



Fox Rothschild Podcast

The Presumption of Innocence

Episode 40: Debunking Courtroom Pseudoscience: A Conversation With the Innocence Project's Chris Fabricant

Featuring Matt Adams of Fox Rothschild and M. Chris Fabricant of the Innocence Project

Adams: Hi, everyone, and welcome to "The Presumption of Innocence," a podcast brought to you by the White-Collar Criminal Defense and Regulatory Compliance practice at Fox Rothschild.

There has been perhaps no more significant a threat to the presumption of innocence, due process and the rights of those who stand accused in the history of the American criminal justice system, than pseudoscience masquerading as reliable evidence. Whether it's the hollow, conclusory pronouncement of guilt rather than innocence that it offers, its lack of tested, credible indicia of reliability rooted in the scientific method, or its propensity for bias leading to among other horrific results: devastating mass incarceration of people from communities of color. The scourge of pseudoscience in our criminal justice system has very real impacts and has led to the incarceration and even, devastatingly enough, the execution of innocent, wrongfully convicted people.

If that's not enough to invoke the seriousness and sanctity of the topic we're going to discuss on today's program, I don't know what is. We're talking with M. Chris Fabricant, Director of Strategic Litigation at the world-renowned Innocence Project.

He's one of the nation's leading experts on forensic science in the criminal justice system and author of *Junk Science in the American Criminal Justice System*. He was also featured prominently in the Netflix documentary, "The Innocence Files." He's a former front-line public defender and clinical law professor, and his expertise and experience as a criminal defense attorney is as widely varied as the wrongfully convicted individuals profiled in his book. Welcome to the program, Chris. It's terrific to have you.

Fabricant: Thank you so much for having me. I'm delighted to be here.

Adams: So, let's start at the beginning. What drew you into committing your life's work to ensuring that junk science is kept out of the criminal courtroom?

Fabricant: You know, I knew that I was going to be a public defender from, you know, the time I was a kid. My dad was a public defender in 1969 in New York City, and so that was the path I knew I was going to take. And that was what I was doing, you know, before I came to the Innocence Project. And I think like most people, most defense attorneys -- unlike very few visionaries, like Barry Scheck and Peter Neufeld, who founded the Innocence Project -- I was not a forensic science skeptic.

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I believed, like most Americans and most lawyers, that the forensic evidence that was being proffered against my clients at that time was essentially valid and reliable evidence. And it really wasn't until the 2009 National Academy of Sciences report -- called "Strengthening Forensic Sciences in the United States: A Path Forward" -- came out that totally destroyed the field, essentially.

It blew up a century of case law that had accepted all of these forensic techniques as valid, reliable, objective scientific evidence. And the reason that that report was even undertaken by Congress to begin with was the work of the Innocence Project that demonstrated that innocent people were being convicted on what we believed to be valid and reliable evidence.

So, I was already a defense attorney at that time. And then through the work of the Innocence Project and the publication of the NAS report, it's behooved me and all other defense attorneys to become educated about science, scientific evidence and the junk science that was being proffered against our clients.

So, since that time, I have been focused on this. And, you know, I was an English lit major in college. It wasn't as though I came with a background in science. But I spent a year booking up and learning it because, you know, it's essential to any kind of criminal defense representation these days.

Adams: Why do you think that this garbage originally made its way into our criminal justice system? I think in reading your book and even in looking at the report you mentioned, the NAS report from 2009, there's all kinds of undertones of racial bias. There's all kinds of indications that some of this stuff was really Jim Crow 2.0.

Fabricant: I mean, you could say that about the entire criminal legal system, right? You know, there's a straight line that has been drawn by many, many scholars, now most prominently Michelle Alexander, from slavery to mass incarceration. And you can see, like, immediately at the end of the Jim Crow era, we have the ratcheting up of mass incarceration to control Black and Brown people in this country, primarily.

Forensic sciences and junk science is just a symptom of a larger disease. You know, the criminal legal system is designed to you know, control large segments of the population through the use of mass incarceration tools. When you look at the history of the use of junk science in this country, you can see how heavily the thumb is on the scale in favor of the prosecution, and accepting essentially any evidence that purports to be scientific without any real scrutiny. And, you know, the case study that I examined in my book was bite mark evidence. And you can see the way, you know, if you can go back to the original founding, really, of this entire field of junk science, you could see that it was entirely made up. And they had invented themselves some credentials. They had suggested that there was a there there without any scientific research. And then it was just accepted by courts as scientific evidence for the next 50 years. You know, I mean, without any scrutiny. Because forensic sciences, unlike other types of science, are not developed in scientific laboratories. They are not subjected to the scientific method where you develop a hypothesis and you test that hypothesis through rigorous scientific research and peer review.



It's really developed by law enforcement experts to prosecute individual cases, and then they become a technique that's accepted in court without any real scrutiny.

Adams: Yeah, and I want to move to the book because I was riveted by it. I couldn't put it down. I want to commend in particular the style of presenting the history of these pseudoscientific methods in criminal courtrooms and masterfully juxtaposing that against the evils that it caused, the lives that it ruined, the innocent people that have been executed and convicted, locked behind bars for the rest of their lives because of these pseudoscientific methods. And then throughout your book, you sort of take this thread where you start to intersperse the rise of DNA and the changing late 20th century views about scientific reliability. Including cases like Daubert and the history behind Daubert, to learn really what was at play when a very conservative Supreme Court addressed that decision. It was really in the guise of tort reform. Little did they know they were turning the criminal justice system on its head when it came to reliability of scientific evidence.

But also the political, the social, the economic influences that really coalesced in 2009 with the NAS report that you opened the program with and really had the legal system taking a real close look at what is and is not reliable scientific evidence.

So, let's talk about some of these wildly unacceptable forms of pseudoscience that had crept into our legal system throughout the 70s and 80s and early 90s that you and others within your organization and the criminal defense bar at large have worked so hard to scrub out of our criminal justice system. You mentioned this notion of bite mark "science" and the idea that they gave it this catchy phrase, forensic odontology, as if it had the moniker of some reliable, bonafide scientific process when it was really just a BS examination of bruises on human skin. Isn't that right? I mean, that's, that is I think there's three pseudoscientific methods that I distilled out of your book that I just was appalled by. That's the first, and it has a prominent place in your book. And then this microscopic hair follicle analysis where, you know, you might as well, just let's call a spade a spade, it was a racially biased method of saying, if a white person has hair that appears to be a black person on them, then they must have been the victim of some kind of horrific, heinous act. And then you have these arson investigations where these pseudoscientific methods that you outline... let's walk through them so our audience can hear a little bit about your study.

Let's start with the forensic odontology, which, it looks like it was born out of some crackerjack way for dentists to feel self-important.

Fabricant: Yeah, you know, I mean, you've, opened with a broad, broad, landscape on the use of junk science. So, just to be clear for your listeners, we'll focus on bite marks, hair microscopy, arson, this kind of thing. But, you know, we talk about shaken baby syndrome, we could talk about, polygraph tests, we could talk about blood spatter evidence, we could talk about ShotSpotter evidence, we could talk about voice spectrometry. We could talk about voice print identification. We could talk about handheld tool evidence. We could talk about ballistics. We could talk about footwear impression evidence. We could talk about even fingerprints. Some forms of fingerprints are very, very junky. All of these techniques have led to wrongful convictions. And they're subject to the



same problems, the same lack of rigorous scientific research underlying any of the premises that are claimed by this.

So, bite marks are a really good case study because I mean, for forensics, it's relatively new. The first time that so-called forensic odontology was used in a criminal case was in 1974. So I went back and I looked at this, and I was like, so what was going on in the 70s and the 80s that allowed this proliferation of junk science to be used increasingly in criminal courts? And what you can see is, in the post-World War II era, there was no career where you could be a forensic scientist, right? That was a new thing. And it was really only after the opening of the FBI crime lab and the professionalization of forensic pathology that becoming a forensic scientist was something that you could aspire to. And what you saw was also the increasing lionization of forensic experts in the media, you know, "Quincy" became like the number one show in the 1970s.

And at the same time in the civil arena, you could see that there was this proliferation of scientific and expert witness testimony to support product liability litigation and medical malpractice litigation and toxic tort litigation. And a lot of that was nonsense too. That was used by plaintiff's attorneys against corporations.

So there was, during this era, an explosion of the use of unreliable scientific evidence, both in the civil arena and in the criminal arena. And in the criminal arena, where the stakes are much higher, and there was less scrutiny even on those techniques during this era where forensic scientists were becoming celebrities and making a lot of money and working in what was viewed to be an exciting industry, rather than, you know, being a dentist, for example.

Then there was a real draw to become, you know, a forensic expert. And so the dentists were, at this time, you could see that -- because I got into the American Board of Forensic Odontology's archives and was able to kind of look at like the source material for the worth of this field -- is that the dentists at this time were kind of involved in forensics because they were identifying dead bodies, right? We've all heard the stories of, you know, the victim's body was burned beyond recognition and had to be identified through dental records. Few people really realize who that is that made that identification. Those are forensic dentists, forensic odontologists that they call themselves in court to impress juries and judges.

But they didn't... they were never actually called as expert witnesses because the identification of a body is usually not at issue in a criminal case. So, they weren't becoming celebrities, they weren't getting on television, they weren't testifying as experts, they weren't solving crimes. They weren't part of the investigation team that forensic experts at that time and today still do want to be: part of the, you know, the action. And so, they started pointing to bite marks that they claimed that they thought that they could see down at the medical examiner's office on bodies. The evidence is overwhelming that they cannot reliably identify a bite mark as such. Because in case work, these are diffuse bruises that could be anything, unlike when your child comes home from daycare and says, Johnny bit me, and you could see what looks like a bite mark. But they started claiming that, well, these are bite marks. And if we could match the teeth that made those bite marks, you know, voila, we would have our perpetrator, right?



So, like all junk science, that has a certain amount of curbside appeal, right? It seems to make, you know, logical to say, well, if I can match up the teeth to the bite mark, well, why not? Why not, right? But what no question was ever asked was how much skin changes after an injury. After a death. After the body is decomposing. It changes hour to hour, day to day, week to week. You come and you make a match, you know, one hour, maybe it doesn't match the next hour, maybe it didn't the day before, you're just capturing a moment in time. And skin changes in ways that are totally unpredictable. And this is why we have so many wrongful convictions associated with it, that and a hundred other problems that we haven't even begun to talk about.

But they decided that this was a real technique. They invented the American Board of Forensic Odontology, gave themselves board certification. They never had to prove that they could actually do this, like match bite marks or even identify a bite mark, nor did they prove that bite marks could even be considered individual.

And why a dentist, anyway? Is it the proximity to teeth that would make them expert at like evaluating a bite mark? No. There's nothing about being a dentist that, you know, requires you to interpret injuries and skin.

Adams: It's a, it's an interpretation of a wound on skin.

Fabricant: Yeah, what does --

Adams: Need a skin doctor.

Fabricant: Right? So, and they couldn't do it either, just to be clear, right?

So, they invented all these credentials. They joined the American Academy of Forensic Sciences. They started taking titles like the Chief Forensic Odontologist of the City of New York, which is still a title that somebody has right now today. And these original dentists, after they developed all these kind of faux credentials, what was interesting about that -- there was a group of 12 dentists. And four of them were lawyers, they had JDs, and so they understood the power of precedent. And so what they did is that they waited for the right case. And I wrote about the case, the Walter Marx case in LA, where Walter Marx apparently killed his landlord. It's a very gruesome crime. But there was no direct evidence in that case. But this poor woman's nose had been bitten off, essentially, during this horrific attack. And it was clear from that -- because an injury in a nose is in cartilage, it doesn't have the same problems with skin that we just talked about. And so these three original founding fathers of the field were contacted by the prosecution to see if they could pull this off and it worked. They were all declared expert witnesses. They all testified that Walter Marx matched this injury and they got their foot in the door of the jurisprudence, right? And they had their first, actual case.

And then I wrote about -- both in a law review article and in this book -- about how this germinal case was cited by courts across the country for the proposition that this was valid scientific evidence. So without ever holding hearing, without ever having any literature, without any other support for it, but these dentists say so.



And then, you know, I devoted a chapter to the Ted Bundy case, because few people realize that Ted Bundy was a bite mark case, right? And it was the trial of the century before OJ Simpson, no question. It was also the first nationally televised criminal trial in American history.

And the dentists themselves were the stars. Not only because Ted Bundy himself cross-examined them, which made it into a huge spectacle, but also because that was the only direct evidence that they had in the case. So the media, which plays a terrible role in perpetuating the use of junk science, was, you know, essential to the explosion of bite mark evidence.

And you can see this still today in shows like "CSI" and "Law & Order" and all these criminal procedurals. I mean, when was the last time that you ever saw one of these shows where forensics was depicted as anything other than infallible, objective, reliable, conclusive, catches the bad guy in a half an hour and wraps it up, you know, with a bow. That's not science, that's in no way forensics. But that's the way it's still depicted both in the media and often presented at trial.

Adams: Can you even begin to quantify the number of wrongful convictions, let alone executions, in this country that have been secured by this crap? This garbage science: forensic odontology, hair follicle analysis, arson investigations, or the laundry list of pseudoscientific evidentiary... I'm not even going to give them the benefit of calling them anything other than just crap that has been used to convict people. Can you put a number on that?

Fabricant: You know, I'm glad you've raised... you know, I wrote about four -- what I argue are wrongful executions -- in my book. And I have three clients on death row right now that were all put there by bite mark evidence. So, you know, despite the Innocence Project being, you know, a fairly robust and well-established organization -- 30 plus years we've had our doors open -- but our goal is to go out of business. And sadly, you know, we're a long way from that. And, you know, when you think about the size of the criminal legal system in this country, we have 2.3 million people in various forms of incarceration at any given time right now. By far the largest incarceration rate in the civilized, you know, the First World. So, when you think about that, and you say that, you know, maybe you, you have a very conservative estimate and say 1% of people have been wrongfully convicted, I think that it's probably much higher. And there's scholarship that suggests 3% to 5%, but let's just say 1%.

You're talking about tens of thousands of innocent people. Tens of thousands of innocent people. And you look at what our data demonstrates and what are the leading contributing factors to wrongful conviction? And the second most common contributing variable to wrongful conviction proven by post-conviction DNA analysis is junk science. You know, the misapplication of forensic science.

So if you think about that, and you think about how many likely innocent people there are in prison right now today, it's a staggering number, you know. And, and these are not all of like, kind of what the so-called legacy techniques that we're talking about. You know, I mentioned ShotSpotter. This is a new digital forensic technique that is being introduced, purporting to be able to identify the sound of gunshots and identify where they were. And what they don't say is that there's a human being at



the end of this so-called digital acoustic gunshot technology that makes a subjective determination. And there's been many cases already where there have been shading their conclusions to support prosecution theories. And all the literature that underlies that is developed by ShotSpotter, what is now known as sound thinking. Very much like all these proprietary research that ends up being not credible. Because these corporations are in business to make money, not to advance justice.

Adams: There's parts of your book where the theme of sort of the pushback plays more prominently as you sort of chronicle this evolution. And was it the rise of DNA evidence that began the pushback or was it the NAS getting involved and starting to think through some of these things more critically? Because it looks like to me, you know, which is the chicken and which is the egg? And there's a passage in your book where, and I'm paraphrasing now, but you're saying something to the effect of when DNA came on the scene, DNA is God and the other pseudoscientific methods that may have preceded it were subject to the human condition. And that was really, it stuck in my mind that passage. And I think you were quoting somebody else, if I'm not mistaken, when you said that the DNA is God. Because it is the bare bones, biological element of all humanity is that, is that really the high watermark? Is that where the pushback began, that technology finally gave us something that was a reliable, pure scientific methodology rather than this invented garbage?

Fabricant: So, yes. I was thinking about what, what quote that was, and now I remember, it was a wrongfully convicted man in upstate New York who was convicted on bite mark evidence before the advent of forensic DNA. And he wrote a letter to a man named Barry Bunch, who had actually committed this crime, after the discovery of DNA analysis. And he had, you know, he had been in prison doing time for Barry Bunch's rape and murder. And he wrote to him, said, we have DNA evidence, you know, and DNA evidence is God and, you know, and I'm getting out and you're going in. And so Barry Bunch ended up killing himself shortly thereafter. So, yeah, that was, uh, that wasn't, those weren't my words, but yes, I, I am remembering that.

And I think that forensic DNA technology -- and I say forensic because that's an important word in this context in particular, because DNA technology existed. It was transferring it to a forensic setting, which is like outside of a laboratory, you know. I mean, like it used to be for paternity. You get a very pristine sample from somebody and you could test DNA. When you're doing it at a crime scene, it's much more complicated, right? It's much messier and often there are mixtures, et cetera. But with the advent of forensic DNA, when it was first moved into crime scene technology, and the opening of the Innocence Project's doors 31, 32 years ago, one of the most important decisions, maybe the most important decision that was made at that time, was our intake criteria. And what was decided was that we were going to make no subjective judgments about guilt or innocence of anybody that was applying for our help. That the only criteria was going to be is if we could find biological evidence in a probative area and test that evidence for DNA, would that prove innocence? That was it. It didn't matter if our clients confessed. It didn't matter if there are lots of forensic evidence pointing to our clients guilt. Did not matter if there are five eyewitnesses who all said, that's the guy who did this. DNA was the only criteria.

And as a result, the whole criminal legal system is blown up because what we understood to be the pillars of the evidence that were holding together all these convictions for the last hundreds of years:



eyewitness identification testimony, forensic sciences, confession evidence. These are not the solid foundations of criminal convictions that we thought. These are in fact, the leading contributing factors to wrongful conviction.

Eyewitnesses, you know, we took cases where there would be five, six eyewitnesses and they were all wrong. Right? And incredibly, particularly because this is supposed to be scientific evidence. We took cases that forensic evidence had been used in these cases, and they were all wrong, right? And this was supposed to be science, objective, reliable, you know, the human failures or fallibility was not as prominent in this field, but it was.

And so this was shocking, right? Because of the way that forensics were understood by both the forensic community itself, who believe their own lore, the folklore that had been built up around forensics. And certainly the public, which had been fed this kind of line from the media for, you know, a long, long time. And, you know, as the Innocence Project matured and we had more and more exonerations, you know, it was very clear that forensics are playing an outsized role in wrongful conviction.

And it was at that time in 2006 that Congress finally engaged the National Academy of Sciences to do a study. To look under the hood of the claims that have been being accepted in courts for a century. Because look, there have been a lot of wrongful convictions, something is going on here. And the reason that that became so significant is because mainstream scientists, scientists that had no stake in the outcome of the research, weren't making their livings doing, you know, ballistic evidence, right?

They just were looking at the science. And when mainstream scientists looked under the hood, they saw that there was no there there, right? And you couple that with wrongful convictions and we're where we are today.

Adams: Chris, you also use another phrase in your book "wrestling the alligator of the principle of finality" or something to that effect. I know what that is. I know what you mean by it. Our legal system has long had this reverence for: once this thing's over, let's let it be and let's not revisit it. As somebody who revisits it for a living, how difficult is that to perpetually have to push back on that principle of finality? Where the system has been designed to essentially be perceived as infallible. Yet there's so much evidence out there that there's so many problems with what has happened and there are so many flaws interjected all throughout this. And whether it's the suppression of rating material, whether it's the injection of pseudoscientific methods, there are legions and legions and legions of examples of situations where our system just came off the rails.

What's it like to have to push back and to have to wrestle that alligator day in and day out?

Fabricant: I've said before, it's my sense of outrage that gets me out of bed every morning and to work. And, you know, the principle of finality, you know, for those of your listeners that are not, you know, working in the criminal legal system, but read the stories about wrongfully convicted people



that either are still in prison or have been exonerated, is that one thing I want to emphasize is just how hard it is to overturn a conviction.

There's this idea out there that, you know, oh, well, the Innocence Project will save them. Those vanishingly rare miscarriages of justice are going to be vindicated by crusading lawyers, like Innocence Project lawyers, which is nonsense. And, you know, compared to the scale of the criminal legal system, we are a tiny organization, as we were just talking about.

So, when the principle of finality is really used to invoke any efforts to overturn a jury verdict. And if you look at all of the Supreme Court's decisions around due process and due process rights is that this Supreme Court views due process as a trial, right? And once you've gotten what is perceived to be a fair trial, even if total junk was used in that trial, then because that was the received wisdom at the time, that that's all the due process that you're entitled to is at that trial. And then after conviction then your rights are so limited and you have to thread the needle on such a careful way. And then you have to get this past like, you know, what I wrote about is like, not only do you have to establish that there's no way that you could have found this evidence before, you know, no matter how obscure a new scientific technique that might have shown that discredited the one that was used at your trial. But the evidence of innocence gets put back in front of the same judge and the same prosecutor who originally tried the case. Who all their biases are, you know, for all the most obvious and less obvious implicit bias reasons, are to sustaining this conviction.

And then the Antiterrorism and Effective Death Penalty Act, that Bill Clinton signed in 1996 that essentially sawed off federal court's review of state court convictions that made it nearly impossible to get federal review of state courts' wrongful convictions, right? Because overwhelmingly, our cases are in state court. Overwhelmingly, that's where violent crime is prosecuted and that's where all the wrongful convictions are. You know, not all, certainly, there are there are some that are happening in federal court, but overwhelmingly in state court. And because you can't really get federal court review on this, and the Supreme Court is so hostile to the defense bar at this time, it gets worse and worse every time this court interprets the Antiterrorism and Effective Death Penalty Act.

Most recently in the Shinn case, where you can't present new evidence in almost any context in federal court, and nearly impossible to get it in state court. So even, you know, the court has taken up stark evidence of innocence and rejected it on procedural grounds, which to me is an anathema to any bare sense of due process.

Adams: What's it going to take to change that, Chris? Is it going to take new legislation?

Fabricant: Well, I mean, we have to have, you know, somebody whose work is devoted to criminal law reform. And, I'm asked regularly to support litigation getting to the United States Supreme Court through amicus briefing on cert petitions that I almost never can find five votes for any decision that I think would be helpful to the wrongfully convicted. Almost never. So I never do that. And, you know, what it takes -- and this is true with like, certainly many other areas of...let's call it political controversy in this country, is that it's going to be state supreme courts that are going to have to do the work. And we'll have a very balkanized system of, you know, in one state this is acknowledged to



be junk science and in another state, we're going to say that this is sufficient evidence to put somebody to death.

You know, I litigate a lot in the Deep South and the decisions that you get down there around scientific evidence stand in great contrast to some of, you know, from other jurisdictions. So, you know, it would take a revolution, I mean, in terms of, you know, the court would have to change. The court would have to accept the views of mainstream scientists about what's valid and reliable evidence and what isn't. And the court would have to acknowledge that jurors don't always get it right. The court have to acknowledge that overwhelmingly, cases plead. In other words, they don't go to trial at all. And that we have, something like 15% of our clients pled guilty to serious, often capital crimes that they did not commit. And those cases, the plea cases are even more difficult to challenge.

So the idea of like, what it would take to change. It would take a whole lot. A lot of voting. A lot of voting, a lot of new legislation. You know, and a lot of, like, forensic science commissions, like the Texas Forensic Science Commission that I wrote about, you know, there are a couple of models out there where prosecutors and defense attorneys and scientists and forensic experts have gotten together to try to get it right. And when that happens, you know, justice can be done.

Adams: Chris, are we at a place yet where bite marks are just bruises? Has the paradigm shifted or are we just one step closer on this seemingly never-ending hamster wheel continuum of trying to get a more perfect system?

Fabricant: You know, there are four scientific reports that completely discredit bite mark evidence.

And, and that should be the end of the story. These are not things that I wrote, right? These are things that scientists wrote. And that should be the end of any story for bite marks. But, you know, I mentioned earlier I have three clients on death row right now, all put there through bite mark evidence. All three cases, the courts have accepted the bite mark evidence or they've said that it didn't matter. And the prosecutors have steadfastly defended the evidence. So, you know, I used to believe that it was, kind of, you know, that it was on its way out and that finally we'd eliminated at least this one, really just the worst offender of junk science.

And then, you know, somehow, there was a lawyer in New Jersey in a family court case that sent me some bite mark evidence and said, these guys are trying to say that this was an adult bite mark, and this is a child's bite mark. And this isn't a bite mark at all. You know, I mean, and with serious life and liberty issues at stake.

And then I was at the American Academy of Forensic Sciences meeting in February in Denver. And the forensic odontology crowd was still downplaying bite mark evidence and still explaining away all these wrongful convictions by claiming that, you know, that there was other evidence that was misused in the case or that there was an eyewitness that was wrong or whatever, to explain away the role that junk science has played on this.

So, I have to be somewhat optimistic because that's my job, you know, I mean, and we have come a long way on the discrediting of bite mark evidence. But it's so disruptive to the status quo to



eliminate a technique like this, you know, I mean, because, you know, you look at these cases, these death penalty cases in particular, and prosecutors don't want to admit that they proffer junk science in a case. And they won't.

And then you have like this family court case that I mentioned a minute ago is they feel like that they need that evidence. And so they're going to try and use it. And there's no published opinion in the United States that says bite mark evidence is inadmissible.

Adams: Wow.

Let's talk about the other side of the paradigm.

Let's talk about the CSI effect. Let's talk about the interplay between the rise of pseudoscience in the American criminal justice system and jurors' desire to see it in a case. When we talk about CSI effect in the trial bar, we typically talk about it from the sense of educating juries that not every case is going to have some gotcha moment where the DNA chart comes out and it ties the thing up with a nice bow. That there's inference and there's traditional methods of presenting evidence that are often used in trials and, from where we sit, presenting doubt. How has -- and you mentioned the media -- how has this proliferation of pseudoscience and the media's sort of intoxication by it -- contributed to undermining other cases where the science really isn't part of it?

Fabricant: You know, the CSI effect, you've framed it the way that prosecutors typically frame this -- and understanding that that's not where you've been hearing this argument -- but in criminal court, prosecutors make this argument in the same vein that you were talking about. And saying that, you know, criminal procedurals and the news media and shows like "Forensic Files," like, these all have created an expectation by jurors that there's going to be scientific evidence that they can rely upon. And that, you know, as a result, they need to continue to introduce junk science, right? Because the jurors are expecting their junk science, right? And that there will be improper acquittals without it, right?

And then from the defense perspective, is that because all of these jurors have been exposed to shows like "CSI" -- and, you know, mainstream media. I read *The New York Times* and they're always reporting that there was a ballistic match that proves it was so and so's gun to the exclusion of every other gun ever manufactured in the history of time, you know. Which mainstream scientists have said that's not a supportable statement, but the *Times* reports it as though it was a fact.

So, when you get that type of media environment, and just kind of, you know, when you think of media environment, usually thinking like kind of schlocky shows, but it's also just kind of, the newspaper of record. You know, I mean, we'll periodically just accept you know, some things like dog scent evidence, right? That's been used in criminal courts for a million years, right? You know, I mean, the error rates in that are insane. And it's also one thing to use this as a basis for a search where the harm is that the dog is wrong, are, you know, depending on your view is civil liberties is a bad stop, you know, I mean, but you move on with your day.



Increasingly, they're using dog scent evidence as direct evidence, right? So, in homicides, right, saying that we believe because a dog barked here there once was a dead body, right? So, that type of work, which you see in both in mainstream media like *The New York Times*, and also in CSI shows, and all these hunting shows and all the rest, you know, have overvalued this type of evidence. And it's a huge problem because if scientific illiteracy is a widespread phenomenon in this country -- and certainly lawyers are hardly exempt from this, right? In fact, we're probably some of the worst perpetrators because we go to law school because there's no math.

Adams: I say that seven days a week and twice on Sunday.

As we kind of come to a close today in our time, Chris, we're talking a lot these days about AI. We're talking a lot about these new sciences that are sort of on the horizon. We kind of understand them. We know that it'll write your term paper if you put it into ChatGPT. But we really, you know, are the robots really close to taking over is sort of, like, the topic du jour these days. What's the next pseudoscientific threat to the rights of the criminally accused in the United States? As we embark upon this brave new world that we seem to be going into with AI and all of what it brings to our lives and the way that we interact with each other.

Fabricant: Yeah. You've raised a really important point. You know, in the paperback update of my book, I end with this. And that there's a few things that you, around the, the rise of digital evidence and AI technology and the use of, you know, policing and law enforcement.

One of the real, like, kind of threshold problems, is that increasingly, these are not your local crime labs that are introducing this type of evidence. It's corporations and private corporations that are developing mass surveillance techniques: facial recognition, AI policing, ShotSpotter-type evidence, license plate reader technology, fusion centers that combine all these technologies into one place.

What you see in these is that these are supposed to be investigative techniques initially, right? To give leads to law enforcement. Like, facial recognition is supposed to be used this way, too. But what you see in a criminal case is that the prosecutors will want to introduce this evidence as direct evidence at trial, which is supposed to be vetted by the court for its reliability before it is actually introduced as evidence. And we see through, you know, the history of forensic sciences, how important that vetting is. And the problem with the corporations that are increasingly moving into the criminal legal system to, you know, capitalize on this new wave of AI technology that law enforcement is increasingly embracing, is that these are private companies in business to make money as I said before, and not to advance justice necessarily. And so when they go into court and testify to the conclusions that their technology has come to, the only way that the defense bar can possibly effectively confront those witnesses against them, right? Because the witnesses are increasingly not human beings, but black box technology. The only way that you can challenge that and to vindicate your client's rights to confront witnesses against them is to have the source code and the algorithms turned over to independent experts to evaluate them, right?



And, you know, when Sony sues Apple, right, that's what happens. Under a protective order, the courts will allow the exchange of the internal proprietary information to advance the litigation, right? To resolve the issues that need to be resolved.

In criminal courts, we are seeing, with some regularity, criminal courts elevating the trade secrets and proprietary rights of corporations over the fundamental right to confront witnesses against them of criminal defendants.

So, this is a threshold matter. Because we can't, I can't just speculate about where I haven't seen like the actual literature and had an independent expert review the conclusions. I can't just say it's junk science or not. I don't know, right? And nobody can know. Otherwise, we just have to take the claims at face value that corporations are making a sales pitch with and introducing that as actual evidence in the case. So that's a huge problem.

And one of the things that you point out about AI is that so often, we don't even know how the computers are learning this. Like, machine learning is a, we literally do not know. The people who wrote the programs don't know how the machines are learning, right? And so how are you going to effectively defend against a magic box, right? You know, I mean, and like, that's the type of, you know, litigation challenges that we're all going to be facing in all areas of litigation in the next, you know, 100 years.

Adams: And here's where I want to end, Chris. We're talking about human beings after all, and I'm struck if you visit the Innocence Project website, InnocenceProject.Org there's a list of all the exonerees that the Innocence Project has freed from wrongful incarceration, including from sentences to death, since its founding. And I'm struck by the fact that the Innocence Project says that they've claimed more than 240 innocent people from prison. And I want to give you a few moments just to... how can we help? How can our listeners help? How can we get involved to support the mission, to say their names and tell their stories, so that their wrongful convictions will not have been in vain?

Fabricant: Well, thank you for asking that. I imagine that your audience is a lot of lawyers in large law firms, you know, I mean, and so there's two ways that your listeners can support us.

One is the obvious way of donating. And the other is offering pro bono services. You know, we work with a lot of pro bono lawyers. We have more pro bono volunteers than we have opportunities, but I love working with pro bono partners. And when they're totally devoted to the work and are true thought partners, then that's a wonderful way to support our work.

The other is to be skeptical. You know, what I say to everybody is that what we need are skeptical jurors. You know, jurors are supposed to be skeptical, and particularly around scientific evidence. One of the things that when I'm lecturing, particularly defense attorneys, around scientific evidence, it's like, just look at the Daubert factors, right? Most people have never read Daubert, right? But if you have, you know that there are five factors and a nonexclusive list, but it's been one of the most durable scientific opinions in, um, history. It's still the most important scientific case in history. And



those factors, according to all the scientists that I know, still hold up as a good way to think about the reliability or lack thereof of any kind of technological or scientific evidence.

Does it have an error rate? Has it been peer reviewed? Is this a testable hypothesis? Has it been tested? Right? Are there standards for this? Are those standards maintained when we get new evidence, right? Do other scientists accept this in the field? So, I don't think lawyers think about that. I know that judges don't think about that standard in a real way enough to actually only introduce evidence that can meet those thresholds.

Adams: And sadly, the work of the Innocence Project will continue. And that, I think, is the stark reality that we're faced with as our criminal justice system has been compromised by these pseudoscientific forms of evidence. That's all the time we have for this episode of "The Presumption of Innocence."

I'm your host, Matt Adams. 'Til next time. Take care.