

**OPEN NINTH:  
CONVERSATIONS BEYOND THE COURTROOM  
TAKING IT TO TRIAL  
EPISODE 86  
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HOSTED BY: DONALD A. MYERS, JR.**

(Music)

**NARRATOR:** Welcome to another episode of “Open Ninth: Conversations Beyond the Courtroom” in the Ninth Judicial Circuit Court of Florida.

And now here’s your host, Chief Judge Don Myers.

**CHIEF JUDGE MYERS:** Hello, and welcome to Open Ninth. Here with me today is Dr. Fredric Lederer, Chancellor Professor of Law and Director of the Center for Legal and Court Technology at William & Mary Law School.

Dr. Lederer received his Juris Doctorate from Columbia University Law School and is a Fulbright Scholar. He specializes in evidence, trial practice, criminal procedure, military law, the legal and other implications of artificial intelligence, and is one of the world’s leading experts on legal technology.

Thank you for joining me, Dr. Lederer. It’s an honor to have you on Open Ninth.

**DR. LEDERER:** We are honored to join you, Judge.

**CHIEF JUDGE MYERS:** So it’s not often I get to say that somebody specializes in such a long list of things and actually has specialization and expertise in those things. I’m rightly impressed, I suspect.

Tell us a little bit, how did you come to be involved with the Center for Legal and Court Technology? And tell us a little bit about what that is.

**DR. LEDERER:** The Center for Legal and Court Technology, better known as CLCT, began life formally in August of 1993 as the Courtroom 21 Project, standing for the courtroom of the 21<sup>st</sup> Century today. And we began largely as a consequence of the stenograph company which then and now sells court reporting equipment, trying to make available to the nation’s judges and court administrators and lawyers an example of what was then called a computer

integrated courtroom. They wanted to make this available at or near the National Center for State Courts, and our law school happens to be right next door to the National Center as it was placed here to be next to us.

So as it happened, they put in this facility -- to be more exact, we put the technology into our courtroom which had been designed to be the world's leader for at least three whole months. And then we asked ourselves what we should do with it. We thought perhaps we should become a pilot project or a model, and we've never looked back.

**CHIEF JUDGE MYERS:** Well, that's fantastic. So the technology that you work with is installed in a courtroom there at the William & Mary Law School. And for our listeners, just tell us a little bit about what that looked like at first installation and then maybe what it looks like now.

**DR. LEDERER:** Well, when -- I should explain that William & Mary Law School is the oldest law school in the United States. There is a small disagreement from an upstart called Harvard Law School. But we date ourselves to the appointment of the country's first law professor by Thomas Jefferson.

The building that I'm in at the moment opened for business in August of 1980. And the courtroom was supposed to be a national wonder. It was designed after the, to a large degree, McGeorge School out in California. And it was very different in those days. It had very small color Sony televisions. It had a television camera projecting from the ceiling so we could put evidence beneath it. And it was rather primitive by modern standards.

Once we began with what was then the Courtroom 21 Project, we were able to do massive changes because companies from around the world have been kind enough to lend us technology, create custom millwork; you name it, pretty much it's happened. And we're

generally regarded as the world's most technically advanced trial and appellate courtroom, just as the Ninth Circuit's courtroom is usually considered the nation's if not the world's most technologically advanced trial courtroom for a functioning court.

**CHIEF JUDGE MYERS:** And so what is that technology that you're taking advantage of today inside of that 21<sup>st</sup> Courtroom?

**DR. LEDERER:** Well, right now, of course, our podcast is the result of a video connection between your court and ours. We call this very loosely video communications. We have the means to do just about anything remotely, whether it's a remote judge, remote witness, remote interpreter, remote court reporter, remote counsel, world's first remote juror, we've done all of that.

Usually the critical piece of technology is the ability to present evidence visually. In our case we also extend that into many other areas that includes technology such as various forms of court record, including two years ago the world's first virtual reality court record and this past April the world's first artificial intelligence-based open microphone speech-to-text record. We're particularly proud of our technology for what we call assistive technology, helping individuals who have special needs, particularly in terms of moving, hearing and seeing.

**CHIEF JUDGE MYERS:** That's incredible. So when you talk about a virtual reality court record -- I would say my only experiences with virtual reality are those goggles that I slip on and get to experience moving through some sort of a virtual world or perhaps, in our case down here in Orlando, the virtual reality rides that we enjoy at our theme parks.

What does a virtual reality record mean?

**DR. LEDERER:** Well, I have to apologize that we can't compete with the virtual reality theme park rides. No doubt we should probably do a real-world comparison at some point, which would necessitate coming back to visit all of you.

But in our case, what we do is -- what we did is we used multiple cameras, as well as audio, and you can put on one of those headsets and you are then standing right in the middle of our courtroom well. You can turn and see anything you could have seen if you were physically present at the time. And you're also listening to everything that's happening.

Now, we can potentially combine that with other matters. Normally, we have made in what we call our laboratory trials, our experimental cases, we do what we call a multimedia court record. You get the digital audio, the digital video, the realtime text as it's being produced, plus you're actually looking at the evidence as it's being offered by counsel. In theory, we could add all of that to the virtual reality, but at that point I'm not sure there's any court in the country that would want to (indiscernible words) such a record.

**CHIEF JUDGE MYERS:** We talk about that sort of a complex record and we contrast that with really what we've lived with since the 1950s, I think, which is a stenographic court reporter record that sometimes takes weeks or months to produce, combined with the hard copies of exhibits that are actually introduced into evidence. That really is the sole record that we have relied on for so many decades.

**DR. LEDERER:** Well, that's of course true. Your court is one of the national pioneers in making modern court records. So as you and your colleagues know, realtime, whether it's produced by a stenographic court reporter or for that matter a voice writer who's doing voice recognition, has largely been the state of art until very, very recently, perhaps as recently as this past April.

So it certainly -- we continue to live with our past as we are frequently probing the future. I learned two weeks ago, there is apparently somewhere in the United States still one pen writer, as they call it, an active court reporter who's taking notes down with a pen. Presumably it's a stenographic system. So we don't give up our past too easily.

**CHIEF JUDGE MYERS:** Now, as a professor at the university and surrounded by that wonderful courtroom and technology, how are you using that to teach current law students, our lawyers and judges of the future?

**DR. LEDERER:** Well, so far as the courtroom proper is concerned, and we have a second smaller high-tech courtroom as well, we offer two different courses, depending on the year. I teach a course called Applied Evidence, that is classic evidence but with basic trial practice including basic courtroom technology added into it.

But our primary course for that purpose is called Technology-Augmented Trial Advocacy, that is basic trial practice, traditional plus high-tech, at the end of which our students must try a contested jury trial usually to a sitting federal or state judge along with a jury. And we expect counsel at that point to do high-tech evidence presentation, examine at least one remote witness, and whether we're lucky enough to have a court reporter present potentially use the various things that a good trial lawyer can do with a high-tech realtime record.

**CHIEF JUDGE MYERS:** That's really exciting. It's got to be a tremendous asset for the students that you have there at William & Mary to graduate and have that level of proficiency with technology inside of the courtroom.

Let's talk a little bit, if we could, about the future. As a child, I grew up watching the Jetsons, and long ago I expected to be driving a flying car around the Orlando area. That hasn't materialized for me. But I would imagine that some of this technology that we're using and that

we see coming down the pike really isn't that far away for us to be able to anticipate inside the courtroom.

So let's just talk about a couple of those. And let's start with the idea of artificial intelligence. And I just recently attended the Court Technology Conference in New Orleans, and realized and recognized, I think, the importance of making sure that we're all operating on the same definitions and understanding of these technologies.

But tell us, for you, what is AI or artificial intelligence, and where do you see that headed inside the courtroom?

**DR. LEDERER:** Well, I hope you've had the pleasure of hearing my colleagues, particularly Professor Nicolas Vermeys, University of Montreal. And I might add that we are always available remotely or otherwise to talk to you and your colleagues about the same subject.

The discussion of artificial intelligence is inherently difficult partially because of a question of definition. There is a great deal of artificial intelligence in use in the United States and the world today, but mostly in the form of natural language recognition and processing. Once we're past that point, there's a huge amount of advertising and marketing most of which really isn't using what a purist would call artificial intelligence.

So artificial intelligence by our standard is machine learning, the ability of a computer program to learn from the data that it is using to modify its own programming. Artificial intelligence is especially good at processing huge amounts of information, discerning patterns in it and doing whatever it's been created to do with that data.

Potentially, that's a great number of things. From a judge's perspective, it raises questions as to how will that affect day to day life. Will traditional legal rules still apply? It

raises fundamental questions for court administrators, such as the excellent ones that you have in your court, as well as judges. How should we change what we do with the advent of artificial intelligence?

My colleague, who I mentioned earlier, Professor Nicolas Vermeys, University of Montreal, who is also a visiting professor here at William & Mary, is deeply involved in online dispute resolution and has an operation going on in Canada that is run by AI which allows for individuals to resolve disputes dealing basically with what we would probably call apartments without judges and without lawyers. We know that the -- in Utah, they are doing human augmented ODR for small claims courts. And the question becomes, at what point -- I would have said if any, but I don't think that's accurate anymore -- at what point will we use artificial intelligence to resolve relatively small, particularly civil disputes? I think that day is coming faster than ever, even if I discount real operation that's going on in Canada today.

**CHIEF JUDGE MYERS:** I believe it was Dr. Susskind in his opening remarks at the Court Technology Conference that discussed an artificial intelligence programming that is being used to determine the outcomes in patent disputes with up to 90 percent accuracy in terms of predictive results of patent disputes, and that the just incredible technology that is programmed according to factual bases and other things but apparently has no component of the law connected to it in terms of the standard for judgement of those cases. Fascinating.

**DR. LEDERER:** There's an inherent difficulty here, and I know that your listeners are undoubtedly far more knowledgeable than many, but our legal system in the U.S and the U.K. and such is based on the ability of judges to change the law, usually slowly, based on interpretations of constitutional and statutory provisions.

One of the inherent problems about an AI based legal system is the high probability that that cannot be done adequately by computers. So as best we can tell, human judges are utterly critical and irreplaceable. At least (indiscernible words) reports.

**CHIEF JUDGE MYERS:** I would affirm your thought on that and appreciate the job security associated with it. But I certainly do agree with you that some of this technology is making its way into the courtroom here. In fact, here in the Ninth Circuit, we have become a pilot test site for the application of that online dispute resolution to some of our small claims cases. And we anticipate between now and perhaps March of the coming year that we'll be successful in resolving a number of cases.

Again, I think one of those statistics that just really is unfathomable to me is the idea that through that type of online dispute resolution, eBay resolves some 60 million disputes annually. And I think that's just a testament to the fact that we're ready, I think, (indiscernible) the system to be able to take advantage of the benefits of that sort of technology for the ultimate good of the people that we serve.

**DR. LEDERER:** I think they've done very, very well on eBay. Of course, to be fair, that's a very limited type of case that they've dealt with. And if you'll perhaps indulge me for a moment, any discussion of the use of technology to resolve disputes usually comes across as, well, why don't we do it the right way with judges and human beings.

The example that I use, no doubt way too often, is the situation in many courts throughout the United States dealing with evictions. I believe the statistics in many of our states are that roughly 97 percent of individuals facing eviction do not have lawyers, approximately 100 percent of the landlords do. So might we be better off if we had free counsel and enough judges to handle all these eviction cases? Surely. Will our taxpayers choose to fund this? Oh,

most certainly not. So would we be better off having a technology-based dispute mechanism rather than the current system that we have? And I suspect the answer to that is clear. If the technology system runs reasonably well, that will be better than what we have. The test is not whether this equals our best alternatives elsewhere. It's whether it is better than what we're going to have.

**CHIEF JUDGE MYERS:** Excellent example.

Let's talk about another type of technology that has crept its way in the court system here in the Ninth Circuit, and that is virtual reality. I know that at least one of our local Sheriff's Departments has invested in some 3D equipment that allows them to create a virtual reality or reconstruction of a crime scene, for example. And through that technology and the use of virtual reality goggles or viewers allows a jury to literally step into virtual reality-created environment of a crime scene and to be able to see and perhaps even to some degree interact with the evidence that's located there at the scene.

Is that something that you can envision becoming a regular part of what we see in the courtroom environment?

**DR. LEDERER:** We have had on our schedule experimenting with additional virtual reality possibilities for the last couple years and haven't, unfortunately, managed to get there. And I would say that virtual reality in that use has great potential but also has drawbacks that are not immediately apparent.

**CHIEF JUDGE MYERS:** Talk to me about those drawbacks.

**DR. LEDERER:** I -- some years ago -- forgive me, I will try not to be overlong -- we were experimenting with a particularly well done video of an air crash. It was done for a Lloyd's of London conference. And it involved an airliner that crashed in the general vicinity of Death

Valley. And we had occasion to show it to a psychologist -- a (indiscernible words) psychologist. We were looking forward to his reaction. It was about halfway through when he simply threw up his hands and said, this is ridiculous, this is wrong, it is useless. We were rather shocked. A great deal of effort had gone into this.

He said, we've -- I've just seen in this animation that's been created water, I've seen lakes. We all know there is no water anywhere near Las Vegas, and therefore it is incredible and not believable.

As it turns out, I believe the largest dam in the United States isn't too far from there. And what we suddenly learned was that in this case our otherwise expert juror had erroneous notions of reality, and when confronted with what was actually a realistic image, rejected it.

Not long after that I had the occasion to be on a panel not too far from all of you, where the police officer had done a first-class still image reenactment of the crime scene. And he told us that they had made a mistake. In the process of doing that, there had been a calendar on a wall which they reproduced with what they thought was perfect accuracy but made a mistake. A juror noticed that and there -- decided and convinced everyone else in the jury, apparently, that they shouldn't believe anything else.

So setting aside all evidentiary questions of what we sometimes call unfair prejudice, it would not surprise me that the more we get involved in virtual reality the more difficulties we're going to walk into.

**CHIEF JUDGE MYERS:** Excellent. Excellent points.

How about wireless and mobile technology? I have this idea in my mind that as easy as we make it now to appear remotely in courtrooms, that we ought to be able to handle a traffic ticket, for example, using FaceTime.

**DR. LEDERER:** Well, that's actually been done, as you no doubt know. There were experiments some years ago I believe, particularly it may have been in San Antonio, where individuals could go to the library, for instance, and contest their ticket. And I know that it's been done in other locations.

It seems to me that that is an obvious solution and something that takes into account the fact that too many people can't take time off from work to go to court. And although these are matters of great importance to the individuals, they are obviously far less serious than many other criminal and civil cases.

So I think we ought to be doing it. And it -- think it's largely up to the courts. It used to be there was a great deal of doubt about whether this was a proper thing to do in a courthouse. But as you just mentioned FaceTime, I suspect there are very few people in our country who have not visually communicated with their spouses and especially their children and grandchildren.

And that changes our expectations and behavior. As I remember quite well, it was now -- I guess it was ten years ago as such, my wife and I were on a cruise ship in the South Pacific -- or at least somewhere in the Pacific, and we connected I think using Skype at the time with my younger daughter complete with fiancé and dog, I might add. And as we were looking at this, it suddenly dawned on me that I was in the middle of the Atlantic -- not the Atlantic, rather the Pacific Ocean and I actually was seeing and hearing. And it sort of changed the world.

As this becomes regularly part of daily life as it is for so many people, it's hard to see why our courts should not adopt it.

**CHIEF JUDGE MYERS:** And last of the technology is the one that I'm really excited about the prospect of is the hologram or holographic presence in the courtroom or in other

places, depositions and things that occur all over the country where extensive travel and arrangements and expense are required. I think we've seen examples of some of our tech corporate officers or directors making appearances at conventions holographically. Is that realistic technology for us in the court system? And what are some of the unknowns or concerns about that?

**DR. LEDERER:** Well, as far as I'm aware, we were the first court, if we count as a court, to ever do holographic evidence, and for that matter to do 3D evidence at the same time -- well, not the same time, some years later.

In our case our holographic evidence was rather primitive. We had a case involving how an individual had died. It was a pulmonary issue -- cardiac pulmonary issue. And we walked a black box by each of the jurists that we obtained from a medical firm, and the entire cardiac system hung out in thin air in front of each jurist. We thought it was highly effective but, as we put it, not ready for prime time because in that case it was too dark.

On the 3D evidence, which we did at a Court Technology Conference, it was incredibly successful but raised interesting questions about probative value. You couldn't -- we had a brick and a baseball bat. The image of the brick in 3D was incredibly threatening, sharp-edged, but you weren't feeling the heft, weight of it.

So I think both are forms of evidence that we are wanting -- we want to do. Years ago we thought about having a car in evidence in holographic form. There was a firm in London that would have done it for us but they would have hung glass beads from the center of the courtroom. It would only have cost us \$50,000. So at that point, we passed.

But certainly the technology is there, and if you don't try it first, we'll hope that we will.

**CHIEF JUDGE MYERS:** Do -- have you found in your -- well, let's go back. In the Center, do you all do some consulting work for courts across the country?

**DR. LEDERER:** We are pleased to give advice and design facilities around the entire world. We, for instance, helped modernize the Supreme Court of Nigeria some years ago. And we're currently (indiscernible words) International Arbitration Center.

**CHIEF JUDGE MYERS:** Incredible. In your experiences, is the audience receptive or do you find resistance from the courts to some of the ideas of technology of the future?

**DR. LEDERER:** I would say in the modern world it's not that we have much opposition. There are some times individual judges with deep concerns, as there should be, or it's a question of budget, which is why for the last few years we've been doing some experiments -- what we call a courtroom in a box. Basically, tablet or Microsoft Surface Pro-type computers that come out of a box, if necessary, and we can do 70 percent of what we do in this courtroom in terms of evidence presentation at almost no cost.

You mentioned wife. If we don't have to wire the courtroom, it's immensely cheaper. So we think that if we can supply this to courts without having to do a major budget invasion that more and more courts -- court administrators will want to do this.

**CHIEF JUDGE MYERS:** Any potential pitfalls for us as we head down this path that court systems need to be aware of?

**DR. LEDERER:** There are always pitfalls, as there have always been since the beginning of courts. I would say that the most difficult of all is that almost every time in our experience when we've used technology, there have been unpredictable side effects. That's why we say here that we never know what we've done to ourselves for a minimum of 30 days after the installation of new technology.

I think as we make the transition to artificial intelligence and what we call AI ecosystem, which involves the internet of things and the rest, we are potentially prone to a fundamental problem which is we are too quick to think we understand technology. The new technologies that we're beginning to deal with are much more complex than they appear. We, as judges and lawyers, tend to oversimplify them. We think artificial intelligence, for instance, is simply a computer program. It's not. It's radically different.

And when we begin putting the different technologies together, we get collateral effects we never, ever dreamt were possible, which means that we need to think carefully in advance, we need to be (indiscernible words).

**CHIEF JUDGE MYERS:** Selfishly, I should tell you we are beginning the design and construction of four new courtrooms here in our courthouse. The courthouse was built 20 to 25 years ago. We have courtrooms that were designed at that time and we of course continue to retrofit for the technology.

But any thoughts or suggestions for those of us in the world that are contemplating moving down this path more aggressively as we talk about the design of new courtroom space?

**DR. LEDERER:** Your court is internationally famous, and justly so, for being the technological pioneer, not just for state courts but arguably for all practicing courts. So we're hardly in a position to give you advice, though that's probably never stopped us before.

For other courts, the question always is, what is it that you want to do, what is it that you need to do, and what is the best, most effective way of doing that which does not always cry out for technology at all, lest of all sophisticated, expensive, fancy technology. The goal is never technology. The goal is how do we do our jobs as well as possible. I think if we stick to that, we'll do well.

**CHIEF JUDGE MYERS:** Excellent. Well, Doctor, I am so grateful for the time that you've had to spend with us today. These are conversations that I would love to stretch out for days or weeks together, and I hope we'll have the chance to spend some time together personally.

But I want to express my appreciation for your vision, for the project that you all do there, and for the work that we've been privileged to do together with you, and express our gratitude for your time today.

**DR. LEDERER:** We thank you very much. And we are always honored and privileged whenever we are in the -- have the ability to talk or even better to work with all of you.

**CHIEF JUDGE MYERS:** Thank you.

**NARRATOR:** You've been listening to "Open Ninth: Conversations Beyond the Courtroom" brought to you by Chief Judge Don Myers and the Ninth Judicial Circuit Court of Florida. For more information about the Ninth Judicial Circuit Court, follow us on Twitter Facebook, Instagram and LinkedIn.

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