

# Post-Conviction Strategies in Arson Cases

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***NACDL's Litigating Non-DNA Post-Conviction  
Innocence Cases Training Program***

Atlanta, GA April 15, 2010

# Topics

- How Serious is the Problem?

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- Evaluating the Evidence

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- Evaluating the Evidence
- Newly Discovered Evidence



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- How Serious is the Problem?
- Evaluating the Evidence
- Newly Discovered Evidence
- Ineffective Assistance

***Was the fire really arson?***



***Was the fire really arson?***

***And what is the likely  
error rate when the  
investigator says it is?***



***Some numbers***



***Some numbers***

***500,000 structure fires  
per year in the U. S.***



***~500,000 structure fires  
per year in the U. S.***

**2005 data from NFPA**

**\*511,000 were structure fires (down 3% from 2004), causing 3,105 civilian deaths, 15,325 civilian injuries, and 9.2 billion in property damage.**

**\*290,000 were vehicle fires (down 2% from 2004), causing 520 civilian fire deaths, 1,650 civilian fire injuries and 1.3 billion in property damage.**

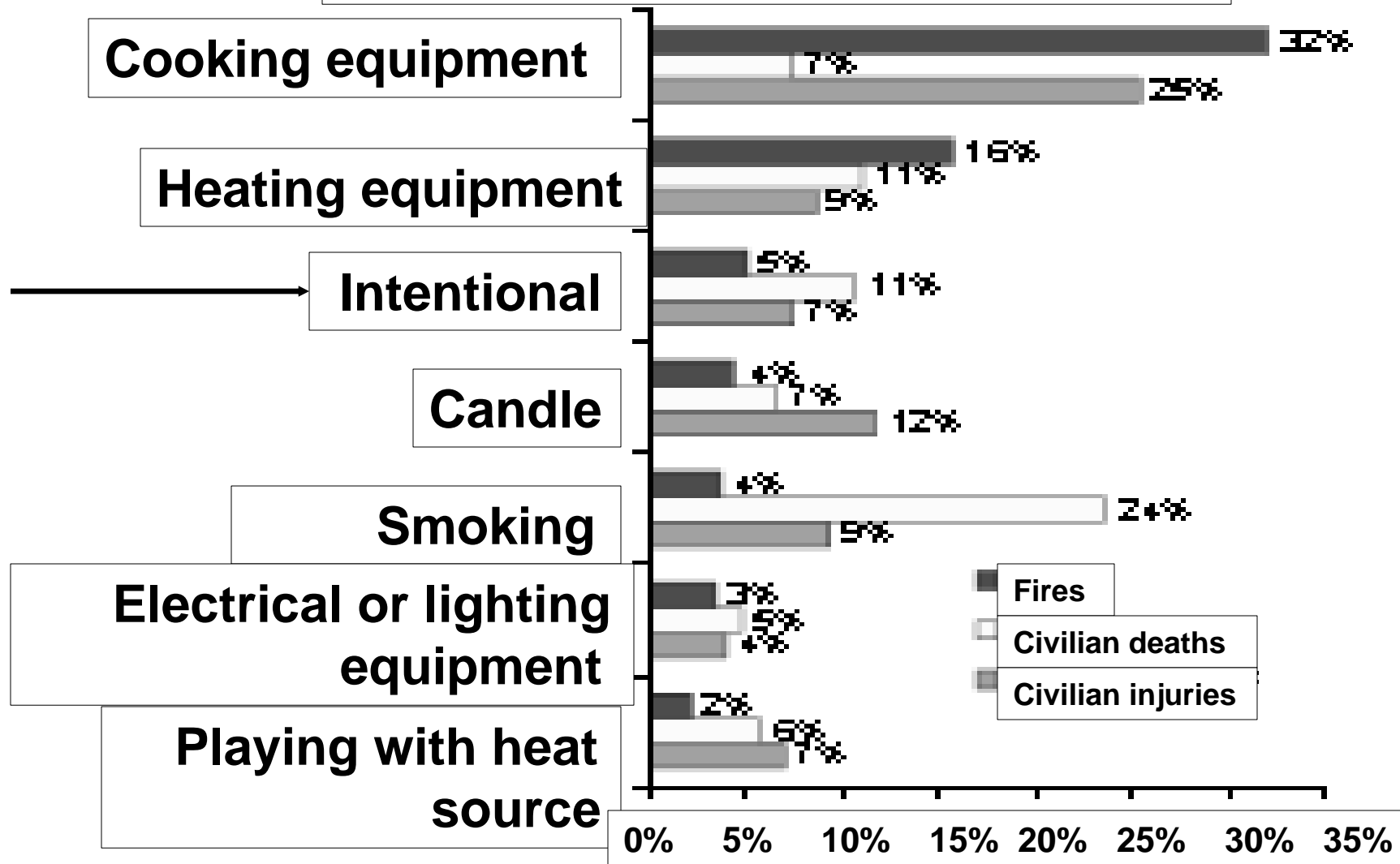


***Some numbers***

***~5% are called  
“incendiary” or  
“suspicious”***

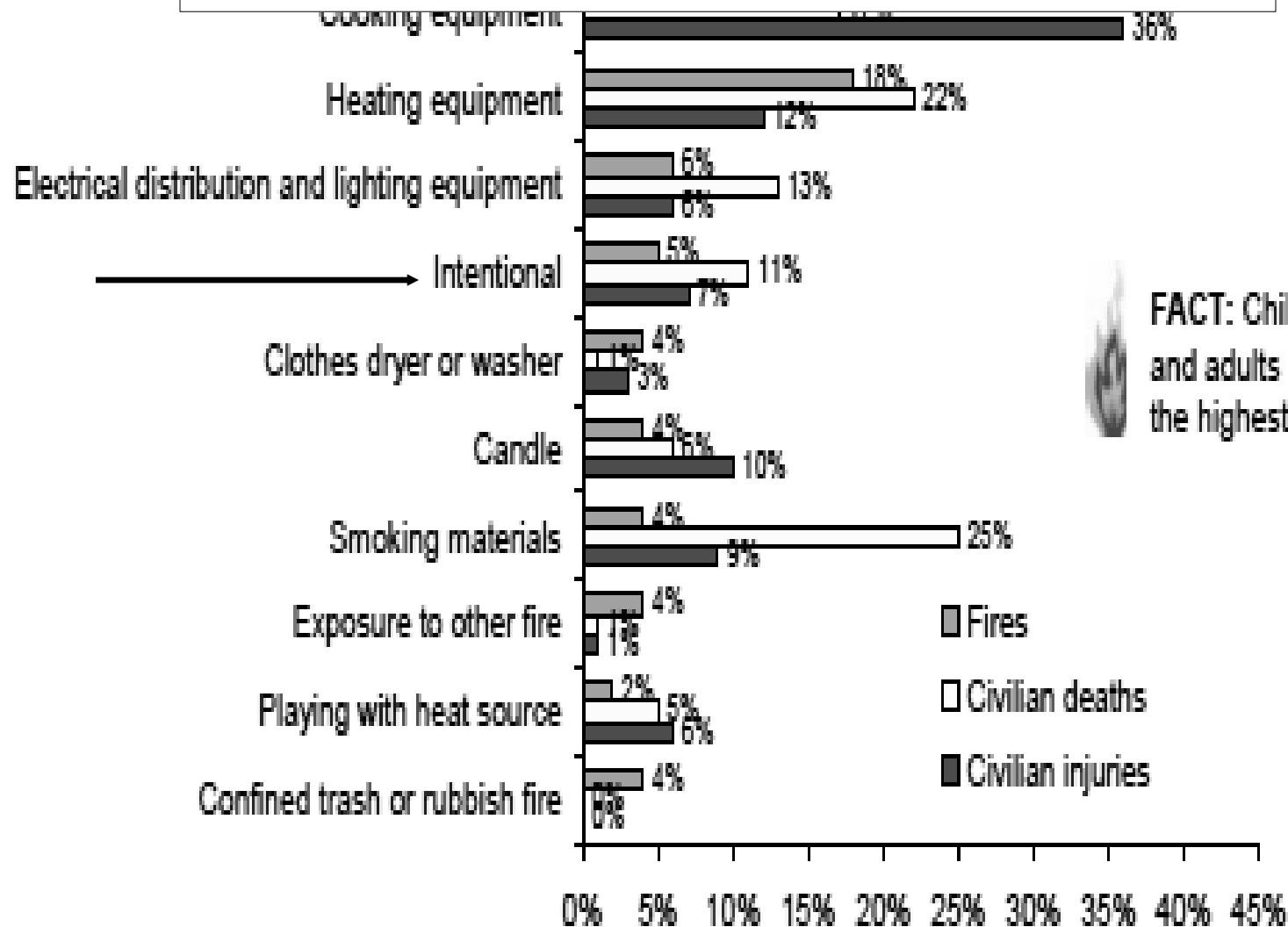


# Major Causes of Home Structure Fires 2000-2004





## Major Causes of Home Structure Fires 2003-2006



**FACT:** Children under five and adults 65 and over face the highest risk of fire death.

***Some numbers***

***That's 25,000 chances to  
screw up***



***Some numbers***

***Even if the error rate is  
only 5%***



***Some numbers***

***That's 1,250 miscalls  
every year***



# Error Rate

***A 5% error rate is  
wildly optimistic!***

# Error Rate

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- In the absence of conclusive evidence, there is no way to measure the error rate of fire investigation.

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# Error Rate

- In the absence of conclusive evidence, there is no way to measure the error rate of fire investigation.
- Investigators who attend seminars are of the opinion that the error rate for arson determinations is 15-20%.
- 500,000 fires X 5% suspicious or incendiary X 15-20% error rate = 3,750-5,000 miscalls annually.

# Texas Observer 11/27/09

How many innocent people have been convicted of arson in Texas? Data from the state fire marshal's office offer chilling clues that point to a number in the hundreds.

As the new understanding of how fire behaves has slowly penetrated the world of fire investigation, the number of fires considered arson has dropped dramatically in the state.



# Texas Observer 11/27/09

Between 1997 and 2007, there was a 60 percent drop in the number of fires deemed “incendiary.” In 1997, 15,949 arsons were reported in Texas. Ten years later, the number had fallen to 5,687.

But there aren’t fewer fires in Texas. The overall number of fires remained fairly consistent in that 10-year period, from year to year, between 73,000 and 95,000.



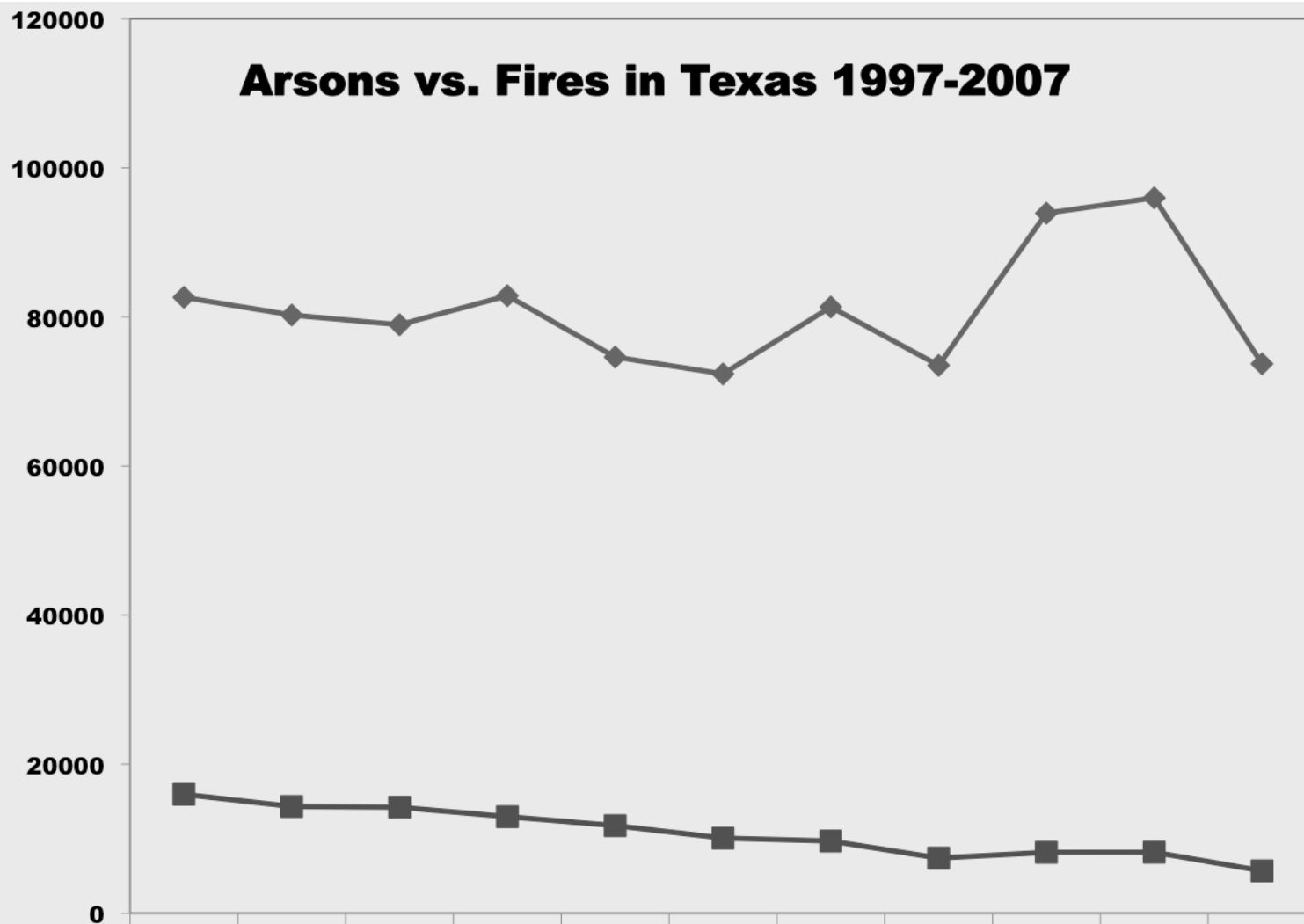
# Texas Observer 11/27/09

The massive drop in arsons points to disturbing evidence of how many potentially innocent Texans might be in jail. If most of the 60 percent drop is accounted for by accidental fires that would have been ruled arsons in previous years, it's reasonable to assume that 30 to 50 percent of the people in prison on arson convictions are innocent.

In Texas, that would add up to between 250 and 400 wrongly convicted people.



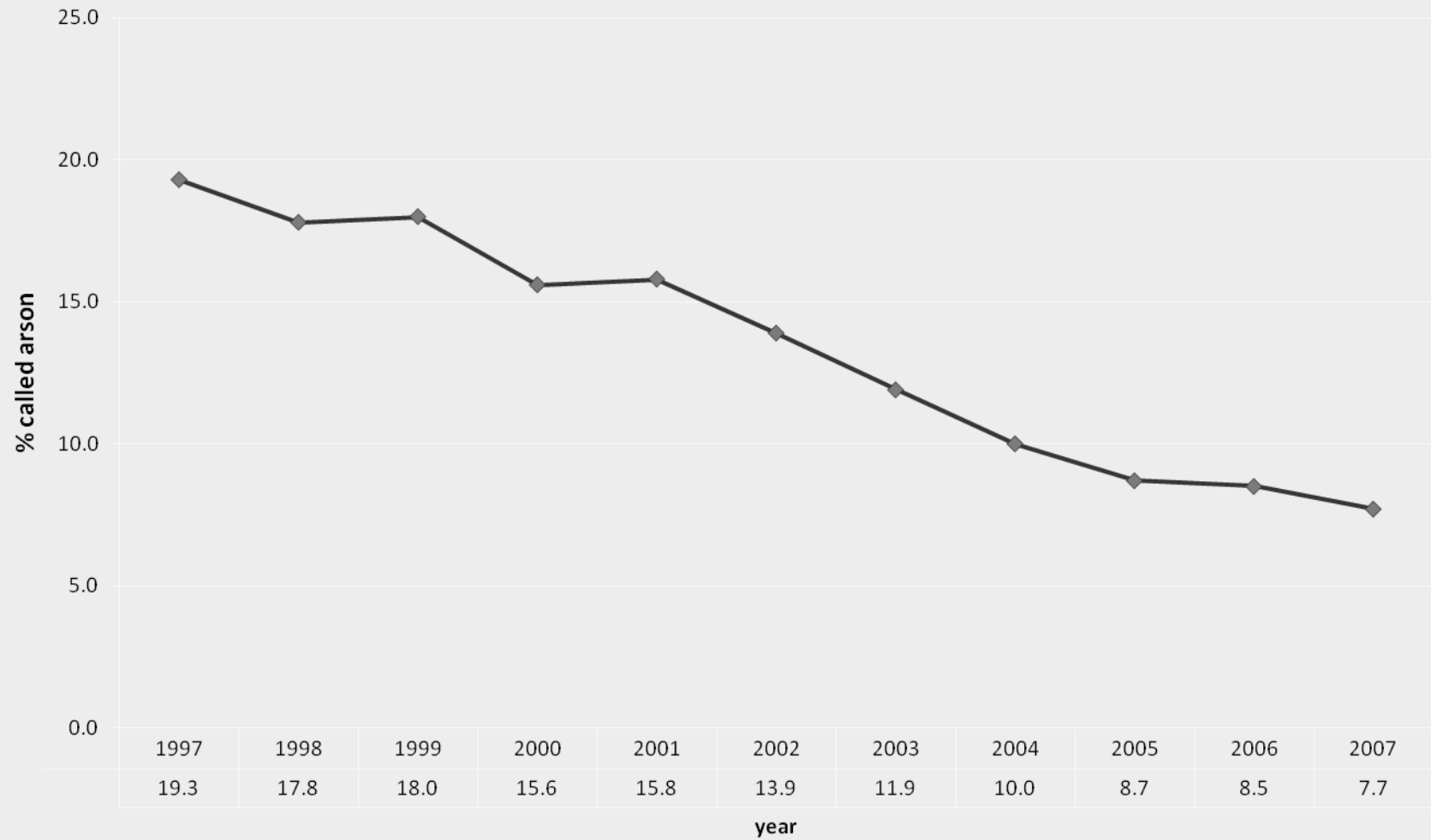
## Arsons vs. Fires in Texas 1997-2007



	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
◆ Fires	82626	80248	78949	82843	74614	72347	81326	73491	93914	95971	73704
■ Arsons	15949	14324	14215	12958	11753	10083	9685	7400	8169	8178	5687

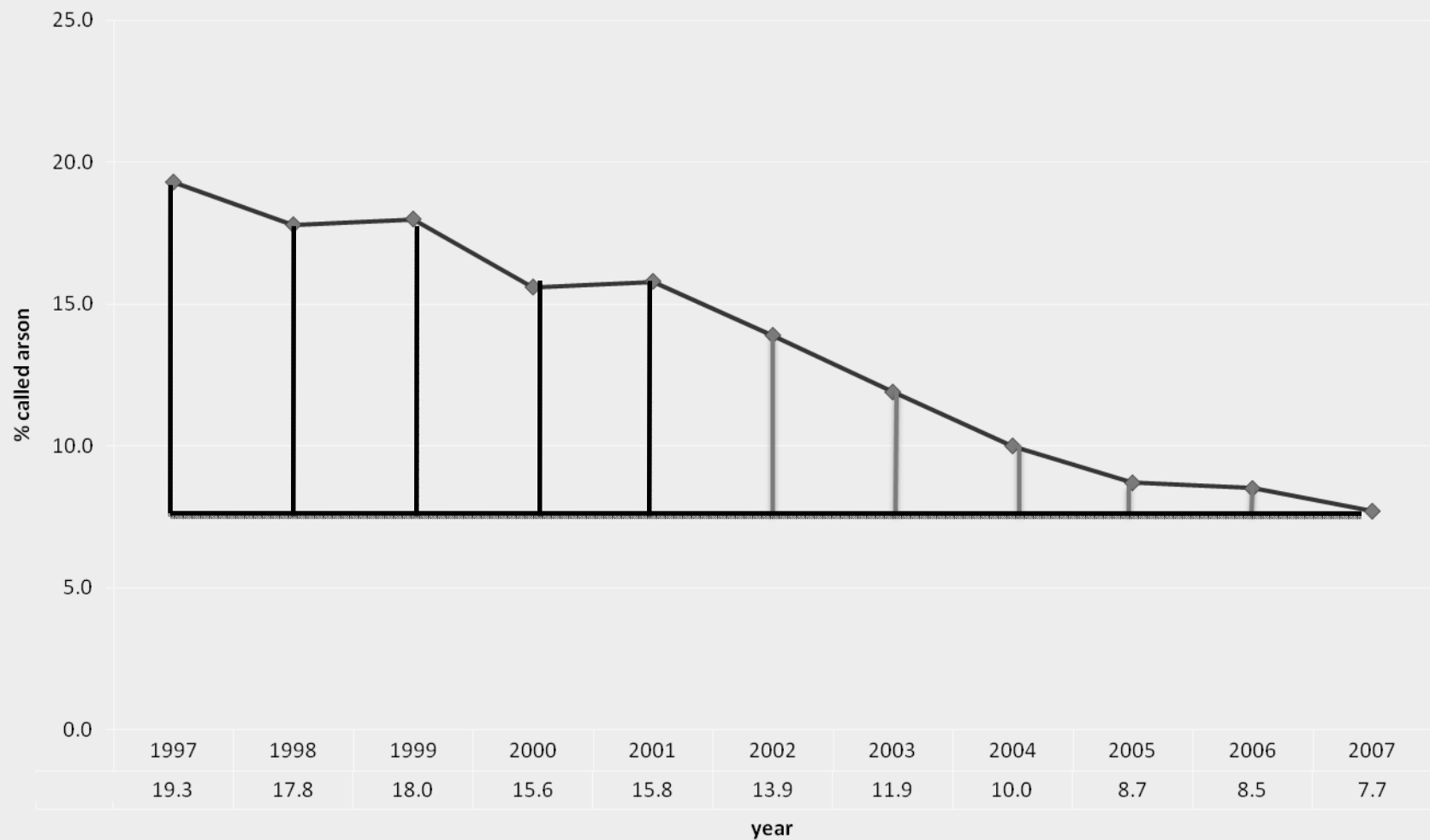
# Arson in Texas

Arson Fires in Texas, 1997-2007



# Arson in Texas

Arson Fires in Texas, 1997-2007



***“A fire investigation is just  
like a forensic autopsy.”***





***Except when it's not!***



# ***Pathologist vs. Fire Investigator Education***

- M. D



# ***Pathologist vs. Fire Investigator Education***

- M. D
- High school, maybe some college



# ***Pathologist vs. Fire Investigator Curriculum***

- Undergraduate Science
- 4 years medical school



# ***Pathologist vs. Fire Investigator Curriculum***

- Undergraduate Science
- 4 years medical school
- Not specified



# ***Pathologist vs. Fire Investigator Training***

- 1 year internship
- 2-5 years residency



# ***Pathologist vs. Fire Investigator Training***

- 1 year internship
- 2-5 years residency
- Former firefighter
- POST training 40-80-120 hours
- “seminars”



# ***Pathologist vs. Fire Investigator Certification***

- State Medical Board





# ***Pathologist vs. Fire Investigator Certification***

- State Medical Board
- Employer or
- Association



# ***Pathologist vs. Fire Investigator Mythology***

- ?
  - Shiny alligatoring
  - Crazed glass
  - Depth of Char
  - Lines of demarcation
  - Sagged springs
  - Spalling



# ***Pathologist vs. Fire Investigator Mythology***

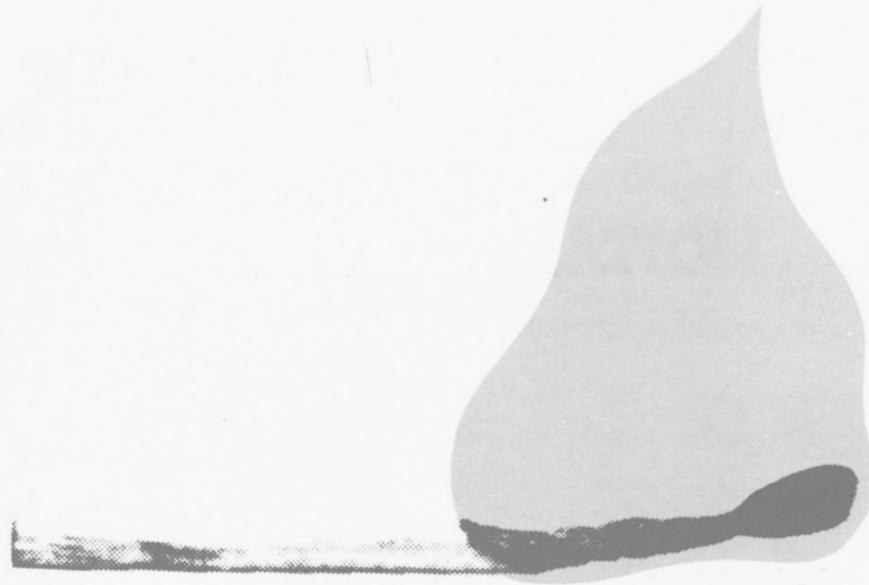
- Shaken Baby Syndrome
- Shiny alligatoring
- Crazed glass
- Depth of Char
- Lines of demarcation
- Sagged springs
- Spalling



# ***Where do the fire myths come from?***



***USDOJ, 1977***



# **ARSON AND ARSON INVESTIGATION**

SURVEY AND ASSESSMENT



National Institute of Law Enforcement and Criminal Justice  
Law Enforcement Assistance Administration  
United States Department of Justice



***“Although burn indicators are widely used to establish the causes of fires, they have received little or no scientific testing.”***



***They recommended “a program of carefully planned scientific experiments be conducted to establish the reliability of currently used burn indicators. Of particular importance is the discovery of any circumstances which cause them to give false indications (of, say, a fire accelerant).”***



***“A primary objective of this testing would be to avert the formidable repercussions of a court ruling on the inadmissibility of burn indicators on the grounds that their scientific validity had not been established.”***





***Three years later...***



***Three years later...***

**Fire  
Investigation  
Handbook**

**U.S. DEPARTMENT OF COMMERCE  
National Bureau of Standards**

**NBS Handbook 134**

***US Dept of Commerce,  
National Bureau of  
Standards***



***Three years later...***

**Fire  
Investigation  
Handbook**

**U.S. DEPARTMENT OF COMMERCE  
National Bureau of Standards**

**NBS Handbook 134**

***With significant input  
from the National Fire  
Academy***



An  
Introduction to  
**FIRE  
DYNAMICS**



Dougal Drysdale

***An Introduction  
to***

***Fire Dynamics***

***Drysdale, 1985***

921

NFPA 921  
Guide for  
Fire and Explosion  
Investigations  
1992 Edition



NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471  
An International Codes and Standards Organization

***NFPA,  
1992***

U.S. Department of Justice  
Office of Justice Programs  
National Institute of Justice



# Fire and Arson Scene Evidence:

A Guide for Public  
Safety Personnel

Research Report

***USDOJ, 2000***

# Response to new knowledge, standards and reliability requirements



# Response to new knowledge, standards and reliability requirements

Whining in the US

Acceptance in the UK

US reaction similar to *Miranda*







# IAAI *amicus* brief, 1997

“If a stringent *Daubert* analysis is applied, the testimony of experts with years of experience and training in their field could be systematically excluded even though their investigations comport with traditional and accepted procedures.”



# IAAI *amicus* brief, 1997

Testimony is properly admitted ... when the testimony is non-scientific, when the methodology does not approach the outer boundaries of scientific knowledge, and when the evidence derives from experience and training. In these instances, the investigations rely on “less scientific” techniques and methodology.



# ***Context for concern:***

- The investigator testified that he saw “pour patterns,” BUT
- The laboratory results were negative for the presence of any ignitable liquid residues.



# ***Context for concern:***

- IF this is really an arson fire
- THEN the defendant is the only possible the perpetrator. (Usually this is because the defendant gives an account of an accidental fire, and only the arsonist has a motive to lie.)

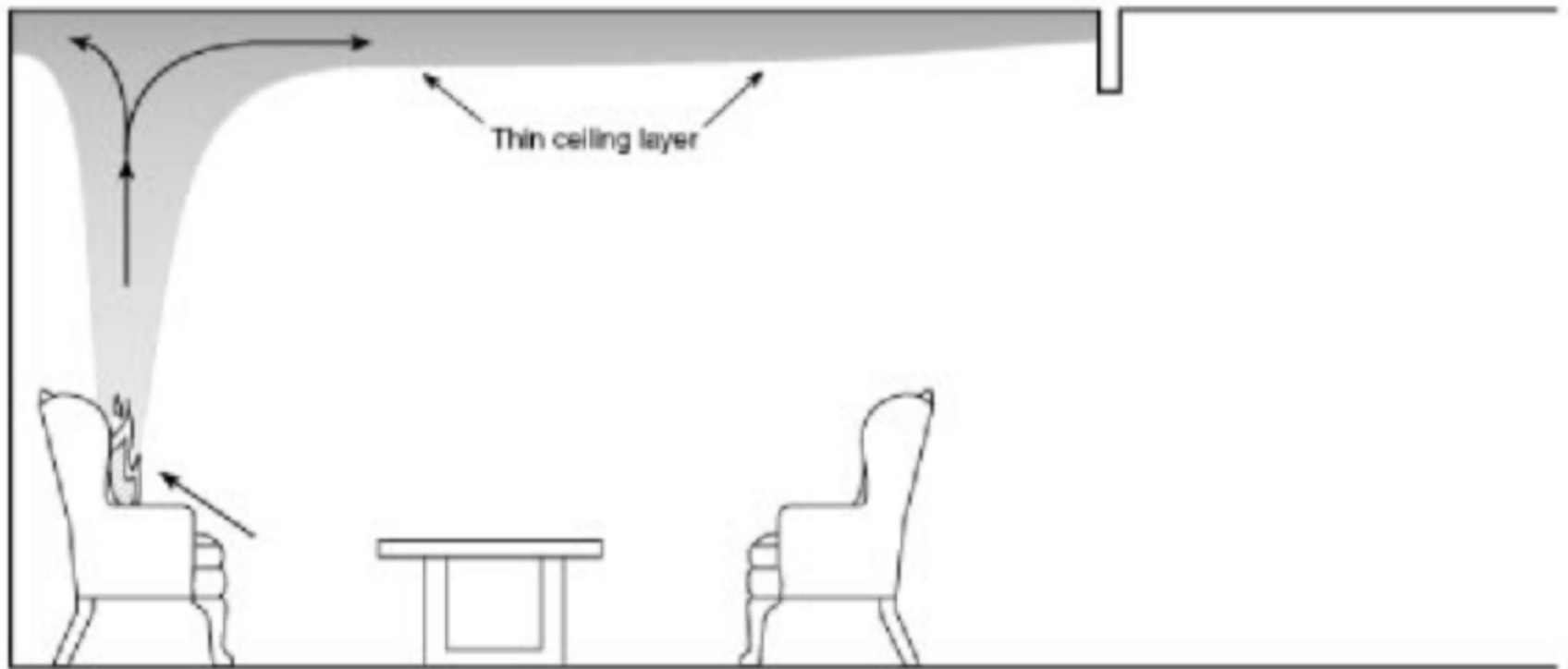


# ***The Complexity of Compartment Fires***

- Fire Dynamics 101

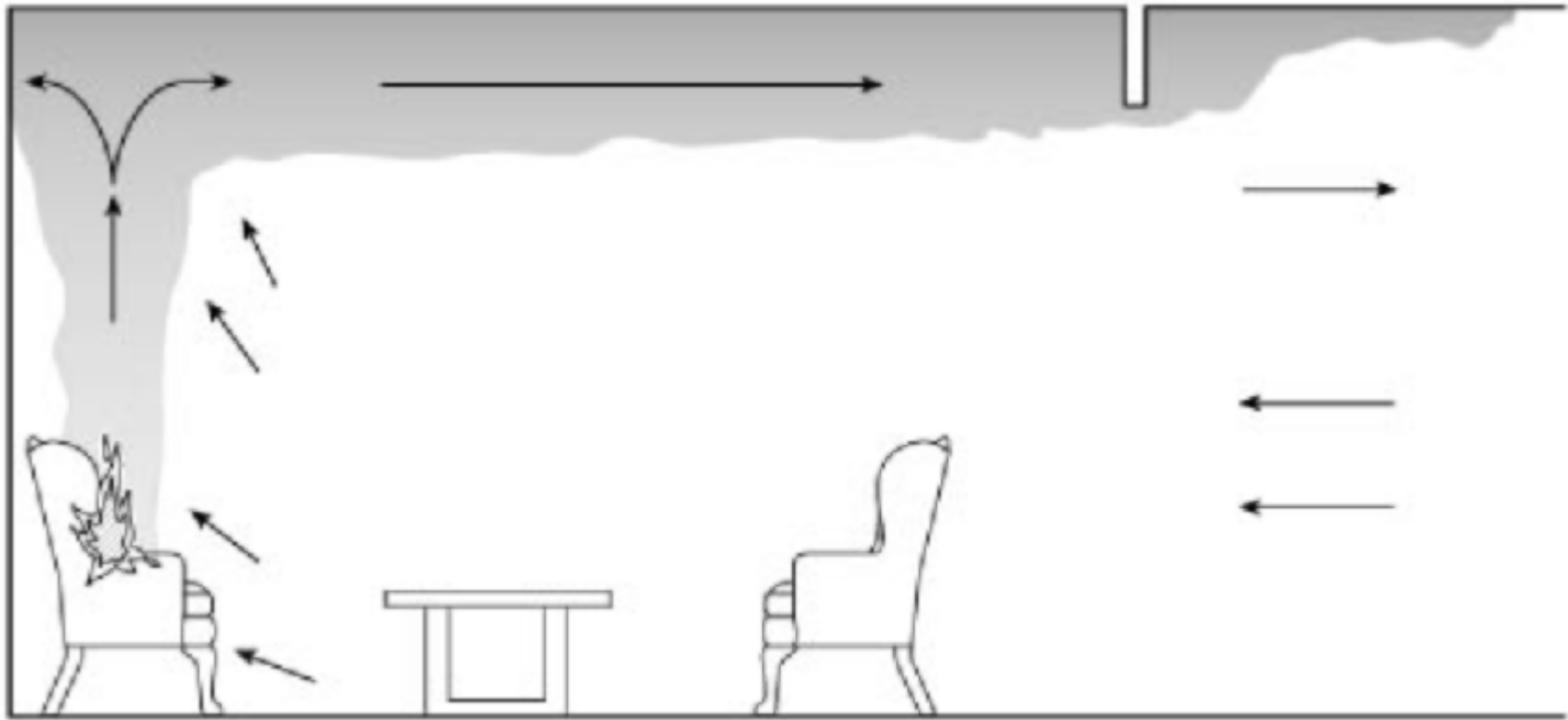


# Free Burning Stage



**Figure 3.5.3.2 (a) Early compartment fire development.**

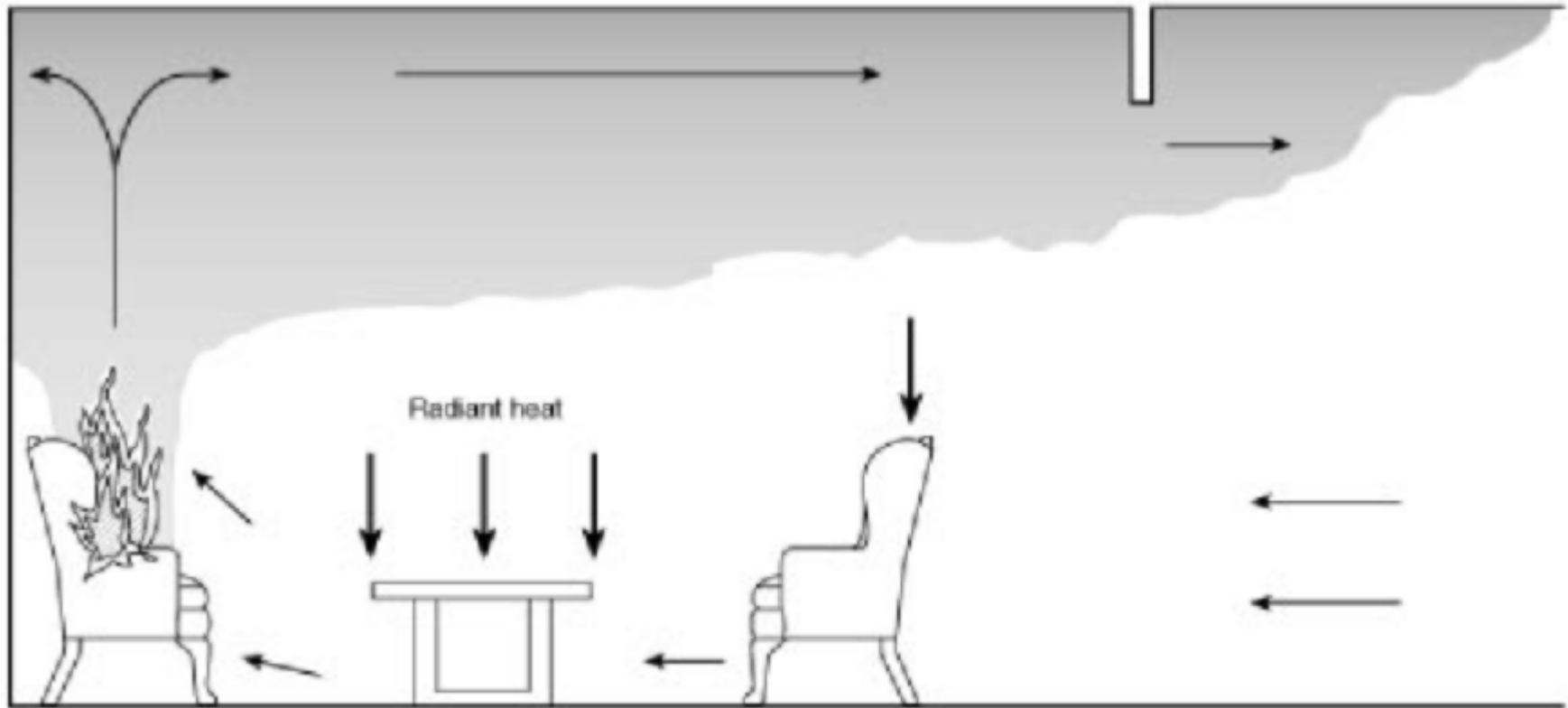
# Hot Gas Layer Forms



***Figure 3.5.3.2 (b) Ceiling layer development in compartment fire.***

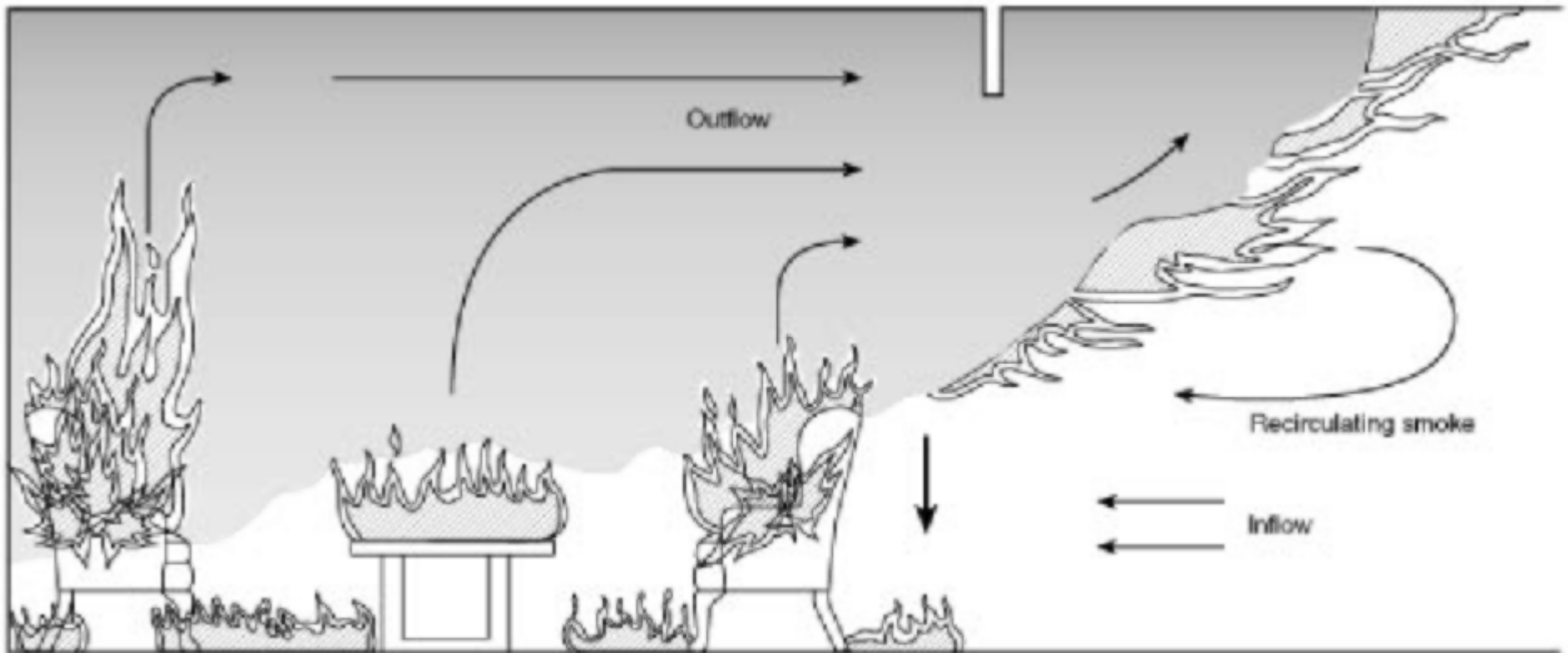


# Radiation Sends Heat DOWN



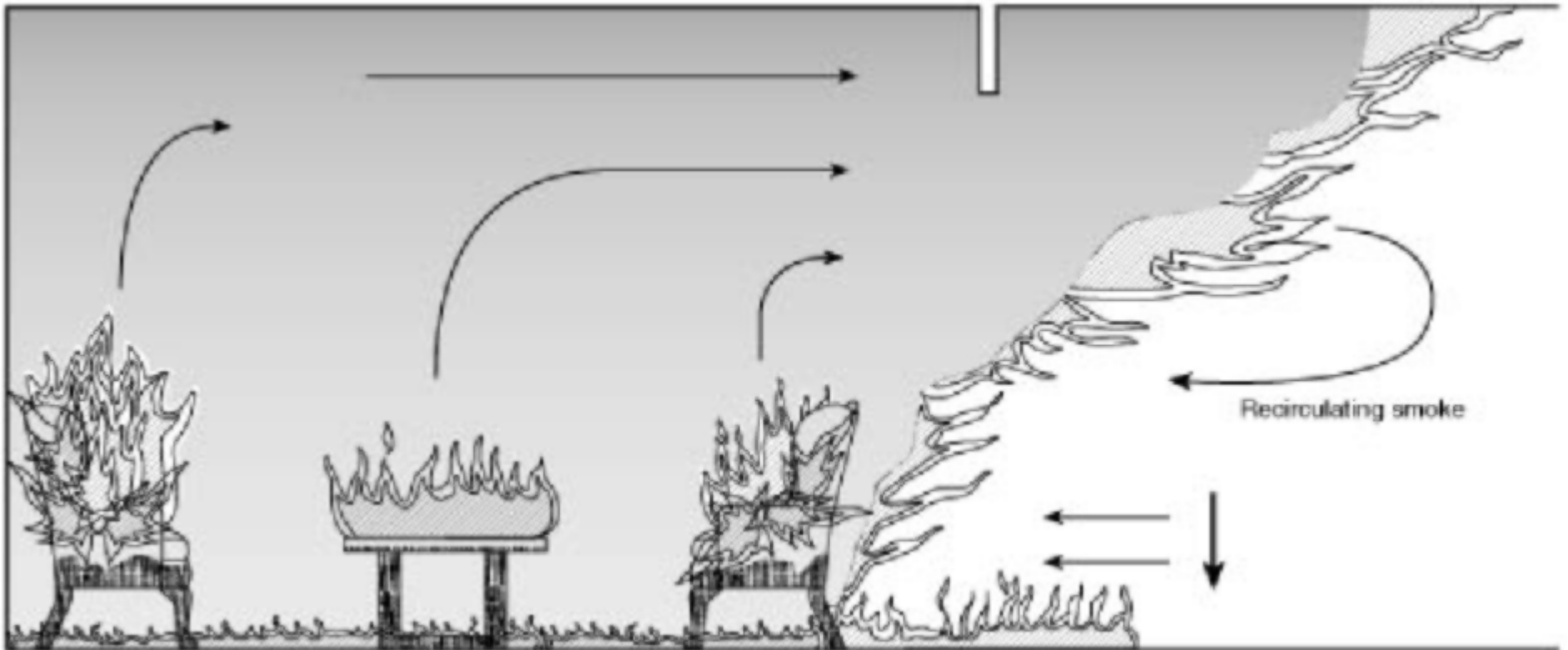
***Figure 3.5.3.2 (c) Pre-flashover conditions in compartment fire.***

# Flashover Occurs, Igniting Everything



***Figure 3.5.3.2 (d) Flashover conditions in compartment fire.***

# Full Room Involvement



***Figure 3.5.3.2 (e) Post-flashover or full room involvement in compartment fire.***



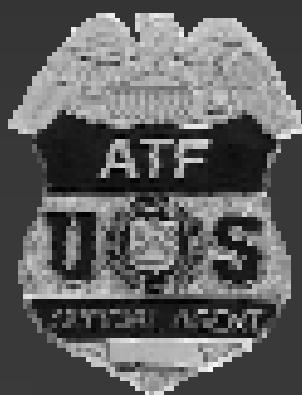


# Agent Carman Spills the Beans

# Understanding Post-Flashover Fires

Recognizing the  
Importance of Ventilation

Oregon Chapter of IAAI  
Bend, Oregon  
September 2007



presented by

# Steve Carman



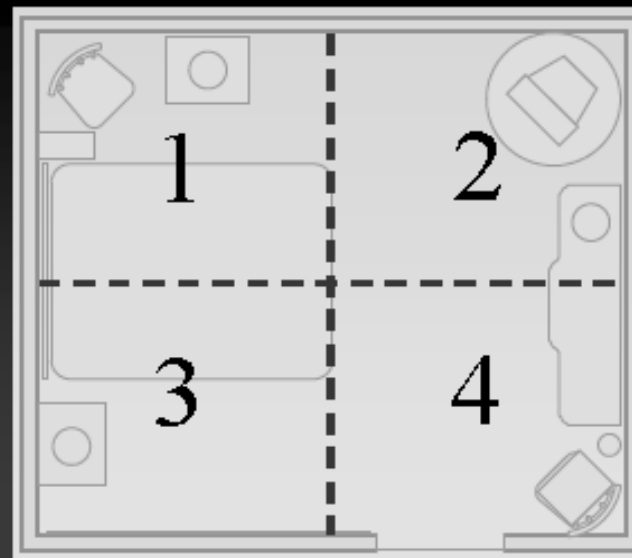
Senior Special Agent / Certified Fire Investigator  
Bureau of ATF  
Redding, California



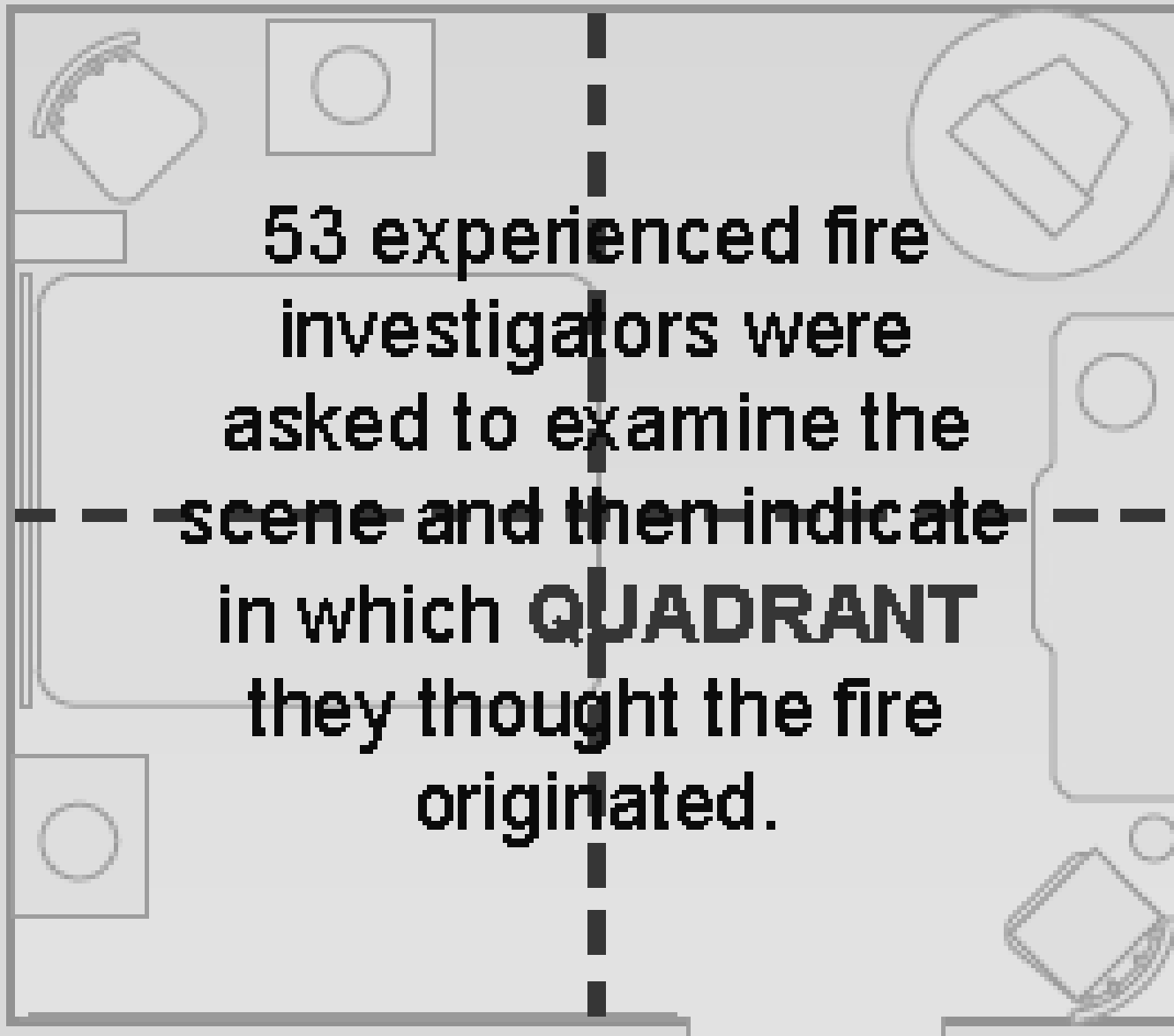


Where do you  
think the fire  
started?

*E. W. Corman, AIT*



*E. W. Corman, AIT*



53 experienced fire investigators were asked to examine the scene and then indicate in which **QUADRANT** they thought the fire originated.



3 got it right...

That's 5.7% !

---

***NOT ONE*** person  
determined the  
actual point of origin

# Points to Remember

- To properly account for various levels of damage in a post-flash over fire, investigators **MUST** understand and take into account the possible effects of ventilation during the fire.
- The “old days” of locating the origin of a post-flashover fire by relying on the “lowest burn and deepest char” are **OVER!**

# **PROGRESSIVE BURN PATTERN DEVELOPMENT IN POST-FLASHOVER FIRES**

Steven W. Carman, IAAI-CFI, ATF-CFI (Retired)

Carman & Associates Fire Investigations, Dunsmuir, CA



Two identical, one-room burn cells with standard-sized doorways were each burned for seven minutes. Later, fifty-three experienced fire investigators from the public and private sectors (who had not observed the fires) were asked to briefly examine the cells and identify in which quadrant they thought each fire had started. 5.7% of the students correctly selected the quadrant of origin in each cell.

A subsequent review of experienced investigators' responses to similar, post-flashover exercises at the Federal Law Enforcement Training Center in Georgia revealed that since the early-1990s, about **8-10% of students correctly located the origins of similar fires.** Those who were mistaken typically reported they were misled by burn patterns generated in fully involved, ventilation controlled conditions.



In 2008, three follow-up tests fires were designed and conducted in single-room cells (similar to those from 2005) at the ATF Fire Research Laboratory in Ammendale, Maryland. The tests were used to evaluate burn pattern development in fully involved, ventilation-controlled fires with similar physical layouts, furnishings and ignition scenarios.

*See CFITrainer.net*



# ***Sources of Error:***

- **Overlooking critical data**

**Fire scenes are big messy places where everything is black or gray. People looking specifically for “evidence of arson” may overlook “evidence of an accident.”**



***“The following items were noted as missing: Investigators were not able to find the remains of an electric guitar which was indicated to have been near the front window in the den of the residence.”***









# ***Sources of Error:***

- **Misinterpreting critical data**

**The V-pattern at the doorway might be explained as a result of accelerant burning there. Or it might simply be the result of ventilation.**













***“The tragedy of science...  
The slaying of a beautiful  
hypothesis by an ugly  
fact.”***

***-Thomas Huxley***

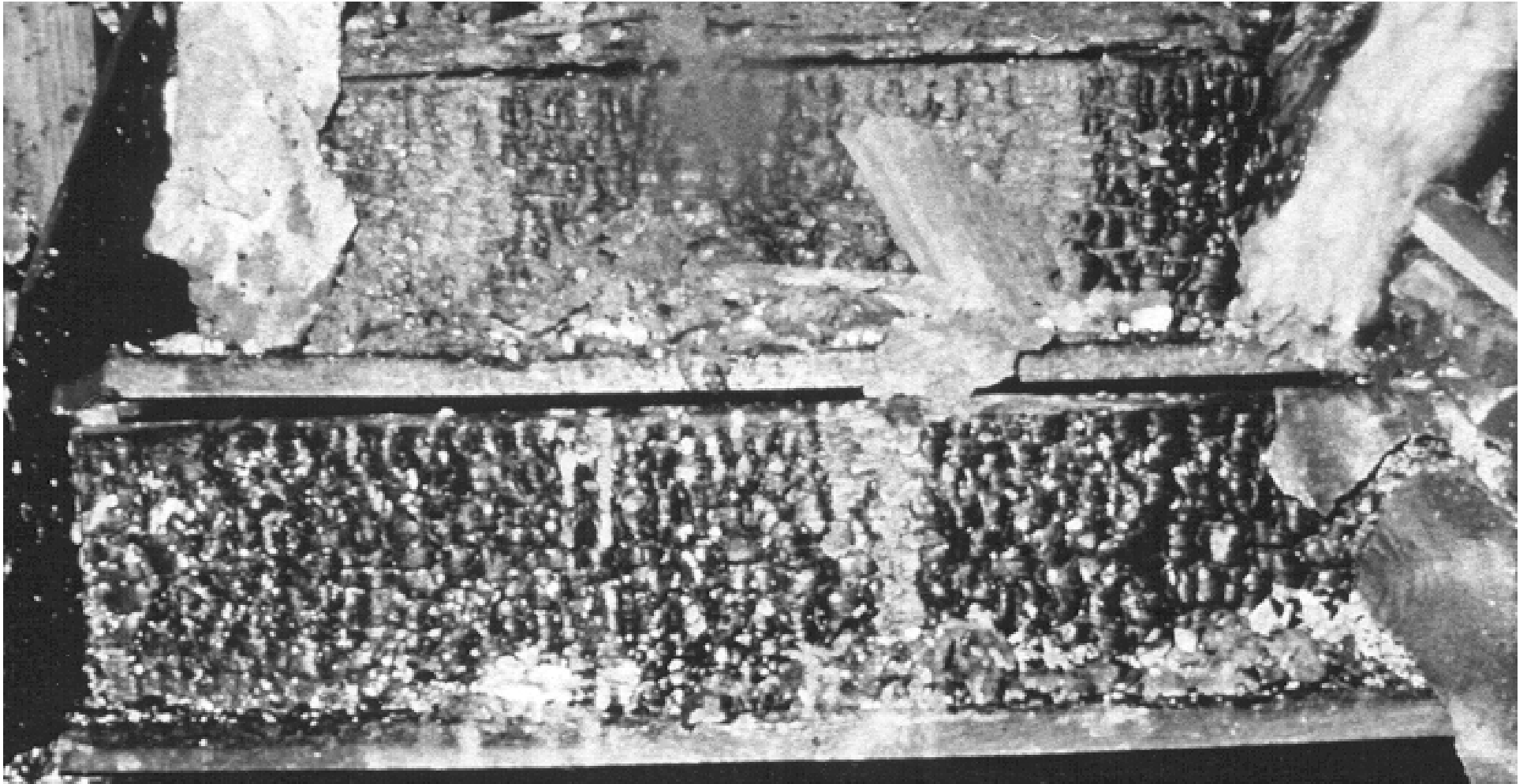


# ***Sources of Error:***

- **Misinterpreting irrelevant data**

**Any of the myths used as indicators of arson fall into this category**









# ***Sources of Error:***

- **Ignoring inconsistent data**

**Also known as “inconvenient ” material.**

**“Eyewitnesses must be wrong.”**

**“A negative lab report is ‘inconclusive’.”**



# ***Sources of Error:***

- **Ignoring inconsistent data**

**In first party insurance litigation,  
ignoring inconsistent data is called “bad  
faith.”**



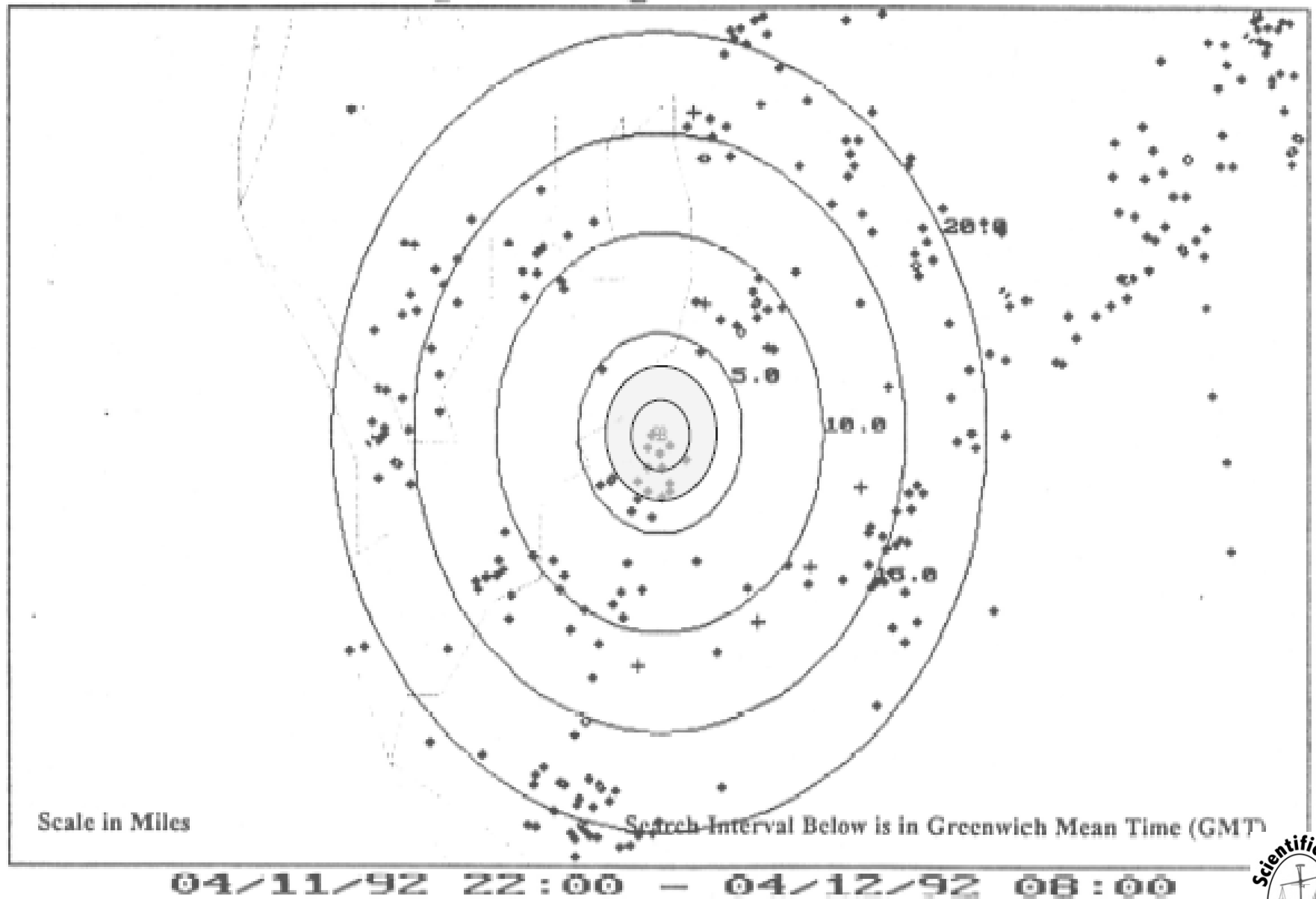
# ***Sources of Error:***

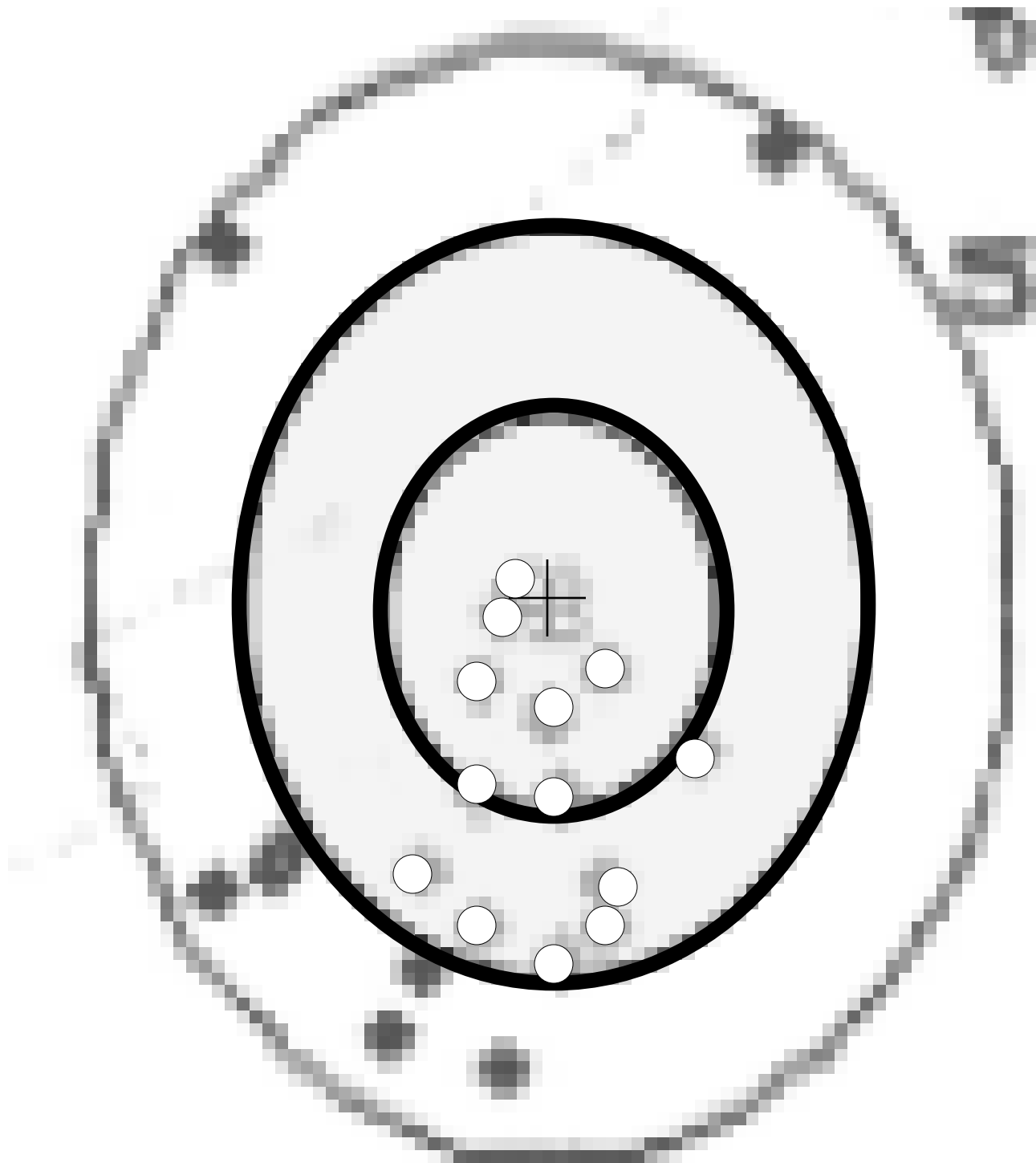
- **Ignoring inconsistent data**

**In criminal cases, ignoring inconsistent data is called a “Brady Violation.”**



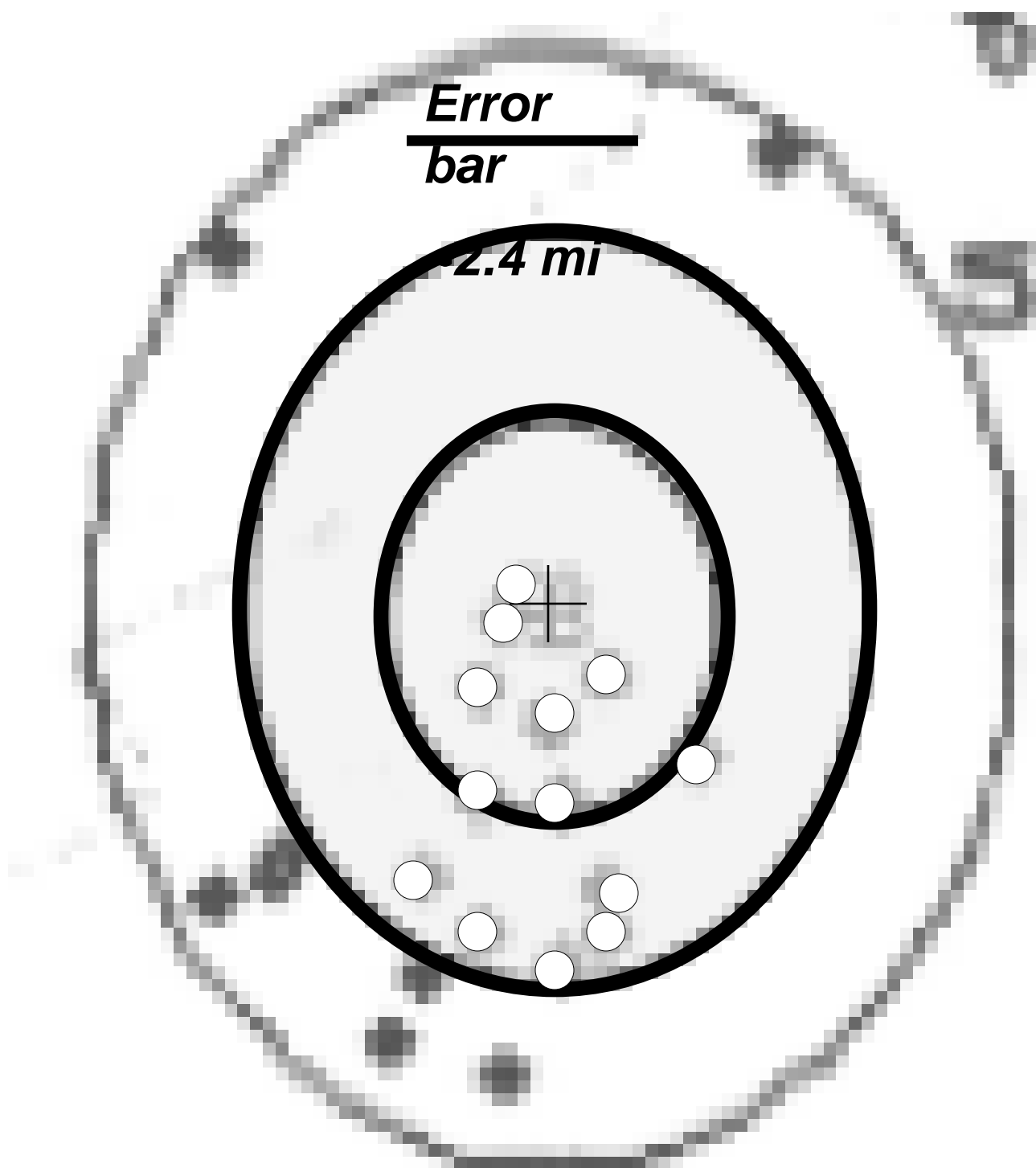
# National Lightning Detection Network





***Error  
bar***

***2.4 mi***



# ***Sources of Error:***

- **Two dimensional thinking**

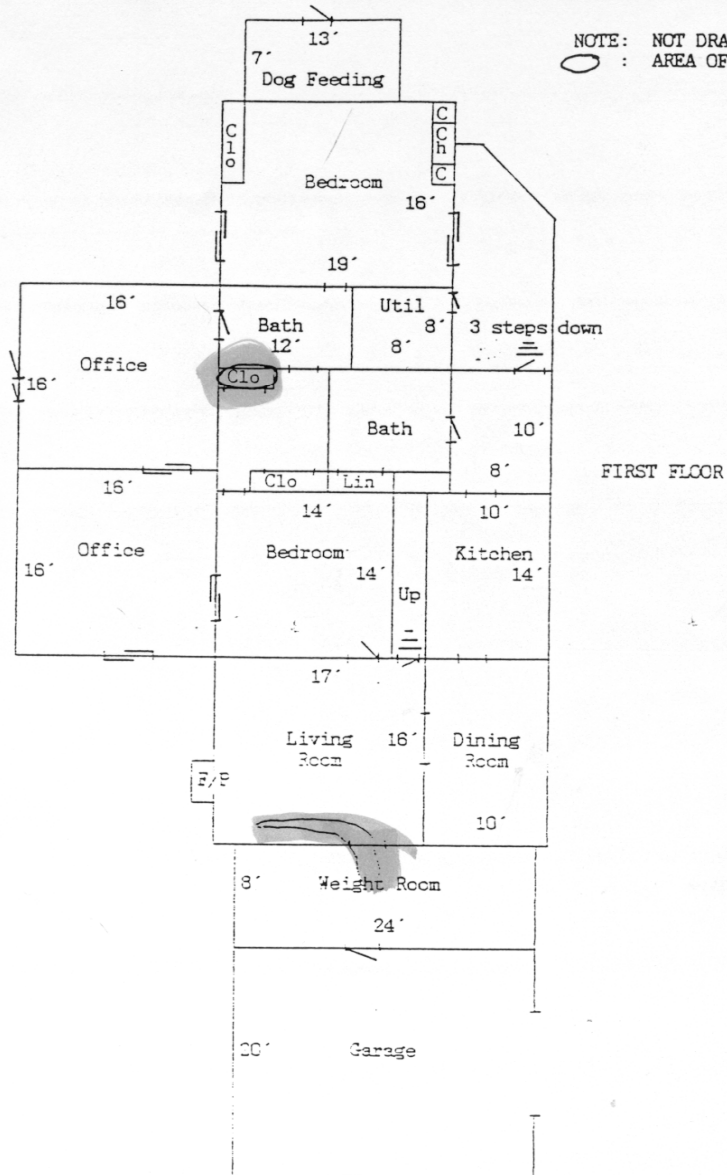
**Fire is a 3 dimensional phenomenon, but most of the record is left on 2 dimensional surfaces, (floors and walls). Too often, arson investigators look only at the floor, because that's where bad guys pour gasoline.**



NORTH ←

FILE NUMBER: 92-WB139  
INSURED: MANSON AND EVE JOHNSON

NOTE: NOT DRAWN TO SCALE  
○ : AREA OF ORIGIN





# ***Sources of Error:***

- **Poor communication**

**Lack of a “principal investigator” leads to the formulation of hypotheses by people who do not have all of the data.\***



***\* Too much communication, particularly of domain-irrelevant information , can lead to expectation bias and confirmation bias.***



# ***Sources of Error:***

- **Faulty Chemistry or Engineering**

**Just because chemists and engineers are more educated than the typical “arson investigator,” that does not make them immune to all of the errors listed above (though most do not believe the myths).**





NEUTRAL

GROUND

LINE







# **“Red Flags” that MIGHT indicate that an error has occurred**

- ***No motive***





**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***Arson call based entirely on  
the appearance of the  
burned floor in a post-  
flashover compartment***



**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***Arson call based entirely on  
the appearance of the  
burned floor in a fully  
involved compartment***



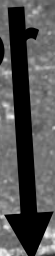








**Hole Burned in  
Floor**

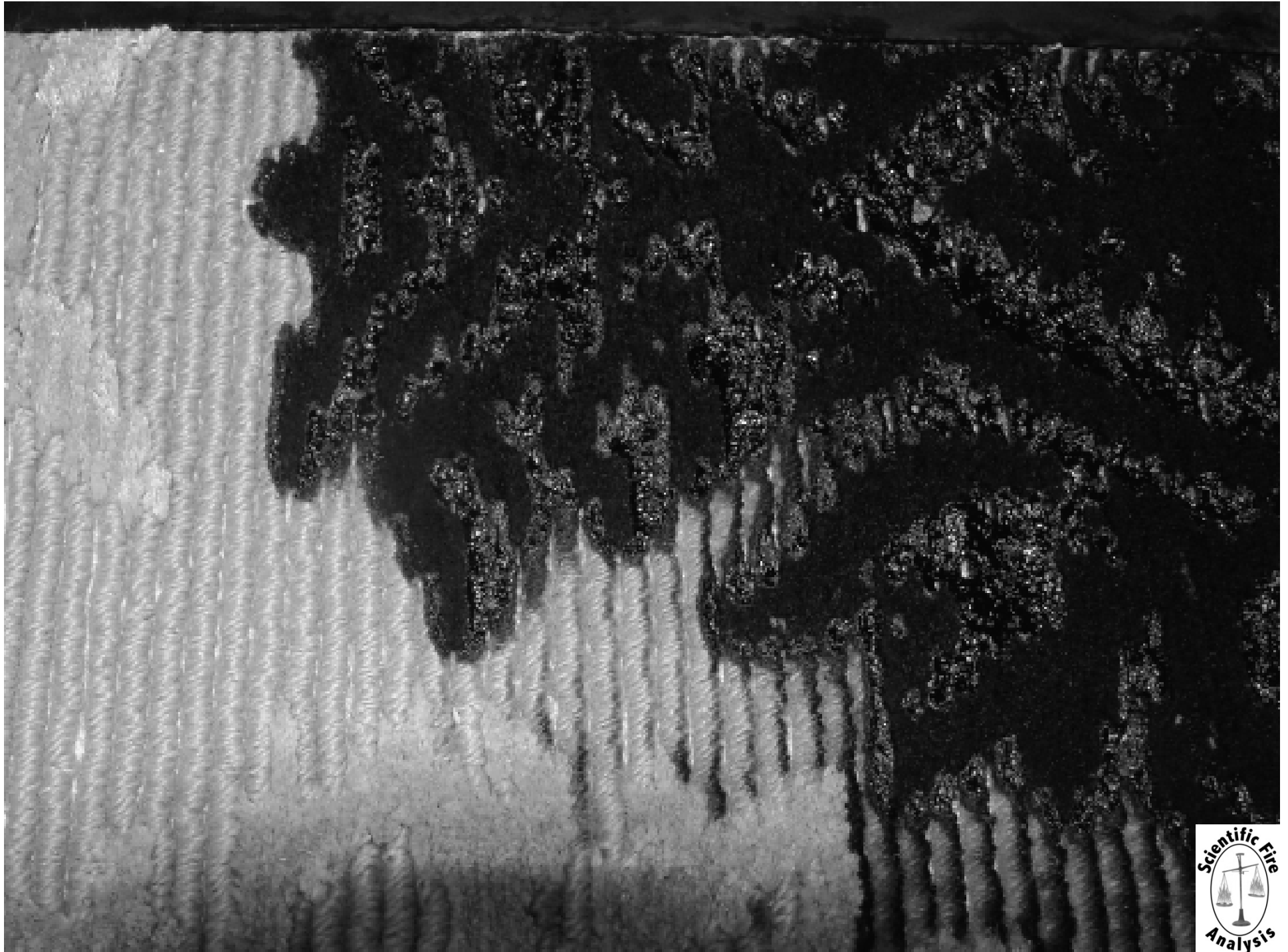


**Pour  
Patterns**









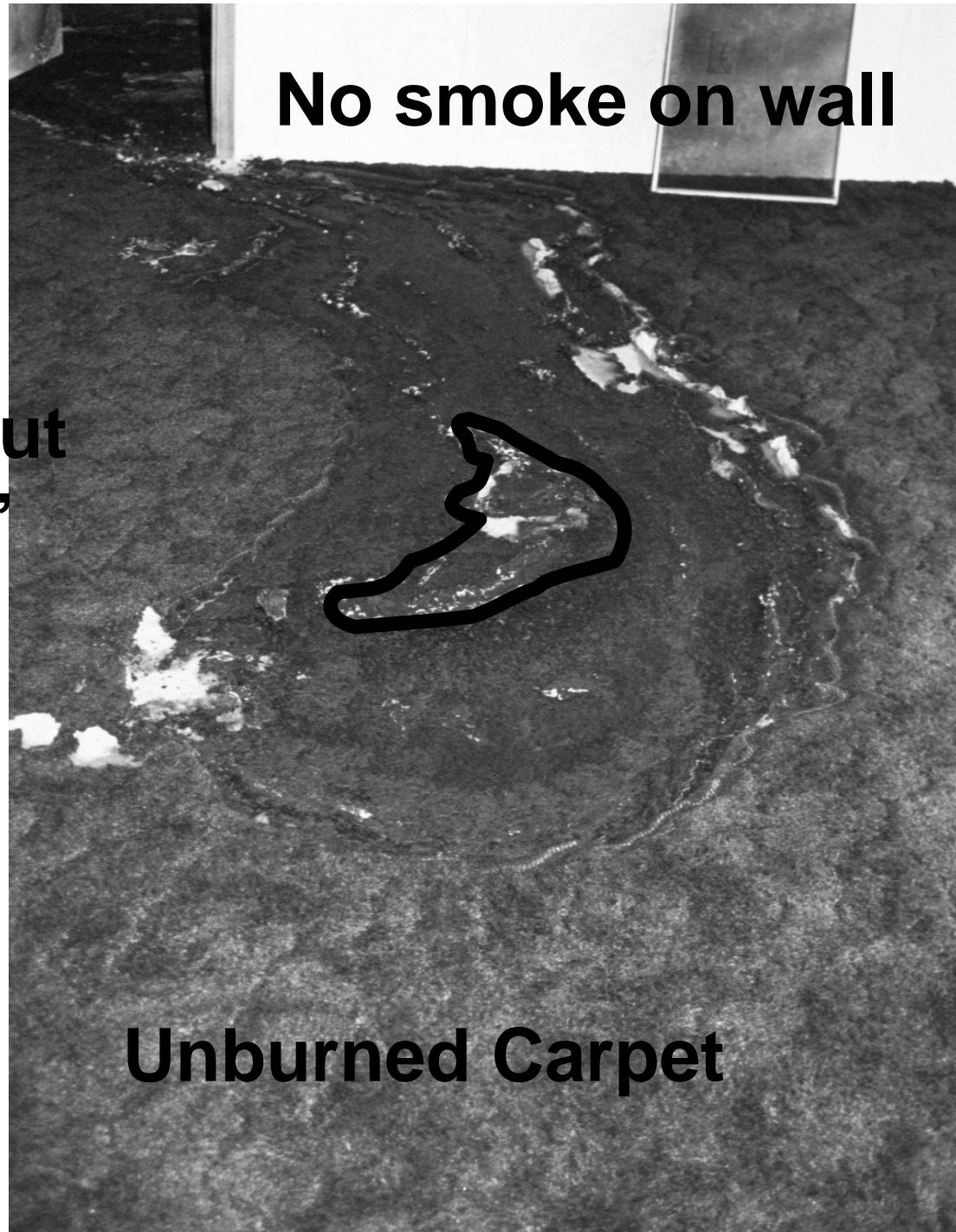






**No smoke on wall**

**“Donut  
Hole”**



**Unburned Carpet**

**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***Arson call based on  
“elimination” of all accidental  
causes. (The “negative corpus”)***



**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***“I can’t find an accidental cause,  
therefore this must be arson.”  
Classic burden shifting.***



## ***From NFPA 921***

**18.2.1 Any determination of fire cause should be based on evidence rather than on the absence of evidence; however, when the origin of a fire is clearly defined, it is occasionally possible to make a credible determination regarding the cause of the fire, even when there is no physical evidence of the ignition source available.**





**This finding may be accomplished through the credible elimination of all other potential ignition sources, provided that the remaining ignition source is consistent with all known facts.**



# **Clear:**

- **Plain or evident to the mind, unmistakable**
- **Easily perceptible to the eye or ear, distinct**
- **Free from doubt or confusion, certain**
- **Free from limitation or qualification, absolute**



# Define:

- To delineate the outline or form of
- To specify or fix distinctly

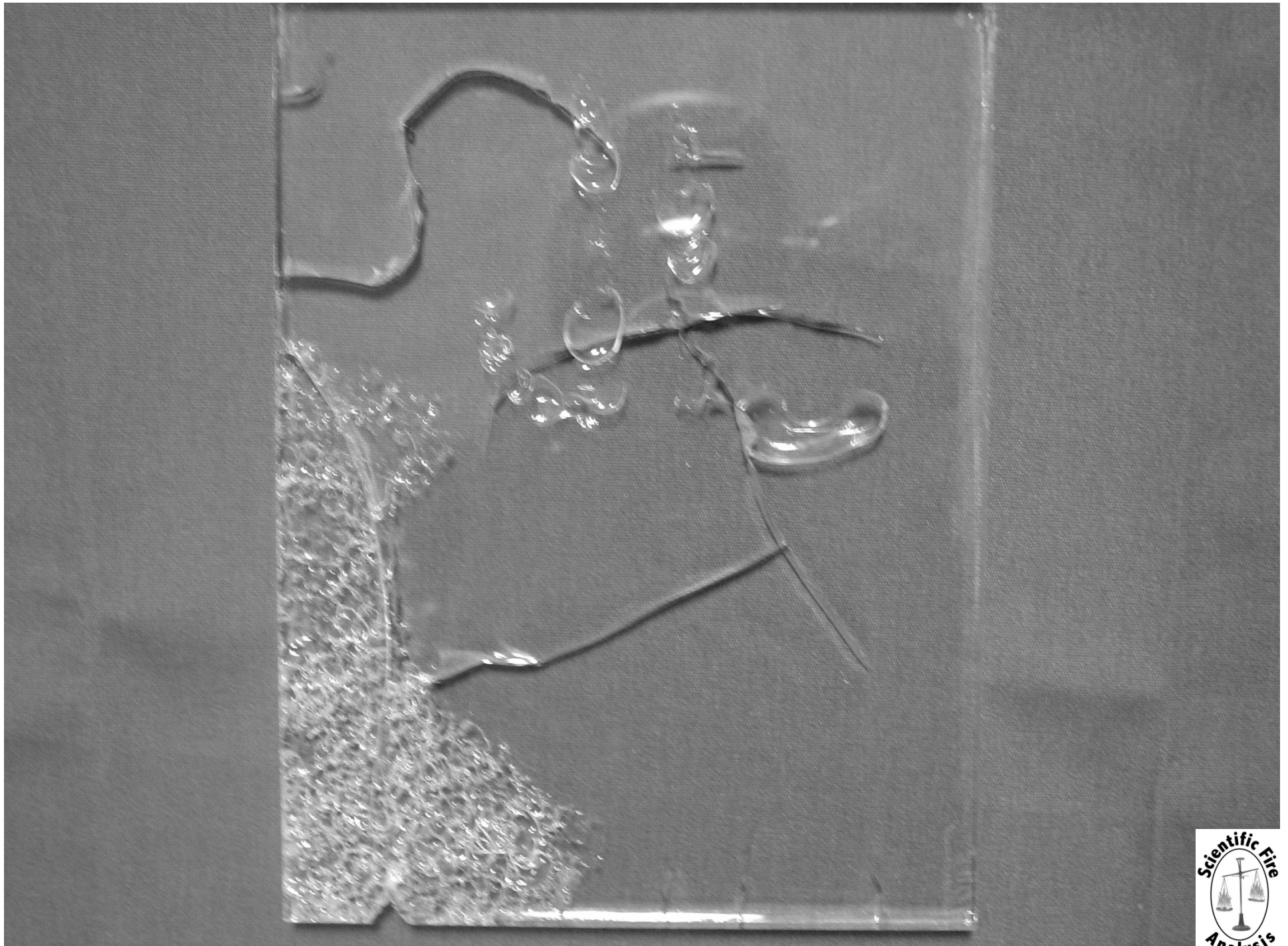




# **“Red Flags” that MIGHT indicate that an error has occurred**

- ***Arson call based on “low burning,” OR crazed glass, OR spalling, OR “shiny alligatoring,” OR a “narrow V pattern,” OR “melted/annealed metal.”***









***Big Blisters***

***Small Blisters***

***Flat Blisters***



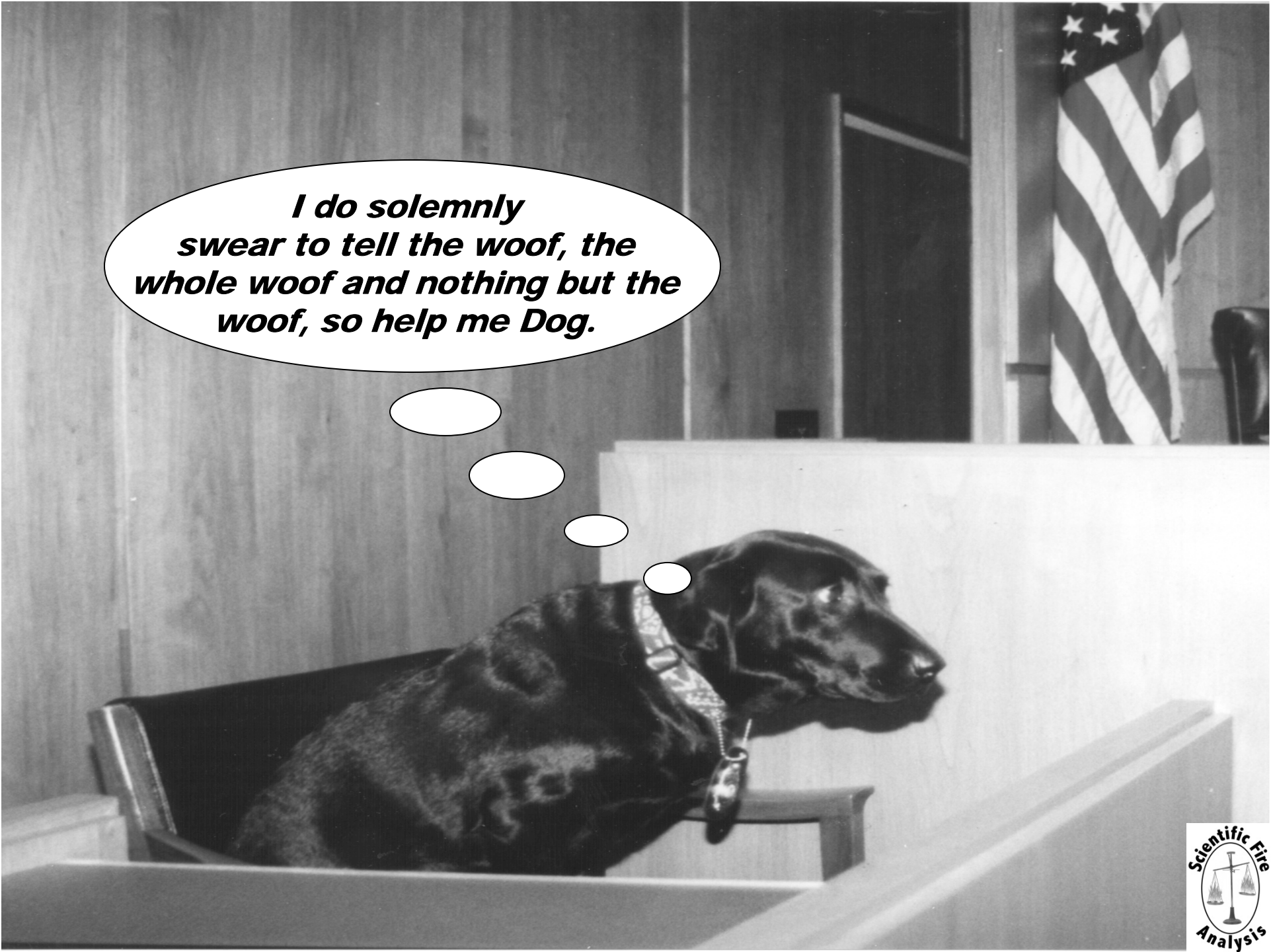


**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***Arson call based on an  
unconfirmed canine alert***







*I do solemnly  
swear to tell the woof, the  
whole woof and nothing but the  
woof, so help me Dog.*

**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***Arson call based on a fire  
that “burned hotter than  
normal.”***

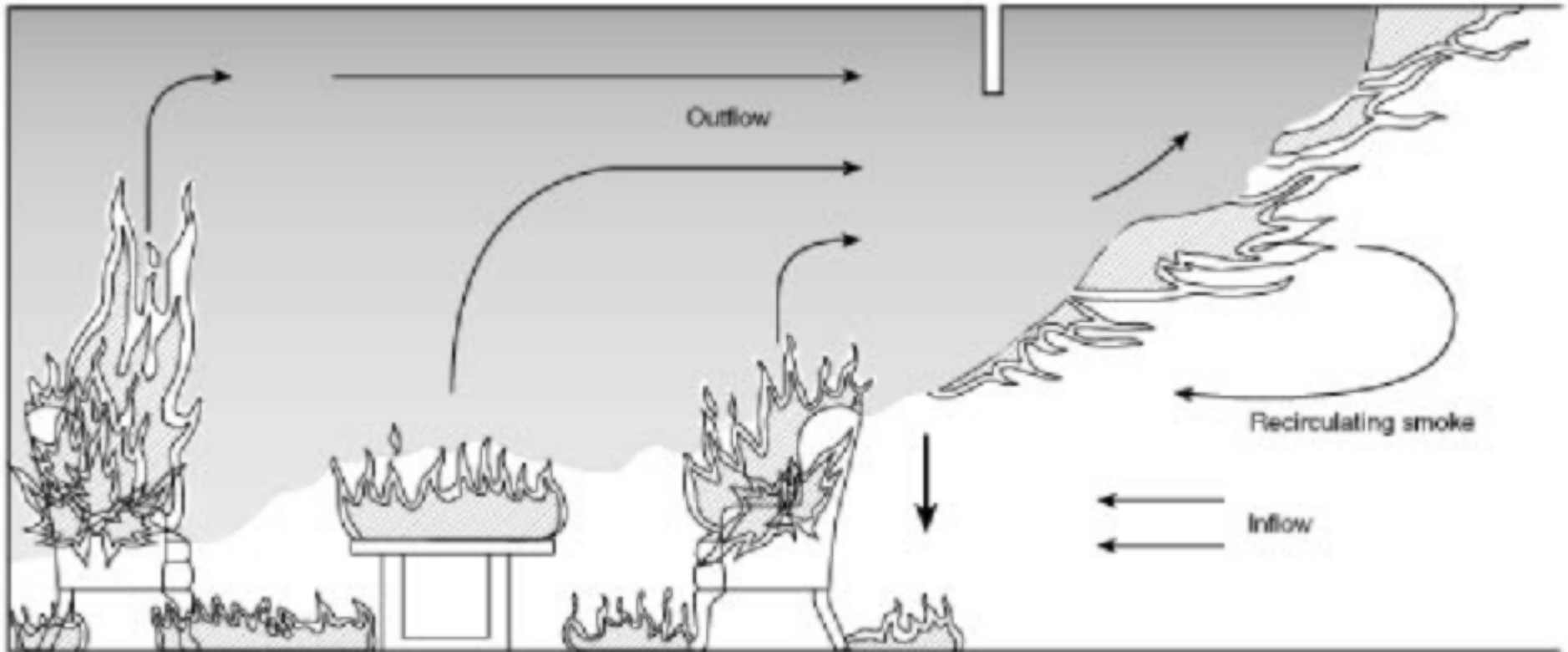


**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***Arson call based on a fire  
that “burned faster than  
normal.”***



# Flashover Occurs, Igniting Everything



***Frequently, nobody knows when it started***

**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***Inconsistent accounts by  
neutral eyewitnesses.***



**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***The defendant refused to  
cop a plea that involved no  
jail time.***





**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***The accused are your  
parents’ age, and have so  
far lived exemplary lives.***



**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***The defendant’s first  
criminal charge is  
arson/homicide.***



**“Red Flags” that MIGHT indicate  
that an error has occurred**

- ***A mathematical calculation  
was required to prove that  
the fire was set***



# ***Models***

# ***The New Magic***

An emerging and dangerous fire investigation methodology.

# ***The New Magic:***

Forensic Fire Scene Reconstruction



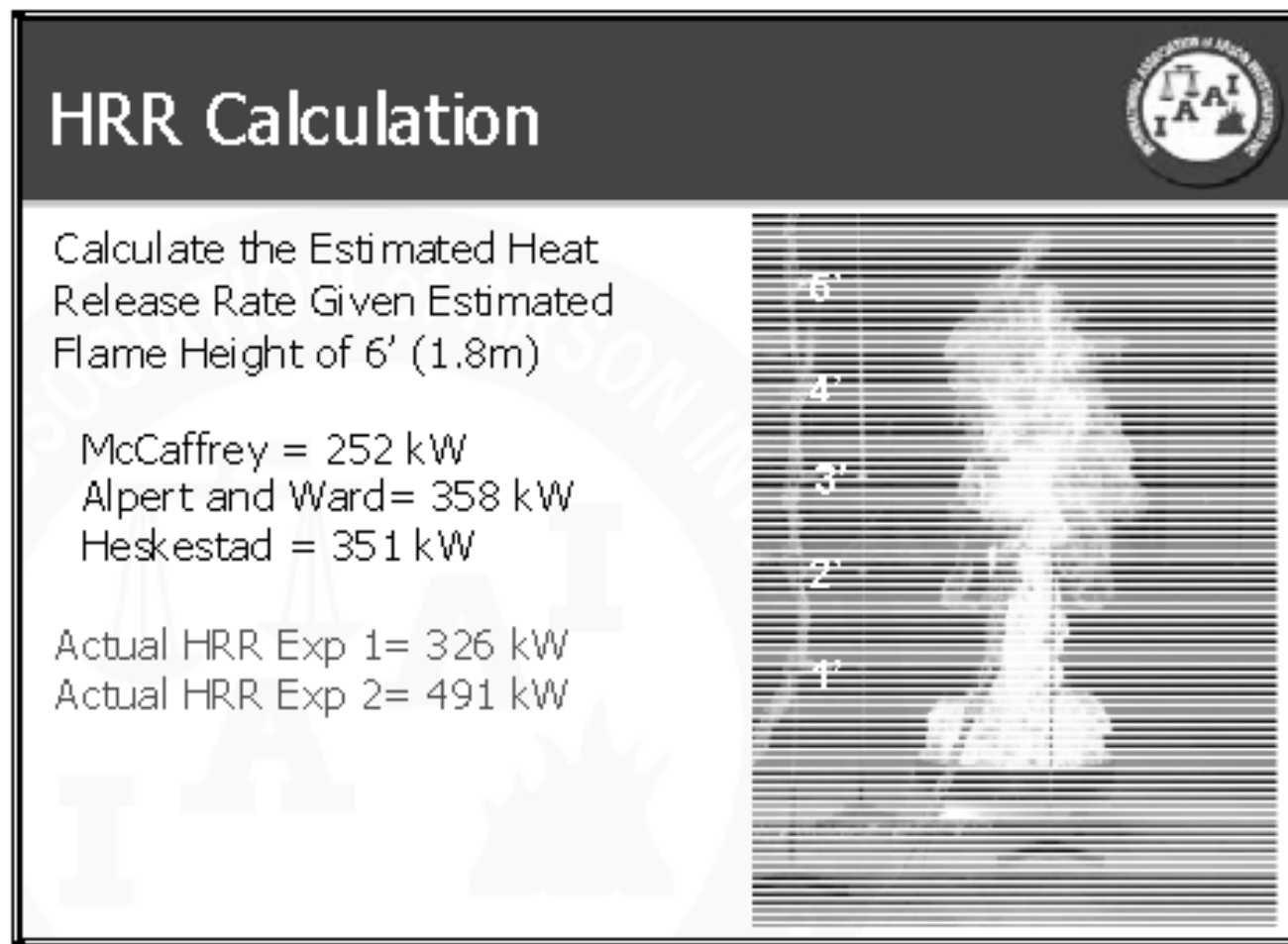
# ***The New Magic:***

## Forensic Fire Scene Reconstruction

When it is impossible to observe meaningful artifacts, the cause of the fire can be **logically inferred** using a few quick calculations!

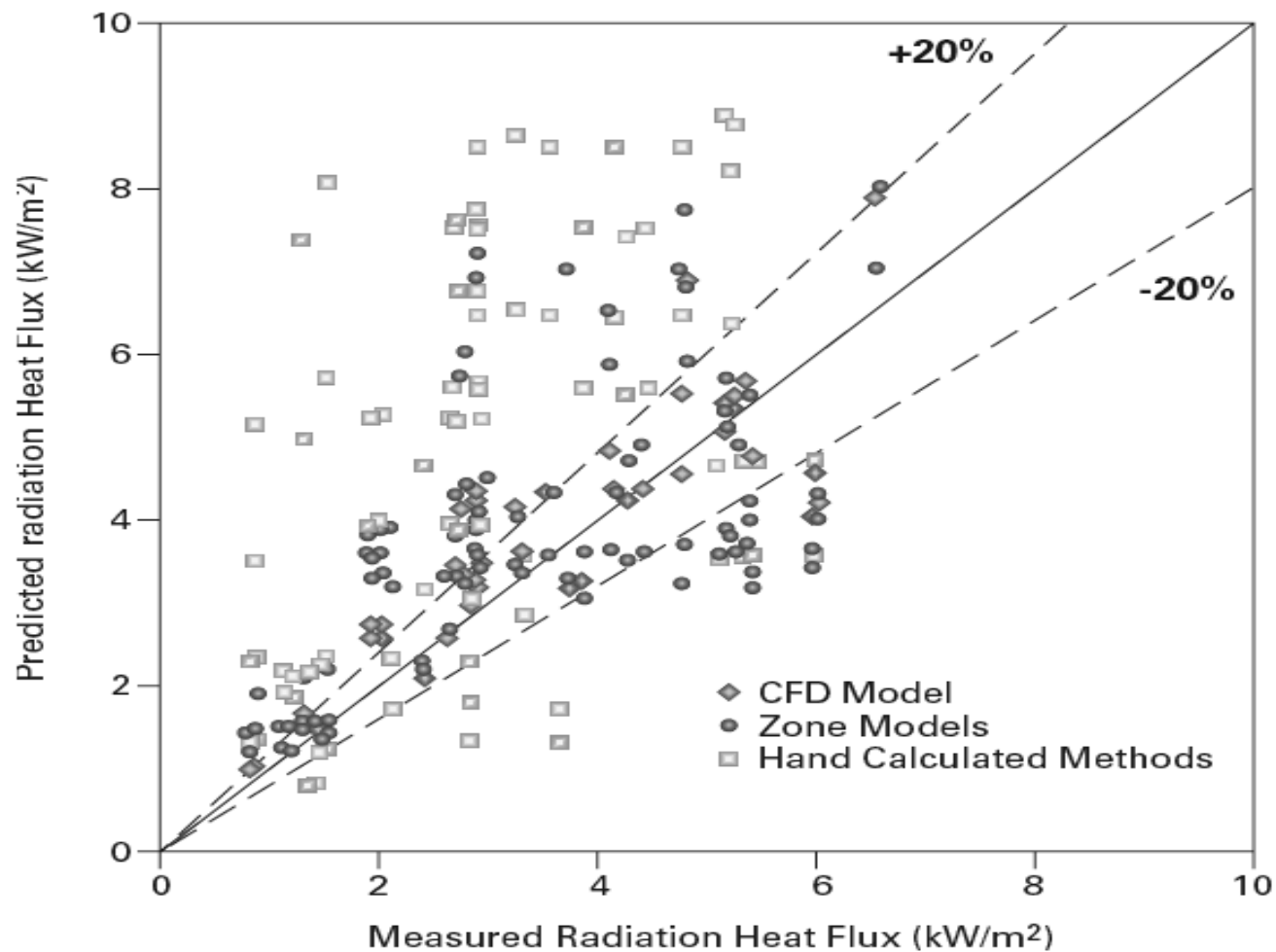


# ***The New Magic:***





# ***The New Magic:***



***Now what?***

# ***Traditional Post- Conviction Strategies***

UNITED STATES COURT OF APPEALS  
FOR THE SIXTH CIRCUIT

**KENNETH T. RICHEY,**

*Petitioner-Appellant,*

*v.*

**MARGARET BRADSHAW,**

*Respondent-Appellee.*

**No. 01-3477**

On Remand from the  
United States Supreme Court.

No. 98-01418—Patricia A. Gaughan, District Judge.

Argued: January 24, 2007

Decided and Filed: August 10, 2007

Before: SILER, DAUGHTREY, and COLE, Circuit Judges.



***Generally***

***A backward-looking  
Daubert challenge  
wrapped in a claim of  
ineffective assistance.***



# ***New Evidence***

***Richey then filed a post-conviction petition in the state court. There, he adduced new forensic evidence that cast doubt on the State's arson conclusions. In particular, Richey retained fire experts Richard Custer and Andrew Armstrong who opined that the State used flawed scientific methods not accepted in the fire-investigation community to determine that arson caused the fire and that the samples of carpeting and wood from Collins's apartment did not contain evidence of accelerants.***



## ***New Evidence***

**Despite Richey's new evidence, the state post-conviction court denied his request for an evidentiary hearing and dismissed his petition. The intermediate appellate court affirmed and the Ohio Supreme Court declined to review the case.**



# ***New Evidence***

**Richey then filed a petition for habeas corpus relief in the district court. The district court found that Richey's new experts "certainly undermine the state's arson evidence," but the court nevertheless denied his petition in full.**

**We reversed the judgment of the district court, holding that (1) Ohio law did not allow the doctrine of transferred intent to satisfy the *mens rea* element of the crime of aggravated felony murder; and (2) Richey was deprived of the effective assistance of counsel as a result of his counsel's mishandling of the scientific evidence.**





# ***Supreme Court Remand***

**On November 28, 2005, the Supreme Court vacated our judgment and remanded for further proceedings. The Supreme Court held that we erred in determining that Ohio law precluded Richey from being convicted of aggravated felony murder on a transferred-intent theory. In addition, the Court vacated our ruling on Richey's ineffective assistance claim and remanded for further consideration of that claim.**



## ***Supreme Court Remand***

**On remand, we considered further briefing from the parties and held oral argument. For the reasons set forth below, we again hold that Richey is entitled to a writ of habeas corpus because his counsel failed to function as the counsel guaranteed by the Sixth and Fourteenth Amendments.**



## ***Instructions on Remand***

**As petitioner [the State] contends, the Sixth Circuit erred in its adjudication of this claim by relying on evidence that was not properly presented to the state habeas courts without first determining (1) whether respondent was at fault for failing to develop the factual bases for his claims in state court, or**



## ***Instructions on Remand***

**(2) he satisfies the conditions set forth in § 2254(e)(2). *Holland v. Jackson*, 542 U.S. 649 (2004); *Williams v. Taylor*, 529 U.S. 420 (2000). “Diligence . . . depends upon whether the prisoner made a reasonable attempt, in light of the information available at the time, to investigate and pursue claims in state court.” *Williams*, 529 U.S. at 435.**



## ***Instructions on Remand***

**A petitioner whose efforts to develop his claims were rebuffed by the state court may still be deemed “diligent.” *Id.***



## ***Holding on New Evidence***

**To be sure, Richey marshaled new facts to support his claim when he was granted the right to take discovery in the district court. He presumably would have adduced the same facts in the state court, had that court not denied his request for an evidentiary hearing. In any event, armed with the discovery that the district court authorized and incorporated in the record, Richey put his new facts before this Court on appeal. The crux of his claim did not change, however.**



## ***Holding on New Evidence***

**Further, because Richey's ineffective-assistance claim is not "based upon a different allegedly ineffective action than the claim presented to the state courts," we reject the State's attempts to manufacture new ineffective-assistance claims based on the new facts developed in the district court.**



## ***Holding on New Evidence***

**For instance, the State treats Richey's factual assertions regarding how his trial counsel delayed and limited DuBois's investigation, failed to question DuBois's investigation, and failed to tell DuBois about possible evidence spoliation, as new theories of ineffective assistance that were not properly raised before the state courts.**





## ***Holding on New Evidence***

**We are unpersuaded by this argument. As the record shows, Richey has uniformly asserted a single ineffective-assistance theory in connection with his counsel's mishandling of the scientific evidence.**



## ***Holding on New Evidence***

**Just because Richey has presented new information, including the new facts regarding DuBois's qualifications and his trial counsel's oversight and interaction with DuBois, does not mean that Richey has asserted new claims not presented to the state courts; it simply means that Richey has supplemented and clarified his claim.**



# ***Lessons***

**Ask for an evidentiary hearing.**



# ***Lessons***

**Ask for an evidentiary hearing.**

**Choose a theory and stay with it.**



## ***Holding on Effective Assistance***

**The scientific evidence of arson was thus fundamental to the State's case. Yet Richey's counsel did next to nothing to determine if the State's arson conclusion was impervious to attack. True, Richey's counsel retained DuBois to review the State's arson evidence, so this case does not exemplify that most egregious type, wherein lawyers altogether fail to hire an expert. But**



## ***Holding on Effective Assistance***

**... the mere hiring of an expert is meaningless if counsel does not consult with that expert to make an informed decision about whether a particular defense is viable.**



***Holding on Effective Assistance  
See Strickland, 466 U.S. at 691  
(stating that defense counsel  
“has a duty to make reasonable  
investigations or to make a  
reasonable decision that makes  
particular investigations  
unnecessary”).***



## ***Holding on Effective Assistance***

**At bottom, the record shows that Richey's counsel did not conduct the investigation that a reasonably competent lawyer would have conducted into an available defense—that the fire was not caused by arson—before deciding not to mount that defense.**





## ***Holding on Effective Assistance***

**A lawyer cannot be deemed effective where he hires an expert consultant and then either willfully or negligently keeps himself in the dark about what that expert is doing, and what the basis for the expert's opinion is.**



## ***Holding on Effective Assistance***

**The point is not that Kluge had a duty to shop around for another expert who would refute the conclusions of DuBois and the State's experts. The point is that Kluge had a duty to know enough to make a reasoned determination about whether he should abandon a possible defense based on his expert's opinion.**



## ***Holding on Effective Assistance***

**As we stated in our prior opinion, we can discern no strategic reason why counsel would have so readily ceded this terrain to the prosecution.**



## ***Prior Opinion-Deficient Performance***

**At the outset, the State, and the dissent to this opinion, argue that Richey has no constitutional right to the "effective assistance of an expert." The district court also noted that it was not unreasonable for trial counsel to "decline [to conduct] further expert-shopping once that expert rendered his opinion." Both might be true if trial counsel had done everything he was supposed to have done, and through no fault of trial counsel - the expert had simply come up short.**



## ***Prior Opinion-Deficient Performance***

**However, we have held that the deficiencies of an expert can be imputed to counsel when counsel has failed to adequately research and screen an expert witness.**

**(The court then lists 5 other things counsel should have done.)**



## ***Prior Opinion-Deficient Performance***

**Even though trial counsel was not a scientist, this should not relieve him of his responsibility to understand the evidence being used to convict and execute his client. Furthermore, aside from the presentation of testimony from his own expert, he would have to be sufficiently informed to cross-examine the State's experts.**



## ***Prior Opinion-Deficient Performance***

**Trial counsel's failure to screen, supervise, or engage DuBois left Richey with little more than "a warm body with a prefix attached to his name," In a case anchored by scientific evidence, the failure to subject this evidence to meaningful adversarial testing was woefully deficient.**



## ***Prior Opinion-Prejudice***

**The prejudice inquiry is complicated slightly in this case because trial counsel's errors were twofold: deficiencies plagued both his hiring and handling of DuBois. Under either scenario, however, the evidence of prejudice is overwhelming.**





## ***Prior Opinion-Prejudice***

**Had counsel made the effort to find a qualified expert, rather than blindly hiring DuBois, the expert would have had the expertise and wherewithal to undermine the State's evidence that the fire was caused by arson.**



## ***Prior Opinion-Prejudice***

**The record indicates that a competent arson expert-fully informed and supervised, and using the methods available to him at the time of trial-would have all but demolished the State's scientific evidence, and with it a large part of the case against Richey.**



***Holding on Effective Assistance***  
***Dugas v. Coplan, 428 F.3d 317, 328***  
***(1st Cir. 2005)*** (holding that where defense counsel visually inspected the fire scene himself, talked with the state's experts, did some limited reading, and talked with other defense attorneys, he nonetheless failed to adequately investigate an available "no arson" defense).



## ***Lessons***

***While there may be no constitutional right to effective assistance of an expert, effective assistance of counsel includes investigating possible defenses through hiring and properly “handling” a competent expert.***



## ***Lessons***

***Effective assistance also demands that counsel actually understands the evidence against his/her client.***



***A New Approach***  
***Using the NAS***  
***report to attack***  
***wrongful***  
***convictions***



# NAS POST-CONVICTION ATTACK

- AFTER LITIGATING THAT FORENSIC ID EVIDENCE FROM FROM CHAPTER 5 (FINGERPRINT, TOOLMARK ON BULLET OR CASING, BITE MARK, TIRE PATTERN, ETC.), JUDGE PERSUADED
  - 1) SHOULDN'T HAVE BEEN ADMITTED AT ALL, OR
  - 2) STRENGTH OF EVIDENCE WAS MISREPRESENTED OR EXAGGERATED

# NAS ATTACK

- IN THEORY ALL SHOULD BE EXCLUDED  
BECAUSE NO DATABASE, NO VALIDATED  
STATISTICS
  - CAN'T SAY THIS MINUTIAE ON PRINT OR STRIA ON BULLET "SIMILAR TO," OR "CONSISTENT WITH" UNLESS VALIDATED, QUANTIFIED MEASUREMENT ERROR
  - SHOULDN'T MAKE ABSOLUTE SOURCE STATEMENT WITHOUT QUANTIFIED ERROR RATE



# NAS POST-CONVICTION ATTACK

## MEASURE OF PREJUDICE

DIFFERENCE BETWEEN---

“THIS BULLET CAME FROM THIS GUN TO THE EXCLUSION OF ALL GUNS  
IN THE UNIVERSE AND WE HAVE A ZERO ERROR RATE”

AND

“MORE PROBABLE THAN NOT” -- GLYNN

“REASONABLE DEGREE OF BALLISTIC CERTAINTY”

“CANNOT BE EXCLUDED AS THE SOURCE”

# NAS POST-CONVICTION ATTACK

## MEASURE OF PREJUDICE

DIFFERENCE BETWEEN---

“THIS PRINT CAME FROM THIS PERSON TO THE EXCLUSION OF ALL PRINTS IN THE UNIVERSE AND WE HAVE A ZERO ERROR RATE”

AND

“WHETHER FINGERPRINTS ARE UNIQUE HASN’T BEEN PROVEN”

“THE PRINT SHARES COMMON CHARACTERISTICS WITH THE DEFENDANT BUT THE POOL OF PEOPLE WHO MIGHT SHARE THOSE CHARACTERISTICS IS UNKNOWN”

“THE ERROR RATE IS UNKNOWN”

# NAS POST-CONVICTION ATTACK

## MEASURE OF PREJUDICE

—

WHAT PROSECUTOR SAID --

IN OPENING

IN CLOSING \_\_\_\_\_

IN DEFENSE OF ATTACKS, IF ANY, ON EXPERT  
IMPORTANCE OF EVIDENCE!!!

# LEGAL CHARACTERIZATIONS OF NAS ATTACK

- SIX CATEGORIES

- 1) NEWLY DISCOVERED EVIDENCE

- 2) UNDISCLOSED “BRADY”

- 3) GIGLIO MATERIAL

Misrepresentation Prosecutor didn't know about that impeaches credibility of witness

- 4) NAPUE MATERIAL

False evidence prosecution knew about and failed to correct

# LEGAL CHARACTERIZATIONS OF NAS ATTACK

- SIX CATEGORIES CONT'D

5) STRICKLAND INEFFECTIVENESS

6) 8TH AMENDMENT “HEIGHTENED  
RELIABILITY” REQUIREMENT FOR  
SENTENCING

CAPITAL

# LEGAL CHARACTERIZATIONS OF NAS ATTACK

- NEWLY DISCOVERED EVIDENCE OF INNOCENCE
  - NAS Alone Proves Prosecution's Forensic Identification Evidence Is No Longer Generally Accepted As Reliable

# LEGAL CHARACTERIZATIONS OF NAS ATTACK

- “Courts have recognized that the [NRC] is a distinguished cross section of the scientific community.” *People v. Venegas* 18 Cal.4th 47
- Courts have recognized that the conclusions of the National Research Council regarding the reliability of a particular methodology "can easily be equated with general acceptance of those methodologies in the relevant scientific community." *Porter* 618 A.2d at 643 n.26.
- USSC cites to report for proposition that “serious deficiencies have been found in forensic evidence used in criminal trials.” *Melendez-Diaz* 557 U.S. ----, 129 S.Ct. 2527

# LEGAL CHARACTERIZATIONS OF NAS ATTACK

- NEWLY DISCOVERED EVIDENCE OF INNOCENCE
  - NAS Alone Proves Prosecution's Forensic Identification Evidence Is No Longer Generally Accepted As Reliable
  - BOTH A FRYE AND DAUBERT ARGUMENT



# *Frye and Daubert*

## *Frye:*

General acceptance by the relevant scientific community that the technique is reliable.

- *Daubert:*

Court determination of reliability. Factors include but are not limited to

Testing/Validation

Peer Review and  
Publication

Error Rate

Standards

General Acceptance

# What does general acceptance mean?

- Reliability has been established
- Validity has been established
- Accuracy is established
- Has a known error
- Understand the conditions in which errors occur and do not occur
- Standard error of measure is established and known
- Standards exist

# Who is the scientific community and what is the relationship of the NAS Report to the Views of the Community?

- I. NAS report is representative of the views of the scientific community
- II. Scholars, scientists, forensic scientists
- III. Considered all information that was submitted.
- IV. Scientific community cannot be limited to those who practice the discipline

# LEGAL CHARACTERIZATION OF NAS ATTACK

- NEWLY DISCOVERED EVIDENCE OF INNOCENCE
  - SERIOUS PROBLEMS!!!!
    - ONLY AVAILABLE IN STATE COURT
    - DEADLINES -- ARGUABLY STARTS RUNNING FROM NAS PUBLICATION DATE
    - HIGHER STANDARD TO VACATE CONVICTION
      - REASONABLE PROBABILITY THAT THE NEW EVIDENCE, LOOKING AT RECORD AS A WHOLE, WOULD LEAD TO A DIFFERENT OUTCOME JUST

# LEGAL CHARACTERIZATION OF NAS ATTACK

- CLASSIC BRADY - EXCULPATORY EVIDENCE THE PROSECUTION DID NOT DISCLOSE
  - DOESN'T MATTER WHETHER PROSECUTION HAS ACTUAL KNOWLEDGE OF THE EVIDENCE AT ISSUE *Kyles v. Whitley*, 514 U.S. 419, 432-443 (1995).
  - BUT, HERE BOTH THE FORENSIC WITNESS AND THE PROSECUTOR STILL SAY THEY DON'T "KNOW" EVIDENCE IS UNRELIABLE, EXAGGERATED, OR EXCULPATORY

# LEGAL CHARACTERIZATION OF NAS ATTACK

- DUTY TO DISCLOSE IN ONGOING. Pennsylvania v. Ritchie, 480 U.S. 39, 60 (1987); Imbler v. Pachtman, 424 U.S. 409, 427 n.25 (1976)
- Because duty is on-going, prosecutor must disclose ***whenever it becomes aware of forensic or examiner deficiencies.***
- Because duty is on-going, as state of scientific knowledge changes, ***there is on-going duty to disclose scientific inaccuracies.***

# LEGAL CHARACTERIZATION OF NAS ATTACK

- GIGLIO, 405 US 150 (1972) MATERIAL
  - MISREPRESENTATION BY WITNESS
    - MISREPRESENTS RESULT “SCIENTIFIC” WITH NO ERROR RATE
  - PROSECUTOR DOESN’T KNOW ABOUT IT
  - IMPEACHES CREDIBILITY OF KEY EVIDENCE
    - IF POST-CONVICTION COURT ONLY DECIDES EVIDENCE EXAGGERATED, STILL MERITS RELIEF UNDER GIGLIO

# LEGAL CHARACTERIZATION OF NAS ATTACK

- GIGLIO, 405 US 150 (1972) MATERIAL
  - DUTY TO CORRECT MISREPRESENTATION EVEN IF AT THE TIME DIDN'T KNOW IT WAS WRONG
  - ASCLAD CODE OF ETHICS
    - 2.1 No member of ASCLD shall engage in any conduct that is harmful to the profession of forensic science including, but not limited to, any illegal activity, any technical misrepresentation or distortion, any scholarly falsification.
    - 2.6 No member of ASCLD shall offer opinions or conclusions in testimony, which are untrue or are not supported by scientific data.
    - 2.10 All members shall report, to the extent permitted by law, to the Board of Directors any potential ethics violation committed by another member of ASCLD.



# LEGAL CHARACTERIZATION OF NAS ATTACK

- GIGLIO, 405 US 150, 154 (1972)
  - REVERSE WHEN “RELIABILITY OF A GIVEN WITNESS MAY WELL BE DETERMINATIVE OF GUILT OR INNOCENCE”

# LEGAL CHARACTERIZATION OF NAS ATTACK

- GIGLIO, 405 US 150 (1972) MATERIAL
  - KYLES: REVERSE WHEN “REASONABLE PROB OF A DIFFERENT OUTCOME” WHERE
  - Bagley 's touchstone of materiality is a “reasonable probability” of a different result, and the adjective is important. The question is not whether the defendant would more likely than not have received a different verdict with the evidence, but whether in its absence he received a fair trial, understood as a trial resulting in a verdict worthy of confidence. A “reasonable probability” of a different result is accordingly shown when the government's evidentiary suppression undermines confidence in the outcome of the trial. Bagley, 473 U.S., at 678, 105 S.Ct., at 3381.

# LEGAL CHARACTERIZATION OF NAS ATTACK

- GIGLIO, 405 US 150 (1972) MATERIAL
  - BRADY/GIGLIO STANDARD LOWER THAN NEWLY DISCOVERED EVIDENCE
    - ABSENCE OF ACKNOWLEDGEMENT THAT PRINT/BULLET EVIDENCE WAS SUBJECT TO ERROR NOT A “FAIR TRIAL” OR A “VERDICT WORTHY OF CONFIDENCE”
- STORY/THEME ARROGANCE, BAD FAITH
  - IMPORTANT TO STRESS THAT FORENSIC SCIENTISTS HAD EARLY AND FAIR WARNING THAT METHOD NOT SCIENTIFICALLY VALIDATED OR ERROR FREE
  - VERDICT NOT WORTHY OF PUBLIC CONFIDENCE IF BASED ON MISREPRESENTED AND EXAGGERATED SCIENCE

# LEGAL CHARACTERIZATION OF NAS ATTACK

## **Napue v. Illinois, 360 U.S. 264 (1959)**

- THE KNOWING USE OF FALSE TESTIMONY, “FALSE FACTS”
- DUTY TO CORRECT
- REVERSAL REQUIRED “IF THE FALSE TESTIMONY COULD IN ANY REASONABLE LIKELIHOOD HAVE AFFECTED THE JUDGMENT OF THE JURY” NAPUE AT 271

# LEGAL CHARACTERIZATION OF NAS ATTACK

**Napue v. Illinois, 360 U.S. 264 (1959)**

- THE MORE THE FORENSIC COMMUNITY SAYS THAT THE NAS REPORT IS “NOTHING NEW,” WE’VE KNOWN ABOUT THESE PROBLEMS A LONG TIME...
  - THE MORE IT LOOKS LIKE A MISREPRESENTATION
  - THE MORE IT BECOMES CLEAR THERE WAS A DUTY TO CORRECT

# LEGAL CHARACTERIZATION OF NAS ATTACK

8th AMENDMENT “HEIGHTENED  
RELIABILITY” ARGUMENT

# ***The Eighth Amendment is all about reliability***

- The Eighth Amendment imposes a heightened standard “for reliability in the determination that death is the appropriate punishment in a specific case.” Woodson v. North Carolina, 428 U.S. 280, 305 (1976).
- This heightened need for reliability requires the provision of “accurate sentencing information [as] an indispensable prerequisite to a reasoned determination of whether a defendant shall live or die.” Gregg v. Georgia, 428 U.S. 153, 190 (1976).

## ***An “acute need” for reliability***

- **“The Court has stressed the ‘acute need’ for reliable decisionmaking when the death penalty is at issue.”**
- **Deck v. Missouri, 544 U.S. 622, 632 (2005)**
- **The Court has repeatedly “recognized an acute need for reliability in capital sentencing proceedings.”**
- **Monge v. California, 524 U.S. 721, 732 (1998)**



# **Daubert is all about reliability**

- “[T]he trial judge must ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.”
- Daubert v. Merrell Dow Pharmaceutical, 509 U.S. 579, 589 (1993)
- “In short, the requirement that an expert's testimony pertain to ‘scientific knowledge’ **establishes a standard of evidentiary reliability.**” Id. at 590.
- Daubert’s “overarching subject is the scientific validity – **and thus the evidentiary relevance and reliability** – of the principles that underlie a proposed submission.” Id. at 595

# ***Capital Implications of Daubert***

- Even if the evidence would somehow still be admissible under *Frye*, if it lacks **basic scientific reliability** under *Daubert*, it cannot satisfy the Eighth Amendment requirement of **heightened reliability**.

# LEGAL CHARACTERIZATION OF NAS ATTACK

- IAC -- STRICKLAND
- **ABA DP Guidelines, Guideline 10.7**  
"Counsel at every stage have an obligation to conduct thorough and independent investigations relating to the issues of both guilt and penalty,"
- **ABA Standards for Criminal Justice, The Defense Function § 4.1**  
"It is the duty of the lawyer to conduct a prompt investigation of the circumstances of the case and explore all avenues leading to facts relevant to guilt and degree of guilt or penalty,"
- The failure to investigate and utilize this evidence proves counsel's deficient performance under Strickland.

# LEGAL CHARACTERIZATION OF NAS ATTACK

- IAC -- STRICKLAND
- Failure to pursue:
  - Discovery or funding opportunities
  - Daubert/Frye or other admissibility issues
  - Testing requested by the defendant
  - Cross examination of prosecution experts
  - Failure to object to improper characterization of evidence
  - Failure to employ or ineffective usage of defense experts

# ***The Double-Edged Sword***

## **BRADY**

- To the extent that underlying facts in the NAS Report are not new, that evidence would have been known to the prosecution and they would have been required to disclose it under Brady

## **STRICKLAND**

- Alternatively, it was available to trial counsel at the time of trial and could have been used to exclude false evidence and argument and impeach the witnesses who provided such testimony.

# When, if ever, have judges excluded forensic science?

- DNA in the early 1990's
- Key factors:
  - Prominent critics (including an NRC panel)
  - Skillful litigators
  - Relative new method?