THE WITNESS SPEAKS!

BY DANIEL V. SOLA CHATS WITH SHELL BLEIWEISS

What will happen is some smart attorney will ask, “So, Mr. Sola, back in 2018 you said expert testimony is nothing more than telling a good story, a ‘ripping yarn’ as it were. Are you doing that today? Are you telling this court a ripping yarn?”

That’s expert testimony, and that’s why I love it. Everything you have ever said or written is on the line. It is a battle of intellect and wits. The rules of the game are hundreds of years old and amount to a philosophical discourse on the nature of truth. It is a language where everyday meanings overlap with esoteric jargon. It is a highly civilized conversation among oath-bound professionals wanting nothing more than for the other to fail.

I digress.

I was fortunate to have worked with my boss, Frank Rovers, almost as an apprentice on a large case for the Twin Cities Army Ammunition Plant. My job was to read and dissect depositions and draft and check supporting reports and data. I got to sit in during witness preparation and prepare alternate opinions to torture the opposing legal strategy. I'd be out collecting samples and drilling wells one week, and then arguing at the DOJ in Washington the next. I am a hydrogeologist and an environmental consultant.

My first case was a cost apportionment between two companies that had contaminated the groundwater. I was about five years into my career with nothing more than a Bachelor's degree in geology and I was on the stand in U.S. District Court. I bought a suit. My tongue stuck to the roof of my mouth. We did okay. The judge cut the baby in half.

One case led to another and I found myself becoming sought after. I was inevitably the least qualified expert on paper, yet we did well and the attorneys called again and again. I guess I told a good story.

View From the Bar: I am an environmental lawyer and have both handled experts and been one. Although Dan doesn't use the word "persuasive," his tell-a-good-story approach means the same thing. I believe that an expert's job is to help his or her team be persuasive. Telling a good story is a good way to do that. Often an environmental expert is not involved in depositions or trials. They may be dealing with an administrative agency whom their client(s) are trying to persuade on some point or points. Either way, whether "testifying" to a judge and jury, or presenting to an agency, an expert is hired to persuade the decision-makers regarding his or her client's important points.

A story is the application of language to convey knowledge, information, even emotion.

The Art and *Technology* of the Story

At some point two hunters came back to the fire, each with a huge wild boar in tow. One of them brought home something more, something that made humans different: The Story. A story of details: of tracking the beast, the smell of the blood, the fear in its eyes. How the hunter noticed the wind and circled around. How the spear was released at just the right time. About crossing a river following the wounded beast. Seeing blood in the spoor. A new information technology—the story—was born.

Imagine hearing the first story ever told. The fellow cave folks must have been awed as colors, smells and emotions came to life. Critically, they also had information and details they could easily recall, learn and pass on. And they all got to eat. Two hunters with the same result, but the hunter with the story is the one they remembered.

A technology is the application of science for practical purposes. A story is the application of language to convey knowledge, information, even emotion. In fact, everything the human mind can imagine is coded in language. A story stores this code and empowers the listener by giving them access to the information in an easy-to-recall form. The listener can also retell the story, add a bit, and absorb some of the power of the original teller. We don’t retain lists of facts for long, but we recall great stories for a lifetime.

Stories have a form: a beginning, a middle, a transformation, and an end. The tools of a story are descriptions, details, metaphors, events, the passage of time, introspection, surprise, twists. The best stories circle back to the beginning and resolve what was missing. With the wild boar we know how the story ends at the beginning. It is the middle that is memorable.

View From the Bar: It is often said that your most important/strongest point should be your first, and your second-best should be your last. That is because people remember the first and last points the best. Telling an

expert's story, and for that matter the client's story, has to strategically plan the path the story takes to be most persuasive under the circumstances.

Passion Is a Trainable Skill

Beware the monotone. You've spent your life building your career. There is no shame in showing your passion. Since your client is probably paying double your regular rate, the least you can do is show up with some enthusiasm. Your job as an expert is to represent the best science in the service of the justice system. If that doesn't call for passion, what does? So how do you train passion?

Early on I made it a practice to take every opportunity to speak or present. Later, I took some speaker training and even took some acting classes. I leaned that for actors fear becomes a tool for digging deeper. Paradoxically, I find working with fear and anxiety is more powerful than trying to overcome it. I gave up on the illusion of confidence. The minute you find yourself feeling confident, the game changes or the stakes get higher and you have to start all over. Instead, try saying, "Ah, here is my old friend—fear. Let's rumble!" If you did your work preparing the science and you know it is bulletproof, confidence is no longer necessary. Anyone can speak well when they are confident; why not be the one who can do it while gripped with fear? This is the secret to unlocking passion.

View From the Bar: Dan is talking about preparation here. When you, as an expert (or lawyer, witness, fill in the blank) are fully prepared, you are confident. You are able to fence with opposing counsel and win. That is the challenge for an expert. Telling your own story is easy. You have practiced it. You believe it. You know its ins and outs. But not being surprised by questions from opposing counsel—or at least being able to fully respond to them while still staying on path—that is key to the outcome. Good and extensive preparation should put you in position to do just that. Lawyers and their experts should practice cross-examination extensively, while throwing every imaginable attack at the witness that the real opposing party might.

Writing Backwards: The Expert Report

I like to write backwards in preparing an expert report. In the sciences we typically write from the beginning, build the evidence, and finally reveal our conclusions. An expert report is not a scientific paper, nor is it a mystery story. Like the cover of a jigsaw, we want the reader to know exactly where we are going so they see how each piece fits the story. Otherwise, they will just start making up their own story.

Start with a simple declarative sentence for each opinion. Get rid of jargon, write in active voice, and keep it simple. No need to clutter it up with details or caveats. Get it clear in your own mind. Your statement is the cover of the jigsaw box. I like to number and order my opinions to carry the reader through the story I have to tell, each building an element of understanding toward the big picture.

Follow your clear statement with the supporting discussion and build to the opinion. This is where to put the complexity and calculations you need. Keep it to a few paragraphs. I like to put detailed calculations in an attachment so the flow of the opinion is maintained for the lay reader. If you quote a source, copy the citation and attach it. Attachments are for technical reader who needs to seek out the details.

The effect of writing backwards is the reader fits each statement into your conclusion, rather than forming (intentionally or otherwise) their own opinion. Like the cave people, we know we are having wild boar for dinner and the story is the appetizer. This clarity puts the other attorney on notice you are in complete control of your opinions.

Use your own words. I can always tell when a lawyer has written parts of an expert report. Don’t let them do it. Avoid using words like liability, culpability, tort, damage or negligence. I try to avoid jargon phrases I hear attorneys use, like “It is my belief and understanding.” These are someone else’s codes and may be legal terms, which I am not qualified to use. I never want to be asked to explain, say, negligence under common law, or some such thing. Leave lawyering to lawyers.

Moreover, everybody can smell BS, and if the opposing lawyer smells it, she will dig into it. As I said, it is the details that make a story—they also can break it. Use words and terms you would use every day in your job. Pick just one or two technical terms and be a teacher. Frank taught an attorney the term “tortuosity”—a rather obscure term we rarely use. He lit up every time he got to use it. A good teacher makes you smarter; an arrogant expert makes you bristle.

View From the Bar: Strategizing expert reports is similar to testimony or presentations to agencies. Persuasiveness is the ultimate goal. Making the reader believe your opinions wins the case or leads to a successful agency outcome. Dan says make your lead-in sentences a guide. If the readers only read the first sentences and believe them, you are home free. Of course you need to supply the support for those positions, too, in a believable way, in order to have your readers believe them. Dan covers that. The best way to win over a listener, be it a jury, an agency person, or whomever, is to guide them to forming their own conclusion, which hopefully happens to be yours also.

If You Can’t Explain It to Your Grandmother. . .

We’ve all heard that, but why your grandmother? Because you respect and revere your grandmother. You listen to your grandmother and recognize her wisdom. This is the test for the simple declarative sentences in your expert report. They should stand alone, reflecting the clarity in your mind and giving the reader a concise understanding of the issue. Your grandmother is the jury. Listen to your story from the jury’s perspective and speak into that perspective. Imagine a juror explaining over the dinner table how much they learned about geology, or immunology, or engineering.

View From the Bar: Never cross examine your grandmother.

Deposition Is Not a Geological Process

If the expert report is the fireside story, full of rich detail and truth, the deposition is the other hunter trying to kill the buzz. What did you leave out of the story? Did you really throw the spear? Was it really 50 paces? At

deposition you need to know all the weaknesses in your story and have interrogated every aspect of it. If you did the work in your expert report, there should be no surprises in deposition, just traps to avoid. The deposition necessarily is a bit more guarded than court testimony or the expert report. This is the time to listen to the attorney's instructions and rehearse.

Insist on full preparation with your attorney. Understand the deposition process. Practice the hard questions. Make sure you have checked every calculation and haven't glossed over some aspect of your preparation out of wishful thinking or confirmation bias. This is the beauty of expert work: You are subjected to full-throated interrogation by an expert in finding your weakness. You know more about this topic than anyone in the room, and they know it. You can only trip on your own shoelaces.

We had an expert (an arrogant Ph.D.) in deposition who insisted groundwater could not get from one layer of soil to another. He said the soil layer between was dry and even agreed, hypothetically, that if we drilled into it, it would be dry. This opinion was not in his expert report and was purely the musings of a guy used to being the smartest one in the room. The thing was I, the undereducated field geologist, had already reviewed the handwritten notes (buried in an appendix) from the soil borings. It was not hypothetical; the soil layer was fully saturated with water. When confronted with the actual field notes, his attorney asked for a break. He didn't come back, and the case settled that day.

Stick to your opinions. If you haven't developed an opinion, don't make one up in deposition. We all have opinions on everything, it's human, but these are expert opinions. Expert opinions are rigorously developed and tested—and are the only opinions you were hired to offer. There is nothing wrong with saying "I haven't developed an opinion on why the elbow is connected to the arm bone but am happy to look into it."

The best tip I ever got was to take all the time I need to answer a question. Be comfortable with silence. And answer only questions, never answer statements.

I recommend memorizing your declarative opinions from your expert report. Practice with your spouse. Practice in front of a mirror until you can sustain eye contact as you go through all your opinions. Stating your six or so opinions should make sense and tell the whole story. This exercise can be painful and embarrassing for a stiff old scientist. But if you can't look yourself in the eye, how can you look into someone else's?

The best tip I ever got was to take all the time I need to answer a question. Be comfortable with silence so you can think and compose a thoughtful answer. Look carefully at the exhibit. Jot a note (or pretend to). The secret is the transcript doesn't show your pauses. In the transcript, your well-organized responses, told in complete sentences, will look like they just spilled out of your mouth.

The second best tip is answer only questions, never answer statements. "I see here Mr. Sola you only have a Bachelor's degree." –crickets– "So then, why are you qualified to offer these opinions?"

"I hope you have a lot of paper in that funny little typewriter. . ."

View From the Bar: Experts need to understand the different reasons for, and approaches to, depositions versus trial. Depositions are usually fishing expeditions, where the opposing counsel is looking for anything they can use, and trying to lock a witness to a certain story that cannot easily change at trial later. The old adage of never ask a question you don't already know the answer to doesn't apply. Information doesn't even have to be admissible to be explorable. Like lay witnesses, experts should give no more information at deposition than opposing counsel asks for. The usual guidance of only answer the question asked, don't guess and don't volunteer apply equally to experts. Deposition is not your time to tell your story; trial is. Dan is absolutely right about the transcript not showing that you sat and thought for 30 seconds before answering— but don't try this in front of the jury.

Reasonable Degree of Scientific Certainty of “Get Rid of That Gray”

As scientists we live with uncertainty and, in fact, we quantify uncertainty. Lawyers don’t like this. This discussion needs to be held up front with the attorney so that he understands what you cannot say and so will tailor the legal strategy accordingly. A good command of significant figures is one place to start. If I can stay within justifiable significant figures, it may be possible to make a more definitive opinion and show overreach by the other witness.

In my cases the groundwater velocity is often an issue. In one case the other expert testified that the groundwater velocity is 123.5 feet per year. That’s four significant figures based on a calculation with at least one parameter with only one significant figure. Consider the weather forecaster trying to defend saying the wind is out of the northwest at 13.398 miles per hour. It is not more accurate, it is BS and shows poor grasp of the accuracy of the data (note to non-technical readers: Basically, your calculation can’t have more significant figures than the least accurate parameter in the calculation). We get lazy with significant figures with our computers and numerical models spitting out 8-digit answers. Review your significant figures.

So what do you do? I suggest you not be inflexible to the point of giving up on finding a solid black-and-white answer. In the case of the groundwater velocity I needed to find the upper and lower limits I could live with and go back to the attorney and lay out the limits of the science. I was able to be more definitive within the range using a weight-of-evidence approach with my other calculations. Find where there is certainty and build on it. If you have been a good teacher, your attorney will be able to ask questions to show how the other expert’s 4-figure answer is not scientifically supportable and is overreaching.

Ultimately my testimony was the velocity is no more than 100 feet per year (one significant figure). In this case we were trying to show how old the groundwater contamination “plume” was (think smoke plume in a gentle wind). A velocity of 100 feet per year was good and showed the plume was new and that it formed after my client owned the dry cleaner. I added other layers. The mix of chemicals looked young, and the process in the facility changed, it took

time to soak through the soil, the equipment was more likely to leak as it got older. None of these were dispositive by themselves. The only piece the other side had was a calculation of 125.3 feet per year, just enough to implicate my client. We were both deposed the same day, and they settled very favorably for my client that evening. The groundwater velocity was uncertain, but I had a more complete story.

Whatever it is, winning requires that the decision-makers believe your story.

View From the Bar: Both sides in litigation are likely to have experts if one side does. The other side's expert is hired to persuade the decision-makers to reach the opposite conclusion that you are trying to promote. The opposing attorney has the benefit of guidance from his or her expert on technical arguments you are making. In the end, the side that is most persuasive wins. The goal is not just reaching a conclusion that helps your side, but convincing the decision-makers that your conclusion is right. Dan uses the example of being able to support your conclusion as the right one, in this case by showing the other side's overreaching conclusion. Whatever it is, winning requires that the decision-makers believe your story.

Ethics Above All

Testimony is subject to the test of "a reasonable degree of scientific certainty." Research what this means, discuss it with your client, and check with your professional rules of conduct. If necessary, or you feel pressured to reach a specific conclusion, review it with your own lawyer.

You are not an advocate for your client, you are an advocate for your professional opinion and scientific discipline. It is great fun to get excited about the case and strategy and want to win. It is only human that when you are sitting at a 19th-floor burledoak conference table, wearing your one suit, and preparing for a big trial or deposition, you want the team to win. By all means participate fully and argue strongly for your position and how your testimony helps. Try out ideas and test them to hone your story. But remember that no one in that room is sworn to protect you, your firm, or your

professional license. Winning is the objective, but not at the expense of your reputation.

View From the Bar: I have to disagree with Dan here. Not that ethics isn't important. It is critical. But you are not only an advocate for the science, but also for your client. Leading up to your being hired your client reviewed with you whether your technical positions would mesh with what they were trying to argue to the court or agency. If you got hired, it is because you told them they would mesh. Now your science is consistent with the client's position. Advocating for your science and for your client are one and the same. It is unusual that something fundamentally different comes up after you are hired that changes that. Absent that rare occurrence, advocating for your client should be the same as advocating for your scientific discipline.

Just a Story, Mr. Sola?

So am I telling a ripping yarn? No, I am doing my professional best to explain my scientific findings in a way that meets my professional ethics, follows good scientific methods, and effectively communicates my findings to the court. What better reason to tell a story? And if you need a good expert on hunting wild boar, which of those guys are you going to hire?

View From the Bar: I don't know if Dan has ever hunted wild boar, but if he hasn't he should. I look forward to hearing his story afterwards.

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