



Grenfell Tower Inquiry Put on Hold

The corona virus has halted, at least until July, the inquiry into what went wrong to cause the 2017 fire that destroyed Grenfell Tower and took 72 lives with it. The government has spent more than £100 million on community relief and has set up a fund of £1 billion to remove the combustible cladding from high rise buildings all over the UK. June 14 marked the third anniversary of the disaster and survivors were not able to gather because of the plague. Here is a link to PM Johnson talking (~2.5 minutes) about the third anniversary.

<https://www.youtube.com/watch?v=fKXumirg1jA>.

Wikipedia has extensive coverage, available here.

https://en.wikipedia.org/wiki/Grenfell_Tower

The Dog Wars are Back

In 1994 through 1996 Dog War One happened, and the scientists won. The war started when Nancy Grace (yes that Nancy Grace) introduced 12 unconfirmed canine alerts into the murder trial of Weldon Wayne Carr.

I was retained by Carr's defense and appellate attorneys, and first helped to organize an affidavit from five chemists at the Georgia Bureau of Investigation Division of Forensic Sciences who all wrote that the introduction of unconfirmed canine alerts was not good science. I suggested that the IAAI Forensic Science Committee take a position and they did, resulting in a white paper that was published in 1994. Next, I brought the issue to the attention of the NFPA Technical Committee on Fire Investigations, and then-chairman Richard Custer understood that there were problems with the way the issue was being handled by the courts, i.e., they were allowing unconfirmed canine alerts into evidence. It became clear that unless something was done, a *body of law* would form that would be difficult to undo. Thus, after organizing two industrywide meetings, one on the East Coast and one on the West Coast, a TIA, (tentative interim amendment) was drafted and inserted into the 1995 edition of NFPA 921. Things might have turned out differently if we had waited for the next (1998) edition to add the language about unconfirmed alerts.

When the Georgia Supreme Court saw the affidavit, the position paper, and the TIA, they requested additional briefing on the subject of canine alerts and overturned Mr. Carr's conviction on the basis that the judge had allowed junk science into the trial. Science won. The Supreme Court's decision is available here:

<https://caselaw.findlaw.com/ga-supreme-court/1216749.html>

That should have been the end of it, but there are still people who believe that unconfirmed canine alerts represent valid evidence. (Or their case is so weak, that's the best evidence they can come up with.) The problem continued for quite some time, with most of the rulings going against the admission of this invalid evidence, but there were enough desperate lawyers still trying to use this junk science that in 2012, the Canine Accelerant Detection Association (CADA) took a strong stance and wrote, "our position is that no prosecutor, attorney, or ADC handler should ever

testify or encourage testimony that an ignitable liquid is present without confirmation through laboratory analysis.”



Some people still didn't get it. A 2017 study in the *International Journal of Evidence and Proof* studied case law in the US, Canada, and the UK and found that admissibility frameworks have not been effective in rejecting opinion testimony given by investigators and dog handlers that unconfirmed alerts where laboratory tests were negative provided proof of arson. That article is available here. <https://journals.sagepub.com/doi/10.1177/1365712717746419>

Now, a more recent study conducted at the University of Alberta suggests that dogs can detect as little as five picoliters (pL) of gasoline, even though such a small amount is not likely to have any real meaning. This is about four orders of magnitude more sensitive than a typical GC-MS analysis of a charcoal strip separation.

The current accepted detection limit for ignitable liquid residues in samples of fire debris using modern techniques is about 0.1 µL, about 1/500 of a drop. (There are 20 drops in a milliliter, and 50 µL in a drop.) A story about the study from Alberta that describes the detection limit for canines as a “billionth of a teaspoon” is available here:

<https://www.sciencedaily.com/releases/2020/05/200512151943.htm#:~:text=Trained%20dogs%20can%20detect%20fire%20accelerants%20such%20as%20gasoline%20in,has%20implications%20for%20arson%20investigations.>

The actual study is behind a paywall, but I will share my copy upon request.

Anyone who tries to cite that study will be citing a study based on a total of two K-9 teams, one trained to detect gasoline, and the other trained to detect via a variety of ignitable liquid residues. When N=2, a paper certainly should not be cited when the stakes are as high as they are in a criminal trial, and when the K-9 cannot be cross-examined, people should stick with the chemistry that we know and trust.

It has been said that eternal vigilance is the price of liberty, and so it is with good science.

Changing canine terminology

On the bright side, there has been a change in the terminology applied to canines. Originally called “accelerant detection canines,” they are now referred to in the upcoming edition of NFPA 921 as “IGL canines” for “Ignitable Liquid Detection Canines.” The researchers in Alberta used the same terminology but changed the acronym to “ILDCs.”

Linda Stermer Conviction Overturned

There is an interesting new case from the Sixth Circuit. Two of three judges on the appellate panel overturned the conviction of Linda Stermer, who was convicted in 2010 of killing her husband in an arson fire. Not only that, when her husband ran out the door, Ms. Stermer ran him over with a van. A Detroit Free Press article on the case is available here:

<https://www.freep.com/story/news/local/michigan/2020/01/31/linda-stermer-michigan-murder/4621891002/>

Ms. Stermer stated that it had been an accident, suggesting that her husband lit himself on fire when he was going to burn the house down for insurance money. She stated that running him over with the car also had been an accident. The timing of the fire did not help. Todd Stermer had learned the day before that Linda had been having an affair with a co-worker.

In her federal *habeas corpus* appeal, she persuaded Judge Arthur Tarnow that she did not get a fair trial. The judge found both prosecutorial misconduct (the prosecutor called her a liar even though she did not testify) and ineffective assistance of counsel (he failed to hire or even consult with an arson expert).

He ordered her immediately released in December 2018. The state of Michigan filed an appeal with the Sixth Circuit in Cincinnati, which upheld Judge Tarnow's ruling on a 2-1 decision published on May 15, 2020.

She is out on bail now and entitled to a new trial, which the prosecutors say is going to happen. They decided in June to go forward with a new trial rather than appeal the Sixth Circuit decision.

<https://www.mlive.com/news/kalamazoo/2020/06/prosecutor-will-retry-michigan-woman-convicted-of-killing-husband-in-house-fire.html>

She was interviewed by 48 hours in February 2020, and does not appear to have done herself any favors in the interview.

<https://www.cbsnews.com/news/linda-todd-stermer-michigan-couple-court-of-appeals-woman-accused-of-murdering-husband/>

A link to the Sixth Circuit opinion can be found here.

<https://www.opn.ca6.uscourts.gov/opinions.pdf/20a0151p-06.pdf>

When the decision was announced, I made a comment on social media that was not well received by the people rejoicing about Ms. Stermer's release and linked to an article here.

<https://www.nationalreview.com/bench-memos/another-summary-reversal-of-sixth-circuit-coming-soon/>

The article was written by a friend of the dissenting judge. To be fair, don't just read the dissent, but be sure to read the dissent.

Joshua Burger Conviction Overturned

Here is yet another interesting case of an arson conviction being overturned, this time from the Michigan Court of Appeals.

The error that the appeals court found was that the defendant was prevented from presenting evidence that he had **no motive** to commit the crime. While motive is an essential part of a civil first-party arson case between the insured and the insurance carrier, it is intent, not motive, that must be shown in a criminal case. NFPA 921 explains the difference in Chapter 24.

24.4.9.1.1 *Motive* is defined as an inner drive or impulse that is the cause, reason, or incentive that induces or prompts a specific behavior. The identification of an offender's motive is a key element in crime analysis. Crime analysis is a method of identifying personality traits and characteristics exhibited by an unknown offender. It is the identification and analysis of the personality traits that eventually lead to the classification of a motive. Once a possible motive is identified, the investigator can begin to evaluate potential suspects for the incendiary fire.

24.4.9.1.2 Behaviors related to the classifications of motive may not be exclusive to one motive classification but may appear to overlap categories and to be similar for different motives. In these instances, it is important to obtain additional information that may clarify the behaviors.

24.4.9.1.3 In addition to the identification of a motive, other analyses should be considered that might assist in determining if a serial firesetter exists. Through the analysis of confirmed incendiary fires, trends or patterns in repetitive firesetting behaviors may be detected. The three principal trends that may be identified are geographic clustering, temporal frequency, and methods and materials. (See 24.4.1.)

24.4.9.2 Motive Versus Intent. There is an important distinction to be made between motive and intent. Intent refers to the purposefulness or deliberateness of the person's actions or, in

some instances, omissions. It also refers to the state of mind that exists at the time the person acts or fails to act. Intent is generally necessary to show proof of crime. The showing of intent generally means that some substantive steps have been taken in perpetuating the act. Motive is the reason that an individual or group may do something. It refers to what causes or moves a person to act or not to act and the stimulus that causes action or inaction. Motive is generally not a required element a crime. For example, a person with indications of “financial difficulty” could experience a fire to his insured property that is ignited by his falling asleep with a lit cigarette. While this person may have motive to cause a fire, that person did not intend to have a fire. Thus, no element of intent existed.

This is a case where the timing certainly makes it look like it was an arson fire, but the Appeals Court seemed to be embracing a defense hypothesis that the fire could have been caused by spontaneous combustion. The defendant had been refinishing a guitar using a stain containing linseed oil and left a can of oil-soaked rags on the shelf at the origin. (Ultimately, all investigators agreed on the location of the origin.)

Unfortunately, that is probably a misapprehension as the defendant was seen leaving the storage room where the fire started at 7:27:39 PM before walking out of the room alone and locking the door. A fire could be seen on the security camera at 7:27:55 PM, only 16 seconds later.

Why oily rags can combust



Heating up fast. In seven minutes, the internal temperature of this wadded-up cloth soaked in linseed oil rose from less than 100°F to 350°F and started to smoke (above). Less than five minutes later, the temperature rose from 350°F to almost 500°F, and the cloth caught fire (right).



Minck, C., How to Safely (and not so Safely) Dispose of Oil Soaked Rags, Fine Woodworking, May 2005

I have studied spontaneous combustion extensively over the years and have written about it several times. The shortest period of time that I have ever heard about is seven minutes until the linseed oil-soaked rags began to smoke and 12 minutes before they began to flame. I was skeptical of this short time frame and contacted the author of the article containing the photo above. He assured me that he had indeed gotten the results shown in the photo, although it was a warm (85 degrees F) day. A fire starting from spontaneous combustion in under a minute strains credulity.

It did not help the state's case that the two fire investigators changed their opinion from "two origins, incendiary" to "one origin, incendiary," but the Court held that the *Brady* violation of not revealing this change of opinion until the day of the trial did not entitle the Defendant to relief, because both investigators were thoroughly cross-examined on the subject.

In many of the cases of wrongful conviction that I have examined, a lack of motive is a common feature, but a fire starting in the short time frame postulated here seems to have persuaded the jury. The Appeals Court found that it was an *abuse of discretion* for the trial court judge to exclude evidence on motive. If he had allowed those witnesses to testify, my guess is that it probably would not have made any difference to the jury.

Here is a link to the Appeals Court's 8-page ruling:

<https://law.justia.com/cases/michigan/court-of-appeals-published/2020/343332.html>

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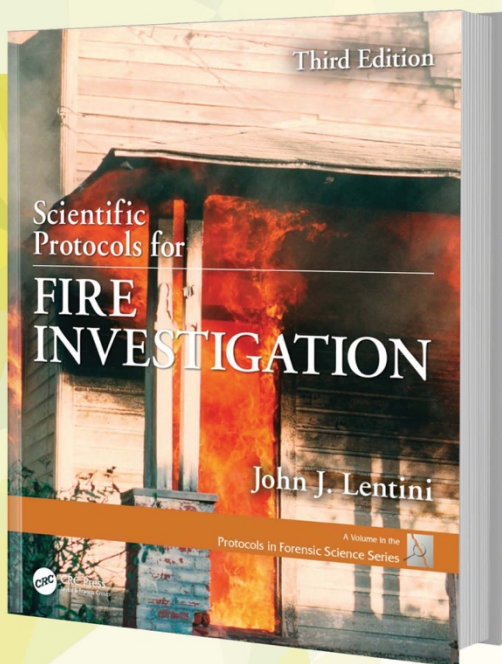
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