

The Real CSI

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LOWELL BERGMAN, Correspondent: *[voice-over]* CSI is the most watched drama series in the world, brimming with flash and glamour, where cutting-edge forensic technology always reveals the truth. But crime scene investigations in the real world are rarely so simple.

Detective Joanna Grivetti leads the crime scene investigation unit for the police department in Richmond, California, one of the most dangerous cities in America.

Det. JOANNA GRIVETTI, CSI, Richmond, California: Everyone thinks that when you tell them that you're a CSI that you're like what they see on TV. The real CSI is dealing with blood, getting dirty underneath a car, smelling things that you don't want to smell, seeing things that you don't want to see. You see the worst that humans are capable of doing to one another.

There's evidence that needs to be collected, documented, processed. It's about taking the time to find the small things that are going to wind up being a big thing down the road.

LOWELL BERGMAN: Things like fingerprints, one of the most widely used of all forensic techniques. For over a century, fingerprints have been used to identify criminals, from petty thieves to international terrorists.

In 2004, a series of explosions in the subways of Madrid killed or injured nearly 2,000 people. When the dust settled, the Spanish authorities found several partial fingerprints on a bag of detonators.

MELISSA GISCHE, Forensic Examiner, FBI: Now, at the time, the Spanish national police did not identify anybody to those prints, so they sent the prints to Interpol, who then forwarded them to the FBI.

LOWELL BERGMAN: Melissa Gische is a fingerprint expert at the legendary FBI laboratory in Quantico, Virginia.

MELISSA GISCHE: The examiner analyzed the prints. He ran them through the system.

LOWELL BERGMAN: *[on camera]* And in this case, the examiner found a match.

MELISSA GISCHE: Yes, in this case, the examiner effected an identification.

LOWELL BERGMAN: *[voice-over]* The FBI's identification led them to a suburb of Portland, Oregon, where a young attorney was working in his office.

BRANDON MAYFIELD, Attorney, Wash. County, Oregon: I got an unexpected knock on the door. I cracked the door open, and there was two individuals, a man and a woman, and they identified themselves quickly that they were FBI agents.

LOWELL BERGMAN: The FBI examiner determined that this fingerprint found in Madrid matched a print taken from Brandon Mayfield when he was in the military.

BRANDON MAYFIELD: They proceeded to push through rather forcefully, to handcuff me. It was just unbelievable. It was surreal. I mean, one minute you're sitting there and you've taken your kids to school and you've said, "Have a good day" and "Be a learning superstar," and you're working on your case in your office, and the next minute, you're heading downtown in cuffs and people are searching you for blasting caps and detonators.

LOWELL BERGMAN: For generations, the FBI and their fingerprint examiners have maintained that fingerprint identification is "infallible," routinely testifying that they are "100 percent certain" and there's "zero percent" chance they could be wrong.

Judge DONALD SHELTON, Circuit Court, Michigan: Fingerprint examiners have been taught that there's only one person in the world who could have left this fingerprint. There's no scientific basis for that.

LOWELL BERGMAN: [*on camera*] Wait a second. There's no scientific basis for matching, like, a partial fingerprint?

Judge DONALD SHELTON: The premise is that no two people have the same fingerprint. That's the scientific premise. Is that true?

LOWELL BERGMAN: I thought so.

Judge DONALD SHELTON: Has there ever been a scientific study to demonstrate that that is true? I don't think so. But even more important, how much alike do they have to be before you say that that fingerprint came from this person? What is the standard for how many points of comparison?

LOWELL BERGMAN: What's the standard, Judge?

Judge DONALD SHELTON: It varies from laboratory to laboratory, and from witness to witness often. And some will say, "We need 16 points." "No, seven." And what they all end up saying is that it's really a matter of the individual experience and judgment of the fingerprint examiner.

LOWELL BERGMAN: [*voice-over*] To make an identification, the fingerprint collected at the crime scene is examined for unique characteristics, like ridges, loops and whorls. Those points are then compared with a known print. Once the examiner believes there are enough points of similarity, he declares it a match.

KENNETH MOSES, Fingerprint Examiner: Welcome to forensic identification. Paper's a very good object to get prints from.

LOWELL BERGMAN: Ken Moses is a veteran fingerprint examiner who has investigated more than 17,000 crime scenes in his 40-year career.

KENNETH MOSES: I can see a lot of detail on those prints.

LOWELL BERGMAN: [*on camera*] When you're looking at this partial print versus the known print, when do you decide that it's a match? How do you decide it's a match?

KENNETH MOSES: At some point, you are examining this evidence, and based on your training and experience, you make a leap of faith.

LOWELL BERGMAN: You make a leap of faith?

KENNETH MOSES: It's a point of decision making. It's where you go from doubt to no doubt. That's a leap of faith.

LOWELL BERGMAN: *[voice-over]* After Mayfield was identified, the FBI learned he was a Muslim, active in his community, which he maintains led to his arrest. Mayfield insisted he was not a terrorist and had never been to Spain. The only evidence against him was that partial fingerprint.

But at the FBI laboratory in Quantico, the print was matched by a second examiner, and then confirmed by the head of the FBI's fingerprint unit.

[on camera] So three examiners would say that this was Brandon Mayfield's fingerprint.

MELISSA GISCHE, Forensic Examiner, FBI: In this case, they did, yes.

LOWELL BERGMAN: And I believe they provided an affidavit saying it was 100 percent.

MELISSA GISCHE: That is how they did testify, in that manner. Yes.

NEWSCASTER: A Portland, Oregon, man has been arrested by FBI agents—

NEWSCASTER: Officials are detaining Mayfield in the county jail here—

NEWSCASTER: Mayfield's fingerprint was found on a plastic bag with bomb-related materials.

NEWSCASTER: He could be held indefinitely.

BRANDON MAYFIELD: It was a nightmare. You know, when you're there in your jail cell, alone, and you're just faced with your— your own thoughts— that's when the gravity of the situation really sunk in.

LOWELL BERGMAN: OK, so you're in the lockup. They say that you're a 100 percent match. Your lawyers get a fingerprint examiner, right?

BRANDON MAYFIELD: Yes. The one hope was that this fingerprint examiner would straighten it all out and wouldn't agree with these other three examiners who said that this is a 100 percent conclusive match.

KENNETH MOSES: I received a call from Portland, a request which I get many times a week to take a look at a print.

LOWELL BERGMAN: *[voice-over]* Ken Moses was selected as the independent expert in the Mayfield case.

KENNETH MOSES: I didn't know what finger they'd identified. So I had 10 possibilities. So I started with the thumb, went to the index, went to the middle. No, no, no, no, no. Boom! I come up with one. Ah! Here's one with a couple of similarities, a couple of more, a couple of more. By the time I got to 15, I said, "This looks like an identification."

LOWELL BERGMAN: *[on camera]* So then you got on the phone with the court, right?

KENNETH MOSES: That's right.

LOWELL BERGMAN: And you testified. And what did you tell them on the phone?

KENNETH MOSES: I said, "I've examined the known print and concluded that the fingerprint is a positive match." That's what I told them.

BRANDON MAYFIELD: He actually confirmed what the other three examiners had said. And from that point on, I kind of felt like the train to a death penalty just pulled out of the station.

LOWELL BERGMAN: *[voice-over]* Mayfield says his own lawyers assumed that the print was his. Two weeks into his detention, he had to decide whether he would testify or exercise his right to remain silent.

BRANDON MAYFIELD: I was going to go to the hearing and tell the judge what it was I was going to do. I was either going to testify or not talk. And— *[chokes up]* You have to excuse me, because it was difficult. I waited and I waited.

And my attorney showed up, and he said, “Brandon,” he said, “we just learned— we just learned it ourselves,” that the Spanish police had identified this latent fingerprint as belonging to an Algerian.

And I looked at him and I said, you know, like, “See? I told you. I told you it wasn’t me.”

LOWELL BERGMAN: *[on camera]* When you heard that it wasn’t him, what’d you think?

KENNETH MOSES: Well, I knew that our profession had taken some sort of a quantum leap because, suddenly, there were new rules involved. No time before in history had there ever been two fingerprints with 15 minutiae that were not the same person.

Under our past standards, I was right. But I was wrong. I had made an error. And so had every other examiner that looked at the print. So therefore, when I heard that it was an error, I knew the ground had shifted somewhere, and indeed it had.

Prof. JENNIFER MNOOKIN, UCLA School of Law: We’ve been using this for a hundred years, we ought to have some serious amounts of science to support the claims that examiners make.

LOWELL BERGMAN: *[voice-over]* Jennifer Mnookin, a law professor at UCLA, is heading a study funded by the Justice Department on fingerprint identification.

Prof. JENNIFER MNOOKIN: What matters here isn’t, are your fingerprints really different from that guy over there. The real question is, is some part of your fingerprint sufficiently similar to some part of his that a competent examiner might mistake some part of your print for a part of somebody else’s print? Well, that’s exactly what happened with Brandon Mayfield.

LOWELL BERGMAN: There had been other mistakes in the past, but the Mayfield case highlighted the weak link in fingerprint identification, the examiner. Unlike fingerprint analysis on television, machines do not make a match, people do.

ITIEL DROR, Ph.D., Cognitive Neuroscientist: The examiner is the instrument of analysis. There is no objective criteria. It’s a subjective judgment of the fingerprint examiner.

LOWELL BERGMAN: Dr. Itiel Dror, a cognitive neuroscientist based in London, is one of the world’s leading authorities on fingerprint analysis. He says that examiners can be influenced by bias.

[on camera] We’re talking about bias that’s unconscious?

ITIEL DROR: Absolutely.

LOWELL BERGMAN: We’re not talking about a conscious conspiracy to match up the suspect with the fingerprint.

ITIEL DROR: Absolutely. We're talking about dedicated, hard-working, honest, competent forensic examiners.

LOWELL BERGMAN: *[voice-over]* Dr. Dror says this is cognitive bias. And in a study to show how strong that bias can be, he took real cases — where examiners had found a match — changed the descriptions of the crime, and then asked the same examiners to analyze them again.

ITIEL DROR: I gave the same prints to the same examiners without their knowledge, and a large majority of the examiners said now it's not a match.

LOWELL BERGMAN: *[on camera]* So in over half the cases, they would disagree with their former opinion?

ITIEL DROR: Yes. It changed their perception and judgment, and over half said it is not a match.

LOWELL BERGMAN: In the study that Dr. Dror did, the examiners changed their mind, over half of them.

MELISSA GISCHE: Four out of five.

LOWELL BERGMAN: Same data, same examiner. Same examiner—

MELISSA GISCHE: Right.

LOWELL BERGMAN: —completely different result. How can that be a science?

MELISSA GISCHE: Well, there's going to be, I think, variability any time there's a human involved in the process.

LOWELL BERGMAN: So it sounds like you agree with Dr. Dror when he's talking about cognitive bias.

MELISSA GISCHE: If you're asking me if I think that there is the potential for cognitive bias to come into play in a fingerprint examination process, I would say yes.

LOWELL BERGMAN: *[voice-over]* After nearly a century of insisting in and out of court that fingerprint analysis is infallible, the FBI has now changed the way it testifies.

[on camera] Today, particularly since the Mayfield case, you don't testify the way you used to testify, right?

MELISSA GISCHE: Right. I certainly wouldn't say 100 percent certain or zero error rate. I would want to explain any of those things if I was asked about them.

LOWELL BERGMAN: So there is no infallibility here.

MELISSA GISCHE: I would not testify to that, no.

SCOTT BURNS, Exec. Dir., National D.A.'s Assn.: I think fingerprint evidence is accepted in the United States. I think it is a rare case when they get it wrong. And you know, the critics can scream all they want, but it's a very vital part of our criminal justice system.

LOWELL BERGMAN: *[voice-over]* Scott Burns is the director of the National District Attorneys Association, which represents state and local prosecutors, who handle the vast majority of criminal cases.

SCOTT BURNS: Nobody ever asked me about the hundreds of thousands of cases every year where it does work and where good forensic scientists testify. We get it right most of the time. The Mayfield case is the anomaly. It is

the rare exception. And to hold that up as somehow representative of what goes on in courtrooms across America is just wrong.

ITIEL DROR: What is an anomaly is that they found out, not that they made a mistake. How can he say that you get it right most of the time? How did he know that it's not the tip of the iceberg? To say that Mayfield is an anomaly in a single case is naive, at best.

Judge HARRY T. EDWARDS, U.S. Court of Appeals: The courts had been misled for a long time because we had been told, my colleagues and I, by some experts from the FBI that fingerprint comparisons involved essentially a zero error rate, without our ever understanding that's completely inaccurate.

LOWELL BERGMAN: Harry T. Edwards is a federal judge on the U.S. court of appeals for the District of Columbia. He's an authority on the forensic sciences. We caught up with him in New York, where he agreed to an exclusive interview.

[*on camera*] The National District Attorneys Association and some of the more prominent fingerprint examiners that we've talked to— they're saying, "We're fine, are fine, and fingerprints have worked fine in court for decades, if not a century."

Judge HARRY T. EDWARDS: If some people are saying, "It works because we've gotten convictions," that is to say nothing more than juries and judges have believed that experts knew what they were talking about, and so they bought it and they convicted. That's not proof that the discipline is undergirded by serious science.

LOWELL BERGMAN: Well, they say that it's based on practice, it's based on years of experience, it's based on— that's valid, isn't it, Your Honor?

Judge HARRY T. EDWARDS: No, of course not. If you're experience or practice has been inaccurate and wrong for many years, it doesn't become better because it's many years. It's just many years of doing it incorrectly. And the stakes are too high. When you're talking about prosecution, incarceration, the stakes are too high.

LOWELL BERGMAN: [*voice-over*] In Richmond, California, Detective Grivetti is called to a homicide, the third shooting of the day.

Det. JOANNA GRIVETTI, CSI, Richmond, California: What wakes me up in the middle of the night is the wail of a mother when they find out that their child has been killed. And it's that sound— not only does it keep me up at night, it's what drives me to make sure that I don't hear it again. I want to find justice for these people. They deserve justice. Their family deserves justice.

There's a bullet in that tire somewhere.

POLICE OFFICER: Yeah, I got it!

Det. JOANNA GRIVETTI: Got it?

POLICE OFFICER: Oh, yeah. Beautiful!

Det. JOANNA GRIVETTI: Oh, look at that. Oh, wow!

Obviously, a hollow-point bullet. And what's important is the characteristics that are left on that copper jacketing. It has the markings. Hopefully, we can find something that will help us link that bullet to that gun.

Evidence is extremely important in any investigation. It's going to help figure out what happened, how it happened, possibly why it happened. And it puts people in jail, it gets people out of jail.

LOWELL BERGMAN: Grivetti, and thousands of forensic investigators around the country, collect the evidence that is relied on to catch criminals. But questions are being raised about the scientific validity of some of the techniques they use.

In an unprecedented report, the National Academy of Sciences concluded that many forensic sciences, "have never been exposed to stringent scientific scrutiny," and "do not meet the fundamental requirements of science."

In addition to fingerprints, this includes analyzing blood spatter, matching hair and fibers, or ballistic analysis, the matching of marks on a bullet casing to a gun.

Judge HARRY T. EDWARDS: I think I, and probably many of my colleagues, assumed that the forensic disciplines were based on solid scientific methodology and were valid and reliable.

LOWELL BERGMAN: Judge Edwards was a primary author of the National Academy of Sciences report.

[*on camera*] When you saw forensic science, did you have any reason to question it or—

Judge HARRY T. EDWARDS: No. You assumed that the work in putting the evidence together and in offering the testimony was proper. There could be mistakes, and you understood there could be challenges, but you didn't assume what we later uncovered, which was that there were systemic, serious problems with respect to certain of the disciplines.

LOWELL BERGMAN: [*voice-over*] One of the disciplines the report found to be among the most controversial was bite mark analysis, which produced a "high percentage of false positives".

In the small town of Brooksville, Mississippi, a series of brutal murders tested the limits of this controversial forensic technique. Levon Brooks remembers a day in September, 1990, like it was yesterday.

LEVON BROOKS: My brother came and told me, said, "Police looking for you." And I said, "For what?" And he said, "I don't know. They didn't tell me nothing." And I said, "Well, I'm going to go down to the county jail and see what they want with me."

LOWELL BERGMAN: A 3-year-old girl had been abducted, sexually assaulted, murdered, and dumped in a pond. Brooks was the ex-boyfriend of the girl's mother, and the police wanted to talk to him.

LEVON BROOKS: They kept me, like, for 72 hours for questioning and investigation. So I ain't had no problem with that. So then they said they want to do a dental impression on me. And I said, "OK, fine."

LOWELL BERGMAN: A pathologist, Dr. Steven Hayne, conducted the girl's autopsy. He suspected there were bite marks on her wrist, and he recommended that this man, Michael West, a forensic dentist, examine her.

LEVON BROOKS: They ran a dental impression on me. And then, like, a week later, my lawyer came to me and told me, said, "We got a little bad news." I said, "What do you mean?" He said, "The bite marks on the little girl matched yours." And I said, "Man, how can I bite somebody and I wasn't even there?" He said, "Well, that's what they came up with."

LOWELL BERGMAN: Brooks said he was working at a bar filled with customers when the crime occurred. But during the trial, the bite marks, the only physical evidence linking Brooks to the crime, trumped the defense's eyewitness testimony.

LEVON BROOKS: They charged me with capital murder. I couldn't even believe it. I couldn't even believe it.

LOWELL BERGMAN: Levon Brooks was sentenced to life in prison.

LEVON BROOKS: I felt like my life was over with. My mother told me, she said, "I know you didn't do that, but I want you to hold your head up, and God going to bring you out." And I know God know, and my family know, that I hadn't did nothing.

LOWELL BERGMAN: While Brooks was serving his time, another 3-year old girl was abducted, sexually assaulted and murdered. Her body was found in a nearby stream. Her autopsy was also performed by Dr. Steven Hayne, who was called to testify about his findings.

With an eerie similarity to the earlier case, Dr. Hayne testified that he saw what he believed to be bite marks on the girl's body. And the forensic dentist, Michael West, testified that those bite marks came from this man, Kennedy Brewer, the boyfriend of the girl's mother. Brewer was convicted and sent to the Mississippi state penitentiary, to be executed.

PETER NEUFELD, Lawyer & Co-founder, The Innocence Project: There have been a number of people who were convicted based on bite mark testimony, who were sent to death row or sent to prison for life. And in each of those cases, a whole group of forensic odontologists, forensic dentists, said they were absolutely certain that this was the guy, and they were absolutely wrong.

LOWELL BERGMAN: Peter Neufeld, who represented both Brooks and Brewer, is a founder of the Innocence Project, which has helped free hundreds of people who were wrongfully convicted. Neufeld says that most of those convictions involved the use of what he calls "invalid" science.

[*on camera*] "Invalid science," meaning it had no basis in fact?

PETER NEUFELD: Yeah, like the person who looks at scratch marks on someone's hand and says, "Those are human bite marks that came from that man, to the exclusion of everybody else on the planet." There is no science to support that conclusion, period. It's something made up—

LOWELL BERGMAN: But the judge allowed that in.

PETER NEUFELD: The judge allowed it again and again and again. Frankly, not just one judge, but judges all over the country allowed that testimony because it came in from guys in white lab coats.

LOWELL BERGMAN: [*voice-over*] There is one forensic science that everyone agrees is valid, DNA.

Unlike many of the forensic sciences which were developed by law enforcement, DNA analysis was developed by medical science, and has been subjected to decades of rigorous scrutiny.

Judge HARRY T. EDWARDS: DNA is the principal example of real science at work. DNA really is the only discipline among the forensic disciplines that consistently produces results that you can rely on with a fair level of confidence.

PETER NEUFELD: When we looked at all the cases of people who have been exonerated by DNA evidence, we found that in 60 percent of those cases, experts who testified for the prosecution produced either invalid evidence or the misapplication of science in their testimony.

LOWELL BERGMAN: In other words, DNA has called into question the basic reliability of many of the other forensic sciences.

PETER NEUFELD: What we're talking about with forensic science is systemic failure. We're talking about using techniques, using equipment that's never been validated scientifically.

LOWELL BERGMAN: But police and prosecutors say they need to use every tool they can get. And sometimes that means pushing the boundaries of forensic science, even in the most high-profile cases.

911 OPERATOR: 911. What's your emergency?

CINDY ANTHONY: I found out my granddaughter has been missing for a month! Her mother finally admitted that she's been missing.

911 OPERATOR: OK—

CINDY ANTHONY: We're talking about a 3-year old little girl!

911 OPERATOR: OK. What's the 3-year-old's name?

CINDY ANTHONY: Caylee Anthony.

911 OPERATOR: Caylee Anthony?

CINDY ANTHONY: Yes.

LOWELL BERGMAN: In Orlando, Florida, a series of calls to 911 led to a sensational murder trial that captivated the nation.

NEWSCASTER: —the Casey Anthony trial—

NEWSCASTER: —the 25-year-old accused of killing her 2-year-old daughter.

LOWELL BERGMAN: Casey Anthony was charged with the murder of her young daughter.

NEWSCASTER: —first-degree murder trial—

LOWELL BERGMAN: The case against her began with an admission she made to the 911 operator.

CASEY ANTHONY: My daughter's been missing for the last 31 days.

911 OPERATOR: Why are you calling now? Why didn't you call 31 days ago?

CASEY ANTHONY: I've been looking for her and have gone through other resources to try to find her, which was stupid.

LOWELL BERGMAN: To many, it seemed clear that Anthony was guilty, a view reinforced by the media.

GERALDO RIVERA, Fox News Channel: —she let the child go unreported, based on those pictures of her slutting it up during the time she claims she was searching for her child—

LOWELL BERGMAN: The skeletal remains of Casey Anthony's daughter were found a block-and-a-half from her home. The prosecution had no eyewitnesses, no murder weapon and no cause of death. What they did have was a theory that emerged after the 911 call.

CINDY ANTHONY: There's something wrong! I found my daughter's car today, and it smells like there's been a dead body in the damn car!

LOWELL BERGMAN: Based in large part on that smell, and her disturbing behavior, the prosecution set out to prove that Casey Anthony killed her daughter and hid the body in the trunk of her car. They sought the death penalty.

Jeff Ashton was on the prosecution team, in charge of the forensic evidence.

JEFF ASHTON, Fmr. State Atty., Orange County, Florida: So what we have here—

LOWELL BERGMAN: Twenty years ago, Ashton was the first prosecutor in the United States to get a conviction based on DNA. Now he wanted to use a new forensic method to convince the jury that the smell in the trunk of that car was the “smell of death.”

JEFF ASHTON: You can actually kind of detect it a little bit still, to this day.

LOWELL BERGMAN: *[on camera]* Explain to us the introduction of the smell of death.

JEFF ASHTON: The odor analysis.

LOWELL BERGMAN: Right.

JEFF ASHTON: We had the trunk of a car, which was described by a number of lay witnesses as having an odor that was distinctly identifiable as human decomposition. I smelled it myself. And I can tell you, having smelled it in my career many, many times, it's very recognizable. And I noticed it.

This sort of sat in the middle of the trunk. There was a stained area on the carpet that appeared to be the source of the odor, and that piece of carpet was sent in a sealed condition to Dr. Vass.

LOWELL BERGMAN: *[voice-over]* Dr. Arpad Vass is a forensic anthropologist at Oak Ridge National Laboratory. He has been studying human decomposition at the University of Tennessee's “body farm” under grants from the federal government.

The prosecution called Dr. Vass to testify as an expert on the odor of the dead. He analyzed an air sample from the trunk of Casey Anthony's car that had been sealed in a can.

JEFF ASHTON: When you first opened it, what was your reaction?

ARPAD VASS: Well, the odor was extremely, overwhelmingly strong.

JEFF ASHTON: And what did you recognize that odor to be?

ARPAD VASS: I recognized it as human decomposition odor.

JEFF ASHTON: That you've smelled many, many times before.

ARPAD VASS: Twenty years' worth.

JEFF ASHTON: Dr. Vass's 20 years of research have all been in the biochemistry of decomposition, attempting to isolate those compounds that are unique to human decomposition. And what he said was that the odor that was chemically analyzed from the trunk was consistent with human decomposition.

LOWELL BERGMAN: [*on camera*] OK, but you agree this was on-the-edge science.

JEFF ASHTON: This was cutting-edge forensic science, and it was cutting-edge for lawyers and judges.

LOWELL BERGMAN: Never introduced before.

JEFF ASHTON: Never introduced before.

LINDA KENNEY BADEN, Atty., Casey Anthony Defense Team: The trial judge allowed this into that courtroom without there being any quality assurance controls, without there being any error-rate studies. And yet he let this go to the jury. And quite frankly, in my opinion, it was an outrage.

JEFF ASHTON: Do you have an opinion as to whether there was a decomposing human body in the trunk of that car at some point?

Dr. ARPAD VASS: I do have an opinion.

JEFF ASHTON: And what is that opinion?

Dr. ARPAD VASS: I can find no other plausible explanation other than that to explain all the results we found.

JEFF ASHTON: Whether that opinion is right, is wrong, is garbage, is up to a jury to decide.

JOSE BAEZ, Casey Anthony Defense Attorney: You have made it clear that this has not been studied.

LOWELL BERGMAN: [*voice-over*] Jose Baez was Casey Anthony's defense attorney. He attacked the ability of Dr. Vass to scientifically identify the smell of death.

JOSE BAEZ: His opinion was, "You just have to trust me," and I don't think that that's acceptable for a courtroom.

But you're willing to come to this jury—

Unless you can clearly show that a prosecution is presenting evidence that is faulty, you're running into a danger zone. Let's say, for example, the prosecution presents one witness that says something, and they're relying on an expert, and the defense puts their own expert to explain that it's junk science. Who are you going to believe?

Judge HARRY T. EDWARDS: I think it's a little bit naive to think that the adversarial system will have smart lawyers on both sides and they'll duke it out, and we'll figure out the right answer. We need the science first. And then let them fight about what the good science means, as opposed to struggling with disciplines that don't have good science undergirding them.

PETER NEUFELD: Lawyers are scientifically illiterate. Judges are scientifically illiterate. And certainly juries are. So there has to be a fix upstream to make sure that before any evidence gets to a court of law, that it has been validated, that it is reliable, that it does meet national standards, and that we can all have confidence in the— in the result.

LOWELL BERGMAN: [*on camera*] One of your favorite protagonists, Peter Neufeld, says, "Lawyers are scientifically illiterate. Judges are scientifically illiterate. So there has to be a fix upstream before any evidence gets into a court of law."

SCOTT BURNS, Exec. Dir., National D.A.'s Assn.: No. I just have to disagree. For Mr. Neufeld to say, “Well, lawyers are stupid and judges are stupid, so we shouldn’t admit this evidence,” is stupid. That’s ridiculous. It really is. When you bring a piece of evidence into a court of law, good women and good men that are trained as judges weigh the evidence. Juries can look people in the eye, and they can determine whether or not they trust it. And that’s our system.

EXPERT WITNESS: Neither Casey Anthony nor Caylee Anthony can be excluded as the source of that Q12.1 hair.

LOWELL BERGMAN: [*voice-over*] In the Casey Anthony case, 37 expert witnesses testified in over a dozen forensic disciplines.

EXPERT WITNESS: The group of insects that we found—

LOWELL BERGMAN: The defense team challenged many of them, something Jose Baez says he would not have been able to do in most criminal cases.

EXPERT WITNESS: —coming from Casey Anthony—

LOWELL BERGMAN: [*on camera*] Do you normally have the resources to challenge forensic evidence when it comes into court?

JOSE BAEZ: 95 to 99 percent, no.

LOWELL BERGMAN: You don’t have the money to hire your own experts?

JOSE BAEZ: Hardly ever.

LOWELL BERGMAN: So Casey Anthony was an anomaly?

JOSE BAEZ: She was.

LOWELL BERGMAN: Because?

JOSE BAEZ: Well, she had photographs of her and her child, and a network paid us \$200,000, so we could mount a proper defense. And that’s exactly what we—

LOWELL BERGMAN: ABC News?

JOSE BAEZ: Yes.

LOWELL BERGMAN: Paid \$200,000 for the photographs?

JOSE BAEZ: Correct.

LOWELL BERGMAN: And that’s what paid for her defense?

JOSE BAEZ: Partially, yes.

NEWSCASTER: At the moment now, inside of a courtroom in Florida, Casey Anthony—

NEWSCASTER: Well, the case against Casey back in the courtroom—

NEWSCASTER: Casey's bizarre behavior and lack—

LOWELL BERGMAN: [*voice-over*] The trial of Casey Anthony dominated television news for months.

NEWSCASTER: —most closely watched case of domestic violence—

LOWELL BERGMAN: America seemed enthralled by the forensic testimony.

NEWSCASTER: —photos of key evidence—

CYRIL WECHT, M.D., Forensic Pathologist: When you have skeletonized remains, there is—

LOWELL BERGMAN: One of the networks' "go-to experts" was Dr. Cyril Wecht, considered by many to be among the top forensic scientists in the country.

Dr. CYRIL WECHT: There's this great, great hunger, this incredible fascination with forensic science. I often quip that we are up there now with sex, motherhood, apple pie and baseball. I think we're in the top 10, forensic science.

LOWELL BERGMAN: For many years, the elected coroner in Pittsburgh, Pennsylvania, Dr. Wecht, has been a controversial character and something of a local folk hero.

MAN ON THE STREET: You're just as handsome as ever!

Dr. CYRIL WECHT: Thank you. Thank you. That cost me \$25!

LOWELL BERGMAN: [*on camera*] That cost you \$25?

A lot of people are familiar with the Casey Anthony case—

Dr. CYRIL WECHT: Yes.

LOWELL BERGMAN: —which was filled with forensic testimony—

Dr. CYRIL WECHT: Yes.

LOWELL BERGMAN: —right, of all kinds—

Dr. CYRIL WECHT: Yes.

LOWELL BERGMAN: —that was allowed in.

Dr. CYRIL WECHT: Yeah.

LOWELL BERGMAN: Right?

Dr. CYRIL WECHT: By experts.

LOWELL BERGMAN: By alleged experts.

Dr. CYRIL WECHT: Well, you say "alleged." I'm not— to my knowledge, everybody who testified were all board-certified people.

LOWELL BERGMAN: Well, not the gentleman who testified about the smell?

Dr. CYRIL WECHT: Well—

LOWELL BERGMAN: There is no board—

Dr. CYRIL WECHT: There is no board—

LOWELL BERGMAN: —in smell-ology.

Dr. CYRIL WECHT: —however— yeah, but look, the gentleman who testified about the odor, he works on the body farm! I mean, he's been there for years. He's dealing with these decomposing, smelly bodies every day in his professional life. If he's not qualified to express an opinion on what a body smells like that is decomposing, then who in the world is?

LOWELL BERGMAN: [*voice-over*] Experts are supposed to be qualified based on their knowledge, skill, experience, training or education. Whether they can testify or not is up to a judge.

[*on camera*] If I understand the law correctly, once you, the judge, say that someone is an expert and they get into court, that's it. They're an expert.

Judge DONALD SHELTON, Circuit Court, Michigan: They're an expert.

LOWELL BERGMAN: Is there a system for monitoring expert witnesses?

Judge DONALD SHELTON: No, none that I know of. The only system we have is an expert who happens to come back before the same judge. But there's not even a way of getting information from one case to another.

LOWELL BERGMAN: As I understand it, there's no national organization that you could go to, to say, "Is this expert— what's their track record?"

Prof. JENNIFER MNOOKIN, UCLA School of Law: No. There's no national organization for that at all.

LOWELL BERGMAN: For any of the forensic sciences?

Prof. JENNIFER MNOOKIN: As far as I know. I've heard it said that there's more licensing requirements for your hairdresser than for forensic scientists.

LOWELL BERGMAN: When someone comes before you, the kind of credential they may present, is that important to you?

Judge DONALD SHELTON: One thing that we judges do sometimes is look for shortcuts, and credentials are often appealing shortcuts. It's convenient for a judge to say, "This proposed expert has been credentialed by the sump-tee-ump society." But it has an inordinate impact on jurors because jurors have no way of knowing whether this certifying body exacts scientific standards or is just a diploma mill.

LOWELL BERGMAN: You're doing autopsies, you're talking to lawyers, prosecutors, and what else are you doing?

[*voice-over*] There are all kinds of forensic science organizations. Dr. Wecht is the chairman of the executive advisory board, and chief spokesman, for one of the largest forensic credentialing organizations in the country, the American College of Forensic Examiners International, ACFEI.

They offer over a dozen credentials like Certified Forensic Consultant, Certified Medical Investigator and Certified Forensic Physician. But the National Academy of Sciences report, which recommends mandatory certification of forensic experts, states that some certifying organizations “appear to lack stringent requirements.”

It cites articles about ACFEI from 1999 and 2000 in which critics called it a “certification mill.”

At the University of California, Berkeley, a graduate student in the investigative reporting program, Leah Bartos, was assigned to find out what it takes to become certified by the ACFEI. For \$660, she became a member and took an entry-level course for expert witnesses. A few videos and a study packet were provided to prepare for the test.

LEAH BARTOS: It was like an open book exam, basically. And I passed.

LOWELL BERGMAN: She sent in her bachelor’s degree, resume and references, and two hours later, she was certified.

LEAH BARTOS: I got an email back that said, “Great, thank you so much. You can now start using your Certified Forensic Consultant designation, and your diploma will be in the mail.”

LOWELL BERGMAN: *[on camera]* My graduate student took the test and applied.

Dr. CYRIL WECHT: What is her field?

LOWELL BERGMAN: She’s a master’s in journalism.

Dr. CYRIL WECHT: OK.

LOWELL BERGMAN: She has no forensic background.

Dr. CYRIL WECHT: But she’s interested.

LOWELL BERGMAN: Well, we wanted to find out what it took to join the organization. There was a lot of criticism of the organization in general, even though it appears to be the largest membership organization of its kind.

Dr. CYRIL WECHT: That’s right. The purpose of the organization is to encourage people who are interested in forensic science to learn more, to study more.

LOWELL BERGMAN: Do you have any idea percentage of people pass your exam, the exam that you helped put together?

Dr. CYRIL WECHT: No, I don’t.

LOWELL BERGMAN: OK. Do you know how many people took your exam?

Dr. CYRIL WECHT: No, I don’t. I don’t know, you know, what goes on administratively.

LOWELL BERGMAN: *[voice-over]* We went to ACFEI’s headquarters here in Springfield, Missouri, to speak directly with the organization’s founder and president, Robert O’Block.

O’Block is a staunch defender of the company’s reputation. In the last year alone, he’s filed five defamation suits. O’Block let us film him in his office and spoke to us at length off camera, strenuously denying that ACFEI is a diploma mill.

He pointed to many prominent forensic scientists who are members and stressed that the primary purpose of the organization is educational. We asked for percentages of how many people pass their tests, but were never given the numbers.

In the end, O'Block declined an on-camera interview.

In Washington, D.C., we met with ACFEI's former president and CEO, John Bridges.

[*on camera*] Initially, what did you think the organization did or was doing?

JOHN BRIDGES, Former Pres. and CEO, ACFEI: I thought they would advance the practice, those folks—

LOWELL BERGMAN: [*voice-over*] Bridges was in charge of ACFEI when Leah Bartos became a member of the organization. He quit soon after because, he says, he could not change the way the organization does business.

[*on camera*] You were cautioned by people who knew you. What did they tell you?

JOHN BRIDGES: I think the assessment of the organization is that it's looked at as a certification mill, that if you send in a check, that you will receive a certificate. I think the focus was primarily on revenue versus professionalism.

LOWELL BERGMAN: Money was more important than the quality of what was going on.

JOHN BRIDGES: I think that's a way to sum it up, correct.

LOWELL BERGMAN: We asked for the failure rate on the tests. We didn't get an answer.

JOHN BRIDGES: I would say the failure rate is probably less than 1 percent. So if you want a certificate that says you are a certified in forensics, this is the place to go to.

LOWELL BERGMAN: We spoke with someone who is knowledgeable about what goes on inside the organization and how many people pass not just this test, but all of the tests that are administered. And this person says 99 percent of the people who apply, as long as their check doesn't bounce, get a certificate.

Dr. CYRIL WECHT: Well, I think that that is inordinately high and should not be. I readily, readily state that without hesitation. There can be no meaningful exam that has a 99 percent pass rate.

LOWELL BERGMAN: Amongst the materials, it says, "The Certified Forensic Consultant designation contributes to the weight of testimony and the relevance of the evidence to the issues in the case."

Dr. CYRIL WECHT: OK.

LOWELL BERGMAN: OK? But she has no—

Dr. CYRIL WECHT: There's nothing wrong with that line—

LOWELL BERGMAN: But she has no—

Dr. CYRIL WECHT: The key word—

LOWELL BERGMAN: But she has no expertise.

Dr. CYRIL WECHT: The key word is “contributes to”— “contributes to.” That is the controlling word, “contributes to.” And any good lawyer, a kid right out of law school, would say, “Ma’am, just exactly what is your training?” And the point I’m making, you see, is that that piece of paper doesn’t mean very much. It’s— I’m sure it’s designed to make somebody feel good, to make them feel that they have accomplished something.

LOWELL BERGMAN: Is it just resume padding that’s going on here?

Dr. CYRIL WECHT: I think it’s semantical embellishment.

LOWELL BERGMAN: Semantical embellishment?

Dr. CYRIL WECHT: You like that? You like that?

LOWELL BERGMAN: That’s a good one!

Dr. CYRIL WECHT: I like that, too. I just thought of it. But listen, I would not argue with you if you said— if you said, “Maybe words should be changed and instead of ‘certified,’ you think of something else.” But does it really qualify them to be the expert in a particular field? No.

LINDA DUNCAN, Former Finance Dir., ACFEI: That was not what was expressed to me when I worked there.

LOWELL BERGMAN: [*voice-over*] Linda Duncan was the finance director of ACFEI until late 2010.

LINDA DUNCAN: In fact, some of the documentation would state that, you know, this is a way to certify you as an expert in your field. It kind of astounds me that Cyril Wecht would say that when that’s kind of the purpose of the company.

LOWELL BERGMAN: [*on camera*] That’s what they said.

LINDA DUNCAN: That’s what I was told.

LOWELL BERGMAN: That it was for expert testimony.

LINDA DUNCAN: Uh-huh. I was told that—

LOWELL BERGMAN: Who told you?

LINDA DUNCAN: That would have been Dr. O’Block himself, said that the intention was to certify these individuals to be experts, to show them as experts in their field, so that they may testify in court.

LOWELL BERGMAN: Dr. Wecht says — and his name is on their diplomas —

LINDA KENNEY BADEN, Atty., Casey Anthony Defense Team: Right.

LOWELL BERGMAN: —that this certification will contribute to your credibility and your testimony. But it doesn’t say that you’re are an expert.

LINDA KENNEY BADEN: But the judges use it to be— to make you an expert. The juries use you to make an expert. So that’s a fallacy.

LOWELL BERGMAN: So why would Dr. Wecht say these are just for people to put up on their wall? It doesn’t mean that they’re really experts.

LINDA KENNEY BADEN: If that's the case, then there should be a memo from that organization that goes out to all the judges saying, "Don't consider this certification when you consider whether this person should testify in a particular area." And unless that goes out, how are the judges to know? How is the jury to know?

LOWELL BERGMAN: There's really no way to tell today—

Judge HARRY T. EDWARDS, U.S. Court of Appeals: No.

LOWELL BERGMAN: —what the certifications mean.

Judge HARRY T. EDWARDS: No.

LOWELL BERGMAN: there's no standard for that.

Judge HARRY T. EDWARDS: There are certifiers, but not what you and I are talking about, that is real licensing programs, real certification programs that train, give serious tests, and will revoke your license and affect your job and ability to testify in the event that you do something wrong or fail. No. That doesn't exist now.

Judge DONALD SHELTON, Circuit Court, Michigan: We need a body that is regulated, that can say, "These are the scientifically-based professionals who are qualified to be experts." The minute we leave that open to for-profit groups who make money from issuing pieces of paper, we really undermine the public's interest and the public's legitimate interest in making sure that we've got a scientific basis for sending somebody to jail.

LOWELL BERGMAN: *[voice-over]* In Mississippi, Peter Neufeld and the Innocence Project used DNA testing to ultimately exonerate Levon Brooks and Kennedy Brewer. Each man had spent over a dozen years in prison.

JUDGE: You are hereby discharged. You are free to go.

KENNEDY BREWER: They put me on death row, but I just kept my faith that I'd get out one day.

LOWELL BERGMAN: The real killer was caught and confessed to both crimes, although he denied biting either victim.

On that same day, Levon Brooks was set free.

LEVON BROOKS: He told me, "Mr. Brooks, all your charges been dismissed. You're free to go." That was exciting, like, "Oh!" It felt so good. And forensic experts, like Dr. West and Hayne, they should not never be able to practice no more med— no nothing in this state, in no kind of state, because of what they did to us, and maybe other people.

LOWELL BERGMAN: Citing ongoing lawsuits, Doctors Hayne and West declined to be interviewed.

In 2008, the Innocence Project wrote to the Mississippi state medical board, stating that Dr. Hayne is "a danger to the public" and should not be allowed to testify. Doctor Hayne is suing the Innocence Project for defamation. The case is expected to go to trial later this year. Meanwhile, he continues to testify. Among the various qualifications he cites is a certificate from ACFEL.

NEWSCASTER: Oh, there she is, guys! We got her! You can see her! She is coming out the front door right here! Unbelievable!

LOWELL BERGMAN: After 33 days of testimony, the defense prevailed. Casey Anthony was found not guilty of murder and released.

NEWSCASTER: —Casey Anthony leaving the Orange County—

JOSE BAEZ: This case utilized every single type of forensic science. They threw a bunch of stuff against the wall and they were hoping something would stick, and none of it did. You would think that there would be higher standards when someone's life was on the line.

JEFF ASHTON: Ninety-nine percent of the time, forensic evidence is reliable and accurate and very, very necessary. And to take a small number of cases or the opinions of a few people, and take that as an indictment of the system of forensic science, does a disservice to not only forensic science but to justice.

Det. JOANNA GRIVETTI: Do mistakes occur? Yes, they do. And it is unfortunate. But crime scene investigation is relatively new. It's an evolving science. If we don't have the techniques and the tools and the knowledge to move forward, then we can't serve those that need our help.

Judge HARRY T. EDWARDS, U.S. Court of Appeals: We have to know that the experts who are testifying know what they're talking about and that the disciplines that they are representing are supported by validity and reliability. We have to know that.

The American people ought to understand and worry about the problems that we've found and do something to correct them. It is not pro-defense, it's not pro-prosecution, it's pro-justice.