

## **Preliminary Report of the Intersteno Scientific Committee**

The traditional culture of "court reporting" around the globe has consistently evolved from "shorthand" and "stenography" into the age of "electronic reporting" or "digital reporting." A significant level of attention will be given here to help the Scientific Committee define "modern court reporting" for the 21st Century, a transition poorly understood by the public, as well as most judges and lawyers, and a challenge to those practitioners facing a technology-forced career change at the behest of modern technology.

The challenge before the Scientific Committee is to develop a modern definition of "stenography" as actually being the recording of words, rather than a description of method.

Even the term "transcript" will take on a different meaning in the future, and has already in some jurisdictions in the United States where audio and video are defined as "transcripts," which are not transcripts at all as we have traditionally thought of them, but rather "recordings" and the "recording of words."

This evolution leads to the whole culture of "reporting" being changed from the traditional skill set transitioning from the stenography world of 90 percent skill and 10 percent technology, to a view of the future being 10 percent skill and 90 percent technology. This changes everything from reporter supply to economics to the skill set and education of future reporters.

Many studies have been conducted with respect the advantages of "digital reporting" versus "traditional reporting," and placing the stenographic method in its proper place in the modern world: As a fast input device into computers for as long as digital and paper transcripts last in the modern world. However, manual or machine shorthand is too labor and skill intensive, and lacks a digital component to fit into the 21st Century.

This study focuses primarily on digital reporting. We will not address stenomask or voice writing because it has many of the same shortcomings as the stenographic method – it is a skill-based system, there are virtually no schools and no ongoing supply of practitioners, and quality varies greatly from excellent to poor, and tends to be more expensive than digital reporting for all of the above reasons. Many of the decisions worldwide about what systems will serve the public in the future will be based on economics, so every system has to be viewed through the economic prism and prove itself viable economically if it is going to survive into the future.

Some courts, in an concerted effort to save money, have been far too eager to think that digital recordings simply make themselves with no human oversight. That is certainly a recipe for disaster, and why groups like IAPRT.org exist, to advise the courts and legal system on "best practices."

Bottom line: Even a fully-monitored digital system should be able to save 30 to 50 on court reporting costs using digital equipment with properly trained "monitors," even taking into account equipment acquisition and obsolescence costs.

The law of supply and demand, if nothing else, dictates that the question is not "if" digital will overtake stenographic court reporting, but "when." Stenographic technology is a very powerful transcription method, even in the 21st Century, when used strategically in cyberspace. The days of the full-time stenographic reporter banging away day after day in the courtroom are surely numbered. Savvy stenographic entrepreneurs are setting up transcription companies in cyberspace where they can operate efficiently and cost effectively.

Digital court reporting technology is a highly sophisticated software program that, when used by properly trained individuals, creates the most accurate, cost-effective, self-authenticating, state-of-the-art record available in the marketplace.

The organizations representing court reporters using last century's stenographic technology, whose members, fearful of being replaced by these alternate advanced technologies, spend much of their time and every dime they have trying to discredit the new court reporting technology rather than learning to use it, as those practitioners using the technology have done.

The transcript of proceedings is the part of the record that reflects the events in the trial not represented by original papers. Essentially, it is the testimony of witnesses and the oral participation of counsel and of the trial judge, as recorded by the "court reporter," and required for the purposes of appeal. The transcript of proceedings is the end product of whatever medium is used to record the proceedings. In traditional practice, the stenographic notes constituted a transcript of proceedings in that oral testimony was transcribed into stenographic notes. Of course, a second transcription into written form was necessary to put the proceedings into a form that could be readily used by all.

When the verb "transcribe" is used in these comments, it means preserving oral testimony by conversion to another medium. The other medium may be stenographic notes, videotape, motion picture sound track, or audio tape. It may also mean the conversion from one recorded medium to another. When the noun "transcription" is used, it means the copy, either in the original medium or in the conversion medium.

The shorthand reporter is required to retain and preserve shorthand notes. This provision is necessary because the reporter may be called upon to transcribe the notes into written form at a later date. It is a difficult task for another person to transcribe a reporter's shorthand notes. In contrast, records made in electronic media are complete at the conclusion of the proceedings and do not require a reporter's transcription to be utilized by others.

Every government or judicial agency or independent study group that has looked at this issue for the past 20 years, including the National Center for State Courts (NCSC), the Federal Judicial Center (FJC), and the Conference of State Court Administrators (COSCA), has arrived at the same conclusion: That "the digital method" is superior to all others.

The Scientific Committee and the IAPRT are not advocates of any particular system or method of court reporting, but believe that there are a variety of technologies and methods,

when used properly and in conjunction with the latest developments and knowledge base in the field, can make court reporting accurate, speedy, and cost effective.

For the benefit of practitioners experienced in all methods used in the field, including stenographic, voice writing, closed-caption, and digital court reporting, the IAPRT, as unbiased experts in the field, maintain that courts utilizing a primary system of stenographic reporting would not only be more costly, but highly dependent on human and shorthand skill. The older stenographic technology is not independently verifiable and there is a diminishing workforce of skilled stenographers nationally.

All technologies should be used to their highest and best use to benefit the legal system and the public, and we have developed our points of view by examining all of the literature, studies and practical field experience of professionals in the field nationally and internationally. The facts below are backed up by years of studies of the National Center for State Courts, the Federal Judicial Center, and the Conference of State Court Administrators, to name but a few.

Digital court reporting technologies are used in 70 percent of the courts in the United States and in 45 of the 50 states, and when human beings are properly trained and paired with this state-of-the-art technology, there is no better, more efficient, more cost-effective, or more accurate system available than verifiable digital audio and video systems.

The National Court Reporters Association has made it clear through recent membership voted mandates that their sole interest in the future is preserving the past – and that applies to all programs and initiatives of the organization.

The International Alliance of Professional Reporters and Transcribers, on the other hand, embraces all methods of reporting and certifies all methods of reporting and transcription to the overall benefit of the legal system worldwide. The following are some facts of the industry in the United States:

- Eighty-six percent of all courts in the United States are already using electronic reporting, primarily digital.
- Stenographic court reporting is on its last leg. Currently, many states do not have a certified stenography school. Among those that are still in business, only a few students graduate each year. Of the existing schools, it takes the average student three to five years to complete a two-year training course.
- The stenographic court reporting schools are now turning out fewer than 500 stenotypists per year (with a very high dropout rate in the first five years in the field) while the field is losing an average of 5,000 stenographers per year as the Baby Boomers gray and retire and the younger (primarily female) court reporting population drops out in record numbers to have and raise children.
- The stenographic reporting field is diminishing at the rate of 15 percent per year, which means in five years the field will, in effect, be nearly nonexistent

and unable to service the needs of the legal system. Only approximately 20 percent of all stenographic court reporters meet the minimum standard of RPR (Registered Professional Reporter).

While the courts are predominately populated with digital/electronic court reporters, the freelance field is less than one percent digital or electronic. In our opinion, this is due to the fact that most freelance firms are owned by Baby Boomers that have established longstanding relationships with the Bar prior to the emergence of new technology. Since members of the Bar are seldom spending their own money, they tend to put more reliance and faith in these longstanding relationships than they do technology, quality, efficiency or costs, because they are not spending their own money. As the stenographic reporting field diminishes in numbers, this often creates an artificial scarcity that decreases competition and increases prices.

Twentieth Century versus Twenty-First Century technology, education, and lifestyle. Stenographic court reporting is an anachronism in today's culture because of the broad spectrum of stenographic skills, vocabulary and knowledge necessary, as well as the persistence and determination necessary to achieve high-speed manual machine shorthand skills. Digital reporting embraces dual functions of reporting and transcription, taking advantage of "cloud computing" and utilizing all of the talent available throughout the world – not just one geographic area – in the record-making function.

Furthermore, the public school system in the United States no longer teaches, and the culture does not encourage, the fundamental linguistic and grammatical skills and academics necessary for stenographic reporting. We live in an instant gratification society, and the long hours, sacrifice and study necessary to become proficient and productive in the court reporting industry are no longer common.

In the end, because of the above-stated facts, stenographic court reporting will essentially die out as the Baby Boomers reach the end of their careers over the next five to ten years because there is no viable structure to replace them.

All of the above leads to the inevitable conclusion that no matter how esteemed stenographic court reporters may have been in the past, no matter how much money they are paid in the present, they will literally be extinct in tomorrow's legal system.

The legal system needs to make way for newer, more modern, accurate, efficient and cost effective methods in its rules, statutes, and certifications in the record-making paradigm. This is a responsibility that we should all take seriously because the "record" plays a vital part of a litigant's rights and fortunes in the legal process.

#### A Practical Discussion

A shrinking number of U.S. courts rely solely on human beings to record legal proceedings. In an ongoing concern over budget constraints, many courts have no choice but to replace court stenographers with digital recording systems.

While there surely are non-fiscal benefits to digital systems, like speeding up the time it takes to certify the record, a desire to save money is the primary reason courts move away from in-person court reporters.

In 2009, Utah shifted all transcription to private transcribers and created a web-based system where reporters could access all the audio and video files of the court proceedings online. The impetus for this change was a result of budget reductions. Since the transition, Utah has saved more than \$1.3 million, eliminated nearly 50 full-time positions, and cut the time from transcript request to delivery from an average of 138 days to 12 days for cases not on appeal.

Three courts in Indiana are participating in a year-long pilot project to make audio tape recordings the official court record. The Indiana courts aren't looking to cut costs. Instead, they want to shorten the time it takes to get a transcript for an appeal, down from the current allotted time of 90 days to nearly no time at all, since the tape recording of the trial is the official record and no transcription is needed.

The shortage of stenographic reporters is likely to get worse as fewer people choose stenography as a profession. Furthermore, there are new opportunities for stenographers outside the courtroom. Stenographers can provide real-time closed captioning for the deaf, or take depositions for law firms or agencies.

The continued reliance on paper transcripts and the attendant costs have proved prohibitive, particularly to self-represented people, who, because of the current economic crisis, have placed greater demands for court services. In an effort to make recommendations to increase access to transcripts, improve the quality of transcripts, and remove obstacles that impede access to transcripts, courts should consider access, changing demographics, delivery of services, and accountability.

There has been national debate about the validity of using electronic recording in courtrooms instead of professional stenographers to capture the spoken word, and for nearly as long, there has been debate regarding what constitutes "the record" and who owns it. The "record," as it relates to court decisions, can include everything from conclusions of law, to portions or the entirety of a transcript, to medical, psychological, and psychiatric studies, or criminal histories, depending upon the particular proceeding. It has also been defined in statutes as information that is inscribed on a tangible medium or that is stored in an electronic or other medium and is retrievable in perceivable form.

Technology has played a major role in the evolution of how the spoken word is captured and has driven a national discussion (and occasionally cantankerous debate) about the most reliable and efficient method of memorializing proceedings. As referenced earlier, the Conference of State Court Administrators in January released a white paper dissecting the issues surrounding the making of the court record. The report suggests that state court administrators, virtually all of whom are being challenged with providing increased services with declining budgets, should navigate away from a reliance on stenography as the means by which to memorialize the proceedings and embrace new technology.

In response to the COSCA white paper, the president of the National Court Reporters Association cautioned against courts "migrating to digital audio recording," lest the "integrity of the record" be in peril.

States that rely on audio recording would no doubt dispute the assertion that they have somehow compromised the administration of justice simply because they do not use stenographers. In fact, the state of Alaska, which relies on audio recording, issues a disclaimer on their transcripts encouraging parties to cases to listen to critical portions of proceedings if there are questions about the accuracy of the typed transcript, and as the federal court reporter who addressed the Committee said federal proceedings where stenographers are in place are simultaneously recorded on audio. That allows the reporter to listen to the recording if he or she has questions about what was said and also creates an audio record for transcription by a different court reporter if the original reporter cannot provide a transcript.

On average, court recording monitors have salaries ranging from \$41,257 to \$54,257, while permanent part-time monitors earn less, as they work between 30 and 39 hours per week. Temporary court recording monitors, who can work a maximum of 35 hours per week, are the lowest compensated, earning \$14.25 per hour.

The wage difference between reporters and monitors reflects the required skill level for each position. Court reporters use stenographic equipment, which requires extensive training as it is a highly specialized and learned skill, and they must be certified by the state Board of Examiners of Shorthand Reporters. Court recording monitors are also trained but their skill set is different; they monitor the court's digital or analog tape recording equipment and are expected to keep ongoing log notes that correspond to the activity occurring during a proceeding for easy retrieval in the event of playback or transcript production.

Court reporters and court recording monitors are able to supplement their annual base income by preparing transcripts of judicial proceedings.

As technology has evolved, improvements in how the record is captured have helped ensure accuracy to a greater degree. Memorialization through digital audio recording means that the spoken word can be stored and accessed instantaneously and permanently. Like analog recording, but unlike stenography, it can be used to hear a replay of the spoken word, and to confirm what actually was said rather than rely on one individual's interpretation or memory.

Challenges: Production, ethics and compensation

Maintaining the public's trust is paramount. When people feel they cannot trust the branch of government that delivers justice, upholds constitutional rights and safeguards against abuses of power, the very foundation of democracy and liberty is threatened. It is essential then, that the sanctity of the court record be maintained for both posterity and review.

The court record is not the transcript. Rather, the transcript is part of the larger parcel of

documentation of a court proceeding. What people want when they purchase a transcript is an honest accounting of the events that have occurred. Problems arise when there are disputes about what was said and by whom. Certainly not every case is a matter of life or death, but in matters before the court, there are no small disputes to the parties involved.

Therefore it is essential that the courts provide the best possible service to the public it serves, by ensuring true and accurate memorialization that is accessible to all.

Tape recording, while satisfactory for capturing the spoken word, is by today's technological standard as relevant as the rotary dial telephone: It still works, but it is not the most efficient way of communication. Finding parts to keep analog tape recorders operating is becoming more difficult, physical storage requirements are not insignificant, and tapes can deteriorate resulting in the loss of the recording.

Stenographic machines create a paper tape that must be deciphered by a specialist, and in many instances, an electronic or audio record for "back up" purposes. For example, when in doubt about the accuracy of a transcript, one needs only to listen to the recording of the proceeding. That is impossible when the proceeding is memorialized solely by a stenographic machine, leaving attestation of the accuracy of the recordation to the notes or memory of a single individual. This is also problematic because, unlike audio recording machines, the courts typically do not own the stenographic equipment; rather, court reporters own their machines and software.

Similarly, courts do not necessarily purchase transcription software, either, but there are significant disadvantages to the courts and the public because of the individual nature of the stenographer's equipment. Specifically, every court reporter has on his or her stenographic machine a dictionary that stores their individual shorthand "short-cuts," or letter combinations that are particular to the individual who creates them. As such, every court reporter's dictionary is personal to him or her and the short-cuts may not be translatable by another stenographer. This, in essence, creates an essentially proprietary memorialization of the proceedings reported by one individual.

Thus, when a court reporter retires or leaves state service and has, over the course of his or her employment, filed stenographic notes that are difficult to translate and in some cases may be untranslatable by anyone else, there are unnecessary delays in the timely and efficient resolution of matters when a transcript is required.

This lack of control over the memorialization and the manner in which it is created is troubling. The court record belongs to the public and is created, maintained and stored by the courts. Without complete ownership of the entire memorialization process, the public's interest is threatened and justice is potentially compromised. Without standards in place to ensure the most accurate record, when the quality of the log notes of court recording monitors are inconsistent from person to person, or when the stenographic notes of court reporters are not readable by others, justice is compromised.

Additionally, audio captured digitally can be easily replicated onto other media such as compact discs and disseminated via computer by e-mail or posting to file transfer protocol

systems (FTP). Either method will vastly improve access to information for the bench, the bar and the public by removing or reducing costs and allowing for near "real-time" turnaround for the memorialization. The ability to listen to a proceeding on a CD unquestionably improves access to justice for people of all means and needs.

## Canada

The following are frequently asked questions about courts in Ontario, Canada, with respect to digital reporting.

Why is Court Services Division moving to digital recording? The move to digital recording is an important step forward in the introduction of progressive technology for the courts of Ontario. Digital recording enhances the security and integrity of the court record.

What are the benefits of digital recording to the court reporters? Digital recording provides a modern, professional tool for use by all court reporters. The benefits of digital recording include a high quality sound recording with synchronized time-stamped annotations. This allows ease of navigating within the record for playback and for the production of complete, accurate and timely transcripts.

Will digital recording take away the job of the court reporter? Digital recording will not replace existing staff; it simply modernizes technology currently used in courtrooms. Upon completion of this implementation, all courtrooms in Ontario will be recorded digitally.

Will there be training for digital recording? Prior to going live with DRD, training and support will be provided using electronic training modules along with the opportunity for hands-on practice.

How does the division know that digital recording will work for our courts? More than 100 digital recording devices have been successfully implemented in courtrooms across the province since 2007, where they have been embraced by the judiciary, staff, management and court users.

What recording technology is used in other jurisdictions? Digital recording is now the standard method of audio recording in court jurisdictions across Canada and internationally.

"Future Shock Revisited" as written by Mr. Thomas F. Runfola, former president of the National Court Reporters Association, and Director of the International Alliance of Professional Reporters and Transcribers (IAPRT.org), provides an excellent synopsis of "where are we today?"

Those around court reporting in the 1970s and '80s probably remember well all of the buzz in our industry about the Alvin Toffler book Future Shock. Alvin Toffler, the 600-Pound Gorilla of Future Change, wrote prodigiously in those decades about changes in the society, culture, the media, organizations, science, computers, politics and economics. Other Toffler books included The Third Wave, Powershift, Creating a New Civilization, and many more.



The '70s were a time when computers were new and expensive; the personal computer was just a dream; Bill Gates was still in high school; and most court reporters were still banging out transcripts on Selectric Typewriters. I bought my first court reporting computer in 1976; it weighed 600 pounds, was a single function machine dedicated to court reporting, required its own room with a dedicated air conditioning system and a power cleaner, the removable disk was approximately one foot in diameter, weighed about three pounds, and had less memory than my iPhone has today. By the way, that early computer was called a "mini-computer" and cost \$87,000 - almost twice as much as the nice suburban house with a swimming pool that I was living in at the time! In today's dollars that computer would probably cost in the neighborhood of \$400,000. It was well out of the reach of most everyone in our industry, and as a result, most believed that it would not work for court reporting -- or feared that it would work and diminish their value to the legal system that they had served faithfully for years. Is this behavioral paradigm and thinking starting to sound familiar?

Even in the 1970s, Toffler was warning us that the 21st Century would be a complete anathema to the time we were living in. He prognosticated that we would all need to change our ideas, methods, work patterns, technology, and view of work and ourselves if we were going to fit into and survive the inevitable future.

Those of us in court reporting leadership at the time welcomed this voice in the wilderness to the court reporting function and industry - an industry that had not changed much in the 70 years before: Gregg and Pittman shorthand writers were still around in large numbers; the stalwarts of the court reporting profession were World War II vets who had gone to court reporting school on the GI Bill after the war; and women had just begun to enter the court reporting ranks in large numbers. We were a very solid group of professionals, but we were starting to look a little out of sync with the emerging Information Age.

The Information Age was simply a rapidly approaching deadline when it was thought that to survive in the future you would need to capture, process, analyze and transmit information quickly, efficiently and cost effectively - this dynamic was at work with blue collar and white collar workers, with professionals, such as lawyers and doctors, and with institutions like the Courts and Government.

In those days, the forward thinking among us would speak to skeptical audiences of court reporters about how computers would play an important function in the future of what we commonly called the Shorthand Reporting field. We spoke with great passion and conviction about while this was a time of flux and transition, it was also a time of great opportunity. We talked about how someday technology might even provide a replacement for the trusty stenotype machine (then the state-of-the-art speech capture device), although that day seemed afar off with Computer Aided Transcription just barely on the horizon and Gregg & Pitman shorthand just breathing its final breaths as a trusted method of preserving the record in legal proceedings.

Court reporting and court reporters, despite much trepidation, did step up and adopt the new untested computer technology. We now know from that experience that those who don't learn from the past are bound to repeat it. So, today, we have challenges and

opportunities from a new technology called digital court reporting or digital audio recording (DAR), a technology that while still requiring a living, breathing and fundamentally educated human being, does not require years of shorthand training and acquired skill.

My favorite Toffler quote from the 1970s era about the 21st Century is this one: "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn." Well, it's 2011, and the 21st Century workplace has arrived, but the question remains for many court reporters: Have we arrived to the 21st Century workplace?

Many groups within our industry, with the most noble of intentions, still cling to the ideals and technology of shorthand while believing that the addition of a computer to the steno machine somehow has met the demands of the 21st Century to learn new skills and implement new technology in the process.

The good folks at Nightingale-Conant, who distribute books and materials of modern thinkers and thought leaders, describe the time we are living in today, that Toffler prognosticated about over 30 years ago, this way: "Never before has there existed a time in our history that exudes so much excitement ... and so much fear. Like rebuilding a supersonic aircraft while in flight, the world is constantly redefining and recreating itself: New businesses, new technologies, new strategies and ideas. It's enough to quicken your pulse. But once you learn to adapt, you'll gain an edge that serves you for a lifetime. The quicker you learn, the quicker you can relearn."

It seems that the overriding theme for us, and others, who have to deal with life, business and technology in the 21st Century is overcoming fear. For it is fear that makes us want to cling to outmoded methods of the past, to what we know and trust, to bury our heads in the sand, and fight like there is no tomorrow for what rightly belongs to yesterday. It is fear that blinds us to progress and forces us to look at the future through a rear-view mirror. It is fear that says, "I have worked too hard to gain a skill that can be, it seems, so easily replaced by a \$600 computer and someone who graduated from high school or college yesterday." It is fear, and perhaps pride, that says, "my ilk has been serving this system well for the past 100 years, why would anyone want to replace me for a mere promise of cost savings? No one appreciates my skill, my professionalism, my years of experience and dedication."

Indeed, it is hurtful, it is disruptive, it is inhuman - but it is reality! It is the world we live in, a necessary part of the system we serve. Try to convince a court administrator responsible for the budget of a metropolitan court system, who has just seen a demonstration of modern digital court reporting, that a more expensive, more labor-intensive and skill-intensive system of steno court reporting is worth it to his or her tight budget just because of tradition and the preservation of an aging workforce. Check out your local colleges and what we used to call vocational schools. How many are teaching traditional steno court reporting?

What do the statistics have to say about the future of traditional steno court reporting? Sadly, for those who believe shorthand is on the cusp of a comeback, the statistics don't

agree. Shorthand court reporters are leaving the field, through attrition or retirement, at the rate of approximately 5,000 people per year, while being replaced by a mere 500 or so new entrants each year -- that's over 15 percent of the entire traditional court reporting population leaving each year. Court reporting schools close every year for lack of students; public education doesn't even teach the fundamental academics and linguistic skills required by shorthand court reporters anymore. In fact, there is a generation of young people that never heard of manual or machine shorthand, let alone have the perseverance to endure years of schooling and painstaking practice to become proficient at the art of shorthand reporting. What does that say about the future?

What would you do if you were in charge of a burgeoning court budget and had the power not only to save money on manpower and benefits, but could turn transcript sales from a side business for salaried court reporters to a profit center for the courts by taking ownership of the transcribed record? In a time when public workers and public unions are under tremendous pressures and scrutiny because of their cost and benefit load, what is the rationale for legislatures and Supreme Courts and other judicial decision-makers to preserve the status quo?

Every institution in our society, indeed every family today, says exactly the same thing about modern innovation in our society: Cost savings is paramount in the world today. The legal system is no exception. Just as we demand more cost effective and fuel-efficient automobiles for our families - and have a right and obligation to do so - so does the legal system have the responsibility to find the most efficient and cost-effective way to make a court or deposition record. After all, the grave responsibility of decision-making is the end point of a legal proceeding - and the record is just a means to that end. The court reporting function is indispensable, but the technology can and should change as innovation and progress allow.

It is an axiom in business: The customer is always right. Seventy percent of the Courts in the United States now use electronic digital audio recording systems as the primary technology in preserving the official record of court proceedings, and that number is even higher in most legal systems around the world. Agency after agency that has studied the issue, from the National Center for State Courts to the Conference of State Court Administrators to the Supreme Courts of many states have made it clear that, in their view, at least, digital court reporting is not only more cost effective but creates a more accurate and timely record. And because actual voices can be heard, it is also a self-authenticating record. Several states are even contemplating rules for the elimination of archaic statutory language that refers to shorthand in the record-making function, while others are considering eliminating transcription all together and just having an electronic audio or video record be the instrument for appellate review.

We are in a unique position as court reporters, sworn as officers of the court to faithfully and accurately preserve the record of legal proceedings and fulfill the mandates of the Civil Rules of Procedure of state and federal courts. We are expected to be team players, to act in the best interest of the legal system and the public good. Should we really have any interest that is inimical to our sworn and ministerial function in the legal system? Should we spend our energy, money and resources on lawyers and lobbyists to persuade

legislatures and Supreme Court rule makers that the past skill of shorthand is somehow superior to the present technology of digital computing? Or should we be masters of the environment and leaders of innovation in whatever technology delivers to us in the 21st Century? We can be leaders of change or victims of change!

You decide.

## Bibliography

A Comparative Evaluation of Stenographic and Audiotape Methods for U.S. District Court Reporting, July 1983, for the Federal Judicial Center reports (page 77, IX Conclusions):

Transcripts produced from records taken by the audio recording system were more accurate than transcripts produced by the stenographic reporting method.

(At page 81):

Given appropriate management and supervision, electronic sound recording can provide an accurate record of United States District Court proceedings at reduced costs, without delay or interruption, and provide the basis for accurate and timely transcript delivery.

Report to the California Legislature on Electronic Recording Demonstration Project, a pilot program, the Judicial Council in January 1992 decided, at page 36, Conclusion:

The use of electronic recording as an alternative method to produce and preserve the verbatim court record has been successfully demonstrated in the current pilot project.

(At page 37, Conclusion):

Electronic recording has proved to be as acceptable in making a [court] record as that made by a stenographic reporter.

(At page 37, Final Conclusion):

Efficiencies and savings will also be enhanced when the prohibition against using electronic recording in criminal and juvenile proceedings is eliminated.

In a review of previous comparison studies by Rae Lovko and Susan Myers, prepared for the National Center for State Courts - Institute for Court Management, in March 1994 the authors compared twenty side-by-side comparison studies and reported the following conclusions:

(At page 1 of the Introduction):

Specifically, 15 reports found that electronic court reporting provided either cost benefits, quality benefits or both. All but one of these reports were prepared by or for state and federal judiciaries.

Five reports drew contrary conclusions, arguing that non-electronic reporting methods were equal or superior to electronic court reporting methods. Four of the five reports were commissioned and paid for by the National Court Reporters Association.

In a report to the U.S. Congress, prepared by the Comptroller General's Office, June 1982, government researchers concluded:

Electronic recording systems are a proven alternative to the traditional practice of using [stenographic] court reporters to record judicial proceedings. Numerous state and foreign court systems are using electronic recordings systems, achieving substantial savings, and also providing excellent service to the courts and litigants.