The Potential Use of Courtroom Technology in Major Terrorism Cases

By Fredric I. Lederer*

§ 1-10.00 Introduction

The 1993 World Trade Center bombing, the Lockerbie Pan Am Flight 103 bombing, the Oklahoma Federal Courthouse bombing, September 11th , the Washington Sniper murders, and all too many more; the names and images that they provoke are well known. In the post September 11th world, both foreign and domestic terrorism are especially real. Periodic changes in the national threat color by the new, terrorism-deterrent Department of Homeland Security are now a national reality. Notwithstanding our pain, frustration, and anger, however, we have agreed on one fundamental tenet when we apprehend the suspected perpetrators of these outrages —we try them.

In the nation that perhaps best characterizes the expression, "the rule of law," and for which nearly every issue of importance ultimately can become a question of constitutional law, trials for apprehended alleged perpetrators of terrorism may seem self-evident.[1] They are by no means necessarily easy, however.[2] This article examines the potential use of modern courtroom technology to enhance the trial of alleged terrorists. In doing so, I seek to consider some of the significant technological, legal, and policy issues involved and to make appropriate recommendations for the technologically-assisted trial of major terrorism cases.

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[1] Indeed, the distinct Military Commission procedures promulgated for the trial of those held in Guantanamo have been highly controversial, *see, e.g.*, Kevin J. Barry, *Military Commissions: Trying American Justice*. THE ARMY LAWYER, November, 2003, at 1; and inspired litigation. *E.g.*, Gherebi v. Bush, 2003 U.S. App. LEXIS 25625 (9th Cir. December 18, 2003) (federal district court has habeas jurisdiction over Guantanamo detainees).

[2] *E.g.*,United States v. Moussaoui. Criminal No. 01-455-A (E.D. Va.). *See generally* http://notablecases.vaed.uscourts.gov/1:01-cr-00455/Index.html. The *Moussaoui* case (in which the defendant represented himself for a substantial time) has been characterized by a continuing dispute between the defendant and the prosecution over access to classified information and access to potential witnesses held in isolation by the government. *See, e.g.*, United States v. Moussaoui, Criminal No. 01-455-A, Opinion Order (E.D. Va. October 2, 2003), http://notablecases.vaed.uscourts.gov/1:01-cr-00455/docs/69264/0.pdf (rejecting dismissal of the case as a remedy for the government's refusal to provide access to information and witnesses and substituting other sanctions).

At the outset there are preliminary matters that ought to be addressed. What are "terrorism" trials and how, if at all, do they differ from other trials in other types of cases? Why should we be concerned specially with terrorism cases as distinguished from other types of criminal trials?

§ 1-11.00 *"Terrorism"*

From the public's perspective, "terrorism" no doubt often seems to be simply intentional violent criminal conduct intended to profoundly frighten society. Various federal statutes and administrative regulations define forms of terroristic conduct in a more formal way.[3] 18 U.S.C. 2331, for example, defines "international terrorism" as criminal "violent acts or acts dangerous to human life" that

> (B)appear to be intended - -
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> > I) to intimidate or coerce a civilian population;
> > (ii) to influence the policy of a government by intimidation or coercion; or
> > (iii) to affect the conduct of a government by mass destruction, assassination or kidnapping; and
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> (C) occur primarily outside the territorial jurisdiction of the United States, or transcend national boundaries in terms of the means by which they are accomplished, the persons they appear intended to intimidate or coerce, or the locale in which their perpetrators operate or seek asylum.

Somewhat more broadly, 18 U.S.C. § 2332b, *Acts of terrorism transcending national boundaries*, defines a "Federal Crime of terrorism" as "an offense that—is calculated to influence or affect the conduct of government by intimidation or coercion, or to retaliate against governmental conduct"[4] and which violates any one of any of a large number of enumerated crimes.[5] Other federal terrorism-related statutes exist, including a number that do not necessarily formally define "terrorism."[6] State statutes may be applicable as well. The recent case of

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[3] *E.g.*, 18 U.S.C. §§ 2332; 2339.

[4] 18 U.S.C. § 2332b(g)(5)(A).

[5] 18 U.S.C. § 2332b(g)(5)(B) (including those related to killing or other acts of personal violence, hostage taking, destruction of aircraft or aircraft facilities, weapons of mass destruction, sabotage of nuclear facilities or destruction of interstate or hazardous liquid pipeline facilities).

[6] *E.g.*, 18 U.S.C. 2332a, Use of certain weapons of mass destruction; 18 U.S.C. 2332d Financial transactions; 18 U.S.C. 2332f Bombing of places of public use, government facilities, public transportation systems and infrastructure facilities; 18 U.S.C. 2339. Harboring or

"Washington Sniper" Lee Boyd Malvo involved a count charging Malvo with murder "in the commission of an act of terrorism as defined in § 18.2-46.4 of the Code of Virginia."[7] § 18.2-46.4 declares that an "'*Act of terrorism*' means an act of violence . . . committed with the intent to (I) intimidate the civilian population at large; or (ii) influence the conduct or activities of the government of the United States, a state or locality through intimidation.

Our national human experience would allows one to conclude that most acts of "terrorism" are acts of violence intended to inspire sufficient fear in a population to assist individuals, organizations, quasi-states, and nations in their attempted accomplishment of political, social, or religious goals. At its heart, terrorism is societal blackmail by violence. The question can then be asked, "Are terrorism trials distinct in some meaningful fashion from other forms of criminal trials?"

§ 1-12.00 *Terrorism Trials*

On one level, terrorism trials are functionally identical to other types of criminal cases. With the exception of the special military commissions created by the President,[8] the same courts are involved using the same personnel who operate under the same rules of procedure and evidence. Some terrorism trials are highly complex and involve great public interest; so too are other forms of trials, to include everything from murder to corporate wrongdoing. Yet, on another level there are arguable important differences.

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concealing terrorists; 18 U.S.C. 2339A. Providing material support to terrorists; 18 U.S.C. 2339B. Providing material support or resources to designated foreign terrorist organizations; 18 U.S.C. 2339C. Prohibitions against the financing of terrorism. *See generally*, NORMAN ABRAMS, ANTI-TERRORISM AND CRIMINAL ENFORCEMENT 34-80 (2003).

[7] True Bill of the Grand Jurors of the Commonwealth of Virginia in and for the body of the County of Fairfax (January 21, 2003), http://www.co.fairfax.va.us/courts/cases/pdf/indictment.pdf

[8]Military Order of November 13, 2001, "Detention, Treatment, and Trial of Certain Non-Citizens in the War Against Terrorism," 66 Fed. Reg. 57833 (November 16, 2001) (also known as the "President's Military Order". In lieu of either the Federal or Military Rules of Evidence, the Commission's evidentiary standard is basic: "Evidence shall be admitted if . . . the evidence would have probative value to a reasonable person." Military Commission Order No. 1 ¶ 6. D.1. (Department of Defense March 21, 2002). *See also* Fredric L. Borch III, *Why Military Commissions Are the Proper Forum and Why Terrorists Will Have "Full and Fair" Trials: A Rebuttal to "Military Commissions: Trying American Justice,"* THE ARMY LAWYER, November, 2003, at 10, 13 (noting that hearsay evidence is admissible under "the ICC [International Criminal Court] rules and at the International Criminal Tribunal for the Former Yugoslavia").

Most of our outright major terrorist cases[9] have involved actual or potential substantial loss of life, lengthy[10] and complicated trials[11] characterized by unusually heavy security concerns and the interest of numerous relatives of those killed or injured. Cases involving non-United States defendants invoke significant foreign interest or involvement. Noted high-technology trial lawyer Sam Guiberson notes that terrorism trials are especially demanding in their analytical complexity, often requiring highly sophisticated data analysis on the part of the defense.[12] To the extent that defendants have well-resourced potential allies elsewhere, not only can there be physical security risks but counsel and court could face data security threats rivaling information warfare concerns. The need for foreign evidence, including the potential testimony of persons outside the United States, may be substantial. In short, terrorism cases are likely to be difficult cases with unusually demanding evidentiary requirements. Indeed, the potential evidentiary demands are one of the reasons why the Military Commissions were created along with their unique "probative value" evidentiary requirement that eliminates hearsay restrictions. And, as we have learned in the *Moussaoui* case[13] protection of classified information or access to it can be critical.

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[9] As distinct from cases involving financing or otherwise assisting terrorists or terrorist actions. Because terrorist acts require financial support, financial cases can be crucial and complex.

[10] The numerous trials that grew out of the World Trade Center bombing in the early 1990's were lengthy. None was shorter than four months, and the longest was nearly nine months long. *E.g.*, Joseph P. Fried, *Sheik Sentenced To Life in Prison in Bombing Plot*, N.Y. TIMES, January 18, 1996 at §A, p. 1, col. 4 (9 month trial); N.R. Kleinfield, *Explosion at the Twin Towers: The Reaction; Conviction Greeted With Jubilation and Big Sighs*, N.Y. TIMES, March 5, 1994 at §1, p. 29, col. 3 (5 month trial).

[11] In refusing to dismiss the prosecution in *United States v. Moussaoui*, the judge cited, the "unprecedented investment of both human and material resources in this case."United States v. Moussaoui, Criminal No. 01-455-A, Opinion Order (E.D. Va. October 2, 2003) at 5, http://notablecases.vaed.uscourts.gov/1:01-cr-00455/docs/69264/0.pdf The first World Trade Center bombing case used a pool of 5000 potential jurors to select the final panel. Ralph Blumenthal, *Pool of Jurors Is Whittled Down in the World Trade Center Bombing Trial*, N.Y. TIMES, September 23, 1993 at § B, p. 4, col. 1.

[12] Telephone interview with Sam Guiberson, Esquire, (December 22, 2003).

[13] United States v. Moussaoui, Criminal No. 01-455-A, Opinion Order (E.D. Va. October 2, 2003), http://notablecases.vaed.uscourts.gov/1:01-cr-00455/docs/69264/0.pdf

In large part, however, it is the subject matter of terrorism cases that distinguish them. By their very nature, acts of terrorism threaten large numbers of people[14] and, as we discovered on September 11th, potentially our entire nation. Although our population may be personally affected by or interested in the results of any number of civil or criminal cases,[15] terrorism cases can be directly personal in an extraordinary fashion. Any one of us could be a passenger or victim of a hijacked aircraft; an Anthrax victim, or an accidental victim of a terrorist bombing. The public not only wants justice, it wants to be sure that the right people have been convicted, lest the dangerous remain free to strike again.[16]

Via the media, the public has a substantial interest in understanding the nature of an act of terrorism and how it was planned and accomplished. In the absence of a comprehensive, fairly and

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[14]We can further distinguish between those terrorism cases that fit the classic federal model, i.e. those that have policy intent, and those which have as their primary goals only the infliction of pain and fear on many people (with or without personal gain). The Washington Sniper perpetrators, for example, successfully intended to cause fear in the region and to affect the daily lives of the people living there, but had no general political or religious agenda. Although the Washington Sniper perpetrators affected the daily life of nearly everyone in the greater Washington, D.C,. metropolitan area, it was soon apparent that their murders were not linked to a greater purpose. In short, the people were in fear, but only of a limited threat with reasonably clear constraints. The federal statutory terrorism definition far more easily fits the "war on terrorism" in which the terrorist threat has unknown but potentially enormous reach and consequence. We cannot forget, however, that the potential use of weapons of mass destruction, such as the Anthrax attacks of the post September 11th period, potentially show how even a single person without any policy intent can accomplish horrendous terroristic acts of national or worldwide consequence.

[15] "Seventy million Americans watched Simpson's preliminary hearing on television." Peter Arenella, *People v. Simpson, Perspectives on the Implications for the Criminal Justice System: Foreword: O.J. Lessons,* 69 S. CAL. L. REV. 1233, 1252 (1996) citing Laurie L. Levenson, *Media Madness or Civic 101*? 26 U. WEST L.A. L. REV. 57, 58 & n.5 (1955). The issue here, however, is not public *interest*. It is public *involvement*. Few Americans perceived themselves as being at risk should the killer in the O.J. Simpson case go unidentified or unpunished. Terrorism yields a different conclusion. As this article is being written, the media is reporting that Air France cancelled flights to and from Los Angeles because of possible terrorist threats, combat aircraft are again patrolling the skies over major cities, and security has been vastly enhanced nationwide as the result of the enhancement of the Department of Homeland Security's terrorism-threat level to "Orange." Few people can escape the feeling that their freedom of movement, if not their very lives, are involved.

[16] This can be a very real interest for any individual threatened by a criminal act of any type. However, terrorism is distinct as terrorism inspires both personal and collective fear on the part of large numbers of people, people who cannot necessarily avoid further risk of harm by changing their own individual lifestyle or movements.

competently tried case, with equitable representation on each side, to paraphrase Mr. Guiberson, "You generate another cottage-conspiracy industry."[17] The rest of the world also has an interest, especially when non-United States citizens are involved. The world looks at our trials and uses them as vehicles to determine whether we measure up to our claims for civic probity or whether they reflect the bias and injustice of which our enemies complain.

§ 1-13.00 *The Importance of Terrorism Trials*

Terrorism trials are qualitatively different from most other trials. The way that we conduct them is for much of the world a window into our nation's values. Internally, the degree of fairness accorded those accused of such horrendous acts or goals, communicates to our own people the degree to which we respect our legal system. It signals our support for the constitutional protections upon which that system is based when we are most strongly tempted to dispense with them for the sake of expediency. The "War on Terrorism" is a war of many fronts. Because terrorism is per se criminal, those captured in the pursuit of the war are subject to trial, and the trials themselves are part of the war against terrorism. For some it may prove ironic that in the war of ideas that constitutes the core of our campaign against terrorism one of our greatest weapons is not the certainty of conviction but rather the certainty and perception at home and abroad of an efficient and fair trial, characterized by traditional American due process.

Judge James E. Baker[18] has noted that Alexander Hamilton wrote in *Federalist 8* that:

> Safety from external danger is the most powerful director of national conduct. . . . The violent destruction of life and property incident to war, the continual effort and alarm attendant on a state of continual danger will compel nations the most attached to liberty to resort for repose and security to institutions which have a tendency to destroy their civilian and political rights. To be more safe, they at length become willing to run the risk of being less free.

But, as Judge Baker also observed, "the Constitution was not designed to fail, to safeguard our security at the expense of our freedom or celebrate freedom at the expense of security. It is designed to underpin us *and* our way of life."[19] Our terrorism cases must embody due process.

At the same time, however, it is not enough to supply due process. We must also provide efficient and speedy adjudication. Necessary delay *can* communicate due process; certainly undue

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[17] Telephone interview with Sam Guiberson, Esquire, (December 22, 2003)(speaking of the consequences of a case in which the defense is substantially disadvantaged compared to the prosecution.

[18] James E. Baker, United States Court of Appeals for the Armed Forces, *National Security Process and a Lawyer's Duty: Remarks to the Senior Judge Advocate Symposium*, 173 MIL. L. REV. 124, 131-32 (2002).

[19] *Id*. at 133-34.

haste suggests its absence. However, for most lay people delay suggests inability, a complexity, or evidentiary difficulty that implies weakness in the prosecution, the political administration, the legal system, or more. Accordingly, our multifaceted war on terrorism requires to the degree possible speedy, efficient, clear, accurate, and fair trials. The world must see American justice as the epitome of accuracy, fairness, and efficiency. Our trials must send the world a message that the guilty will be convicted with a combination of expedition and fairness, a unique message of American competence and moral strength. In doing so, we must help the world see how and why these acts were committed so that no one can hide from the truth. Courtroom technology can help us achieve these goals.

§ 1-14.00 *The Courtroom 21 Laboratory Trials*

Our goal is to consider the potential use of courtroom technology to assist in the trial of terrorism cases. In doing so we should review the possible technologies both in the abstract and, to the degree practical, from the perspective of their actual use in terrorism or related cases. One special aid to this process is a review throughout this article of aspects of the Courtroom 21 Laboratory Trials.

> William & Mary Law School is the home of the Courtroom 21 Project, a joint project of William and Mary Law School and the National Center for State Courts. The Project's primary external mission is "To improve the world's legal systems through the appropriate use of technology." To accomplish this, the Project conducts frequent legal technology demonstrations and discussions each week, hosting jurists, lawyers, law faculty, court administrators, technologists, architects and others from throughout the world. The Project is the world center for courtroom technology empirical and legal research, is heavily involved in judicial and lawyer education and training, and provides technology augmented courtroom design consulting services. The Project is best known for the Law School's McGlothlin Courtroom, the hub of the Project, which is the world's most technologically advanced trial and appellate courtroom.[20]

Every year with the assistance of the many Courtroom 21 Participating Companies and Organizations, organizations such as the Federal Judicial Center, and students from the Law School's Legal Technology Seminar and, now, Technology-Augmented Trial Advocacy Course, the Courtroom 21 Project tries a one day experimental trial, the Laboratory (Lab) Trial. The Project creates a case that is either based upon a real case or one that could have actually occurred. An invited United States district judge presides while a community jury sits as fact-

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[20] William & Mary Class of 2006 Student Orientation Notebook (2003). *See generally* Fredric I. Lederer, *The Courtroom 21 Project The Courtroom of the 21st Century - and More!* __ ABA JUDGES' J. ___ (2004).

finder. The Courtroom 21 Project uses the Lab Trial as a unique experimental vehicle. The Courtroom 21 Project tried simulated terrorism-related cases in 2001 and 2003.

United States v. Linsor was tried in April, 2001, six months before September 11th. *Linsor* was an aircraft destruction and murder case in which the defendant, a United States national living in England, was part of a cell that placed a bomb aboard a United States Air Force aircraft in England. The bomb destroyed the plane when it was over London, directly in the path of an oncoming civilian jetliner which was consequently also destroyed, causing terrible destruction in the city below. The defendant was charged with violations of 18 U.S.C. § 32[21] and 18 U.S.C. 2332(a).[22] The Honorable James Rosenbaum, United States District Judge for the District of Minnesota, presided.

We tried *United States v. Stanhope* in April, 2003. Created with the assistance of the Counterterrorism Section of the Department of Justice, *Stanhope* involved the prosecution of an American citizen for attempting to help finance an al Qaeda attack in the United States in violation of 18 U.S.C. § 2339B.[23] The Honorable James Spencer, United States District Judge for the Eastern District of Virginia, presided.

Linsor and *Stanhope* served as experimental vehicles for the use of courtroom technology in terrorism cases. As such they will be especially valuable in our technology discussion. At the same time, other non-terrorism-related. Courtroom 21 Laboratory Trials can also be useful, especially the April 2002, trial of *United States v. NewLife MedTech*, a homicide prosecution of a medical start-up company. Presided over by the Honorable Nancy Gertner, United States District Judge for the District of Massachusetts, the case involved the world's first known use of holographic and immersive reality evidence.

Based upon a survey of the technologies and our Courtroom 21 experience, the technologies of greatest interest in terrorism cases include those related to pretrial case preparation, remote appearances, court record, counsel communications, evidence/information presentation, jury deliberations, and appeals.[24]

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[21] Destruction of aircraft or aircraft facilities.

[22] Homicide pursuant to Chapter 113B. Terrorism.

[23] Providing material support or resources to designated foreign terrorist organizations.

[24] Other technologies, notably assistive technologies that help those trial participants who would benefit from technological help in moving, hearing, seeing, or communicating, may also apply. *See, e.g.*, Mark Potok, *McVeigh trial off to dramatic start Both sides concentrate on details*, USA TODAY, April 25, 1997 at 3A ("The prosecutor, who has multiple sclerosis, spoke from his wheelchair at an electronically lowered podium"). These are important technologies, ones that the Courtroom 21 has a special interest in, to the point of having created a special Assisted Litigator's Podium for the high-technology lawyer in a wheelchair. However, despite their general importance there do not appear to be terrorism-specific reasons to discuss these technologies. Interpretation technology may apply but is pragmatically unlikely to be necessary. Although interpretation is frequently required in the trials of terrorists with foreign connections,

§ 2-10.00 The Technologies In General

Technology, including courtroom technology, does not exist in a vacuum. A comprehensive discussion of the potential value of courtroom technology requires consideration of the technology itself, its method of employment, its human effects, current legal and practical constraints, and the technology's potential specific and systemic advantages and disadvantages, particularly if any applicable legal restrictions were to be varied. The material that follows addresses legal technologies of special interest to terrorism prosecutions. It does not attempt to be a detailed discussion of legal or courtroom technologies.[25]

§ 2-20.00 Pretrial Preparation

§ 2-21.00 *In General*

Major terrorism cases are potentially highly complex. Thousands of physical or electronic documents or files may be involved, along with testimony in varied forms from at least hundreds of people. Because terrorism cases ought to be tried as speedily as possible once the accused has been formally charged, it is especially important that persons involved in the pretrial investigative and trial preparation phases recognize that should the case go to trial some of the material collected in those phases later may have to be presented in court as evidence. This recognition may be less useful in terrorism cases than in many other more traditional prosecutions as there may be little or no distinction in many terrorism cases between "law enforcement" investigation

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remote audio interpretation technology, which connects the courtroom to a remote human interpreter, is unlikely given the absence of visual cues, and we can assume that ordinarily in-court court-qualified interpreters will be used. Having said that, recent developments in technology-aided interpretation permit interpretation via two-way videoconferencing (essential for sign-language interpretation), and such interpretation could be especially useful in the event of an unforseen need, including the unexpected unavailability of an interpreter.

Courthouse and courtroom security are concerns that are clearly applicable to terrorism cases. *See, e.g.*, Camille Bains, *B.C. Officials Reveal High-Tech, High-Security Courtroom for Air India Trial*, CAN. PRESS, Aug. 16, 2002 ("A high-tech, high-security courtroom built especially for the Air India trial already has lawyers lining up to use it before the biggest trial in Canadian history is set to begin next spring. . . .Features of the $7.2 million courtroom at the Vancouver Law Courts include three portable tent-like, bullet-proof enclosures that seat two accused each."). However, for reasons of space physical and data security are outside the scope of this article.

[25] *See generally* Fredric I. Lederer, *Courtroom Technology A Status Report for Trial Lawyers, Criminal Justice,* ____, 2004, at ___; Fredric 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 (1999). *See also* DEANNE C. SIEMER, EFFECTIVE USE OF COURTROOM TECHNOLOGY: A JUDGE'S GUIDE TO PRETRIAL AND TRIAL (2001).

and preliminary pretrial prosecutorial preparation. To the extent that prosecutors are actively involved in the pretrial preaccusation investigation,[26] the dividing line between investigation and prosecution may be thin at best. Should this be so, efficient prosecution requires an unusually early agreement with law enforcement and intelligence personnel on the data components of the case.

The initial challenge is the creation of the case - the collection, organization, and analysis of the data. The prosecution has a substantial advantage; it has the assistance of law enforcement and intelligence personnel,[27] all of who are hopefully cooperative and supportive. In a major case of great political importance, the human and technological resources available to a United States attorney are effectively unlimited.[28] At least theoretically, the prosecution should receive from law enforcement and the intelligence agencies[29] the raw data, the analysis that accompanies it, and the human assistance of those knowledgeable about the case. The prosecution's chief task would then be to master the case, structure it for trial, and prepare the evidence needed for victory. Reality is not quite so simplistic, of course. Counsel likely will have to obtain information not previously supplied, identify "holes" in the case and locate and obtain appropriate evidence, comply with Constitutional disclosure[30] and defense discovery requirements[31] and more.

Although the defense has the great advantage of not having to prove an affirmative case beyond a reasonable doubt, in a complex case it must understand the prosecution's data in order to reply to it. There can be "thousands or millions of data points."[32]

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[26] A commendable fact of life today in many types of criminal cases. Early prosecutorial involvement ought to moot legal errors that would otherwise only be detected when it is too late to do anything about them.

[27] Who are likely to be using data mining software and forensic computer software such as EnCase during the investigation phase.

[28] It is by no means clear that this is true for the Military Commissions which appear to have a potentially massive caseload.

[29] And may have been involved in the investigation from a very early period, thus easing or even eliminating the traditional transition from investigation to prosecution.

[30] *E.g.*, United States v. Bagley, 473 U.S. 677 (1985), United States v. Agurs, 427 U.S. 97 (1976).

[31] *E.g.*, FED. R. CRIM. P. 16

[32] Telephone interview with Sam Guiberson, Esquire, (December 22, 2003)(also noting that the mass of data can obscure important evidence. The New Jersey Law Journal reported in 1997 that:

> The McVeigh defense team has more than 28,000 FBI interviews to pore over, about 500 laboratory reports with differing conclusions to weigh, and thousands of

§ 2-22.00 *Data Structuring and Analysis*

The pretrial process ought to consist of the creation of a master database linking all known relevant information. All information which might be of later importance must be obtained and indexed electronically. Physical documents should be scanned, preferably with optical character recognition,[33] so that they can be searched electronically. Current software using a form of artificial intelligence allows the automated analysis of scanned documents to recognize and retrieve important data. Litigation support software can complete custom data forms using such extracted information.

New technology[34] now permits the text searching of digital audio, whether alone or connected to video. Accordingly, the audio component of any wiretaps, interrogations, depositions, interviews and the like can be converted to digital audio, if it was not in digital form to begin with, and thus made searchable. All digital data can be linked to the master database. This can permit highly useful data mining.

Access to the case information is not enough. It needs to be structured. Depending upon the case, data can be "mapped" or charted graphically, whether in chronological or other forms, allowing for visual understanding of key parts of the case. Critically, the same type of display may also be highly useful in opening statement or closing argument.

The key to efficient use of investigative work during trial is not so much the capturing of information which might otherwise be lost (*e.g.*, videotaping an interrogation) but the recognition that a later conversion of data from one set of computer programs to another may be at best difficult and expensive, especially if proprietary programs are used initially. Advance planning can be critical. Prosecution compliance with defense data discovery requirements, for example, can

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> hours of surveillance tapes to view -- all products of a criminal investigation conducted by hundreds, if not thousands, of FBI agents
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> Robert Schmidt, *A Spare-No-Expense Defense for McVeigh*, N.J.L.J., April 7, 1997 at 16.

[33] Scanning is the process of making an electronic image of a document, photograph, chart, etc. The result is a computer file that can be displayed by computer programs. Should counsel wish to be able to search imaged documents for specific text (potentially as is done in Lexis or Westlaw searches) , the scanned images must then go through optical character recognition (OCR). In OCR. a computer program processes each individual letter in order to convert it to its equivalent in electronic text. In effect, OCR programs convert pictures of words to text. OCR is desirable so that counsel can search documents; it is unnecessary if the only goal is to display the image of documents in court.

[34] Available through NEXIDIA, formerly "Fast-Talk Communications." http://fasttalk.com

be difficult depending upon the data format used and whether care has been taken to protect attorney-client, work product, and classified information privileges.[35]

§ 2-23.00 *Virtual Reality*

"Virtual reality' is an often overused expression that is most often employed to describe one form or another of computer graphical re-creation of a given location. In its more basic form, virtual reality gives the user the ability to move through an accurate image of a place as displayed on a computer monitor. As the user employs a mouse, keyboard, or other control device, the user

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[35] Defense discovery requests have sometimes resulted in prosecution data not readily readable by the defense. A recent joint working committee of the Administrative Office of the United States Court and Department of Justice has recommended in the area of discovery that:

> Absent significant justification, during the discovery process there should be no degradation of electronic data from the state in which that information is originally received by a party. For example, to the extent that a party get discoverable information from a third party in electronic form, the party should produce the information in that same form when requested to do so.
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> JOINT ADMINISTRATIVE OFFICE/DEPARTMENT OF JUSTICE WORKING GROUP ON ELECTRONIC TECHNOLOGY IN THE CRIMINAL JUSTICE SYSTEM ¶ IV.B.(2) (2003).

Insofar as data conversion is concerned, the Working Group recommends:

> Absent significant justification, a party that converts discoverable information into electronic form, or manipulates or organizes discoverable information that is in an electronic form, should make its products available to an opposing party, assuming that work product or other privilege is not applicable to those products, and subject to any cost-sharing arrangements to which the parties may agree or the court may direct.

Id. at ¶ IV.B.(3)a.(3)(also recommending use of "commercially available software").

And,

> Absent significant justification, a party that converts discoverable information into an electronic form, or manipulates or organizes discoverable information that is in an electronic form, should make every effort to do so in a manner that makes it possible to make such products available to an opposing party - perhaps in a redacted or other form - without implicating the work product or other privilege.

Id. at ¶ IV.B.(3)b.(3)(a).

effectively can walk through, for example, a building. When the user uses the mouse to turn, the screen image reacts accordingly and displays what the person would actually have seen if she or he had made that turn in the actual building. Virtual reality technology may aid in the investigation and pretrial preparation of a case.[36] In the "Bloody Sunday"inquiry into the killing of fourteen people by security forces during an 1972 civil rights march in Londonderry in Northern Ireland[37] Inquiry staff have used a two-dimensional recreation of 1972 Londonderry[38] to assist witnesses to illustrate their testimony:

> The virtual reality representation recreates the whole of the Bogside area of Derry, much of which has undergone extensive reconstruction since 1972. The user can select the scene today, in 1972 or as it may have looked today if the reconstruction had not occurred. With a choice of 80 locations, the user can look around 360 degrees, zoom in and out or choose to walk through the scene. On selection of the latter, 'stepping stones' are used as an aid to navigation. At each point the angle of view is remembered by the system when switching between the representations.
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> Oral evidence as to location and movement can be recorded on the virtual reality system. Any particular scene can be saved and exported to a mark-up system so that the witness can draw on the images or the line of direction indicated.[39]

The "Bloody Sunday" system allows a witness to illustrate his or her testimony by "walking" through the recreation of the city, as displayed on a two-dimensional screen. The next generation of this technology is "immersive virtual reality."

In immersive virtual reality a witness is placed within a three-dimension virtual re-creation and becomes part of the re-creation; the witness can physically walk about it. Rather than controlling an image displayed on a screen, the witness is in the re-creation, which then reacts to the actual physical movements of the witness. The witness wears a computer-linked set of goggles which transmits to the wearer's eyes what the witness would actually see if he or she were to be physically present in the computer recreated room or location. A computer tracks the physical actions of the witness and reacts to them as if the witness were physically present in the virtual location. Courtroom participants see what the witness sees via projection on courtroom screens. To the witness, it actually seems as if he or she has been physically transported to the virtual

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[36] *Cf.* David Lore, *Bombing Opened Portal to Engineers Virtual Reality Assists Building Design*, Columbus Dispatch, April 4, 1997, at 1B (Ohio State student created a virtual model of the Murrah Federal Building in Oklahoma City after its bombing).

[37] *See generally* www.bloody-sunday-inquiry.org.uk/index.htm.

[38] www.bloody-sunday-inquiry.org.uk/nav/left/Qa_2.htm (Visited December 25, 2003).

[39] *Id.*

environment.[40] What to jurors and observers is a courtroom may appear to the witness, for example, to be an outdoor plaza filled with statutes, trees, and a fountain. It can be disconcerting to see the witness detour past an empty section of floor, which to the witness appears to be a tree. First used in a courtroom context in the 2002 Courtroom 21 Laboratory Trial of *United States v. NewLife MedTech*,[41] immersive virtual reality allows event witnesses to demonstrate past actions almost as if we have been given a window on the past. In our use we discovered that a critical defense witness, a nurse, who had testified to how she had seen a surgeon conduct a key part of an operation had actually been unable to see the surgeon's hands or wrists, totally discrediting her testimony. Although virtual reality technologies can be highly effective in the courtroom, as demonstrated in *United States v. NewLife MedTech,* they may be even more useful in the investigative and pretrial preparation phases when experts are trying to reconstruct what actually happened. It is in one sense an idea form of "modeling."[42]

§ 2-24.00 *Multi-media Interrogations and Interviews*

Early decisions in the investigation stage can ease or complicate the trial preparation stage. This is especially true when interviews and interrogations are conducted. If these are videotaped when conducted, the audio portion can be transcribed[43] so as to yield a electronically searchable transcript. The electronic text can also be added to the digitalized video so as to create a multi-media deposition-like depiction of the interrogation or interview. As the factfinder sees and hears the person being questioned, the factfinder can also follow the transcript as it runs either below or

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[40]With the critical caveat that current technology cannot yet economically recreate photographic reality; instead, high-end computer graphics are used so that there is at present no chance of confusing the virtual reality with true reality. Notwithstanding this, virtual reality can seem "real" indeed to the participant. I first used this system personally at an August, 2001, Federal Judicial Center Conference (conducted with the support of the Courtroom 21 Project). I found myself reacting emotionally to what I intellectually knew to be non-existent. Walking over a raging fire twenty or more feet below the virtual reality wooden plank across which I was all too hesitantly walking brought forth very real feelings, even though in actual fact I was just walking across a room's carpeted floor.

[41] The immersive reality reconstruction was created by faculty and students at the University of California at Santa Barbara, with the support of the Federal Judicial Center.

[42]It also has the same problems one encounters in creating any model. The model is only as good as the information used to construct it.

[43] This can be done at the interrogation via a realtime court reporter. However, as circumstances can readily foreclose concurrent use of a reporter as a reasonable option, later transcription may be unavoidable.

above the image or scrolls by on the side.[44] In the Courtroom 21 Laboratory Trial *United States v. Linsor*, the prosecution utilized such a multi-media transcript of a simulated FBI interrogation of an arrested terrorist. The combination of audio, video, and scrolling text appeared highly persuasive.[45]

§ 2-25.00 *Special Requirements for Counsel?*

It is impossible to avoid noting that proper pretrial preparation for some terrorism cases is or should be unusually data and technology dependent.[46] Such a conclusion impels sobering requirements. Counsel for all parties must have access to the necessary technologies and the ability to use them properly. Given that few terrorist defendants are likely to be able to personally afford retained counsel or to hire outside expert assistance, the potential if not certainty of a

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[44] This presupposes that there is no question about what was said as distinguished from the classic attempt to assist a jury in its interpretation of a garbled wiretap. In such a case, the text component ought to be objectionable as either violative of the best evidence rule, *e.g.*, FED. R. EVID. 1001 (covering a "recording"), or unfairly prejudicial. FED. R. EVID.403. In the event of a substantial dispute, the traditional attempt to supply a transcript simply as an "aid to understanding," *see, e.g.*, United States v. Hughes, 895 F.2d 1135, 1147 (6th Cir. 1990)(permitting the transcript as only an aid is within the sound discretion of the Court after the Court has personally made an independent determination of the accuracy of the transcript by comparing the recording with the transcript) ought to be unlikely to be successful given the persuasive nature of a multi-media transcript.

[45] Of course, videotaping the taking of a statement can also be a substantial factor in showing the statement to have complied with all due process and other legal requirements. *See, e.g.*, Stephen v. State, 711 P.2d 1156, 1158 (Alaska 1985))(state constitution requires taping of custodial interrogations in formal detention locations); TEX. CODE CRIM. P. 38.22 §3 (electronic recording of custodial interrogation ordinarily required). The admissibility and reliability of statements can be substantial questions at any time. They may be especially problematical when individuals are questioned with national security concerns in the balance, or when interrogations are conducted by foreign authorities not bound by United States law. In the 2003 Laboratory Trial of *United States v. Stanhope*, a witness portraying a law enforcement agent of another nation spent some time attempting to assure the court that an interrogation she had conducted of a witness complied with all of her nation's legal requirements, aggressively trying to avoid defense counsel's showing that those standards were at sharp variance with those of the United States.

[46] Not unique, of course to terrorism cases. However, if the speedy and fair adjudication of terrorism cases are to be a special priority, the need to cope with technology-dependent data storage and use may be a special need for these cases.

massive imbalance in representation seems clear.[47] Although a counsel imbalance is all too often a feature of our adversary system which outside the armed forces has a minimal competence requirement for criminal defense attorneys,[48] the imbalance may be especially troublesome here.

Courtroom 21 experience and the information that we have gathered in the ten years of the Project's formal existence leads us to conclude that with instruction most trial lawyers can obtain at least basic adequacy in the use of evidence presentation technologies for trial. It is by no means clear that this is true for the data-intensive pretrial preparation phase which may require a specialized understanding of the nature and potential uses of computer databases and other technologies.

If this is correct, terrorism cases in particular may demand counsel with special technology qualifications, qualifications not customarily held by either federal assistant public defenders or Criminal Justice Act appointed counsel.[49] One possible solution to this is to draw defense counsel from a nationwide panel of technology-competent counsel.[50] The reader may question the desirability of treating terrorism cases specially; after all, we have compelling need for better lawyers in many other types of case, including many more mundane capital cases. The best response to such a legitimate criticism is that because of their impact on foreign public opinion, terrorism cases are indeed special in this area. Fair and expeditious terrorism trials will not themselves win the hearts and minds of those who abroad question our society and its philosophic underpinnings, but they can help, and perhaps more importantly, they can surely hurt if they are seen simply as show trials working their way to a guaranteed fate.

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[47] Mr. Guiberson argues that our current system creates a massive imbalance in counsels' ability to interpret the evidence. Telephone interview with Sam Guiberson, Esquire, (December 22, 2003).

[48] *E.g.*, United States v. Cronic, 466 U.S. 648 (1984)(real estate lawyer who had never before tried a case did not supply ineffective assistance of counsel in a $ 9.4 million mail fraud check kiting scheme).

[49] The Federal Public Defenders' offices have access to federal technology experts who assist in case preparation and trial.

[50] Telephone interview with Sam Guiberson, Esquire, (December 22, 2003)(local counsel inexperienced in mega-trials and with technology are at the mercy of local technology entrepreneurs who may lack appropriate expertise)

§ 2-30.00 Trial

§ 2-31.00 *Public Access to the Trial Proceedings*

A criminal defendant has a Sixth Amendment right to a public trial.[51] One of the traditional reasons for such a trial is to ensure that the public is satisfied that the verdict is accurate and the sentence just. Because the perceived international fairness of a terrorism trial is itself a part of our war against terrorism, it is especially important that we afford the world the greatest possible understanding of the trial and its evidence. On the one hand, this suggests that the trial presentation on both sides be as comprehensible as possible, a matter which we will address in the evidence presentation discussion. It also suggests that the trial process itself should be as transparent or at least as available to the public as may be possible.[52]

In those terrorism trials in which the survivors and the families of victims were numerous[53] many courts have provided "overflow seating" via remote audio/video to another room in the courthouse[54] or to a remote viewing location in another city.[55] However important victims and

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[51] Richmond Newspapers, Inc. v. Virginia, 448 U.S. 555 (1980).

[52] This may be equally important for surviving victims and the families of the deceased.

[53] "3,000 or so people identified officially as victims, survivors, and relatives." Arnold Hamilton, *Oklahoma Bomb Survivors to View Telecast of Trial*, DALLAS MORNING NEWS, March 23, 1997 at 47A.

[54] As in the 2003 Chesapeake, Virginia, trial in *Commonwealth v. Malvo* (details discussed during Courtroom 21 pretrial site inspection visit).

[55] *See, e.g.*, Arnold Hamilton, *Oklahoma Bomb Survivors to View Telecast of Trial*, DALLAS MORNING NEWS, March 23, 1997 at 47A. Note that remote viewing by victims and their families was initially prohibited by the trial judge in the *McVeigh* case pursuant to the prohibition on the Federal Rules of Criminal procedure in "broadcasting" trials.

> The federal court system long had a rule that prohibited cameras from its courtrooms. The provision that made possible the closed-circuit telecast was included in the Anti-Terrorism and Effective Death Penalty Act, signed into law by the president last April. It requires the federal court system to permit such broadcasts if a trial is moved more than 350 miles from its original location.
>
> But it sharply restricts who can view the proceedings in such a setting, giving federal judges the discretion to decide who has a "compelling" enough interest to attend and who would be unable to do so "by reason of the inconvenience and expense caused by the change of venue."

their survivors are - and they *are* important - from a national perspective the key issue may be the availability of terrorism trial proceedings to the greater national and international audience. If we are to show clearly the facts of the case for the doubters; if we are to show the world the nature of our legal system and the culture it supports, we *must* be able to show our terrorism trials to the world. This policy judgment wars with a tradition of privacy, at least insofar as the federal courts are concerned,[56] given their prohibition on "cameras in the courtroom."[57]

Following the practice adopted by other courts dealing with important cases, many courts hearing terrorism trials publish key documents, potentially including evidentiary exhibits, to the web for public access.[58] At the very least, this makes available to the general public legal documents, including indictments and motion papers. More can be done.

It is easily possible to publish to the web in realtime the verbatim transcript [59]of the court proceedings. Ringtail Solutions helped pioneer in this area by web publishing not only the transcript but also associated documents.[60] In past Laboratory Trials, including the *Linsor* and *Stanhope* experimental terrorism trials, the Courtroom 21 Project published to the web a comprehensive multi-media transcript consisting of live audio and video, the draft realtime transcript, and documentary evidence. The goal should be to make available to the world the entire trial without news media editing. Setting aside any discussion of the unavoidable bias that can arise from having to edit a trial into audio or sound "bites," overseas news coverage of a United States trial may be especially subject to journalistic bias. Internet publication permits those with access to the world wide web to draw their own conclusions as to the truth of what is

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Id. See also Paul G Cassell & Robert F. Hoyt, *The Tale of Victims' Rights*, 147 N.J.L.J. 28 (1997).

[56] *See, e.g.*, *McVeigh trial too secret,* USA TODAY, April 24, 1997 at 12A (editorial perspective).

[57] *See* discussion of Federal Rule of Criminal Procedure 53 *infra*.

[58] *See, e.g.*, http://notablecases.vaed.uscourts.gov/1:01-cr-00455/Index.html (Moussaoui case); www.co.fairfax.va.us/courts/cases/malvo_other.htm (Malvo "sniper" case).

[59] Ordinarily, this would be a rough first draft. However, via the assistance of a "scopist," a realtime court reporter's transcript can be published in accurate form with only a small delay in transmission.

[60] *See, e.g.* Adam Creed, *Australian Gas Crisis Inquiry Publishes Live Transcripts*, NEWSBYTES NEWS NETWORK, December 22, 1998 ("The Longford Royal Commission inquiry into the gas explosion in the Australian state of Victoria, which claimed two lives and left the entire state without any gas supply for two weeks, will provide real time transcripts of the proceedings from a Web site").

happening at trial. Today's web publication technology works incredibly well, and the technology to accomplish it is now simple and relatively straightforward.[61]

Trial coverage may be constrained, however, by the potential use at trial of classified information[62] and in United States district courts, the prohibition by Federal Rule of Criminal Procedure 53 on "broadcasting of judicial proceedings from the courtroom."[63] Although intended to ban "cameras in the courtroom," the full extent of the federal prohibition is unclear. The notes of the Federal Rules Advisory Committee on the 2002 Amendments suggest a potentially expansive interpretation.[64]

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[61] In addition to the available Ringtail Solutions applications, the Courtroom 21 Project uses Sonic Foundry's MediaStream Live.

[62] Which may close trial in any event.

[63] "Except as otherwise provided by a statute or these rules, the court must not permit the taking of photographs in the courtroom during judicial proceedings or the broadcasting of judicial proceedings from the courtroom." FED. R. CRIM. P. 53. However, "forty-eight (48) other states have some form of audio-visual coverage in the courtroom and thirty-seven (37) televise trials." People v. Boss, 182 Misc.2d 700, 705, 701 N.Y.S.2d 891, 894-95 (Sup. Ct. 2000).

[64]

> The language of Rule 53 has been amended as part of the general restyling of the Criminal Rules to make them more easily understood and to make style and terminology consistent throughout the rules. These changes are intended to be stylistic only, except as noted below.
>
> Although the word "radio" has been deleted from the rule, the Committee does not believe that the amendment is a substantive change but rather one that accords with judicial interpretation applying the current rule to other forms of broadcasting and functionally equivalent means. *See, e.g., United States v. Hastings*, 695 F.2d 1278, 1279, n. 5 (11th Cir. 1983) (television proceedings prohibited); *United States v. McVeigh*, 931 F. Supp. 753 (D. Colo. 1996) (release of tape recordings of proceedings prohibited). Given modern technology capabilities, the Committee believed that a more generalized reference to "broadcasting" is appropriate.

REPORT OF THE ADVISORY COMMITTEE ON CRIMINAL RULES transmitted from W. Eugene Davis, Chair Advisory Committee on Federal Rules of Criminal Procedure to the Honorable Anthony J. Scirica Chair, Standing Committee on Rules of Practice and Procedure 159 (May 10, 2001) available at http://www.uscourts.gov/rules/Reports/CR05-2001.pdf.

Past federal trial realtime text transcripts have been published to the web[65] despite the potentially broad nation of the prohibition. A multi-media transcript, however, includes live audio and video and is far more likely to be so construed, even if traditional television is not involved, and the court is in full control of its own, unedited, feed.

Should the federal ban on "broadcasting" extend to web publication, the public interest in exposing to the world the details of terrorism cases should cause a re-examination of the ban. One must concede that if any of the other traditional concerns are valid, *e.g.*, "grandstanding" by lawyers, that is at least as likely to occur in terrorism cases as in other types of trials. However, what may well be a compelling public interest and indeed a national security interest should dictate an exception. At the same time, terrorism cases may raise other traditional concerns to a new level. Does the visible testimony of a key witness in a terrorism case place that witness at substantially enhanced risk of attack or murder, or does it make substantially more likely the discovery of new evidence, including new witnesses?

It is worth noting as well that so long as we have large numbers of casualties we are likely to have to arrange special remote viewing facilities for victims and their families, a cost which might well be eliminated or at least minimized if the public were able to view the entire trial using the court's own technology.[66]

The key question, of course, is how technology can best be used to enhance terrorism trials. Because major terrorism cases are likely to rely heavily on foreign participants in varied capacities it may be that videoconferencing is or will be the defining technology for terrorism trials.

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[65] Official Court reporter Merilyn Sanchez twice daily published to the web the realtime transcript of the United States district court trial of Arizona governor Fife Symington. *Nation's Most Advanced Courtroom Gets Workout*, THE LEGAL INTELLIGENCER, October 6, 1997, Court Reporting Supplement at 3. Similarly, electronic transcripts were made available twice daily in the McVeigh Oklahoma Federal Courthouse bombing trial. *Bringing Computers Into the Courtroom*, USA TODAY, April 21, 1997 at 4D.

[66] In the *McVeigh* case, the remote viewing facility appears to have involved substantial cost:

> Federal prosecutors last year estimated that it would cost about $175,000 to purchase the equipment necessary to provide the closed-circuit telecast and about $1,500 a month for the fiber-optic feeds carrying the signals.

Arnold Hamilton, *Oklahoma Bomb Survivors to View Telecast of Trial*, DALLAS MORNING NEWS, March 23, 1997 at 47A.

§ 2-32.00 *Remote Appearances*

Trials of foreign terrorists or of those connected with foreign terrorists can be expected to require evidence from abroad. Depending upon the nature of the foreign involvement, foreign legal and technical assistance may also be necessary. In some cases resort to foreign courts may be helpful or necessary as well. Modern communications provide nearly instantaneous data transmission. Trial work, however, traditionally has required physical presence. That need no longer be true, given the nature of modern videoconferencing.

§ 2-32.10 *The technology*

Modern video conferencing uses either ISDN, which can be thought of as high bandwidth telephone lines, or IP (Internet protocol) data connections. New high-end commercial level equipment customarily has both connection capabilities. In its most basic form, a single location-to- location connection ("point-to-point") consists at each end of a camera, microphone and visual display (*e.g.*, TV screen) and the "codec" (the video-conferencing hardware).[67] Each end's equipment must be connected to either an internet connection (preferably broadband) or the ISDN connections.

Understanding the technology is not as important as understanding its implications. Modern quality videoconferencing[68] presents a high quality image, fully synchronized with the audio.[69] Subject to the availability of the communication lines, equipment can be highly portable. Commercial standard videoconferencing does not use satellite technology and thus does not need to originate in a television studio.

High-end videoconferencing equipment permits the concurrent transmission of computer images, whether of digital documents or of PowerPoint or similar electronic slides. In such a case, the video is displayed on one screen and the computer data on another.[70] Absent such features,

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[67] "Multi-point" connections are possible, customarily with the use of a "master control unit "(MCU) or the use of commercial "bridging" services. The Courtroom 21 Project is unique with the potential capability of hosting five independent concurrent video conferences in William & Mary's McGlothlin Courtroom.

[68]As opposed to low cost computer-based conferencing that often has video in a small window with the image sometimes at low resolution or an inadequate frame rate, meaning jerky movements.

[69] A person's voice is fully coordinated with lip movements.

[70] In the Courtroom 21 context, a remote witness would appear in a large screen behind the witness stand while the dat being discussed by the witness would be shown to the jury on their

document cameras[71] or fax technology may be used for expeditious two-way document viewing. Video-conferencing is especially useful for administrative meetings or non-adversarial interviews. It can be highly effective, however, for courtroom use as well.

Although it is readily possible to use portable videoconferencing in courtrooms, an increasing number of courtrooms now have permanently installed systems. Recent Federal Judicial Center survey data shows that seventy-five United States district courts have videoconferencing equipment and that one hundred and fifty-four federal courtrooms have permanently installed videoconferencing.[72] Most state or federal courtroom systems usually have a single display device, often located behind the witness stand[73] with a number of cameras that will telecast to the remote location what is happening in the courtroom.

The Courtroom 21 Project has conducted pioneering experimental work in this area for many years. William & Mary Law School's McGlothlin Courtroom is unique. At any one time the courtroom has a minimum of six television cameras feeding multiple images to its control circuitry. A remote participant can observe a single camera image, subject to adjustment by a Courtroom 21 camera operator, or using the Multi-media Telesys "5+1," see five pictures-in-picture from five different cameras with a large visual window showing the person then speaking, The large window changes automatically by computer control based upon which microphone is activated by a speaker. Because the McGlothlin Courtroom has multiple display options, all controlled by the most advanced matrix and touch screen switching ever installed in a courtroom, where the image of a remote person is displayed is subject to court control with the actual location ordinarily being subject to the reasons for that person's appearance. In other words, remote witnesses customarily appear behind the witness stand, remote judges behind the bench, remote counsel at counsel table, or standing in or near the courtroom well, and the like.

Video conferencing customarily works well from a technological perspective. Its pragmatic and legal utility have long been controversial, however. Insofar as the Courtroom 21 Project has been able to ascertain, remote appearances appear to be treated by the courtroom participants just as if those persons were physically in the courtroom. Two separate scientifically controlled experiments conducted over two academic years under the supervision of William & Mary psychology professor Kelly Shaver demonstrated that in civil personal injury jury trials in which damage verdicts relied upon the testimony of medical experts, there was no statistically

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individual flat screen monitors.

[71] Television cameras that show a picture of any document or object placed below its television camera)

[72] ELIZABETH C. WIGGINS, MEGHAN A. DUNN, AND GEORGE CORT, FEDERAL JUDICIAL CENTER SURVEY ON COURTROOM TECHNOLOGY (Federal Judicial Center, Draft edition August, 2003).

[73] As per Courtroom 21 recommended protocol developed as a result of the experiments supervised by Professor Shaver, discussed *infra*.

significant difference in verdict whether the experts were physically in the courtroom or elsewhere, at least so long as witness images are displayed life-size behind the witness stand and the witness is subject to cross-examination under oath.[74] Years of non-controlled experiments in criminal Laboratory Trials suggest that the same result applies to merits witnesses in criminal cases.

Even if the William & Mary results are confirmed in other experiments, however, there are questions for which we have no answer. Likely the most important of these concern the willingness of remote witnesses to lie when testifying remotely. We do not know whether the psychological separation from the courtroom that unavoidably accompanies remote testimony affects the willingness to lie. One of the reasons used to justify remote testimony by abused young children after all is the need to insulate them from the fear that can accompany being in the same courtroom with the defendant. Does the same removal affect other witnesses, and if so, how?[75] If so, would "confronting" a remote witness with an immediately present high resolution image of the defendant while the witness testifies counteract any effects of the physical absence? In short, the use of video conferencing for remote court appearances, particularly for remote witness testimony, raises human and thus potential legal issues not yet resolved. Although these issues are likely critical for remote witness testimony, they do not necessary affect other forms of remote participants.

§ 2-32.20 *Remote lawyers, judges, and courts*

Most trial courtroom use of videoconferencing to date has involved remote witnesses. However, Courtroom 21 experiments have made substantial use of the technology for other trial participants. One of the most interesting but perhaps of little real-world value is the use of videoconferencing to permit the remote appearances of lawyers at trial on the merits. The 2001 experimental terrorism Courtroom 21 Laboratory Trial, *United States v. Linsor*, involved a bombing of a United States military aircraft in England. We assumed a substantial amount of cooperation from United Kingdom officials, so much so that it made sense for a British barrister acting for the prosecution to conduct the direct examination of a key government witness[76]

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[74] The experiments were conducted with these conditions fixed. We do not know what the consequences would be if they were to be varied. As a result, our courtroom designs err on the side of safety by following the design protocol used in the experiments. At the same time, we prefer this methodology as a matter of policy. We believe that technology should be as invisible as possible and should not alter traditional trial practice if possible. Having a remote witness appear where the in-court witness sits appears intuitively desirable.

[75] Note that although physical absence from the courtroom *might* make it easier psychologically to lie, such an ease does not necessarily mean that a witness *would* lie.

[76]Who appeared remotely from Canberra, as will be discussed *infra*.

Having filed an appropriate motion with the Court to permit his appearance[77] British Barrister Jeremy Barnett appeared remotely from Leeds[78]in a 40 inch diagonal flat screen plasma display placed on the prosecution table and conducted an outstanding direct and redirect of the defendant's primary accomplice. His examination was both professional and successful; the video conferencing nature of the examination seemed to have no adverse consequence.[79] Although we consider Mr. Barnett's examination as a successful proof of concept, in the ordinary case it seems self-evident that counsel will wish to be in the courtroom, even if they examine a remote witness. This may be subject to change as society increasingly accommodates itself to burgeoning technology, but it seems highly improbable that counsel for either the prosecution or defense would risk a remote examination of an important witness. There is one caveat, however. In an age of terrorism in which aircraft can be unexpectedly grounded for indefinite periods, remote examination could prove to be the only way in which a lawyer might be able to appear, and such an appearance might be far superior to having substitute counsel pick up the examination at the last moment.

Perhaps the most straight forward use of the technology is to permit judges or counsel to appear remotely for motion or other arguments. In 1999, the Courtroom 21 Project demonstrated how a remote judge could preside remotely from the United States District Court for the District of Oregon over a jury trial in Williamsburg. In two United States federal appeals cases, *United States v. Salazar*[80] and *United States v. Rockwood*,[81] judges of the United States Court of Appeals for the Armed Forces have appeared remotely as part of the Court's hearing of actual cases in the McGlothlin Courtroom, a practice that has also been used in one form or another in at least the Second, Tenth, and D.C. Circuits.[82] In January, 2004, the Court of Appeals for the Armed Forces

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[77] And sidestepping for experimental purposes his appointment as a non-United States citizen Assistant United States Attorney.

[78]One of the Courtroom 21 Project's affiliated foreign institutions is the University of Leeds with its Court21 project.

[79] Except that a brief recess was necessary when the remote location in Leeds needed to be evacuated after a fire alarm.

[80] 44 M.J. 464 (Armed F. 1996).

[81] 52 M.J. 98 (Armed F. 1999).

[82] *Videoconferencing Links Federal Courts and Public*, The Third Branch 2, ¶10 (June 1998) <http://www.uscourts.gov/ttb/jun98ttb/video.html (10th and D.C. circuits); Robin Topping, *Hearings Linked By Videoconferencing*, NEWSDAY, Apr. 23, 1997, at A29 (2d circuit); Mark Pazniokas, *Video Justice Is Catching On In Legal Circles*, HARTFORD COURANT, May 7, 1997, at A3(2d circuit).

will sit again in Williamsburg to hear *United States v. Garcia*, a case in which amicus counsel will argue remotely.[83]

The ability to provide for remote legal hearings may be of special value in terrorism cases if we assume that at least sometimes urgency may impel hearings when judge or counsel is outside the jurisdiction. Videoconferencing is superior to telephone-conferenced hearings for the simple reason that the visual component yields valuable demeanor "evidence" of the judge's reaction to counsel's argument and, should testimonial evidence need to be presented, likely critical in light of the real demeanor evidence to be evaluated. Indeed, legal matters could be addressed entirely via videoconferencing[84] so that such matters could be resolved expeditiously even if counsel or judge or all concerned were elsewhere.[85] Presumably, such a hearing would need to be made available to the public to ensure compliance with the public's need to know, but this could be done by ensuring that the public could hear and see the videoconferenced hearing in an appropriate courtroom.[86] There ought to be no legal impediments to this type of hearing, but the real issue, of course, is whether any of this is practically useful. That question cannot be answered at this time. I believe that we will actually have to see whether the option for remote legal hearings is pragmatically useful. Key questions will concern the types of legal issues that arise in cases, their urgency, the amount of time that key legal participants, judge or counsel, are physically unavailable but available remotely, and the nature of the legal hearings to be held. The availability of the technology for this purpose is not to suggest that it *must* be used but only that in the right circumstances it could be used, thus contributing to efficient case management and eliminating unnecessary delay. There could be times, however, when there are no meaningful alternatives to remote hearings.

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[83] As counsel have done in the United States Court of Appeals for the Second Circuit. *See* note 82 *supra*.

[84] Likely with electronic document access via Internet.

[85]This would require counsel and judge access to videoconferencing. Insofar as we are aware all United States Attorney offices have videoconferencing. Although it is likely that far fewer defense counsel have similar access, a growing number of law firms have been acquiring the technology, enough so that William & Mary provides videoconferenced placement interviews for its students. In addition, there are a very large number of commercial vendors of videoconferencing services.

[86]This is the theory behind the Michigan "cybercourt." Not yet actually functioning, but statutorily enacted, the court, a non-jury civil tribunal based on the Courtroom 21 Project, can hold hearings without any of its participants physically present in its courtroom. *See* Lucille M. Ponte, The Michigan Cyber Court: *A Bold Experiment in the Development of the First Public Virtual Courthouse* 4 N.C. L.L.& TECH. 51 (2002); Julia Scheeres, *Cybercourts Set for Tech Trials*, WIREDNEWS, Jan. 12, 2002, at 1.

In the 2003 Courtroom 21 Laboratory Trial, *United States v. Stanhope*, the prosecution was faced with a case-determinative proof problem. The defendant had been indicted for trying to finance an al Qaeda strike in the United States. She had sent a valuable oil painting to Dubai where it had been sold to an Australian art collector for a substantial sum of gold. The gold was effectively converted to United States dollars and transmitted through the Hawala money transfer system to Cairo, thence to Beirut, and from Beirut to London and then Berlin. In Berlin the money was conveyed to the United States to buy a minority interest in a United States firm so as to support al Qaeda operatives. The prosecution was able to trace the funds back to Dubai and the painting from the United States to Dubai. However, in the absence of the art collector, who had disappeared, the prosecution could not connect the painting and the money. The art collector however, had sought legal advice from his Australian solicitor while they were both in London and had fully communicated all of the necessary evidentiary details to the lawyer. If the prosecution could obtain the testimony of the lawyer, the art collector's statement would be admissible as a declaration against interest under Federal Rule of Evidence 804(3). The lawyer claimed the attorney-client privilege under Australian, British,[87] and United States law, however.

With the lawyer in a United States district court courtroom, the Federal Rules of Evidence would have applied, likely without any application of foreign law, as the law of the forum ordinarily governs privileges. However, we assumed that we were unable to extradite the lawyer, either as a legal or practical matter.[88] Without the ability to compel testimony in the United States we were left with the need to comply with foreign law. The Australian lawyer would testify if the Australian and British courts determined that he could do so without violating his duty as a lawyer. Accordingly, we held the first known three-court concurrent hearing. Using the Courtroom 21 Tandberg videoconferencing systems, the courtroom was connected to Queensland, Australian, and Leeds, England. The prosecution argued Australian law to Australia, English law to England, and the Federal Rules of Evidence to the presiding judge in Williamsburg, the Honorable James Spencer, United States District Judge for the Eastern District of Virginia. After all three courts ruled seriatim that the respective national privilege did not apply (using what amounted to a crime/fraud exception), in Queensland the lawyer was directed to testify and did so remotely to Williamsburg. Although the probability of such a hearing in the near future seems unlikely, it is indeed possible, and videoconferencing appears to be the most useful way of accommodating the varied practical, legal, and political issues involved. In *Stanhope*, no judge sat outside his or her own court, let alone nation. Although the time zones were extremely bothersome, especially for our Australian colleagues, the hearing was far more efficient than any other mechanism that we could envision. As we increasingly are forced to deal with courts abroad, particularly the courts of allied nations, hearings similar to the one we held in *Stanhope* may be highly desirable.

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[87] The Queensland, Australia, lawyer was also a British solicitor and the communication occurred in London.

[88]The United States does have evidence gathering treaties with many nations, and this assumption was not necessarily legally correct. It might have been correct, however, as a practical political matter, depending upon circumstances.

§ 2-32.30 *Remote witness testimony*

§ 2-32.31 In general

The most widespread and accepted use of videoconferencing in the courtroom is remote witness testimony. Authorized in federal civil cases by Federal Rule of Civil Procedure 43(a),[89] remote testimony has been used in state and federal courts in the United States, courts abroad, especially in Australia,[90] and has seen successful use in the International Criminal Tribunal for the Former Yugoslavia.[91] Its use in American criminal cases, however, has been especially controversial.[92] The potential value of remote testimony in terrorism cases impels an examination of some of the legal concerns surrounding it.

The classic use of remote witness testimony in a criminal case is the government's use of such testimony against the defendant. In *United States v. Linsor,* the 2003 Courtroom 21 Laboratory Trial, the prosecution presented the testimony of its chief witness, the former accomplice of the terrorism defendant, live from Canberra, Australia. The witness was deemed

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[89] In every trial, the testimony of witnesses shall be taken in open court, unless a federal law, these rules, the Federal Rules of Evidence, or other rules adopted by the Supreme Court provide otherwise. The court may, for good cause shown in compelling circumstances and upon appropriate safeguards, permit presentation of testimony in open court by contemporaneous transmission from a different location.

FED. R. CIV. P. 43(a)

[90] *See, e.g.,* Chief Justice M.E.J. Black, *A Court-Based National Videoconferencing Network for Taking Evidence and Aiding in Administration*, presentation during The First Worldwide Common Law Judiciary Conference (May 29, 1995).

[91] *Information Technology in An International Criminal Court* , a videotape presented at the 2002 Australian Institute of Judicial Administration 3rd AIJA Technology for Justice Conference by the Honorable David Hunt, of the International Criminal Tribunal for the Former Yugoslavia (on file with the Courtroom 21 Project). *See also* Sanja Kutnjak Ivkovic, *Justice by the International Criminal Tribunal for the Former Yugoslavia* ,37 STAN. J. INTL L. 255, 286 (The ICTY in the Tadic case, for example, . . . provided eleven witnesses with the opportunity to testify via videoconferencing from a location in the former Yugoslavia')

[92] Richard D. Friedman, *Remote Testimony,* 35 U. MICH. L.J. 695 (2002); Lynn Helland, *Remote Testimony - A Prosecutor's Perspective,* 35 U. MICH. L.J. 719 (2002); Michael D. Roth, Comment, *Laissez-Faire Videoconferencing: Remote Witness Testimony and Adversarial Truth*, 48 U.C.L.A. L. Rev. 185 (2000).

unavailable because authorities considered it unsafe for him to travel to the United States. The witness, a member of the terrorist cell, was deemed a major escape or suicide risk as well as the probable target of a potentially suicidal terrorist rescue attack or, in view of his agreement to cooperate with the government, an assassination attempt. The testimony was probative and conclusive. If presented in a real case, could such testimony be lawful in light of the Sixth Amendment right of confrontation and other legal and policy concerns?

Ironically, although *Linsor* may best raise the legal issues attendant to the "normal" proposed use of remote testimony, it is also misleading for one would infer that only the prosecution has such an interest. That is not necessarily so as *Commonwealth v. Malvo*[93] showed, and a discussion of *Malvo* will serve to introduce some of the *Linsor* issues.

§ 2-32.32 Remote defense testimony

Malvo was the capital trial of the younger of the two "Washington snipers." Charged with murder "in the commission of an act of terrorism," Malvo's prospects for a favorable verdict were dim. The evidence against him was overwhelming. In addition to attempting to counter the prosecution's case in chief on the merits, the defense needed to present especially probative evidence on capital sentencing if it was to avoid a death sentence.[94] The defense sought to call a very large number of witnesses. Early in the case the trial judge suggested that many of the witnesses might best testify via video conferencing. The defense adopted the judge's suggestion and formally proposed the taking of testimony from twenty-five or more witnesses. The witnesses were to be located primarily in Antigua, Jamaica, Washington State, and Louisiana. Most, but not all, would be mitigation sentencing witnesses, and a number would replace the defense proposed use of videotaped deposition/statement evidence previously opposed by the prosecution. The Fairfax Circuit Court is a Courtroom 21 Court Affiliate,[95] and the Clerk's Office appointed the Courtroom 21 Project to serve as Executive Agent to determine the feasability of remote testimony and, should the court so order it, to implement it.

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[93] Case Criminal No. 102888 (Circuit Court of Fairfax County, Va 2003) and Case No. CR03-3089, 3090, 3091 (Circuit Court for the City Of Chesapeake, Va 2003). *See generally* http://www.co.fairfax.va.us/courts/cases/malvocase.htm. Please note that the *Malvo* case began in Fairfax County, Virginia, but venue was changed to Chesapeake. Pursuant to Virginia law, the Fairfax court and prosecution retained responsibility for the case even though it was physically tried in Chesapeake.

[94] Malvo was convicted; the jury recommended life imprisonment without parole.

[95] One of a growing number of state, federal and non-United States courts and agencies supported by the Courtroom 21 Project in their effort to efficiently use courtroom and related technology.

The initial Courtroom 21 actions proceeded on two concurrent tracks - determining whether such testimony was technologically, logistically, and financially possible, and whether foreign testimony could be lawfully obtained. The first concern, although highly time consuming, was straightforward and eventually yielded a determination of practicality[96] and financial savings. The second proved to be quite interesting. Because the Antigua and Jamaica witnesses were not in the United States, obtaining permission for them to testify was a diplomatic matter. As the Office of International Affairs of the Department of Justice's Criminal Division assists only prosecutors in obtaining evidence abroad in support of our Mutual Legal Assistance Treaties, we were left to other devices to obtain that testimony even though we were seeking the evidence on behalf of the court in the interest of expediting trial and lowering its cost to the taxpayer. We contacted and obtained support from the State Department, which was prepared to obtain permission from the foreign governments involved and if necessary to ensure the presence of a consular officer when the testimony was taken. The issue of where the oath was to be administered was raised by State Department representatives, an issue for which we had no adequate answer. We could potentially have had the oath administered remotely from Virginia, or a consular official could have administered it in the originating location or both. Because the evidence was to be presented by the defense, we assumed that the oath issues, however important, would in actuality be moot as the defense would be unable to assert error should the case go to appeal.[97] Whether the testimony would be lawful under Virginia law was not a matter within our concern, although it may well have proven the determinative issue.

On October 16, 2003, I testified in Fairfax Circuit Court and reported that with appropriate caveats remote testimony appeared highly feasible and would yield a substantial cost savings over in-person testimony. The prosecution opposed the defense request. The judge then ruled against the defense request for remote testimony stating, among other matters, that she would not grant the motion over government objection.

Upon reflection, I believe that the *Malvo* case illustrates some of the critical issues raised by remote testimony in criminal cases generally. The threshold issue is its very legality. Ordinarily, debate about the legality of remote testimony centers on its constitutionality under the Sixth

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[96] Remote locations were located in federal court facilities in the United States and potentially adequate commercial facilities were located in Antigua and Jamaica. Courtroom 21 Deputy Director for Courtroom Design and Technology Martin Gruen and I surveyed the Chesapeake Courthouse and determined what would need to be done to implement videoconferencing in the courtroom. We determined a probable minimum cost savings of $12,539.26 over the cost of transporting to Virginia those witnesses able to travel, a financial savings that did not address the fact that a number of potential witnesses, including Malvo's mother, were not necessarily able to travel to testify. Letter from Chancellor Professor of Law & Director, Courtroom 21 Fredric I. Lederer to The Honorable Jane Marum Roush, Fairfax Circuit Court (October 15, 2003)(available at http://www.co.fairfax.va.us/courts/cases/pdf/r_101603other.pdf

[97] A matter that is clearly very different from the possibility of prosecution testimony.

Amendment. That issue is moot if the court is estopped by statute from permitting the testimony.[98] A review of Virginia's statutory law suggests that there is no affirmative statutory authority for such testimony. Such law as has been enacted could reasonably be read to prohibit it.[99] Accordingly, remote testimony for any criminal case, terrorism or not, is dependent *at the very least* upon the absence of a prohibitive statute or rule. Without such legal authority the issue is at least left to the court's discretion. Far better would be affirmative authority similar either to Federal Rule of Civil Procedure 43(a) or the more comprehensive authority found in other jurisdictions such as Victoria, Australia.[100] The legality of the witness oath is a matter of consequence. In the absence of treaty, there is no clear way to know whether an oath is legally valid in the sense that a prosecution for perjury may result. Is a crime committed when one perjures oneself in one country while testifying in a trial in another? Whose law has been violated? And, do we care about the probability that a foreign nation would actually prosecute? In the seminal case in ths area, *State v. Harrell*,[101] the Florida Supreme Court held that the treaty between the United States and Argentina permitted the potential extradition to the United States for trial of Argentine witnesses testifying by two-way satellite against a Florida defendant.[102] Note that these questions arise even when it is the *defense* that is attempting to use remote testimony. Given the usual posture of such evidence attempts it seemed ironic to have the prosecution oppose remote testimony for fear that it could not adequately cross-examine the remote witness,

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[98]Although such a statute may raise compulsory process issues.

[99] Va. Code Ann. § 19.2-3.1. Personal appearance by two-way electronic video and audio communication; standards ("When an appearance is required or permitted before a magistrate, intake officer, or, ***prior to trial***, before a judge, the appearance may be by . . . use of two-way electronic video and audio communication.")(emphasis added); Va. Code Ann. § 17.1-513.2. Use of telephonic communication systems or electronic video and audio communication systems to conduct hearing (. . . in any *civil proceeding* . . . the court may, in its discretion, conduct any hearing using . . . an electronic audio and video communication system to provide for the appearance of any parties and witnesses.)(emphasis added). The judge's decision not to permit the remote testimony in large part because of the government's opposition raises an interesting question. As the Court failed to specify her reasons in greater detail it is unclear whether the decision was on policy or equitable grounds or whether she had considered any potential legal error as moot when the request was a defense one and unopposed by the prosecution.

[100] Victoria Evidence (Audio Visual and Audio Linking) Act 1997 § 3 (Act No. 4/1997, Victoria, Australia) inserting into the Evidence Act 1958, new Section 42G.

[101] 709 So.2d 1364 (Fla.); *cert. denied*, 525 U.S. 903 (1998).

[102] *Id*. at 1371. The Florida Supreme Court opined that perjury was punishable under both Florida and Argentine law. It is not entirely clear that the respective statutes punishing false statements in each jurisdiction necessarily extended to a false statement in Argentina made incident to a criminal trial in another nation.

present adequate witness demeanor to the jury, or be aware of potential witness tampering abroad, claims one ordinarily hears from the defense.[103]

Before returning to the more usual prosecution attempted use of such evidence, it is worthwhile to briefly examine the one area in which an attempt by the defense to use remote testimony is constitutionally unique, the Constitution's Sixth Amendment Compulsory Process Clause.

The Compulsory Process Clause provides simply that "In all criminal prosecutions, the accused shall enjoy the right . . . to have compulsory process for obtaining witnesses in his favor. . . ." In *Chambers v. Mississippi*[104] the Supreme Court held the clause to be sufficient to override a state prohibition on declarations against interest when on the facts of the case the evidence was probative and necessary. Although it may as yet be premature to argue that *Chambers* gives rise to a generalized right to present probative evidence for a criminal defendant,[105] such a claim is not unreasonable. If remote testimony is sufficiently probative and trustworthy, the defense ought to have a constitutional right to it, even if barred by rule or statute. Indeed, in *Malvo*, the defense argued compulsory process as a grounds for the proposed remote testimony. When the judge asked counsel whether he was arguing that she might have a duty to provide remote testimony from anywhere in the world when otherwise justified, he ducked the question in favor of a response based on the court's likely financial savings. His better answer would have been, "yes." If the defense has a legitimate need for evidence and that evidence is available, in a system that pays for witness travel, there seems to be no reason to reject remote testimony, especially if the result is to either entirely foreclose obtaining the evidence or to present it through the more expensive and less useful means of a deposition.

Proposed defense use of remote testimony is believed to be relatively rare. Given the option, the prosecution likely would be a more frequent user, but the prosecution musty face the Sixth Amendment's Confrontation Clause.

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[103]Raising, of course, one of the key questions about such testimony - should it ever be used. At the same time, I would note that of the real concerns (witness tampering does not seem to be one; it can take place anywhere), technology can cope with almost all of them. The one critical concern that appears to be beyond our ability to adequately ascertain is, as previously discussed, whether remote testimony is more likely to yield intentionally false testimony. As we seem to be unable to be able to tell even with in-court witnesses who are telling the truth as they know it and who are not, we do not even have a baseline for this determination.

[104] 410 U.S. 284 (1973.

[105]The Court has been careful not to use *Chambers* as authority in an umber of cases which could have been bottomed on it. *E.g.*, Ake v. Oklahoma, 470 U.S. 68 (1985) (in capital murder case, meaningful access to justice required granting defense request for appointment of a psychiatrist or funds to arrange one; neither *Chambers* nor compulsory process is cited as a basis for *Ake)*..

§ 2-32.33 Remote prosecution testimony

As previously noted, the usual intended use of remote testimony in a criminal case is to supply prosecution evidence. One can reasonably assume that this would be the norm for foreign terrorism cases. Given the number of potential witnesses broad and legal, political, and practical difficulties in obtaining their physical attendance in a United States courtroom, it seems probable that remote testimony would be considered a useful option to the prosecution were it available. The complicated nature of major terrorism cases also suggests that there may be need for distant witnesses who are called to testify only very briefly to lay pro forma evidentiary foundations. In the *McVeigh* case, for example:

> Twenty-seven witnesses who testified during the morning session were phone company employees flown in from around the country to authenticate hundreds of pages of phone records, each testifying for only a few minutes. One witness was on the stand for just 50 seconds.[106]

This might better be done by remote testimony which could result in large cost savings while minimizing the inconvenience caused to the witnesses.

Further, subject to due process and confrontation concerns, the national security nature of some terrorism cases may require the audio, video or combined audio/video masking of witnesses. This can be done readily (but openly) when a witness testifies. In *United States v. Stanhope*, for example, Courtroom 21 staff converted the facial image of a remote witness into a blur when the Court authorized the prosecution to protect the appearance of the non-United States foreign undercover operative.

The fundamental question in this area is whether prosecution proffered remote witness testimony can or should be received in evidence. Remote testimony has been attacked as an inadequate substitute for in-court physical testimony.[107] Concerns range from the already noted issue of the effect of physical absence from the courtroom influencing truth-telling to the inability to determine demeanor to the expressed critical need for the witness to face the defendant in open court. These are important concerns and in light of them no one to the best of my knowledge has seriously suggested the routine use of remote testimony in criminal cases. What has been suggested is a criminal analog to Federal Rule of Civil Procedure 43(a). When the Advisory Committee on the Federal Rules of Criminal Procedure issued its major rules amendment

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[106] Michael Fleeman, *McVeigh Phone Trial Retraced Prosecutors Call 27 to Recount Calls for Explosives, Rental Truck,* PITTSBURGH POST GAZETTE, May 8, 1997, at A8.

[107] *See* note 112 and its accompanying text. *See generally See* Richard D. Friedman, *Remote Testimony*, 35 U. MICH. L.J. 695, notes 1 and 2 (2002(hereinafter *Friedman*)

recommendations in 2002, it recommended that Federal Rule of Criminal Procedure 26 be amended to add proposed Rule 26(b):

> In the interest of justice, the court may authorize contemporaneous, two-way video presentation in open court of testimony from a witness who is at a different location if:
>
> > (1) the requesting party establishes exceptional circumstances for such transmission;
> >
> > (2) appropriate safeguards for the transmission are used; and
> >
> > 3) the witness is unavailable within the meaning of Federal Rule of Evidence 804(a)(5).[108]

In its notes the committee favorably compares the use of remote testimony to traditional deposition evidence.[109]

In an unusual although not unprecedented act,[110] the Supreme Court with Justices Breyer and O'Connor dissenting refused to transmit the proposed rule to Congress. Instead, Justice Scalia opined .

> As we made clear in *[Maryland v.]Craig*, . . . , a purpose of the Confrontation Clause is ordinarily to compel accusers to make their accusations *in the defendant's presence*-which is not equivalent to making them in a room that contains a television set beaming electrons that portray the defendant's image.

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[108] http://www.supremecourtus.gov/orders/courtorders/frcr02p.pdf

[109] *Id.* at A criminal deposition ordinarily permits the accused to be present in the same room with the witness, *but see* United States v. Salim, 855 F.2d 944, 947-48 (2d. Cir. 1988)(in overseas deposition defendant and counsel were not permitted in same room as witness), cited in the Advisory Committee note. This serves one of the basic confrontation interests by ordinarily ensuring that the witness must testify in the defendant's presence. However, in the case of a traditional deposition it deprives the fact-finder of the ability to observe the demeanor of the witness while testifying.

[110] *See* Friedman, *supra*. note 107 at notes 1 and 2 (2002).

> Virtual confrontation might be sufficient to protect virtual constitutional rights; I doubt whether it is sufficient to protect real ones.[111]

The Court's failure to forward the Rule simply deprived the federal courts of affirmative authorization for remote testimony, leaving United States district judges to make case by case individual decisions when remote testimony is proposed. The Court's action, however, clearly signals the severe doubts held by many of its members as to at least the desirability of remote testimony.

It is not my purpose in this article to attempt to justify the constitutionality of remote testimony per se. From an historical perspective, however, one wonders how Justice Scalia can be so certain as to the meaning of the Confrontation Clause in this area. After all, when the Bill of Rights was written, the framers had really only two alternatives, in-court testimony or its equivalent via deposition or hearsay. One wonders what they would say when shown what can be accomplished in the Courtroom 21's McGlothlin Courtroom, complete with the potential for a closeup of the face and body of the testifying witness along with multiple images of the location from which the witness testifies, all while the witness stares at a closeup of the defendant. Certainly other courts have reached different conclusions. In *State v. Harrell*,[112] the Supreme Court of Florida held that neither the state nor federal constitution prohibited remote testimony by the eye-witness victims of the crime when they testified against the defendant by two-way satellite television from Argentina. The Court found sufficient necessity, reliability, and precautions to have been present and provided guidance for future cases.[113] Where I believe that at least Justice

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[111] http://www.supremecourtus.gov/orders/courtorders/frcr02p.pdf (Visited December 27, 2003).

[112] 709 So.2d 1364 (Fla.), *cert. denied*, 525 U.S. 903 (1998); Harrell v. Butterworth, 251 F.3d 926 (11th Cir. 2001(denying habeas as the Florida Supreme Court did not act unreasonably in *Harrell*). *See also* United States v. Gigante, 166 F.3d 75 (2d Cir.) cert. Denied, 528 U.S. 1114 (1999).

[113] > We are mindful of the possible difficulty in determining when the satellite procedure should be employed. We are also aware of the possibility that such a procedure can be abused. Therefore, we are establishing the following guidelines to aid in making this decision. The determination is not simply a mathematical calculation, based on the number of alleged public policy interests or state interests. Rather, the proper approach for determining when the satellite procedure is appropriate involves a finding similar to that of rule 3.190(j) of the Florida Rules of Criminal Procedure. Rule 3.190(j) provides the circumstances under which and the procedure by which a party can take a deposition to perpetuate testimony for those witnesses that are found to be

Scalia erred is in the nature of the evidentiary comparison made. Remote testimony can be compared to in-court testimony —or to hearsay, and the hearsay comparison is more fruitful at this time.

Although both common law and the Federal Rules of Evidence bar hearsay,[114] both provide substantial exceptions. Some exceptions, such as those found in Federal Rule of Evidence 804(b),[115] require the declarant to be unavailable; many others, indeed most of the traditional exceptions,[116] apply even if the declarant is available to testify. Federal Rule of Evidence 807, the "Residual Exception" permits the admission of trustworthy material hearsay when it is "more

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> unavailable. . . .
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> Thus, in all future criminal cases where one of the parties makes a motion to present testimony via satellite transmission, it is incumbent upon the party bringing the motion to (1) verify or support by the affidavits of credible persons that a prospective witness resides beyond the territorial jurisdiction of the court or may be unable to attend or be prevented from attending a trial or hearing and (2) establish that the witness's testimony is material and necessary to prevent a failure of justice. Upon such a showing, the trial judge shall allow for the satellite procedure.
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> . . . However, some important caveats exist in regards to the oath, cross-examination, and observation of the witness's demeanor. First, an oath is only effective if the witness can be subjected to prosecution for perjury upon making a knowingly false statement. . . . To ensure that the possibility of perjury is not an empty threat for those witnesses that testify via satellite from outside the United States, it must be established that there exists an extradition treaty between the witness's country and the United States, and that such a treaty permits extradition for the crime of perjury. . . .
>
> We also acknowledge that possible audio and visual problems can develop with satellite transmission. It is incumbent upon the trial judge to monitor such problems and to halt the procedure if these problems threaten the reliability of the cross-examination or the observation of the witness's demeanor.
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> 709 So.2d at 1370-72.

[114] *E.g,* FED. R. EVID. 802.

[115] Former testimony, Statement under belief of impending death, Statement against interest, Statement of personal or family history, and Forfeiture by wrongdoing.

[116] *E.g.*, FED. R. EVID. 803. *See also* FED. R. EVID. 801(d)(2) (admissions).

probative on the point for which it is offered than any other evidence which the proponent can procure through reasonable efforts" and the "general purposes of [the Federal Rule of Evidence] and the interests of justice will best be served by admission . . . ."

Let us suppose that in our experimental trial in *Linsor*, our accomplice witness had instead given a prior statement to the Australian police, one that was clearly against the declarant's interest. If the declarant were unavailable within the meaning of Federal Rule of Evidence 804(a)(5),[117] under the Federal Rules of Evidence and most common law states the hearsay

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[117] The declarant is absent from the hearing and the declarant's attendance or testimony is not obtainable by "process or other reasonable means." Professor Friedman notes that properly interpreted this also means that a deposition cannot be obtained. Friedman, supra 107 at 711. Because I believe that a deposition is inferior to a *properly conducted* remote examination (which includes visual confrontation) I would use a different unavailability standard and agree with Professor Friedman that the Advisory Committee's reliance on Federal Rule of Evidence 804 was unfortunate. At the same time, Professor Friedman writes:

> If the witness is in foreign custody, the foreign nation may be willing to allow the witness to testify by remote, and otherwise according to ordinary American practice, but unwilling either to allow the witness to be taken to the American courtroom where the case is being tried or to allow the accused, and perhaps counsel, to be brought to where the witness is being held in custody. Similarly, if the accused is being held in custody and the witness is overseas and unwilling to come to the United States, arranging a face-to-face deposition may be difficult. The United States Marshals Service lacks jurisdiction to hold federal detainees on foreign soil and the foreign nation may be unwilling to assume even temporary custody of the accused. *See* United States v. McKeeve, 131 F.3d 1, 7 (1st Cir. 1997). On the other hand, a rule that allows remote testimony whenever a foreign government resists face-to-face confrontation gives American authorities the wrong incentive, to treat foreign objections as dispositive rather than to try to negotiate around them. If the foreign government refused to allow the witness to testify altogether, that would not justify using a statement that the witness made to the police in lieu of cross-examined testimony. *Cf.* McKeeve, *supra*, at 6 ("spare confines of the British scheme" apparently prevented video transmission). As with respect to [United States v.] *Salim, [855 F.2d 944 (2d Cir. 19980] supra* . . . if the foreign government is unwilling to allow a witness to testify according to our standards and the American authorities are unwilling or unable to persuade it to relent, there is a strong argument that is not the accused who should suffer.
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> Friedman, *supra* note 107 at note 22.

In ordinary circumstances I would agree with Professor Friedman. However, in a terrorism prosecution, attendant with the difficult diplomatic matters that sometimes apply to

statement would be available at trial, whether in oral or written form. Further, under the Supreme Court's current interpretation of the Confrontation Clause the statement's admissibility would appear to be constitutional as well.[118] Other hearsay exceptions, including, for example, statements made for medical diagnosis or treatment,[119] would not even require the declarant's unavailability.

Hearsay by its very definition is not subject to meaningful confrontation. Indeed, that is the fundamental policy behind its historical prohibition. Contrast the admission of hearsay, especially in documentary form, with the ability to cross-examine the declarant under oath in the courtroom via videoconferencing. Surely live, in-court, testimony under oath and subject to cross-examination is preferable to hearsay!

Proposed Federal Rule of Criminal Procedure 26(b) would have effectively permitted remote testimony in a situation akin to that covered by Federal Rule of Evidence 807, the Residual Exception, but with the added requirement that the witness be unavailable. In the absence of remote testimony, the government is free to use any prior admissible hearsay statements made by the witness without fear of defense cross-examination. This can hardly be a justifiable result given the technological alternatives now available.

However, let us assume for the moment that as a matter of policy the nation chooses not to permit remote prosecution testimony in normal criminal cases. Should that decision extend to terrorism trials? Those of us who are deeply concerned with the protection of our civil liberties would note immediately that the Constitution does not establish differing levels of justice depending upon the nature of the crime. Further, to attempt "exceptions" runs the real risk that the "exception" cannot be sufficient constrained. Yet, however real these concerns are, I fear that they miss the point. Given sufficient necessity our nation, and others, have found ways to deal with perceived acute evidentiary problems. Many states have created child abuse hearsay exceptions[120] because of the perceived need to ensure that probative evidence is available in these important cases. Because the Supreme Court has held that the Confrontation Clause does not

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international dealings, I would be inclined to authorize to allow the trial judge to make a discretionary decision as to whether to authorize remote testimony, likely with cautionary instructions in the event of a jury trial.

[118] White v. Illinois, 502 U.S. 346 (1991)(spontaneous declarations and statements made for medical diagnosis or treatment are "firmly rooted" hearsay exceptions and thus comport with the Confrontation Clause). See also Lilly v. Virginia, 527 U.S. 116 (1999)

[119] FED. R. EVID. 803(4).

[120] *E.g.*, I, EDWARD J. IMWINKELRIED, PAUL C. GIANNELLI, FRANCIS A. GILLIGAN, & FREDRIC I. LEDERER, COURTROOM CRIMINAL EVIDENCE 439 (1998) citing Bulkey, *Introduction and Overview of Child Sexual Abuse,* 40 U. MIAMI L. REV. 5,7 (1985) as evidencing 18 states with such exceptions at the time of the article.

prohibit the use of "firmly rooted" hearsay exceptions,[121] they could meet constitutional muster, especially if a majority of states have by now enacted similar exceptions. What would prohibit the creation of a "terrorism exception"? Given the current level of national threat, such an exception, should it be able to be sufficiently defined, might well prove both attractive and constitutional. Our experimental experience with the Laboratory Trial *United States v. Stanhope*, which was entirely dependent on evidence from abroad, was that its real-life prosecution would have been extraordinarily difficult because of the hearsay rule. Every piece of questionable evidence might have been admitted under a traditionally recognized exception or, certainly should the judge have chosen to use his discretion to do so, the federal residual exception. However no prosecutor could have reasonably felt safe to so assume, and each judge could react differently. Given such proof problems, it would not be surprising if Congress were to amend the Federal Rules of Evidence to create such an exception, one that might then be sufficiently adopted by the states and thus become "firmly rooted" and perhaps constitutional.

An inability to present reliable evidence expeditiously at trial tends to have systemic consequences, the most likely of which is a "workaround," a frequently less desirable way of handling such cases.[122] In the area of terrorism, one of the reasons why the President created the Military Commissions clearly was their ability to use an open-ended evidentiary system with minimal limits.[123]

The trial of terrorism cases should be a matter of overriding national importance. The predictable need for witness testimony from abroad justifies the use of remote testimony under carefully controlled circumstances. Given our current ability to use hearsay evidence at trial, the use of modern technology to obtain otherwise unavailable testimony in particular is desirable and should fully comply with due process. Remote testimony *may* not be the same as in-court testimony, but it is far superior to hearsay, and it is with hearsay that we should compare it for the present.

§ 2-33.00 *Court Record*

Like any other type of serious case, terrorism trials require a verbatim record. If the goal is to supply judge and counsel with those tools which will assist them to try the case fairly and quickly, as well as to expedite any possible appeal, the record should consist at minimum of a

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[121] "Firmly rooted" does not necessarily require either age or even conformity with traditional hearsay exceptions. The prior standard of *Ohio v. Roberts*, 448 U.S. 56 (1980) required that for per se compliance the exception be "long-established." The Court has held that if the exception per se does not satisfy the Confrontation Clause the specific evidence may so long as there is sufficient indicia of reliability." *Id*.

[122] John H. Langbein, *Torture and Plea Bargaining*, 46 U. CHI. L. REV. 3 (1978).

[123] *See* note 8 *supra*. The Military Commissions are limited to the trial of non-citizens.

realtime transcript. Realtime is, as the name suggests, a near instantaneous (done in "real time") electronic transcript. Available from either a stenographic or voicewriter realtime court reporter,[124] realtime can be furnished to judge and counsel computers, permitting judge and counsel to make private notes on their own individual transcripts for later use,[125] for example, in cross-examination or preparation of jury instructions. The same transcript can be published electronically, either to the general public or to counsels' associates or assistants.

As previously discussed,[126] the Courtroom 21 Project publishes a comprehensive multi-media court record, complete with audio, video, realtime transcript, and images of the evidence. If our goal is communicate to the world the details of any given terrorist case as well as to let individuals see first hand the fairness of the proceedings such a transcript may be highly desirable. In federal court, however, it is likely to run afoul of Federal Rule of Criminal Procedure 53's prohibition on the "broadcasting" of the trial.

A court record that includes at minimum the realtime transcript and all evidentiary exhibits could be produced automatically electronically so that the court record was available immediately after trial. Subject to appropriate trial court and counsel review, the record could be ready to be transmitted electronically to the appellate court, thus eliminating a significant degree of delay and administration.

§ 2-34.00 *Counsel Communications*

In traditional trial practice, lawyers desiring to communicate with each other or the court while in the courtroom customarily do so orally. When counsel wishes to reach colleagues not in the courtroom, counsel customarily use either the telephone during recesses or send messengers.

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[124] Electronic recording could yield a similar result if near immediate transcription were available, which is not customarily the case. Linking a digital audio or audio/video record with concurrent broadband transmission to a highly skilled transcriptionist who supplies immediate electronic turnaround might yield the equivalent of an in-court realtime court reporter.

[125] LiveNote is a Real Time Transcription application, providing a 'live' transcript of the Inquiry proceedings to the laptop computers used by the various legal teams. The application, as well as receiving and displaying the transcript on the laptop computers, also allows the legal teams to manipulate, annotate and highlight their individual copies, as well as providing sophisticated search and reporting facilities

www.bloody-sunday-inquiry.org.uk/nav/left/Qa_2.htm (Visited December 25, 2003).

[126] *See* § 2-31.00 *supra*.

Today, recesses are apt to be characterized by lawyers urgently using cellphones in court corridors. The internet now provides a highly useful alternative.

If counsel are connected to the Internet from counsel table they are able to communicate not only with office colleagues and support professionals but also with experts elsewhere in the world. This can be especially useful if counsel can supply the realtime transcript or, preferably, a multi-media transcript to those from whom assistance may be needed. As most courts do not permit counsel access to the courthouse computer network for security and maintenance reasons, absent a minimally useful telephone dial-up connection an alternative approach is necessary. Some courts have installed or are considering installing independent wireless networks for counsel access.[127] Others are using the services of Courtroom Connect, a private vendor and Courtroom 21 Participating Company. Courtroom Connect provides the court with a free wireless network accessible from the courtroom in return for the right to charge counsel for its use.

One of the on-going difficulties in any major jury trial is the making of detailed evidentiary objections without prejudicing the jury. The usual solutions are sidebar conferences and excusing the jury. Neither are necessarily time efficient. In the 2002 Courtroom 21 Laboratory Trial, counsel made an evidentiary objection by instant messaging to which both counsel and the judge had access. It proved highly efficient and useful, providing candid discussion without any need for a sidebar or interference with the jury. Although clearly not a substitute for a major legal argument, electronic objection practice can enhance trial efficiency and should be considered for any major terrorism prosecution.

§ 2-35.00 *Evidence/information Presentation*

Any discussion of courtroom technology almost always centers on the use of technology to present evidence to the fact finder and to make opening statements and closing arguments. This is the core function of courtroom technology, and major terrorism trials should use the full panoply of presentation technologies.[128] This technology is usually referred to as "evidence presentation" technology. The court may have permanently installed technology,[129] portable

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[127] *See, e.g.*, Daniel Girard, 329 *Deaths Focus of this Court; High-Tech Home Unveiled for Air India Trial*, TORONTO STAR, Aug. 17, 2002, at A08 (Vancouver "Air India" courtroom provides Internet access for 38 lawyers).

[128] *See, e.g.*, Daniel Girard, 329 *Deaths Focus of this Court; High-Tech Home Unveiled for Air India Trial*, TORONTO STAR, Aug. 17, 2002, at A08*;* http://www.ag.gov.bc.ca/courts/court-room20/index.htm *The McVeigh Trial: Inside the Courtroom*, ST. PETERSBURG TIMES, April 2, 1997, at 8A.

[129] *See* ELIZABETH C. WIGGINS, MEGHAN A. DUNN, AND GEORGE CORT, FEDERAL JUDICIAL CENTER SURVEY ON COURTROOM TECHNOLOGY (Federal Judicial Center, Draft edition August, 2003).

technology (often on a mobile cart, that can be moved into the courtroom for the trial), or both. When counsel wish to use technology not owned by the Court, they customarily Court request permission to obtain it and install it temporarily in the courtroom.

§ 2-35.10 The technology in brief

Although the intent of this article is not to review in depth the nature and uses of courtroom technology,[130] a brief review may be helpful.

Ordinarily, counsel have access to a video document camera, that can display images of any document or physical object placed beneath its camera, and to a video distribution system which permits counsel to display images from a notebook computer. Courts following the Courtroom 21 model usually have counsel for all parties use a single high-technology podium,[131] although counsel supported by assistants or vendors may have technical support at counsel table or elsewhere in the courtroom.

Images are customarily displayed to judge and counsel on individual computer monitors. Depending upon the courtroom, jurors customarily view displayed images on flat screen LCD monitors, one or more large screen wall or ceiling mounted screens or both. Now Senior United States District Judge Donald Walter of the United States District Court for the Western District of Louisiana some years ago reported to members of William & Mary Law School's Legal Technology Seminar that he had learned that the display of documentary and other evidence on a large screen in his high-technology courtroom was assisting the media in better understanding the cases he was trying and thus giving more accurate reports to the public. Whether evidence is communicated to the press in the courtroom via screens or through special media rooms may be a matter of consequence in the trial of terrorism cases.

Witnesses usually have an individual computer monitor, increasingly likely to be one that is touch sensitive allowing the witness to annotate documentary or other evidence electronically. Courtrooms that have videoconferencing capability permanently installed may follow the Courtroom 21 model and install a large flat screen behind the witness stand for remote testimony. When this is done, it is often equipped with annotation capability as well so that the annotations

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[130] *See* note 25, *supra.*

[131] *E.g.*, Daniel Girard, 329 *Deaths Focus of this Court; High-Tech Home Unveiled for Air India Trial,* TORONTO STAR, Aug. 17, 2002, at A08:

> Two kilometres of data cable buried beneath the secure floor of the courtroom operate 25 monitors, including ones in the wheelchair-accessible jury box and witness stand.
>
> Those will allow participants to see those speaking and to examine exhibits, controlled by lawyers addressing the court from a station that has a document camera, videotape, compact disc and digital video disc capabilities as well as on-screen illustration.

See generally http://www.ag.gov.bc.ca/courts/court-room20/index.htm

made by the witness can be seen by the judge and jury while being made. Courtrooms may also have electronic whiteboards that allow witness or counsel to write upon them, including high-technology models that combine displayed computer images with electronic computer control and annotation capability. In the more basic courtroom set-up, as used, for example, in the *Malvo* "Washington Sniper" case in Chesapeake, Virginia, counsel could use a document camera or notebook computer to display images via a projector onto a large screen that dropped from the ceiling.

When counsel wish to use computers to present evidence, or to make opening statements or closing arguments, they may either use PowerPoint or similar electronic slide show software or in major cases, more likely a high-end specialized software package.[132] These programs are usually combined with an electronic database so that the lawyers can display any exhibit on the fly and have full access to all the evidence in the case,[133] including multi-media components. Often counsel or their assistants use barcode readers to make evidence retrieval and display even faster and easier.[134]

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[132] Courtroom 21 uses Sanction, Trial Director, and Trial Pro.

[133] Every piece of documentary evidence used by the Inquiry has been uniquely numbered and scanned to ensure that the documents may be quickly and easily displayed in electronic format on the Evidence Display screens located in the various Inquiry premises in Londonderry. These paginated, scanned documents are held in a TrialPro database which allows simple retrieval within seconds, in addition to the enlargement and annotation of the documents if required, using the touchscreen allocated to each barrister. This approach has been shown to reduce the length of document-intensive Inquiries by between 20% and 30%.

www.bloody-sunday-inquiry.org.uk/nav/left/Qa_2.htm (Visited December 25, 2003)

[134] Although used in the Courtroom 21 Project even for minor cases, this is especially important in major trials. Media reports about the planning for the McVeigh Oklahoma bombing case included, for example, this description:

> Computer technology has become more important in many trials over the past five years. Graphic displays on monitors throughout the courtroom allow attorneys to manage huge volumes of evidence and other documents efficiently, sometimes with added effect.
> Bar-code scanners
> While preparing their case, attorneys scan in every piece of evidence and mark each with bar-code technology. As evidence is mentioned in court, the attorney - or a technician - scans the appropriate bar code from a list and that piece of evidence appears on the courtroom monitors.

Computer-created incident recreations have now been used for years, even in criminal cases.[135] Customarily used to illustrate expert testimony, they can give visual dimension to what otherwise might be difficult oral testimony. They can also be used, along with other computer created or displayed graphics in openings and closings.

Cutting-edge technology now permits other potentially useful forms of evidence presentation. In the Courtroom 21 2002 Laboratory Trial, *United States v. NewLife MedTech*, we used both holographic evidence display[136] and, as previously noted what is currently the ultimate form in computer re-creation, immersive virtual reality.[137] In an appropriate case, one can imagine the jury using holography to understand the internal mechanics of a bomb or a location in which a bomb was placed or being placed virtually within a re-created location to determine whether a theory of the case is actually possible.

§ 2-35.20 Practicalities

There is general consensus in the field that electronically displayed evidence is advantageous. It is believed to enhance fact finder understanding and retention and to yield

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CD-ROM files
By scanning all documents and other pieces of evidence into CD-ROM files, an entire case can be carried on a few CDs instead of in boxes of paper files. Each CD typically holds:
15,000 pages
2.5 hours of video
5,000 photos

The McVeigh Trial: Inside the Courtroom, ST. PETERSBURG TIMES, April 2, 1997, at 8A.

Today we are moving to DVD disks with their immensely greater data storage capability. Still, however, all of those disk-stored exhibits are available almost immediately by barcode scanner retrieval.

[135]*See, e.g., People v. Mitchell*, No. SC-12462-A (Cal. App. 1st Dist. 1994)(use of reconstruction in murder trial was error but harmless); *see generally* Comment, Mary C. Kelly & Jack N. Bernstein, *Virtual Reality: The Reality of Getting It Admitted*, 13 J. MARSHALL J. COMPUTER & INFO. L. 145 (1994).

[136]To show jurors the normal human circulatory system so that they could better understand expert testimony concerning implantation of a cholesterol-removing stent.

[137] *See* § 2-23.00 *supra*.

substantial time savings in case presentation. At the same time, modern evidence is increasingly electronic per se, and electronic display is either necessary[138] or desirable.

Although trial lawyers have long used demonstrative evidence, most traditional trials are substantially oral. Technology-augmented trials are predominantly visual, which greatly assists those fact finders who are at least in part visual learners. The minimum aspect of evidence presentation technology is to enable the fact finder to see exhibits such as documents while they are being testified about. However, even setting aside multi-media interrogations and such innovative forms of evidence as computer recreations or immersive virtual reality, modern technology provides jurors special assistance in understanding and remembering evidence. *United States v. Stanhope*, our 2003 Laboratory Trial, is a case in point. As previously discussed, *Stanhope* was the prosecution of a defendant for attempting to fund an al Qaeda strike in the United States. The prosecution needed to trace funds across the globe. The evidence was particularly complicated. The money changed forms and currencies, was consistently drawn down through payment of various commissions, and was evidenced through varied documents and oral testimony. With the assistance of a highly skilled certified public accountant and certified fraud examiner from FTI Consulting, the prosecution was able to graphically depict the money flow. As the expert witness testified, he used a very sophisticated PowerPoint presentation to graphically trace the money from location to location on a world map, complete with then size and form of the funds. Meanwhile, a master time line was shown on the bottom of the presentation along with critical details. Later in his testimony, the expert intercut images of the critical bank documents that showed what was happening to the money. His technologically-augmented testimony made clear a highly difficult and complicated series of financial transactions. That element of the *Stanhope* trial is only one example of how modern evidence presentation technology can simplify evidence that otherwise would be very hard for most people to follow. The same technology permits visually-based openings and closings. Arguably, the opening may be of the greater systemic interest as a technology-augmented visual opening may better prepare a jury to understand the case to come.

Although fact finder comprehension and retention are more important, many find evidence presentation technology especially desirable because of the amount of trial time that it saves. The Courtroom 21 Project believes that court proceedings in normal trials are likely to show at least

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[138] In light of the number of camcorders, and now even camera-equipped cellphones, concurrent digital images or videotapes of major occurrences are increasingly common. *See, e.g.*, Kevin John, *Bombing trial prosecutors keep emotions high*, USA TODAY, May 12, 1997, at 3A. ("the first full week -- a phase largely devoted to attempts at directly tying the defendant to the bomb plot -- ended with videotaped news accounts of government veterinarian Brian Espe emerging from the rubble."). Parenthetically, we should note that the increased emphasis on visual images as evidence makes the traditional objection of unfair prejudice, *e.g.*, FED. R. EVID. 403, especially important.

25% to 33% time savings.[139] Various jurists have announced far greater savings. Former Chief Judge Michael Hogan of the United States District Court for the District of Oregon, believes that he saved 50% of the trial time in one case.[140] Although these savings come at the cost of enhanced pretrial preparation by counsel, we believe that even counsel experience a net time savings. Trial, in any event, is substantially faster,[141] and this increase in trial efficiency ought to be routine for all terrorism cases. If nothing else, major terrorism trials are *expensive*,[142] and any otherwise acceptable solution that allows us to affect economies should be looked at carefully and if not barred by other concerns fully encouraged..

Technologically created or displayed evidence does not ordinarily raise new evidentiary issues.[143] In nearly all circumstances, evidentiary objections are traditional ones, most notably authentication, best evidence, hearsay, and issues of unfair prejudice, although *Daubert*[144]

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[139] *See, e.g.*, Camille Bains, *B.C. Officials Reveal High-Tech, High-Security Courtroom for Air India Trial*, CAN. PRESS, Aug. 16, 2002 ("The Lockerbie trial cut down, by using this technology, 30 per cent (of time)," quoting Julian Borkowski, technology coordinator with the [British Columbia] Attorney General's Office). Unfortunately, we are unaware of any scientifically reliable data. In one Courtroom 21 study conducted two years ago that focused on different matters, data reconstruction from a series of controlled experimental jury trials suggested an approximate savings of 10% in a simple one hour trial with less than ten documents.

[140] Remarks made on October 30, 2003 at the 8th Court Technology Conference, conducted by the National Center for State Courts, Kansas City, Mo, incident to participating in the Courtroom 21 Program, *Courtroom Technology for Litigators and Judges - A Pragmatic Perspective.*

[141] The reasons for this include the elimination of counsel walking about the courtroom, the ability of jurors to read exhibits immediately, and a tendency by counsel, possibly reinforced strongly by the court, to ask fewer questions about exhibits when an exhibit is visible to all concerned.

[142] According to one article the pretrial monthly aggregated cost of the defense alone in the McVeigh case was more than $ 100,000. Robert Schmidt, *A Spare-No-Expense Defense for McVeigh*, N.J.L.J., April 7, 1997 at 16.

[143] *See, e.g.*, Fredric Lederer, *The New Courtroom: the Intersection of Evidence and Technology: Some Thoughts On the Evidentiary Aspects of Technologically Produced or Presented Evidence*, 28 S.W.U.L. REV. 389 (1999). *See also*, Fred Galves, *Where the Not So Wild Things Are: Computers in the Courtroom, the Federal Rules of Evidence, and the Need for Institutional Reform and More Judicial Acceptance*, 2000 HARV. J. L.& TECH. 161 (2000)(hereinafter *Galves*). In practice, immersive virtual reality may raise both substantial authentication and undue prejudice issues, but these are not new concerns.

[144] Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579 (1993).

scientific evidence issues are possible. Although amendment of the rules of evidence to more clearly deal with technologically-related demonstrative evidence might be useful,[145] and promulgation of court rules to ensure early notice of the intent to use computer derived or displayed evidence is desirable,[146] there are no legal impediments to evidence presentation at trial. There are, however, practical concerns.

The two critical practical issues that are consistently raised during Courtroom 21 interactions with lawyers and judges are the availability of the technology and the ability of counsel to use it effectively. Although the federal courts are rapidly moving to what one day may be a 100% permanently installed technology-augmented courtroom inventory, most United States courtrooms today lack appropriate technology. Before a terrorism case can benefit from the benefits of technology, it must be available. At present it is likely that there are sufficient courtrooms so that a jurisdiction trying a terrorism case will have access to at least one high-tech courtroom to house it, but this conclusion is speculative. If such a courtroom is not available, the prosecution, especially if it is a federal trial, is likely to have access to portable equipment. The defense may not. One would assume that in a criminal case, the government would not be allowed to prohibit defense use of its technology, but this type of uncertainty is unhealthy and should be clarified early in the development of the case. On a more pragmatic level, the real issue ordinarily is not the availability of the technology but the ability of counsel to use it - especially if defense counsel do not have their own equipment or access to it. Prosecutors have access to the National Advocacy Center, which has at least basic courtroom technology installed in its courtrooms. The defense is likely to be completely unprepared for technology use unless counsel is retained counsel with prior expertise or has received specialized training. Counsel who lack true expertise in the use of evidence presentation technologies are at a substantial disadvantage when opposed by technologically competent counsel. Given the special needs to ensure both the reality and perception of fairness in terrorism cases tried before the world, this disparity is problematic and requires resolution, especially if we wish to require technology use for efficiency and other reasons.

Many lawyers have chosen to offset their technological constraints[147] by the use of technically capable staff or vendors.[148] This can be highly effective, but may increase costs. Further, although it is efficient for counsel to leave exhibit creation and hardware operation to others, counsel must still have a sufficient understanding of the technology to b able to decide

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[145] *See* Galves, *supra* note 143.

[146] *E.g.*, MD. R. CIV. P. 2-504.3, Computer-Generated Evidence and Material

[147] Or, as Richard Herrmann, Senior Courtroom 21 Legal Advisor, prefers, to free themselves of technical responsibilities.

[148] *E.g.*, Robert Schmidt, *A Spare-No-Expense Defense for McVeigh*, N.J.L.J., April 7, 1997 at 16 ("And as it prepares for the trial launch, the defense has hired a state-of-the-art litigation support company, a rare luxury for court-appointed counsel.").

how to use it and how to cope with the opposition's use. Australia makes use of the "Royal Commission" model when it becomes necessary to investigate extremely serious and complicated matters.[149] Royal Commissions are conducted by an appointed judge who takes evidence, often at great length. The current model for most such commissions is for the Commission (court) itself, frequently via subcontracting to private technology firms, to accumulate, electronically store, and then display the evidence. This is a natural consequence of the fact that it is an inquiry that is taking place rather than a contested adversarial trial. However, the same model has been used for trials. Although this model is at variance with the customary United States one in which the parties are individually responsible for evidence presentation, it may be a valuable possibility for major terrorism cases.[150]

A problem closely related to counsel's competence is what the court ought to do when an apparent technical problem takes place. This is not a simple matter, if only because the cause of such a problem may be extremely difficult to diagnose, especially quickly, and neither the court nor counsel may have specialized technologists available to resolve the problem.[151] The current tendency is for courts to instruct counsel to proceed without technology. This may not be practical for a major terrorism trial which is itself entirely dependent upon the technology.

§ 2-36.00 *Jury Deliberations*

When trial is to a jury,[152] the jury must weigh the admitted evidence and reach a verdict. The advent of technology-augmented trials has created a peculiar dichotomy - the jury receives evidence electronically in the courtroom during trial but during deliberations largely is restricted

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[149] From the United States this often appears to be a cross between a Congressional investigation and a grand jury hearing.

[150] Work product concerns clearly exist, and it may be that counsel would be able to ensure that some exhibits are not available to other parties or are not supplied to the court until needed.

[151] Fredric I. Lederer, *High-Tech Trial Lawyers and the Court: Responsibilities, Problems, and Opportunities, An Introduction*, distributed at the 2003 Courtroom 21 Court Affiliates Conference, Williamsburg, Virginia and available at www.courtroom21.net

[152] *E.g.*, FED. R. CRIM. P. 23(a):

If the defendant is entitled to a jury trial, the trial must be by jury unless:

(1) the defendant waives a jury trial in writing;
(2) the government consents; and
(3) the court approves.

to review of paper and physical exhibits.[153] Ideally, a deliberating jury ought to be able to electronically review evidence that was received at trial in electronic format.[154]

In 2001-02, the Courtroom 21 Project conducted State Justice Institute sponsored research into the possible use of display technology for jury deliberations. After substantial controlled scientific experimental work, the Project determined that giving the jurors the ability to collectively view the image of a given exhibit at the same time was useful. The Project successfully created a protocol for such usage and successfully confirmed it during actual state and federal trials. Accordingly, we know that it is easily possible for jurors to use display technology to assist them in their deliberations.[155] We also know that in the real cases used to validate the proposed protocol, the jurors expressed great appreciation for the technology and the ability it gave them to all view a given exhibit at the same time, complete with the ability of jurors to annotate or emphasize a perceived key part of the exhibit.[156]

The Courtroom 21 Protocol included the ability to give deliberating jurors computer and other electronic technology to allow them to retrieve and display for themselves any admitted electronic exhibit. Although this portion of the protocol was not field tested in real cases, there is

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[153] Many courts do provide juries with the ability to review electronic evidence and may have the jury review specific electronic exhibits either in the courtroom or, with court assistance, in the deliberation room on a case by case basis. COURTROOM 21 PROJECT, THE USE OF TECHNOLOGY IN THE JURY ROOM TO ENHANCE DELIBERATIONS § 3-11.10 (2002)(reporting survey data) available at www.courtroom21.net. As to what the law permits jurors to consider during interrogation *see id* at §§ 2-12.00 (federal law); 2-13.00(state law).

[154] Deposition evidence (as distinguished from confession transcripts) in whatever form may be prohibited during deliberations:

> With only a few exceptions, the states are split into two major camps that divide over the expressed prohibition on the jury taking depositions into deliberations. While it may not be standard practice for those jurisdictions that have no expressed prohibition to allow depositions in the deliberation room, the permissive language is not present in the actual procedural rules of the minority.

COURTROOM 21 PROJECT, THE USE OF TECHNOLOGY IN THE JURY ROOM TO ENHANCE DELIBERATIONS § 2-13.00 (2002) available at www.courtroom21.net.

[155] COURTROOM 21 PROJECT, THE USE OF TECHNOLOGY IN THE JURY ROOM TO ENHANCE DELIBERATIONS §§ 5-23.00, 5-32.00, 5-40.00, 5-50.00 (2002) available at www.courtroom21.net

[156] *Id.* Unfortunately, the experimental design did not allow us to determine whether the use of technology during hastened verdicts. What we did determine was that it appeared to enhance the jurors' satisfaction with the process.

no reason to believe that its use in actual cases would be problematic. Accordingly, when a terrorism trial has been substantially tried with courtroom technology, consideration should be given to giving the jurors the ability to review that evidence electronically during deliberations.

§ 2-40.00 Appeals

Although our primary goal should be to try an accused terrorist as fairly and quickly as possible, we ought not to omit consideration of the appellate process. Our public has grown increasingly skeptical of what can be a lengthy appellate process, especially in capital cases. It does little good to speedily and fairly convict a defendant only to read for years about the various appellate steps then applicable. Comprehensive, fair, and speedy appeals are as desirable as trials. Although proper discussion of the potential application of technology to appellate cases is outside the scope of this article,[157] it is appropriate to point out that proper use of courtroom technology can expedite the appellate process, particularly from an administrative perspective. Use of either a realtime court reporter or a highly efficient transcription service can yield an accurate court transcript at the close of trial. Linking that transcript to electronic images of all evidentiary exhibits along with the usual legal documents and supporting appendecies can create in an automated manner a complete and immediate court record which can then be distributed electronically to all parties as well as to the appellate court. Use of a multi-media transcript in which audio and video are accessible from the electronic text transcript holds out promise for eliminating the types of issues caused by a text transcript which all too often fails to connote laughter or other human reality.

The advent of hypertext-linked appellate briefs, which come complete with all cited legal authorities as well as the court record below, can expedite a judge's comprehension of the issues and enhance the ability to evaluate counsel's arguments.

Although technology can also aid in appellate argument and in judicial resolution of the appellate issues,[158] it is probable that the single greatest contribution that technology can make in this area is elimination of unnecessary delay, a valuable goal in and of itself.

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[157] *See generally* Fredric I. Lederer, *The Effect of Courtroom Technologies on and in Appellate Proceedings and Courtrooms,* 2 J. APP. PRACTICE AND PROCESS 251 (2000), reprinted at 50 DEFENSE L.J. 773 (2001).

[158] E-mail or other electronic transmission already is helpful to judges who may not have their chambers co-located.

§ 3-10.00 Conclusion

We try those apprehended for terrorism because it is in the nature of American society and our associated legal culture to try criminal offenders, and to try them fairly. Trials as such are unlikely to deter confirmed terrorists from attempting to commit heinous acts.[159] But, properly conducted trials can deliver a message to the world and to those who might in the future be tempted to become terrorists. The heart of that message should be the fundamental decency and fairness of America. Even when faced with the dreadful costs of terrorism and the pain and frustration that accompanies those costs, what makes America special remains. At the same time, we ought to cultivate the expectation that when caught, those alleged to have committed terrorist acts will be tried with such dispatch, such fairness, and with such efficiency and accuracy that there can be little hope for the guilty.[160] Every potential terrorist should have an image of what awaits should a crime be committed and the terrorist survive and be apprehended, and that image should be of a unique combination of American fairness, firmness, and modern ingenuity. Technology is the "force-multiplier" of the legal system, and courtroom technology can help us achieve our goals. To that end, I recommend that:

1) All major terrorism case be tried using all reasonably appropriate supporting technology with sufficient funding and technological support being afforded all parties;

2) That for any given jurisdiction, appropriate rules of procedure be promulgated or amended to permit the use of remote testimony for unavailable witnesses for either party;

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[159]For some, a trial is another way to communicate the terrorist's goals and disdain for the United States .*E.g.*,United States v. Moussaoui. Criminal No. 01-455-A (E.D. Va.). *See generally* http://notablecases.vaed.uscourts.gov/1:01-cr-00455/Index.html. At the same time one might speculate that for those attracted by the perceived glamour and glory of a terrorist act, matter-of-fact trial before the world by a highly efficient and obviously fair tribunal might be off-putting.

[160] Although clearly speculative, it could also be that the knowledge of routine high technology terrorism trials could actually produce deterrent effects abroad. Given the world's respect for American technical ingenuity, if technology were properly employed in the context of a well-managed case (as distinguished from the O.J. Simpson prosecution, for example) it could be that the image of a high-technology terrorism trial could convey such certainty of the conviction of the guilty as to act as a deterrent for some.

3) That we work towards using courtroom technology to greatly expedite the appellate process;

4) That for any given jurisdiction, appropriate rules of procedure be promulgated or amended to permit the discretionary realtime electronic publication to the world-wide web of multi-media court records;

5) That juries in major terrorism cases be given full technological support for their deliberations; and

6) That we ensure that counsel for both parties in a major terrorist case have the personal knowledge and opportunity for training necessary to ensure their competent and efficient use of technology.

The war against terrorism will never be won by the amazing competence and courage of our armed forces alone - or by our careful anti-terrorism efforts at home. At its core is a war for the hearts and minds of the world's peoples. Although there are many other matters of more urgent priority to be addressed as part of that war, our legal system can be an important component. America captured the imagination and yearning of the world starting with those extraordinary words, "We hold these truths to be self evident, that all men are created equal." Let the way in which we administer justice to those who seek our destruction prove ultimately to be our best response to their inadequate efforts to destroy one of the great defining pillars of this nation.