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Highlights of CBS 60 Minutes Featuring **Brain** Fingerprinting



Mike Wallace

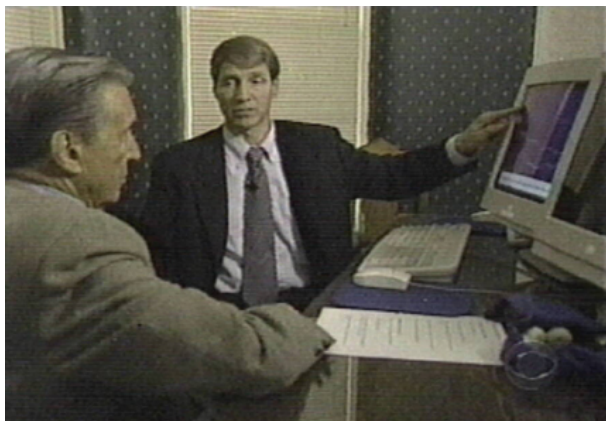
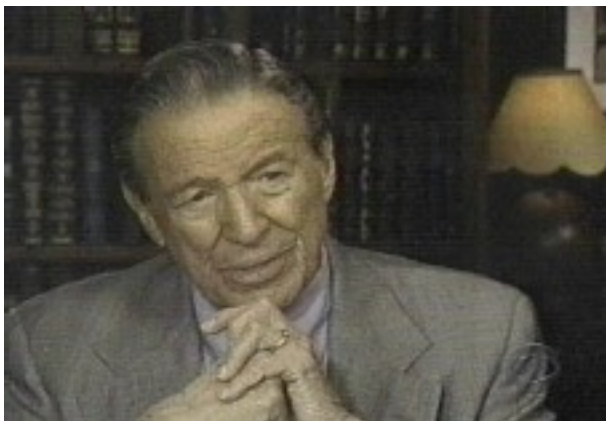
December 10, 2000



MIKE WALLACE: Tonight, an improbable story about a revolutionary new technology called **Brain** Fingerprinting that has caught the interest of both the CIA and the FBI. It is the creation of Dr. Larry Farwell, a scientist from Iowa, who says that by analyzing the **brain** waves of a criminal suspect, he can tell whether or not that individual has committed a crime. Dr. Farwell believes **Brain** Fingerprinting could one day be as effective as DNA in helping police investigate crimes, and in helping free those who have been wrongly convicted.

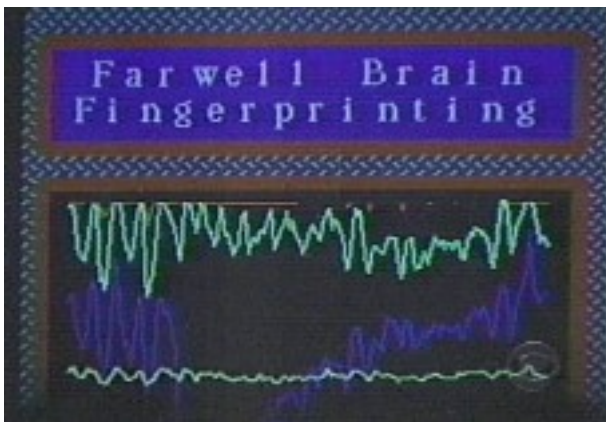


DR. FARWELL: The fundamental difference between an innocent person and a guilty person is that a guilty person has committed the crime, so the record is stored in his **brain**. Now we have a way to measure that scientifically.




MIKE WALLACE: For more than a decade, Dr. Farwell has been developing his **Brain** Fingerprinting technology, since getting his PhD in Biological Psychology from the University of Illinois. **Brain** Fingerprinting. What is it, Dr. Farwell?

DR. FARWELL: **Brain** Fingerprinting is a scientific technique for determining whether certain information is stored in the **brain** or not by measuring **brain** waves, electrical **brain** activity.



MIKE WALLACE: Farwell says that when the human **brain** recognizes

important information, it triggers a specific electrical signal called a **MERMER** that can be measured and analyzed. 

DR. FARWELL: When you recognize something, there's certain information processing that takes place in the **brain** at the moment of recognition. And that's the information that we pick up.

MIKE WALLACE: And since our brains keep a detailed record of everything significant that we do, Dr. Farwell believes police could use his technology to determine whether a suspect has some hidden knowledge about a crime.



MIKE WALLACE: Here is how it works: A suspect, like this man about whom you'll hear a good deal more later, sits in front of a computer wearing a headband equipped with special sensors. Words and pictures flash briefly on the screen. Some of those words and pictures are relevant to the crime, say for example, the name or the photograph of the victim, or a photo of the murder weapon.

DR. FARWELL: If he committed the crime, then his **brain** says, "Ah ha! I recognize that." We get a **brain** wave response indicating recognition, we get a MERMER, and that way we can tell that this is the person who committed the crime.

MIKE WALLACE: What if the fellow was a witness to a crime and he saw all of these things happen, but he was not the criminal?

DR. FARWELL: Well, then we would not be able to apply this technology. It is the same as if, for example, someone might be present at a crime scene and leave his fingerprints there, but because he was there for some other purpose.



MIKE WALLACE: Dr. Farwell's research has been funded by the CIA, which has given him more than a million dollars, and the FBI is also interested in **Brain** Fingerprinting and has allowed Dr. Farwell to test his technology at the Bureau's training academy in Quantico, Virginia.

DR. FARWELL: The goal was to see if we could determine who was an FBI agent and who was not by measuring their **brain** responses. So in that case, we flashed words or pictures that were relevant to the FBI, that would be known only to FBI agents, and we were able to tell with 100% accuracy who was an FBI agent and who was not.

MIKE WALLACE: Results like those are also generating interest in **brain** fingerprinting on Capitol Hill. Republican Senator Charles Grassley of Iowa has asked the General Accounting Office to study Farwell's technology to see if it should be federally funded.



SENATOR CHARLES GRASSLEY: It seems to me that if we are interested in making sure that the innocent go free, and that the guilty are punished, any technological instrument that can help us make a determination of guilt or innocence, we ought to know about it.

MIKE WALLACE: Well, there are people who say, you know, this is junk science and why fund it.

SENATOR CHARLES GRASSLEY: You could have raised the same questions about fingerprinting 50, 60, 100 years ago. Within the last 20 years you could have raised the same issue about DNA. But the scientific process takes care of all this, as far as I am concerned.



MIKE WALLACE: But taking care of the legal process is another matter, for **brain** fingerprinting has never been tested in court. So Dr. Farwell is using a 23 year old murder case in Iowa to try to prove to a judge that his technology works.

MIKE WALLACE: On a June morning back in 1977, retired Police Captain John Schweer was found shot to death on the railroad tracks in Council Bluffs, Iowa. Schweer had been working as a night watchman guarding several car dealerships in the area. After a four month search, 16 year old Terry Harrington was arrested and eventually convicted of the murder.



MIKE WALLACE: Today, 23 years later, Harrington is still in the state penitentiary in Ft. Madison, Iowa, serving a life sentence without the possibility of parole.



TERRY HARRINGTON: They took my life from me when I was 17 years old, you know, allowed this to be done to me. You know, after 23 years I'm still

here for something that I did not do.

MIKE WALLACE: Since the day of his arrest, Harrington has maintained his innocence. When they arrested you for murder...

HARRINGTON: I was devastated, because I know I did not commit the crime, I knew that I had nothing to do with the crime, and it was just one of the worst feelings that you can possibly imagine. You know, I was enrolled in college when I was arrested in September. You know, and to have all of that taken. Excuse me for a minute. (tears)

MIKE WALLACE: I can imagine.

HARRINGTON: You know, just to have all of that taken away from me.



MIKE WALLACE: Harrington has filed several appeals in his case. All have been rejected. So this year when he heard about **Brain** Fingerprinting, he decided to file a new appeal and contacted Dr. Farwell.

DR. FARWELL: One of the first things he said to me was, "I didn't commit the crime. I've always maintained my innocence, and I'll do anything to prove it."

MIKE WALLACE: In order to **Brain Fingerprint** Terry Harrington, Dr. Farwell had to learn all he could about the murder. The state's case against Harrington rested primarily on the testimony of this man,



Kevin Hughes, who said he had gone with Harrington to Council Bluffs the night of the murder in order to steal a car.

HARRINGTON: Blatant lie. I was not in Council Bluffs that night. He knew I was not in Council Bluffs that night.

MIKE WALLACE: But he testified that he saw you go into the car lot in order to steal a car, and that he heard a shot, and then he saw you running from the crime scene with a gun.

HARRINGTON: Yes.

MIKE WALLACE: Why would Kevin Hughes lie?

HARRINGTON: That is the question I wanted to know. I still want to know. I was not in Council Bluffs. I had a concrete alibi.



MIKE WALLACE: On the night of the murder, Terry Harrington says that he was here in north Omaha, some 20 miles away from the crime scene. At the time, this was an amusement park and Harrington and a few friends were here attending an outdoor concert that ended after midnight. Several witnesses, among them Harrington's high school football coach, testified under oath that that night they saw Harrington at the concert. And when the concert ended, Harrington says he and his friends got something to eat, drove around awhile, and then they went home.

MIKE WALLACE: To determine where Harrington actually was on the night of the murder 23 years ago, Farwell tested him on specific details about his alibi and about the crime.

DR. FARWELL: Kevin Hughes testified at the trial, and Harrington heard this, that he saw Harrington and another perpetrator running out from behind a building. Now I asked Harrington, "Do you know what was behind that building?" He said, "No." I said, "So you don't know what's behind there?" He said, "No, I have no idea what's behind there."



MIKE WALLACE: Behind that building was a field which was overgrown with grass and weeds that were about waist-high. After the shooting, police say that Harrington ran across that field to get to his car.

DR. FARWELL: At 3:00 in the morning, getting away from a crime scene, if you were being impeded by waist-high weeds and grass is something you would notice.

MIKE WALLACE: So on Harrington's test the phrase "weeds and grass" flashed repeatedly on the screen, as did phrases describing other details of the crime which, if Harrington recognized them, says Dr. Farwell, would prove that he killed John Schweer.

DR. FARWELL: The **brain** never lies. If that information is stored in the **brain**, when that comes up in the screen, he'll recognize it, whether he's an honest person or not, whether he wants to or not.



MIKE WALLACE: What were the actual results of Harrington's **Brain** Fingerprinting test?

DR. FARWELL: The result was that we can determine with a 99.99% confidence that the information relevant to the crime was not stored in Harrington's **brain**, and with that same level of confidence, that the information regarding his alibi WAS stored in his **brain**.

MIKE WALLACE: Do you believe that Terry Harrington is innocent?



DR. FARWELL: My professional opinion is that Harrington did not commit that crime.

MIKE WALLACE: To find out what other scientists think of Dr. Farwell's technology we talked to Dr. William Iacono at the University of Minnesota. Dr. Iacono is a Professor of Psychology and Neuroscience, and he's considered a leading expert in the field of psychophysiology.

Of course, a lot of folks are skeptical that just flashing a word, or a couple of words, or pictures, are going to determine a person's innocence or guilt.



DR. WILLIAM IACONO: It's natural to be skeptical, but the fact is that the basic procedure that Dr. Farwell is using is supported by literally hundreds of studies that show that our **brain** produces a response like this, and he's done research in this area. I've done research in this area, that shows that people do, in fact, recognize this kind of information.

MIKE WALLACE: So what you're saying is that **Brain** Fingerprinting actually works?

DR. IACONO: There's a solid scientific basis for it. Yes.

MIKE WALLACE: But while Dr. Iacono says Farwell's tests on Harrington are compelling, he will not say they prove Harrington is innocent. That decision, he says, is up to a jury.

DR. IACONO: And if the jury says "I think the person who committed this crime should have known this information," then I think the jury should decide that he did not commit this crime.

MIKE WALLACE: But before a jury decides anything, Harrington's lawyers must convince Iowa District Court Judge Tim O'Grady that Harrington deserves a new trial. And to do that, they are relying on what they say is new evidence in his case, including Harrington's **Brain** Fingerprinting test results...

MR. CLEARY: ...I think as the science and the technology develops, I think that with the concern that's been expressed by the public for unjust convictions, people that are actually innocent, I think that in those situations, the courts may be more willing to look at developments in technology such as this to try to assist them.

MIKE WALLACE: So it'll be used more for exoneration than for nailing a suspect?

MR. CLEARY: I think that's probably going to be where its usefulness is going to be most successful.

MIKE WALLACE: So what impact does Cleary think **Brain** Fingerprinting might have on Harrington's appeal?



MR. CLEARY: I think that it would be something that would show some support for Terry's defense and his alibi.

MIKE WALLACE: What do you expect is going to happen with Harrington?

DR. FARWELL: If there's any justice in the state of Iowa, now that we have proven that he is innocent and we have also removed...

MIKE WALLACE: Wait. You've proven, according to YOUR science, that he's innocent.

DR. FARWELL: What we have proven scientifically is that the record in

Harrington's **brain** does not match the crime, and does match the alibi. Now the only reasonable interpretation for that scientific fact, in my professional opinion, is that Harrington was not at the scene of the crime on the night of the murder. So if there is any justice in the state of Iowa, Harrington will be exonerated.



MIKE WALLACE: Later this month, Judge O'Grady is expected to issue his decision as to whether Terry Harrington should be granted a new trial. Until then, we won't know if **Brain** Fingerprinting might take its place next to DNA and traditional fingerprinting in solving crimes and in freeing those who have been wrongly convicted.

Mike Wallace.

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