrieval program or method is an ordinary and foreseeable risk." *Id.* at *2. But it was presented with the objection of one defendant to producing electronically stored information of a sort that other defendants had produced. *Id.* The judge found "it interesting that at least four other manufacturer defendants have produced e-mail without insisting that the Class Plaintiffs first agree to pay retrieval costs; at least two of these manufacturers had to conduct computer searches to retrieve the e-mail." *Id.* To conclude that a well-run company should be able to produce the information if others similarly situated could produce it does not depend on some more general observation about the use of computers in business.

101. McPeek v. Ashcroft, 202 F.R.D. 31, 33 (D.D.C. 2001).

102. *See, e.g.*, Hayes v. Compass Group USA, Inc., 202 F.R.D. 363, 366 (D. Conn. 2001) (requiring defendant to produce all computerized information on age discrimination cases or grievances, but not to search manually through its hard-copy files for similar information). The Supreme Court long ago surmised that there might be a saving in retrieving information electronically:

about computers because they will use them in the same way the lawyers and litigants who appear before them do. How many litigators nowadays can do their jobs without using email, word processing, Internet searches and databases, and the myriad other impedimenta of electronically stored information? Those are the people who are being appointed to the bench. Those who don't know about these things will be a smaller and smaller minority, and even they will have support staff who have a working understanding of computers.

(4) *Gaming will continue*: Much of the opposition to the E-Discovery amendments asserted that litigants would bend the rules and game the system. A rule on inaccessible information might tempt prospective litigants to make information inaccessible. A rule precluding sanctions for loss of information due to "routine operation" of an electronic information system might tempt prospective litigants to manipulate their routine operations to shelter behind the rule's protection.

There is nothing new or surprising in the notion that lawyers (and sometimes litigants) will modify their behavior in light of the procedure rules. Surely the adoption of the work product doctrine prompted some to arrange their activities to rely on that protection. But that need not be a reason for great alarm. The rules and Committee Notes that accompany them identify concerns about gaming, and judges should be able to determine whether it has occurred. Moreover, there are cogent arguments that parties will have incentives of their own not to adopt some of the practices most feared by the opponents of the changes. Surely prospective litigants must hesitate before they make it impossible for themselves to access information they previously possessed (the concern with the "inaccessible information" rule), or change the routine operations of their systems to discard information more rapidly, making it unavailable to them also. Surely they will have considerable reasons

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> [A]lthough it may be expensive to retrieve information stored in computers when no program yet exists for the particular job, there is no reason to think that the same information could be extracted any less expensively if the records were kept in less modern forms. Indeed, one might expect the reverse to be true, for otherwise computers would not have gained such widespread use in the storing and handling of information.

Oppenheimer Fund, Inc. v. Sanders, 437 U.S. 340, 362 (1978).

to retain access to this information to use it for the purposes for which it was created in the first place—the operation of the business or governmental institution involved—as well as to prove their cases. Perhaps litigants may sometimes try to disguise the true accessibility of information when it is sought through litigation, but nevertheless make use of it for other purposes when needed. But that would seem like exactly the sort of thing that adversary litigation could address.

(5) *The new rules will provide important protections for individual litigants, not just large corporate parties*: One theme in the debate about the E-Discovery amendments has been that the changes provide protections for big corporations and harm individual litigants. No doubt it is true that large organizations (including governmental agencies) are likely to be concerned about E-Discovery, and it is also true that many of them expressed support for the changes. But there are others who may benefit as well.

Corporations are not the only ones who can be sanctioned for discovery failings or spoliation. In one recent case, for example, the Fourth Circuit upheld dismissal of an injured plaintiff's suit against General Motors because he had not ensured that the wrecked car be preserved until GM got to examine it—even though it was not even his car.[103] Similarly, corporations are not the only ones with electronically stored information that might be sought through discovery. An early case on access to the other side's computer involved discovery by a large corporation against an individual.[104] Another noteworthy case involved inspection of the home computers of union members and rank-and-file employees of Northwest Airlines that the company had accused of orchestrating a "sick out" by email from their homes.[105] It should not take too much reflection to realize that in ordinary personal injury litigation it will be increasingly true that plaintiffs have communicated with others by email about relevant matters, and that the defendants could seek

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103. Silvestri v. Gen. Motors Corp., 271 F.3d 583, 594 (4th Cir. 2001); *see also* Flurry v. Daimler Chrysler Corp., 427 F.3d 939, 947 (11th Cir. 2005) (reversing judgment in favor of plaintiff motorist and ordering instead that case be dismissed because motorist failed to preserve vehicle).

104. *See* Playboy Entm't, Inc. v. Welles, 60 F. Supp. 2d 1050, 1052-56 (S.D. Cal. 1999) (entitling plaintiff to discover deleted emails contained on defendant's computer).

105. *See* Cohen & Lender, *supra* note 35, § 10.02[A] (describing this litigation).

discovery of that material. Then questions of accessibility to deleted emails and loss of information might imperil plaintiffs' rights to proceed with their cases.

Divorce litigation is the prototypical form of individual litigation. Although it does not occur in federal court, it is one place where this sort of concern has emerged. In one case, a wife installed a device in her husband's computer to intercept communications, and the Florida state court ruled that this evidence was properly excluded because it was obtained by surreptitious means.[106] In another case, a husband got a court order requiring his wife to turn over her laptop to the court to permit him to search it for incriminating information.[107] Consider that cell phone records can also probably be obtained through discovery, and the myriad possible uses of information from other hand-held devices. No doubt other situations will emerge as well. The basic point is that, as awareness of the range of electronically stored information penetrates all sectors of the litigation community, more and more individual litigants will also be relying on the provisions included in the E-Discovery packet.

(6) *The new E-Discovery industry may thrive or wither*: As noted above, a vibrant and profitable new industry has sprung up in the last five to ten years to serve the needs of litigators dealing with E-Discovery. One of its themes in marketing to lawyers is that litigators should not undertake E-Discovery on their own. Beyond that, it may seek to market its services to clients as well—seeking perhaps to advise them on document retention or management policies that would fit well with the E-Discovery rules.

The success of these ventures may not support straight-line projections of continued growth for this new industry. I recall the new industry of vendors who provided computerized litigation support services to law firms in the late 1970s. At that time, the idea of using a computer to identify and retrieve relevant information from a mass of produced documents was new. But it quickly became true that "for the complex case one can no longer gather a marginal advantage over one's opponent by surprising him or her with a computerized retrieval system. The only surprise will be yours if you do not have an automated data base, because your

106. O'Brien v. O'Brien, 899 So. 2d 1133, 1136 (Fla. Dist. Ct. App., Feb. 11, 2005).

107. *See* Thomas B. Scheffey, *Locking Down a Laptop*, NAT'L L.J., Mar. 29, 2004, at 4.

opponent surely will."[108] This development created a business opportunity for vendors who had computers and software able to provide reliable retrieval. But the business opportunity did not last; within a decade or so most law firms had taken the task in-house. New software allowed them to do the job themselves. It is too soon to say whether the handling of E-Discovery could also be brought in-house; perhaps in the current era of outsourcing it will be congenial to continue to patronize vendors. But at least large law firms will probably question whether it is really necessary to pass through charges for E-Discovery services they could provide themselves (perhaps at a handsome profit).[109]

Against that background, one might understand that vendors would find it attractive to provide advice directly to clients on document management and retention practices. No doubt that is a service many corporations would want from vendors. But to the extent it is keyed to legal obligations in connection with litigation—such as the ones covered in the E-Discovery rules—one must also ask how close this comes to practicing law. Perhaps the way to tap this opportunity is for lawyers to provide this service, as the one pure E-Discovery firm may intend.[110]

(7) *Technological change will continue*: Ever since the Advisory Committee began to focus on E-Discovery, technological changes have affected the issues raised. The rapidity of change in the computer industry is legendary. Undoubtedly it will continue, and the handling of E-Discovery issues will have to evolve as it changes.

The E-Discovery package was consciously designed to cope with this moving technological target. It attempts to define

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108. Palmer Madden, *Information Management in Complex Litigation*, 4 LITIG. 12, 12 (Fall 1978).

109. *See* Drew Combs, *The Brave New World of Electronic Records*, S.F. DAILY J., Feb. 28, 2006, at 1 (reporting that law firms are developing E-Discovery groups, and noting that some of the services law firms provide put them into direct competition with nonlegal enterprises). Clients may also bring the tasks in-house. *See* Geneva Whitmarsh, *Cisco Saves Money by Doing its own E-Discovery*, S.F. DAILY J., Feb. 28, 2006, at 6 (reporting that Cisco Systems invested in electronic storage systems that support tracking and organizing its electronically stored information and also developed its own electronic search software. Dow and Dupont are considering similar moves); *see also* David Brown, *Growth Curve*, AMER. LAW., Feb. 2006, at 63 (reporting that there has already been consolidation among E-Discovery vendors).

110. *See supra* note 48.

electronically-stored information in the most comprehensive way, so that the definition will capture future innovations such as chemical or biological computing.[111] Similarly, the standard on what should be considered "inaccessible" for purposes of Rule 26(b)(2) should be applied to take account of the technological capabilities of the time when the decision has to be made; that which would now be considered "not reasonably accessible" may soon seem readily so.

IV. A BRAVE NEW COMPUTERIZED WORLD FOR ALL OF LITIGATION?

Part II sketched some further possible impacts on litigation of the digital revolution; with the E-Discovery experience before us, we can reflect on whether these futures are likely, and if so, how soon they will occur.

On personal jurisdiction issues, one can make a strong argument that the existing purposeful availment analysis is outdated, given the ease with which the Internet can be employed to have widespread effects.[112] But others urge that the Internet provides no new challenges beyond the capacity of current jurisdictional doctrine:

> [T]he Internet is no different from the myriad of ways that people from one place injure people in other places. . . . Since the replacement of strict territorialism . . . such interstate activity no longer confounds the courts. There is a rich and complex

111. *See A Logical Leap*, ECONOMIST, Jan. 14, 2006, at 78 (reporting that the idea of replacing transistors with magnets has been suggested).

112. *See* Martin H. Redish, *Of New Wine in Old Bottles: Personal Jurisdiction, the Internet, and the Nature of Constitutional Evolution*, 38 JURIMETRICS J. 575, 590 (1998). "[T]he ease and relative inexpensiveness involved in placing a Web page on the Internet mean that such activity cannot legitimately be viewed as true purposeful availment of those forums [the Internet reaches]." As a consequence, "[u]se of this standard will . . . effectively prevent individual states from protecting their citizens against Internet harm." *Id.* at 580. *See also* A. Benjamin Spencer, *Jurisdiction and the Internet: Returning to Traditional Principles to Analyze Network-Mediated Contacts*, 2006 U. ILL. L. REV. 71, 109 (2006) (arguing that creating a website should be sufficient to support jurisdiction in any place where harmful effects are felt).

> body of law to test the legitimacy of sovereign claims to regulate and redress interstate claims.[113]

Thus far, it seems that the courts have not taken the Internet to supersede existing jurisdictional doctrine. One particular twist on that doctrine has been that courts have distinguished for jurisdictional purposes between "active" and "passive" websites. More generally, however, they have employed analyses that draw on cases not involving the Internet. The California Supreme Court, for example, recently held that personal jurisdiction was not permissible in California in a suit against a defendant who, while a student at Purdue University, posted a source code on a website that could be downloaded and used to circumvent encryption of DVDs.[114] Plaintiff represented the California entertainment and computer industries, claiming defendant had harmed those industries. Rather than try to resolve the case on terms specific to the Internet, the California court applied the Supreme Court's "targeted conduct" analysis from a non-Internet case.[115] The court split 4-3 on the decision, showing that application of familiar principles to Internet cases is not always an easy thing; but emphasizing that the website in question was "passive" hardly offers promise of solving such problems.[116]

Service by email has similarly not made much headway. A Ninth Circuit case upheld a special court order authorizing such service, but only in rather exceptional circumstances.[117]

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113. Allan Stein, *The Unexceptional Problem of Jurisdiction in Cyberspace*, 32 INT'L LAW. 1167, 1180 (1998).

114. Pavlovich v. Superior Court, 58 P.3d 2, 13 (Cal. 2002).

115. Calder v. Jones, 465 U.S. 783, 792 (1984) (upholding jurisdiction in California over two employees of the National Enquirer who had integral roles in producing a story in the Enquirer that allegedly defamed plaintiff Shirley Jones on the ground that they should have foreseen that the primary harmful impact of the story would be in California).

116. If "passive" websites always prevent a finding of purposeful availment, even on a targeted conduct analysis, one (like me) from San Francisco might ask about a "passive" website called www.BombTheBridge.com showing detailed drawings of the Golden Gate Bridge, with suggestions where to place a bomb to destroy the bridge and instructions on how to make the types of explosive devices most likely to be successful in destroying the bridge. Would it really be fair to say that such a website was not targeted at San Francisco because it was "passive"?

117. *See* Rio Props., Inc. v. Rio Int'l Interlink, Inc., 284 F.3d 1007, 1016 (9th Cir. 2002) (upholding district court order authorizing service of the complaint by email based on a showing of multiple efforts by plaintiff to serve by more

A. Innovation in Trial Methods

As in Part II, however, the main interest is in the impact of computer technology on the mode of adjudication, and particularly of trial. One introduction to that topic is to recognize that there has reportedly been a significant change in one aspect of such adjudication—summary judgment. Twenty years ago the Supreme Court decided a trilogy of cases endorsing more flexible use of summary judgment; this case law development reportedly "has worked a systemic sea change" in the use of summary judgment.[118] Yet even before those decisions, careful research had shown that the actual success of summary judgment outstripped popular expectations.[119] And to some extent an increase in summary judgment activity also resulted from the Supreme Court's 1993 endorsement of more aggressive judicial "gatekeeping" on expert testimony,[120] which permitted summary judgments in cases where plaintiff's expert testimony was ruled out before trial, thereby defeating plaintiff's claim. The point is that, to the extent there has

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conventional means, and the fact that defendant had publicly indicated that it preferred to receive communication through its email address rather than by other means); s*ee also* Williams v. Adver. Sex L.L.C., 231 F.R.D. 483, 488 (N.D. W. Va. 2005) (holding that email was an acceptable alternative means of service on the facts of the case); Popular Enters., L.L.C. v. Webcom Media Group, Inc., 225 F.R.D. 560, 563 (E.D. Tenn. 2004) (holding that service by email was warranted).

118. Milton Shadur, *Trials or Tribulations (Rule 56 Style)?*, 29 LITIG. 5 (Winter 2003). *See also* Patricia M. Wald, *Summary Judgment at Sixty*, 76 TEX. L. REV. 1897, 1914-17 (1998) (asserting that, due to the Supreme Court's summary judgment trilogy, summary judgment has become more effective in ending cases).

119. *See* William W. Schwarzer, *Summary Judgment Under the Federal Rules: Defining Genuine Issues of Material Fact*, 99 F.R.D. 465, 467 & n.9 (1984) (reporting that, despite general assumption that grants of summary judgment are regularly reversed, in fact Ninth Circuit had affirmed in sixty-three percent of appeals from grants of summary judgment in the period 1979 to 1983).

120. The Supreme Court's trilogy of expert evidence cases is: *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), *General Elec. Co. v. Joiner*, 522 U.S. 136 (1997), and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999). On the interaction with summary judgment, see Margaret A. Berger, *Upsetting the Balance Between Adverse Interests: The Impact of the Supreme Court's Trilogy on Expert Testimony in Toxic Tort Litigation*, 64 LAW & CONTEMP. PROBS. 289, 324-25 (Spring/Summer 2001) (describing the interaction of the Supreme Court's summary judgment trilogy of cases with the rules laid down in its trilogy of expert evidence cases).

been a transformation of summary judgment, it has not been due to applying computer technology to litigation.

Turning attention to trial itself, we find much that has continued unchanged since the founding of the Republic. Consider whether an American lawyer from the late 18th century would find a 21st century American trial familiar. Certainly some aspects of the trial could be strikingly different. The 18th century version would be entirely peopled by white men. The 21st century version usually would not. The clothing (except for the judge's robes) would be unfamiliar. But the 18th century lawyer would probably be able to put those differences out of mind rather easily on finding that the actual method of proceeding was almost the same as it had been more than two centuries before. One explanation for this is that "a legal system will do almost anything, tolerate almost anything, before it will admit the need for reform in its system of proof and trial."[121]

This is not to say that there have been no changes in the manner of trying cases. To the contrary, the "juror empowerment" movement has resulted in a considerable modification from the classical version in the way that trials are handled. In that classical version, jurors were required to operate in an atmosphere that law students would find unacceptable for their classes. They were told that they could take no notes, could not see the exhibits until the trial was over, could not ask questions, and could not discuss the case with each other until the trial was completed. The 18th century lawyer would find these directions familiar.

Gradually, courts have relaxed these constraints so that jurors are often allowed to take notes, to receive notebooks with key documents and pictures of witnesses, are to pose questions for witnesses, are permitted to discuss the evidence among themselves as the trial proceeds, and to receive interim argument and introductory instructions before the completion of the trial.[122] This "empowerment" model can be seen as furthering the goal of democratic governance that is one of the objectives of a jury trial.[123]

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121. John Langbein, *Torture and Plea Bargaining*, 46 U. CHI. L. REV. 3, 19 (1978-79). *See also* text accompanying *supra* note 95.

122. *See generally* RICHARD L. MARCUS & EDWARD F. SHERMAN, COMPLEX LITIGATION: CASES AND MATERIALS ON ADVANCED CIVIL PROCEDURE 745-46 (4th ed. 2004).

123. *See* Steven L. Friedland, *The Competency and Responsibility of Jurors in Deciding Cases*, 85 NW. U. L. REV. 190, 194 (1990). Friedland emphasizes that

Nonetheless, even these modest revisions of the traditional trial method have raised doubts in the minds of thoughtful observers. Judge Jack Weinstein, for example, is among the most innovative of federal district judges. Nonetheless, he has expressed misgivings about allowing jurors to take notes.[124] Similarly, many have expressed misgivings about allowing jurors to ask questions because jurors might tend to become partisan or react negatively when their questions are not asked due to objections by one of the parties. Although some courts continue to be bothered by juror questions,[125] it seems that most courts find it acceptable, at least in civil cases.[126]

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the active jury provides a check on the risk that the trial judge will become a "benevolent despot." It has further benefits:

> A more active jury model maintains this democratic tradition of citizen participation. Furthermore, if an active jury model improves the accuracy of the decisionmaking process and enhances the credibility of the jury, it also strengthens the conceptual legitimacy of the verdict. Similarly, even if the active model improves only the perception of the jury as an able decisionmaker, it still would enhance public confidence in the decisionmaking process.

Id. at 207-08.

124. *See* Jack Weinstein, *The Power and Duty of Federal Judges to Marshall and Comment on the Evidence in Jury Trials and Some Suggestions on Charging Juries*, 118 F.R.D. 161, 168 (1988) ("Notetakers may miss some of what is going on in the courtroom, and the notes of one juror may tend to have too much weight in deliberations; they may well overemphasize some points . . . .").

A 1994 study indicated that note-taking did not produce a distorted view of the case, but failed to show that it aided memory. Larry Heuer & Stephen Penrod, *Juror Notetaking and Question Asking During Trials*, 18 LAW & HUM. BEHAV. 121, 136 (1994). THE MANUAL FOR COMPLEX LITIGATION, (4th ed.) § 12.421 (2004), reports that "[a]rguments for juror notetaking are particularly compelling in long and complicated trials."

125. *See* United States v. Collins, 226 F.3d 457, 461-62 (6th Cir. 2000) (observing in a criminal case that "the routine practice of juror questioning should be discouraged" and should be a "rare practice").

126. *See* A. Barry Capello & G. James Strenio, *Juror Questioning: The Verdict is In*, TRIAL, June 2000, at 44 (reporting growing acceptance of juror questioning in state courts, with only Mississippi completely forbidding the practice); *see also* United States v. Richardson, 233 F.3d 1285, 1289 (11th Cir. 2000) (stating that the decision to allow juror questioning is within the discretion of the trial judge); United States v. Hernandez, 176 F.3d 719, 723 (3d Cir. 1999) (approving of the practice of juror questioning as long as it is done in a fair manner). According to one empirical study, as evidence complexity increases, juror confidence went up if juror questioning was allowed, and down if

On balance, it may be that these sorts of innovations in trial methods will gain prominence in decades to come.[127]

Technology has played a very limited role in these sorts of innovations—and many might have been attempted in the 18th century.[128] Digital technology has become important in trials in recent decades because it permits simulations or recreations of events involved in lawsuits to an extent not previously possible.[129] Revising trial techniques as suggested by Dean Carrington,[130] however, would involve much more aggressive use of digital technology. Some judges have suggested that such a step should be taken. Fifteen years ago, Judge Schwarzer suggested using videotapes for testimony because "jurors are accustomed to acquiring information from the television screen and thus react favorably to video presentations."[131] Nearly a decade before that, another district judge offered the following vision that corresponds to Dean Carrington's:

> If all testimony is by videotape deposition, the "trial" concept would embrace simply the playing of the videotapes (subject to evidentiary objections) sandwiched between opening and closing statements. That could advance the trial date considerably,

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questioning was not allowed. Stephen D. Heuer & Stephen Penrod, *Trial Complexity*, 18 LAW & HUMAN BEHAV. 29, 44 (1994).

127. *See, e.g.*, Paula L. Hannaford & G. Thomas Munsterman, *Beyond Note Taking: Innovations in Jury Reform*, TRIAL, July 1997, at 48 (reviewing and assessing efforts at improving juror performance).

128. This is not to say that modern electronics do not have a role to play. *See* Karen Dean, *Lawyers Recruiting Mock Juries on the Net*, NAT'L L.J., Jan. 30, 2006, at S8 (describing the use of the Internet to involve mock jurors).

129. Some see the introduction of these techniques as a momentous development. A law professor, for example, says that "[t]he use of electronic visuals is as significant as the introduction of cross-examination in the 1870s and formal discovery in the 1930s. This will be the greatest change in advocacy in the career of anybody alive or about to be conceived." Brennan, *supra* note 12 (quoting Professor Stephen Lubet of Northwestern); *see also* Henry Gottlieb, *Plaintiffs' Lawyers Have High-tech Advantage in Courtroom*, S.F. RECORDER, Feb. 28, 2006, at 1 (reporting that plaintiff lawyers are more likely to use a "$1,500 a day technical director hired to spike the presentation with computer-generated graphics").

130. *See supra* text accompanying notes 20-23.

131. William W Schwarzer, *Reforming Jury Trials*, 132 F.R.D. 575, 588 (1991).

> because the flexibility of scheduling (involving only counsel and the Court) would permit the trial to be placed in any available open date on short notice.[132]

Another decade earlier—in the early 1970s—the state courts in one county in Ohio embraced just such a method.[133]

Meanwhile, other innovations have been attempted to speed up trials. In the early 1970s, an Oregon federal district judge endorsed having the direct testimony of witnesses submitted in advance,[134] and a district judge from the District of Columbia wrote an article in 1983 urging that all direct testimony be submitted in written form.[135] Carrying the idea of trying the case based on written submissions a bit further, it has been urged that a court could determine from a summary judgment motion that an ordinary trial would add nothing of value, and urge the parties to agree to a "trial without witnesses" rather than summary judgment.[136]

As should be apparent, innovation in trial methods did not depend on digital technology. And despite the enthusiastic endorsement of judges who developed these new techniques, they have yet to carry the day with most judges. Thus, even though video trials were introduced in the Ohio state courts in the early 1970s, the Ohio Supreme Court ruled in 1992 that a trial court ordinarily could not require unwilling litigants to have such a trial, noting that "videotape trials have not gained widespread use, and are all but confined to Erie County."[137] Similarly, requiring direct testimony in

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132. Lucien v. McLennand, 95 F.R.D. 525, 526 n.2 (N.D. Ill. 1982).

133. For an argument in favor of this technique by the judge who pioneered it in Ohio, see James McCrystal & Ann Maschari, *Will Electronic Technology Take the Witness Stand?*, 11 U. TOL. L. REV. 239 (1980).

134. Gus Solomon, *Techniques for Shortening Trials*, 65 F.R.D. 485, 489 (1975).

135. Charles R. Richey, *A Modern Management Technique for Trial Courts to Improve the Quality of Justice: Requiring Direct Testimony to be Submitted in Written Form Prior to Trial*, 72 GEO. L.J. 73 (1983); *see also* Kuntz v. Sea Eagle Diving Adventures Corp., 199 F.R.D. 665, 666 (D. Haw. 2001) (denying plaintiff's motion that he be allowed to present direct testimony orally instead of in writing).

136. William W Schwarzer, Alan Hirsch & David J. Barrans, *The Analysis and Decision of Summary Judgment Motions*, 139 F.R.D. 441, 474 (1992); *see* Acuff-Rose Music, Inc. v. Jostens, Inc., 155 F.3d 140, 144 (2d Cir. 1998) (upholding use of this approach if the parties forgo their right to a full trial).

137. *See* Fantozzi v. Sandusky Cement Prod. Co., 597 N.E.2d 474, 480 (Ohio 1992).

writing does not seem to have swept the land. The California Supreme Court, for example, is now considering whether a challenge to a local rule of one county's Superior Court that requires all evidence in divorce cases to be submitted in writing.[138] Somewhat similarly, "[t]he federal rules have not changed the long-established principle that testimony by deposition is less desirable than oral testimony and should ordinarily be used as a substitute only if the witness is not available to testify in person."[139]

As we approach the day when computer technology could revolutionize trials, then, a generation's worth of experimenting with trial methods that somewhat resemble those suggested by Dean Carrington has not worked a transformation of the current trial. However much one might be tempted to ascribe this situation to the legal profession's innate aversion to change, it seems worth reflecting on aspects of the traditional trial that are worth preserving. For as Professor Laycock has said, "[t]he great common law contribution to modern procedure is the jury trial."[140] And as a federal district judge has recently added, "[f]or Americans after the Revolution, as well as before, the right to trial by jury was probably the most valued of all civil rights."[141] Experimenting with new trial techniques is serious business.

B. Potential Technological Threats to the Traditional Trial

Certainly one would not oppose improving trials so that they would be more effective. But more aggressive use of computers in the ways suggested in Part II could transform trials in ways that would harm essential features of trials. In the 1980s, I noted a trend in a number of areas including use of technology to supplant the traditional trial with substitutes such as summary judgment, and

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138. *See* Matthew Hirsch, *"Trial by Declaration" Set for Test*, S.F. RECORDER, Feb. 9, 2006, at 1 (describing *Elkins v. Superior Court*, #S139073 in the California Supreme Court, raising a challenge to a local rule limiting testimony to written declarations in most family law matters).

139. 8A CHARLES A. WRIGHT, ARTHUR R. MILLER & RICHARD L. MARCUS, FEDERAL PRACTICE & PROCEDURE § 2142, at 158 (2d ed. 1994).

140. Douglas Laycock, *The Triumph of Equity*, 56 LAW & CONTEMP. PROBS. 53, 53 (Summer 1993).

141. Donald M. Middlebrook, *Reviving Thomas Jefferson's Jury:* Sparf & Hunsen v. United States *Reconsidered*, 46 AM. J. LEGAL. HIST. 353, 387 (2005).

concluded that these substitutes appeared inadequate.[142] Similar issues arise with regard to the current question, justifying reexamination of these questions.

(1) *The traditional trial can be a low-budget, single-event process accessible to all litigants*: Trials are not ordinarily inexpensive events today, but that is not due to their intrinsic design. To the contrary, one concern with the discontinuous, multi-event "trial" of the civil law tradition is that it is costly, and many civil law countries have for such reasons moved toward single-event continuous trials. The American introduction of broad discovery has added expense to litigation, but it is not an essential component of trials; there is no requirement that a party depose its own witnesses[143] and it could forgo extensive discovery from the other side's witnesses.

Replacing this simple method with a prerecorded substitute would mean that a party would have to depose its witnesses to produce the prerecorded testimony that would be substituted for their live presentations. And once begun, that prerecording effort might go far beyond a video version of a traditional deposition or even traditional trial testimony. For example, in a federal-court trial in Texas in the 1980s many of the witnesses were beyond subpoena range and the parties and court agreed to creation of presentations for the jury that contained a mélange of materials from depositions. In the words of lawyers on the case, this produced "a presentation that closely resembled a television documentary or news report," that "was the creation of a production studio, and not merely the playback tape of a tape made in the deposition room."[144] In somewhat the same vein, it has been reported that:

> A new trend among attorneys is to present the jury with split-screen video deposition testimony. . . . Juries respond to this type of presentation because they are able to see witnesses testifying about each other at the same time, without rewinding or

142. *See* Richard L. Marcus, *Completing Equity's Conquest? Reflections on the Future of Trial Under the Federal Rules of Civil Procedure*, 50 U. PITT. L. REV. 725 (1989).

143. Celotex Corp. v. Catrett, 477 U.S. 317, 324 (1986) ("Obviously, Rule 56 does not require the nonmoving party to depose her own witnesses.").

144. C. Michael Buxton & Michael Glover, *Managing a Big Case Down to Size*, 15 LITIG. 22, 22-23 (Summer 1989).

> switching between screens as would be required with a traditional video format.[145]

Much as the better-financed litigant has an advantage under the traditional format, one might hesitate about a substitute that more overtly makes the quality of the presentation dependent on the resources spent in producing it. As a California court said in declining to shift the cost of a successful litigant's high-powered computer presentation at trial to the losing party, "[i]f costs are routinely awarded for high-powered technology, most parties will be unable to litigate."[146]

(2) *The traditional format requires and permits face-to-face interaction among parties, witnesses, and counsel and the jurors*: For all the staging and preparation, a trial is still ultimately a face-to-face interaction among the dramatis personae. Experienced counsel will tell their clients to assume that they are "on trial" and that the jury's eyes will be on them the whole time they are in the courtroom. And counsel should know that their ability to achieve rapport with the jury will often be crucial to their success. With witnesses, face-to-face interaction allows the witness to connect with the jury and permits the jury to assess all the factors that go into determining the credibility of the testimony. The question-and-answer format permits immediate follow up and challenge to things witnesses have said. In jurisdictions allowing juror questioning, that follow-up can even include inquiries from jurors themselves. Finally, as the Advisory Committee put it in regard to use of off-site testimony, "[t]he very ceremony of trial and the presence of the factfinder may exert a powerful force for truthtelling."[147]

Relying on technology to provide pre-recorded testimony could significantly detract from these advantages of the traditional trial. As even one of the strongest proponents of the use of technology during trials recognizes, "recorded testimony lacks the immediacy of live testimony."[148] The Seventh Circuit has

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145. Andre M. Lagomarsino, *Strategic Use of Video Depositions*, 11 NEV. LAW. 8, 9 (June 2003).

146. Science Applications Int'l Corp. v. Superior Court, 46 Cal. Rptr. 2d 332, 338 (Cal. Ct. App. 1995).

147. FED. R. CIV. P. 43(a) committee note to 1996 amendment.

148. Frederic I. Lederer, *The Road to the Virtual Courtroom? A Consideration of Today's—and Tomorrow's—High-Technology Courtrooms*, 50 S.C. L. REV. 799, 819 (1999).

recognized that it would be inappropriate to permit a witness's direct testimony to be given live, but only a videotaped cross-examination.[149] Follow-up with regard to events arising at trial becomes much more difficult or impossible and, needless to say, juror questioning of the witness would not be possible. In addition, adroit cinematography could markedly alter the impact of a witness's testimony from what it would be it would be in the courtroom. As D.W. Griffith was the first to discover, skillful use of closeups can convey and emphasize emotions.[150]

Trial by video conference hookup could reduce some of these problems, but might also introduce others. There would seem to be a qualitative difference in the nature of the interaction among jurors, judge, parties, counsel, and witnesses. Unlike a courtroom, the choices about what should be displayed would still be made largely by the "director" of the proceedings. But some experiments have found that jurors react the same to live witnesses and those seen via video conference.[151] Spontaneity of a sort would be retained, but whether it could supplant what occurs during a traditional trial is debatable. In at least Justice Scalia's view, such remote testimony would improperly substitute "virtual confrontation" for the real thing required by the Confrontation Clause in a criminal trial.[152] Under some circumstances, moreover, there could be a danger of signaling

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149. Traylor v. Husqvarna Motor, 988 F.2d 729, 734 (7th Cir. 1993). Judge Posner criticized this technique as follows:

> [W]e do think that this sort of "dual media" testimony is generally, and was in this instance, a bad idea. Psychologists and decision theorists point out, what is anyway common sense, that a living person generally conveys a stronger impression than does his resume, or a transcript of his remarks. . . . By presenting its expert witness's direct testimony live but his cross-examination taped, [defendant] was able to give artificially greater salience to the part of his examination that favored [it] than to the part that favored its opponent. There was a thumb on the scale.

Id.

150. *See* Michael D. Roth, Comment, *Laissez-Faire Videoconferencing: Remote Witness Testimony and Adversarial Truth*, 48 UCLA L. REV. 185, 202 (2000).

151. *Compare* Lederer, *supra* note 148, at 820 (reporting that four experiments have indicated that jurors perceive remote witnesses just as they perceive in-court witnesses); *with* Roth, *supra* note 150, at 201 n.82, (questioning these results).

152. Scalia, J., Opinion on proposed FED. R. CRIM. P. 26(b), 207 F.R.D. 89, 93-94.

or other inappropriate behavior that would be invisible to the jurors but affect the witness's testimony.

Carrying things a step further and permitting juror hookup to the "virtual trial" from home could produce additional difficulties. For one thing, it would seem to deprive the court of any way to observe and police the jury while it was receiving evidence. It might not even provide an assurance that the jurors had actually watched the evidence that was received. In a somewhat analogous situation, the Fifth Circuit held that it was improper for the district judge to give jurors deposition transcript excerpts and tell them to read the excerpts at home.[153] Labeling this reliance on "evidence to go" or "takeout evidence," the appellate court objected that "[t]he jury's reading of the deposition excerpts was thus totally outside the supervision of the trial judge."[154]

Remote juror participation would also deprive the jurors of face-to-face interaction with each other. Particularly if they were permitted to discuss the case before the end of the trial, this isolation could be significant. Deliberation by chat room, moreover, would seem to curtail chances to achieve the shared sense of purpose that should emerge from in-person jury deliberations.

(3) *The traditional trial affords the parties and witnesses a chance to tell their stories directly to the finders of fact*: A generation ago, the procedural justice analysis began to offer a new perspective on choosing among procedures.[155] One insight from this work was that people generally and strongly favor being able to tell their stories to the decisionmaker.[156] Putting aside issues of accuracy, the digital alternatives under consideration appear to undercut this widely-felt desire.

It seems doubtful that a party would be equally satisfied with the opportunity to "tell it to the camera." In the words of one early opponent to video trials, "all empathy between witness and juror will be lost."[157] Perhaps it would suffice if the resulting video were

153. Stine v. Marathon Oil Co., 976 F.2d 254 (5th Cir. 1992).

154. *Id.* at 267.

155. *See generally* E. ALLAN LIND & TOM R. TYLER, THE SOCIAL PSYCHOLOGY OF PROCEDURE JUSTICE (1988) (surveying the subject).

156. This insight emerged, for example, in comparisons among trial and ADR-like methods of handling their disputes. *See, e.g.*, E. ALLAN LIND ET AL, THE PERCEPTION OF JUSTICE: TORT LITIGANTS' VIEWS OF TRIAL, COURT-ANNEXED ARBITRATION, AND JUDICIAL SETTLEMENT CONFERENCES (1989).

157. David M. Doret, *Trial By Videotape—Can Justice Be Seen To Be Done?*, 47 TEMP. L.Q. 2l8, 250 (1974).

played before the jury in a session that the party or witness could attend, but even that would appear likely to produce discontent, as the party or witness might well conclude that something should be added in light of juror reactions or other developments. Shutting the person's mouth at that point could produce further dissatisfaction.

Video conferencing might be thought preferable, but still seems unlikely to recreate that opportunity of the party or witness to feel that she has fully told her story to the decisionmaker. As one opponent to reliance on video conferences for criminal defendants says, "video conferencing technology cannot replicate normal eye contact."[158] Just as this mode limits what the factfinder can see of the witness, it also limits what the witness can see of the factfinder (if anything).

(4) *The traditional trial requires that the story be made understandable to the jury, and thus to the attending public*: Although trials are mainly events to educate the jury, they also are designed to enable the attending public to appreciate the issues and "see justice done." For this reason, we recognize that the public has a right to attend trials.[159] And the involvement of the jury is a way to ensure that the material presented will be presented in a manner that is understandable to the attending public because it must be made understandable to the jurors.

Whether digital technology would hamper this objective could be debated. Trials now often tend to present information in a sequence that is not ideal for understanding because witnesses may be presented at the time they are available. Opening statements are therefore provided in part to permit the lawyers to advise the jurors what the story is really about because merely hearing the witnesses may not make that clear. Moreover, the pacing of traditional trials can test the patience of the observer. But one could equally question the value of "infomercial" alternatives in adequately apprising either the jury or the audience about the topics covered in the trial.

(5) *The accuracy of decisionmaking might suffer*: Altogether, the features of the traditional trial have been designed to ensure a reliable result. Arguably these objectives could be preserved with digital alternatives. But at least the value of juror face-to-face observation of testifying witnesses, and of parties

158. Anne Bowen Poulin, *Criminal Justice and Videoconferencing: The Remote Defendant*, 78 TUL. L. REV. 1089, 1111 (2004).

159. *See* Marcus, *Modest Proposal*, *supra* note 16 (discussing transparency as a value in judicial proceedings).

throughout the trial, would be lost.[160] The loss of spontaneity and follow-up (particularly by juror questioning, where allowed) could also suffer.

In a somewhat different sense, the loss of empathetic response might undercut accurate decisions in a different way by reducing the emotive content of a trial. As the Supreme Court has recognized in a criminal case, the moral force of the evidence can be an important ingredient in a jury decision. For this reason, it is important to preserve the right of the parties to offer a "colorful story with descriptive richness" to establish the "human significance" of the evidence, which can have "force beyond any linear scheme of reasoning."[161] Whether video images can provide a substitute for live interaction in supplying this element of the decisionmaking process is debatable.

Taking more aggressive steps to employ technology could further weaken the jury decision process if it introduced deliberation by chat room. The face-to-face interaction of jurors in reaching such human decisions seems an important aspect of the decisionmaking process. In part, that would depend on collaborative experience jurors develop before they begin to deliberate, an experience that would not seem equivalent if experienced online. The fact that the jurors usually select their own foreperson as they begin deliberations is a recognition that they depend on some mutual familiarity before deliberations begin. And the course of the actual deliberations depends significantly on the sort of attention and participation that actual presence provides, but that virtual presence might not. At some point, for example, it might be clear from the traditional method that a certain juror is not participating in the deliberation process, but it is difficult to see how a similar determination could be made if the jurors were in different locations and interacting only via the Internet. Undercutting this feature of the traditional trial would further weaken the decisionmaking process.

(6) *Public acceptance of trial results could be weakened*: Trials are not intended only to resolve disputes but also to engender public acceptance of those results. Reliance on the traditional trial methods and a jury decision serves this independent objective; trials

160. There is reason to question reliance on demeanor evidence. *See infra* text accompanying notes 168-70.

161. Old Chief v. United States, 519 U.S. 172, 187-88 (1997).

should not only strive toward accuracy but also be perceived as accurate.

Certainly that does not mean that trial methods cannot change. Our hypothetical 18th century lawyer would find much that was unfamiliar in a 21st century trial, but those differences hardly undermine the acceptability of the result in 21st century eyes. That does not mean, however, that the public would accept unlimited transformation of the traditional trial by technological innovation. As Judge Gertner posed the question, "In the final analysis, *should* trials have the look of the television evening news?"[162] In the words of another judge, "Do we want jurors to watch from home, and deliberate by teleconference?"[163] Much as he is receptive to supplanting the presentation of live evidence with a video substitute, Dean Carrington therefore draws the line at remote juror deliberation: "A virtual jury would not provide the same satisfaction to civil litigants that live jurors do, at least to those who seek emotional gratification from the resolution of the dispute. Moreover, the deliberation of the jury would be seriously impeded by the absence of social contact."[164]

C. Reasons to be Receptive to Technological Changes in Trials

Somewhat building on the discussion of reasons for hesitating to take full advantage of the possibilities of trial technology, one can sketch countervailing reasons to be receptive to such developments.

(1) *Resistance to changing trials is largely sentimental in light of the evolution and virtual disappearance of the traditional trial*: The foregoing catalogue of possibly threatened attributes of traditional trials proceeds on the notion that litigants can actually get their cases to trial. At least in the federal system, that is increasingly not the case.[165] To provide at least a video substitute would come

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162. Nancy Gertner, *Videoconferencing: Learning Through Screens*, 12 WM. & MARY BILL RTS. J. 769, 773 (2004) (emphasis added).

163. Perritt, *supra* note 24, at 1084 (quoting Hon. William Klein, Pa. Super. Ct.).

164. Carrington, *supra* note 20, at 1528.

165. *See, e.g.*, Marc Galanter, *The Vanishing Trial: An Examination of Trials and Related Matters in State and Federal Courts*, 1 EMPIRICAL L. REV. 459 (2004) (examining declining frequency of civil trials).

closer to achieving the sort of cloture that litigants seek; a virtual jury decision is better than none at all.

Moreover, much of what now happens at trials corresponds to the "new" approaches using technology. Many witnesses are not available to testify at trial, and their videotaped depositions are used instead. For some sorts of witnesses, indeed, there may be specific statutory authority for using videotaped testimony at trial even when they are available.[166] Certainly nobody would contend that having a deposition transcript read to the jury is superior to playing a video of the testimony.

Much evidence is straightforward and uncontroversial. Although there are moments of high emotion in trials when the face-to-face interaction that only a live trial can convey is important, most trials don't involve such moments, or not many of them. Expert evidence, in particular, can as easily be presented by remote or recorded means; if "empathy" plays a role in appreciation of such evidence, it is a questionable role that need not be fostered.

(2) *Accurate outcomes do not ordinarily depend on face-to-face encounters with witnesses*: The role of demeanor evidence in American trials is seriously overstated. Although the traditional view favors the "superior advantages of oral testimony in open court,"[167] as Professor Wellborn has noted "demeanor is as likely to mislead as to enlighten."[168] Psychological research shows that most people can do no better than chance in determining when a person is telling the truth from observing her in telling the story.[169] One can make cogent arguments that it is preferable to rely on analysis of a written version of witness testimony rather than emphasizing visual

166. *See, e.g.*, CAL. CODE CIV. PRO. § 2025.620(d) (West 2006) (permitting a party who has given appropriate notice to use the videotaped deposition of a doctor or other expert witness at trial without regard to the availability of the witness).

167. ROBERT W. MILLAR, CIVIL PROCEDURE OF THE TRIAL COURT IN HISTORICAL PERSPECTIVE 270 (1952).

168. Olin Guy Wellborn III, *Demeanor*, 76 CORNELL L. REV. 1075, 1076 (1991).

169. *See, e.g.*, Brian E. Malone & Bella M. DePaulo, *Measuring Sensitivity to Deception*, *in* INTERPERSONAL SENSITIVITY: THEORY, MEASUREMENT & APPLICATION, (J.A. Hall & F.J. Bernieri, eds., 2001) 103, 103 (describing fifty percent accuracy rate of experimental subjects in detecting lying); Paul Eckman & Maureen O'Sullivan, *Who Can Catch a Liar?*, 46 AM. PSYCHOLOGIST 913, 913 (1991) (same).

cues.[170] At least, there is no reason to believe that jurors observing a videotaped version of witness testimony, or observing the witness testify via video conference hookup, would be less capable at making accurate determinations.

Moreover, the flexibility of digital presentation could foster accuracy in outcomes. No longer would the sequence of evidence have to be held hostage to the schedules of the witness. Indeed, the flexibility of video presentations could permit the jury to see various witness versions of the same events presented relatively simultaneously instead of having to wait (sometimes days or weeks) to hear them testify about those events.[171] And if this method significantly shortened trials, it could contribute to accuracy by overcoming the problem of juror forgetfulness of evidence presented days or weeks before deliberations. It would also permit much more vivid revisiting of that evidence during deliberations because the recording could be replayed.

(3) *Due to reliance on computer communication in the society at large, face-to-face interaction matters less*: The introduction of the telephone began a process of weaning people from face-to-face interaction. That process has been dramatically expanded by the Internet, and people are now regularly familiar with making decisions on the basis of digital communication. As an early opponent of video trials recognized, "[t]he communications revolution of our time may ultimately acclimate people to accept personal interaction through television screens as the norm."[172] Because it is possible that time has arrived, or will soon arrive, the shift to digital presentations at trials might not cause harm. The *Wall Street Journal*, for example, even has pointers for how to behave during business meetings held by video conference.[173]

Sociologists are beginning to study the impact of the Internet on society. An early reaction, prompted somewhat by sociologist

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170. Richard Marcus, *Completing Equity's Conquest? Reflections on the Future of Trial Under the Federal Rules of Civil Procedure*, 50 U. PITT. L. REV. 725, 760-61 (1989) [hereinafter Marcus, *Equity's Conquest*] (describing psychological research).

171. *See supra* text accompanying note 145 (regarding split-screen video presentations).

172. Doret, *supra* note 157, at 249.

173. *See* Joann S. Lublin, *Some Do's and Don't's To Help You Hone Videoconference Skills*, WALL ST. J., Feb. 7, 2006, at B1 (containing such tips as "quell video jitters by practicing" and "avoid culturally insensitive gestures").

Robert Putnam's *Bowling Alone*,[174] a study of the decline in America of "social capital"—family and associational interaction—was that increased telecommunications were actually contributing to social isolation.[175] More recent studies suggest that this early conclusion was overdrawn. There has been no increase in depression or loneliness due to the advent of the Internet. In the words of *USA Today*:

> Five years after sociologist Robert Putnam documented the decline of community involvement in his book Bowling Alone, a new spirit of civic engagement is flourishing, largely because of 21st-century technology. Cellphones, e-mails, instant text messaging and BlackBerries are helping mobile, busy Americans link up with neighbors on their commutes to work, in the middle of the night, and on business trips.[176]

Of course, nobody would suggest basing significant legal reforms on a story in *USA Today*. But these developments may be

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174. ROBERT PUTNAM, BOWLING ALONE: THE COLLAPSE AND REVIVAL OF AMERICAN COMMUNITY (2000). Actually, Putnam had a nuanced view of the effect of the Internet. He recognized that Internet chat groups could be "a form of social capital," *id.* at 21, but feared that Internet-based activities lacked dimensions important to building genuinely positive social networks. For example, although people play bridge online, that activity involves none of the small talk common during a bridge game in mid-20th century America. *See id.* at 104. For Putnam's overview of the uncertain potential impact of the Internet, which came on the scene after the developments that trouble him were already established, see *id*. at 166-80. Ultimately, it seems, he views technology as potentially an important part of the solution to the problems he identifies: "If we are to reverse the adverse trends of the last three decades in any fundamental way, the electronic entertainment and telecommunications industry must become a big part of the solution instead of a big part of the problem." *Id.* at 410.

175. *Compare* John Markoff, *A Newer, Lonelier Crowd Emerges in Internet Study*, N.Y. TIMES, Feb. 16, 2000, at A1 (describing Stanford University study indicating that Internet use had supplanted spending time with friends and family) *with* Lisa Guernsey, *Cyberspace Isn't So Lonely After All*, N.Y. TIMES, July 26, 2001, at G1, (reporting that a Carnegie-Mellon University professor, who had reported in 1998 that Internet use led to a reduction in social networks, was qualifying his conclusions after a three-year follow-up that contradicted his original research).

176. Haya el Nasser, *Beyond Kiwanis: Internet Builds New Communities*, USA TODAY, June 2, 2005, at A1.

important indications that reliance on face-to-face interaction has been supplanted as a matter of ordinary social activity. In at least some extreme situations, Internet interaction is actually preferred to face-to-face encounters. For example, a story on romance in war-torn Baghdad, where it is dangerous to travel across town to see others, reported that people now pursue romance online.[177] More generally, a variety of new social networking sites such as Friendster.com, LinkedIn.com, LiveJournal.com, MeetUp.com, and Tribe.com may be the vanguard of a new order in which most people conduct a significant part of their lives via the Internet.[178] For such people, it might be that a trial conducted in a similar manner would appear quite ordinary, and it might seem that requiring jurors to assemble in a courtroom and making witnesses travel there also to tell their stories would look quaint and wasteful. If so, both as jurors and as members of the public, they might be equally receptive to video trials or video conferencing trials.

Obviously there is presently no valid basis for so reconfiguring trials. Indeed, some early reports suggest that users don't really regard Internet interaction as a valid substitute for face-to-face activity. Thus, the founder of Meetup.com explains: "But at the end of the day, people get something out of face-to-face. We're using the Internet to get people off the Internet."[179] But there are

177. Robert F. Worth, *Danger? Drabness? No Date? Iraqis Find an Outlet Online*, N.Y. TIMES, Feb. 10, 2006, at A12. One man interviewed for the story said, "Everybody does it like this." *Id.*

178. Lest all Internet social interaction appear benign, it must be emphasized that there can be some pronounced downsides to a shift to the Internet for social contacts. *See* Hiroko Tabuchi, *Online Suicide Pacts Beset Japan*, S.F. CHRON., Mar. 11, 2006, at A10 (describing "a surge in suicide pacts arranged over the Internet" among people in Japan not otherwise acquainted). Similarly, "[t]he spread of 'social media' across the internet—such as online discussion groups, emailing lists, and blogs—has brought forth a new breed of brand assassin who can materialize from nowhere and savage a firm's reputation." *The Blog in the Corporate Machine*, ECONOMIST, Feb. 11, 2006, at 55. On the other hand, online opportunities to manipulate may multiply. *See* Michael Barbaro, *Wal-Mart Enlists Bloggers in Its Public Relations Campaign*, N.Y. TIMES, Mar. 7, 2006, at C1 (describing Wal-Mart strategy of arranging favorable comments about it on blogs, and explaining that "[c]ompanies of all stripes are using blogs to help shape public opinion").

179. Robert Weisman, *Real Worlds Unite: Meetups Use Internet for Face-to Face Networking*, BOSTON GLOBE, Jan. 30, 2005, at A1.

also some indications that even online juror service might be workable even if not quite as good as in-person service.[180]

(4) *The "political" assumptions favoring the traditional trial may be passé*: Certainly, there is much reason to believe that the traditional jury trial reflects and implements deeply-held political beliefs.[181] And preserving the manner of trial may therefore be essential to satisfy those political imperatives. Suggesting otherwise is risky.

But there are at least some reasons to consider that there may be flexibility in manner of trial consistent with our political tradition. The first is that America had another traditional method of trial. As Professor Kessler has recently reminded us, America also has a longstanding tradition of Equity procedure, which relied upon a very different manner of trial.[182] In that tradition, witness examination did not occur in the presence of the factfinder. Instead, it was done before the "trial," and yielded written materials that were used by the factfinder.[183] Although this mode of proof was gradually modified in the 19th century to permit the lawyers to question witnesses instead of limiting questioning to representatives of the court, it was not until 1913 that a preference for in-court testimony by witnesses was introduced into this mode of trial.[184]

Another, possibly instructive referent about changing trial methods is the English experience. Obviously, England has a different political tradition, but the American jury trial was drawn from English ancestors, and the English experience in revising trial in civil cases may also be instructive. Underscoring differences in attitude toward juries, jury trial in England withered in the 19th century because it was not being requested. More recently, the reforms introduced by Lord Woolf a decade ago in England have further transformed trial. "[T]he trial too has changed almost beyond recognition. While in theory evidence and argument are still

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180. *See* Dean, *supra* note 128 (describing online mock juries that provide input about cases, either individually or using a chatroom for jury deliberations, and cautioning that such virtual jury service is not comparable to live, face-to-face mock juries, although it is much cheaper and easier to use).

181. *See supra* text accompanying notes 140-41.

182. *See* Amalia D. Kessler, *Our Inquisitorial Tradition: Equity Procedure, Due Process, and the Search for an Alternative to the Adversarial*, 90 CORNELL L. REV. 1181 (2005); *see also* Marcus, *Equity's Conquest*, *supra* note 170, at 731-35.

183. *See* Kessler, *supra* note 182, at 1204-10 (describing equity method of gathering evidence for use at trial).

184. *See* Marcus, *Equity's Conquest*, *supra* note 170, at 734.

presented at the trial, in reality they may be put before the court well in advance."[185] This change has undercut one of the features of trial emphasized above: "Traditionally, the English process of adjudication was much more comprehensible to onlookers than its continental counterparts due to its orality and continuous nature."[186] But now the judges are likely to read the documents and the witness statements before the trial. "Members of the public could therefore be denied any meaningful opportunity of comprehending the issues."[187] Indeed, "the oral, continuous narrative flow of a civil trial is now in tatters."[188]

This is not to say that, as England goes, so should America. But it does show that in a society somewhat like ours dramatic changes could be made to the manner of trial. And one might be able to argue that shifting trials into an Internet milieu could benefit some of the political considerations. As one proponent of digital methods for trial observes: "Today's easy access to data suggests that virtual trials which could be followed at home via Web-television or computer might replicate the colonial period in which the general public had easy access to cases and regularly attended trials."[189]

That potential positive effect on aggressive use of digital capabilities suggests a further strand of thought: Though governed by the Seventh Amendment, the American mode of jury trial has not been static. To the contrary, the Supreme Court has found this Amendment provides considerable flexibility in fashioning trial procedures. Thus, when Justice Black challenged the directed verdict as unconstitutional, the Court upheld the new device, saying that the Seventh Amendment "was designed to preserve the basic institution of jury trial in only its most fundamental elements."[190] Recognizing the power of the court to enter judgment without a jury decision surely is a more significant change in trial methods than substituting video versions of testimony for reading of deposition transcripts. Indeed, the evolution of the trial shows that significant features have been changed. From a jury expected to bring knowledge of the case to the decisionmaking process, the

185. ADRIAN A. ZUCKERMAN, CIVIL PROCEDURE 43 (2003).
186. *Id.* at 86.
187. *Id.* at 87.
188. NEIL ANDREWS, ENGLISH CIVIL PROCEDURE 124 (2003).
189. Lederer, *supra* note 148, at 807.
190. Galloway v. United States, 319 U.S. 372, 392 (1943).

Anglo/American trial evolved to one dependent on the parties to present the evidence. And many methods of controlling the jury also emerged, such as exclusionary rules of evidence, the power of the judge to comment on the evidence, and the right of the judge to comment on the evidence. Not long ago, the size of the jury was lowered from twelve to six. Against this background, it would not seem that there are strong legal tethers on further change to take advantage of technological possibilities.

(5) *Furthering the simplified litigation movement*: American procedure has long been criticized for offering Cadillac style procedures for bicycle sized disputes.[191] At least in some places efforts have been made to provide a less taxing alternative for some cases. In California, for example, litigants making eligible claims have available an alternative shortened and simplified procedural track.[192] Similarly, it was suggested some years ago that the federal courts adopt a small claims feature,[193] and such provisions have even been imagined for the Federal Rules of Civil Procedure.[194]

V. CONCLUSION

One can react to the impact of technology on litigation as either a technophobe or a technophile. Thus, one opponent of using videoconferencing for trials objects that "[t]echnology is never neutral."[195] It is difficult to understand this attitude. Would she oppose using videotapes instead of reading deposition transcripts to present the testimony of a witness who could not be present for trial?[196] Alternatively, a judge recently asked "Why should this court, or any court, fear to tread into an area of advanced

191. *See* Maurice Rosenberg, *The Federal Civil Rules After Half a Century*, 36 ME. L. REV. 243, 247 (1984) ("Cadillac-style procedures are not needed to process bicycle-size lawsuits, yet that is what the rules often appear to require.").

192. *See* CAL. CODE CIV. PROC. §§ 90-100 (West 2006) (applying "economic litigation" provisions to certain cases).

193. *See* William W. Schwarzer, *Let's Try a Small Claims Calendar for the U.S. Courts*, 78 JUDICATURE 221 (1995).

194. *See* Edward H. Cooper, *Simplified Rules of Civil Procedure?*, 100 MICH. L. REV. 1794, 1802 (2002).

195. Poulin, *supra* note 158, at 1106.

196. *See* FED. R. CIV. P. 32(c) (favoring the use of videotaped deposition testimony).

technology?"[197] At least some consequences of shifting most aggressively to reliance on technology for handling trials should be unnerving. Dean Carrington, for example, would not favor jury deliberation by chat room.

One way of looking at technology's impact is to ask whether it is ushering us toward *Brave New World* or *1984*. Aldous Huxley himself provided some insight on that question with *Brave New World Revisited*, written about twenty-five years after the appearance of the original book and nearly fifty years ago now. He thought that "[t]he prophesies I made in 1931 are coming true much sooner than I thought they would."[198] But he did not think that the world was moving toward *1984*: "[R]ecent advances in science and technology have robbed Orwell's book of some of its gruesome verisimilitude."[199] As a consequence, Huxley concluded, "[i]t looks as though the odds were more in favor of something like *Brave New World* than of something like *1984*."[200] Certainly, the fall of the Soviet Union in 1989 and the economic liberalization of the People's Republic of China make part of that prediction seem justified.

Technology's increasing pervasiveness, and its penetration into so many aspects of our lives, suggest that it may produce some effects like those foreseen by Huxley. But it has not seemingly produced conformity in the way he envisioned; to the contrary, one could see the 21st century as a century of individualism enabled by technology. And technology has not changed things as much as anticipated. Consider the unrealized promise of the paperless office of the computer age: "Computer technology was supposed to replace paper. But that hasn't happened. Every country in the Western world uses more paper, on a per capita basis, than it did ten years ago."[201] The more things change, the more they stay the same. That change need not lead to either *Brave New World* or *1984*.

So it is with litigation; change is gradual, and the fundamentals remain the same despite the change. The E-Discovery experience confirms this conclusion. Although it was touted as a transformative development, E-Discovery actually seems to be fitting into the existing discovery format. Other issues such as

197. *Quoted in* Lederer, *supra* note 148, at 824.

198. ALDOUS HUXLEY, BRAVE NEW WORLD REVISITED 4 (1957).

199. *Id.*

200. *Id.* at 5.

201. Malcolm Gladwell, *The Social Life of Paper*, NEW YORKER, Mar. 25, 2002, at 92.

personal jurisdiction seem similarly familiar despite the addition of the Internet. So also with the mode of trial. Much as aspects of Dean Carrington's vision seem unsettling, the rate of change is likely to be gradual and to depend on evolution of social interaction that would make the adoption of new methods of trial correspond to other methods of social interaction.

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