

New science being used to fight arson convictions

February 1 2012, By ANDREW WELSH-HUGGINS , AP Legal Affairs Writer



This is an undated photo provided by the Ohio Dept. of Rehabilitation and Corrections shows Michael Webb, scheduled to be executed next month for the arson death of his 3-year-old son two decades ago. Webb doesn't dispute the blaze was arson, but denies starting the fire and says investigators using now-discredited methods came to the wrong conclusion about where in the house it may have broken out. It was a mistake that he says points to someone else as the culprit. (AP Photo/Ohio Department of Rehabilitation and Correction)

(AP) -- A death row inmate in Ohio is hoping the state parole board will give him the chance to argue that a mysterious "man in red" could have started the arson fire that killed his 3-year-old son.

Michael Webb doesn't dispute the 1990 blaze was arson, but he denies starting it and says investigators using now-discredited methods came to the wrong conclusion about where in the house the flames broke out. He says the correct determination points to someone else as the culprit.

Investigators say Webb set the fire to kill his family, collect the insurance and start a new life with his mistress.

On Wednesday, the Ohio Parole Board will take up his plea for mercy in one of a series of cases around the U.S. that represent a new legal frontier: Defense attorneys are using advances in the science of fire investigation to challenge arson convictions, in much the same way they are employing [DNA](#) to clear those in prison for murder and rape.

Research in recent decades has challenged long-held assumptions about how flames spread and the tell-tale signs they leave.

"Our scientific understandings have improved in recent years, and the effect of that has to be to say, 'We've got some innocent people who've been declared guilty based on misunderstandings,'" said John Hall, director of analysis and research for the National Fire Protection Association.

For example, decades ago, it was common for investigators to conclude an accelerant like gasoline was used if a fire burned particularly hot. In fact, the new arson science has found no such correlation, experts say. Another mistaken assumption: A V-shaped pattern on a wall of a burned building is proof of arson. All it shows is where a fire started.

One of the biggest arson cases to come under attack is that of Cameron Todd Willingham, convicted in a 1991 fire in Texas that killed his three daughters. He was executed in 2004. But some experts since then have testified that the blaze was probably accidental.

The primary evidence against Willingham was the testimony of arson investigators for the state fire marshal's office, who said they found pour patterns and puddling on the floor. They said those were signs that someone had poured an accelerant throughout Willingham's home.

But Craig Beyler, chairman of the International Association of Fire Safety Science, wrote in a 2009 report that investigators did not have enough evidence to make an arson finding. He cited findings in the field of fire research that were arrived at since the 1991 blaze or became widely accepted after the original investigation.

For example, tests have found that pour-like patterns on the floor can occur because of radiant heat, even without accelerants, according to Beyler's report. Experiments have also found that melted plastics can create patterns that look like liquid spills, Beyler said.

In Ohio, Webb's chief argument is that a fire investigator wrongly concluded that the 1990 blaze started near a closet or a bathroom where Webb acknowledged he was standing.

In a report submitted on Webb's behalf earlier this month, Gerald Hurst, a chemist and fire investigator in Austin, Texas, said that based on gasoline-spill experiments conducted around the U.S. in the years since the crime, the origin of the fire could have been anywhere on the main floor.

That is important to Webb's case because of statements by one of his teenage daughters that she saw "a man in red" in the house the morning of the fire. Webb's attorneys argue that that person could have been the boyfriend of Webb's other daughter.

Webb's lawyers acknowledge Hurst's findings don't exonerate Webb, but say they raise enough questions to justify a new trial.

Prosecutors dismiss the "man in red" theory, saying the girl's statements varied, that no evidence implicating the boyfriend was found, and that the daughter could have actually seen Webb holding a red gas can. They say Webb is presenting nothing new.

Webb is making "a contention of innocence that is refuted by the hard evidence in the case," Clermont County prosecutors said in their filing with the parole board.

Innocence Projects around the country, which previously concentrated on defendants whose convictions could be challenged through DNA, have taken on a number of deadly arson cases in recent years, including ones in Michigan, Iowa and Pennsylvania.

In Pennsylvania, Han Tak Lee has long argued that the 1989 fire that killed his 20-year-old daughter in a cabin at a religious retreat was an accident. On Friday, a federal appeals court ruled that Lee, who is serving a life sentence, can challenge testimony presented at his trial as unreliable according to newly developed scientific methods.

The investigators who testified against Lee relied on once-common beliefs when they said that because the fire spread rapidly and was particularly hot, it must have been arson.

But tests conducted in the 1990s showed that fires can hit the point of "flashover" - when all combustible surfaces ignite at once - in under four minutes with no accelerants.

Connections between a fire's speed and heat and the possibility of arson have "been discredited and shown to be much less significant than previously thought in the investigation of a fire," Florida-based fire scientist John Lentini, one of the country's leading independent fire analysts, said in a 2002 affidavit on Lee's behalf.

"Back in the day there were a lot more fires called arson that were actually accidents," Lentini said in an interview. "There was a lot of misinformation out there."

Just over a year ago in Massachusetts, a federal judge granted James Hebshie a new trial on charges he burned down his convenience store for the insurance money, and prosecutors subsequently agreed to drop the case. The judge said Hebshie's lawyers should have challenged a weak government case.

"By 2006, when Hebshie's trial took place, a number of articles in legal journals and cases cast a critical eye on the scientific reliability of arson evidence, methodologies, and techniques," wrote Judge Nancy Gertner.

The judge also noted that the testimony of the handler of the dog used to detect an accelerant "was a lengthy, almost mystical, account of the dog's powers."

©2012 The Associated Press. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

Citation: New science being used to fight arson convictions (2012, February 1) retrieved 23 April 2024 from <https://phys.org/news/2012-02-science-arson-convictions.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--