Arson and the Investigator's Challenge

by

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Arson Investigation, for some, is an exciting and exacting science to try and figure out the whys of the crime and not just seeing things as a crime against one's property or society. For some arson investigators, this is an never-ending challenge for them to be able to figure out what goes on in the mind of an arsonist. What makes an individual become an arsonist or pyromaniac? What makes them want to start fires? Is it just for fun or is there some genetic tie that gets them excited at the sight of fire? Maybe some twisted psychological need and desire to see something destroyed? My paper is a brief discussion addressing the following questions:

1. What is Arson?
2. What is the Art of the Investigation?
3. What are the different types of fire investigators and who do they work for?
4. What is the job of the Investigator?

To be a truly effective Arson Investigator, you must not only know the mind of the criminal, but also what shapes an arsonist, whether they are a serial arsonist or spree arsonist.

What is Arson?

Arson, by definition, is the act of willfully and maliciously setting fire to a house, building, or other property. Under common law, arson is the willful and malicious burning of the house of another person and was considered a felony punishable by death. The penalty for arson now consists of differing types of punishment or simple imprisonment. If the crime results directly or indirectly in the death of a person, it can be prosecuted according to the modern definition of murder. The act of burning one's own house for fraudulent purposes such as to defraud an insurer or destroy the property of another on the premises is also a crime, sometimes a misdemeanor in some states in the United States. However, this act is now defined as a lower degree of arson and consequently is punished less severely. Under the penal statutes of some states, including New York, arson in the first degree is setting fire to any building in which a human being is present. (encarta.msn.com/encyclopedia)

Arson is a very dangerous crime. The average fire causes about $4,399 in damages and every year arson alone causes $1,000,000,000 in damages along with an estimated annual death toll of 1,200. One tell-tale sign of arson is finding trace evidence of something that speed up fires (called accelerants) like gasoline or kerosene. Specially trained K-9 units can be used to detect the use of accelerants that normally

would be unnoticeable to humans. Also, a burnt match in the middle of a room or a lot of crumpled paper in an impractical place can prove to be important clues in an arson investigation.

Arson, when prosecuted, is divided into three degrees, and each degree is treated differently in court. First and second degree arson are considered to be and are treated as felonies, while third degree arson is considered only a misdemeanor. Also, if a person or persons is killed in an intentionally set fire, the arsonist could also be charged with murder, even if they thought the building was empty and did not mean to hurt or kill anyone.

There are many reasons why arson may be committed, including but not limited to revenge, jealousy, excitement, harassment, intimidation, defrauding an insurance agency, and pyromania. In revenge cases, the fire is set to get back at someone for something that was done to the injured party, maybe to feel justice on their part. In jealousy cases, the fire starter may be jealous of wealth, beauty, a successful relationship, a job, or any number of other things. In excitement cases, perpetrators are often very bored and are just looking for something interesting to do. They usually don't mean to set a serious fire, or cause any serious damage. In harassment, as well as in intimidation cases, fires are set to scare or warn someone, or to keep them quiet. Some fires are set to defraud insurance agencies. Some people set fires to old, abandoned run-down properties that they themselves cannot afford to demolish in the hopes of collecting an insurance claim on the destroyed property.

Pyromania is a mental disorder that is a major contributor to arson. Pyromaniacs are known to have feelings of sadness and loneliness, followed by rage, which leads to the setting of fires as an outlet. For a positive diagnosis, there must be purposeful setting of fire on at least two occasions. There is tension prior to the act, and gratification or relief when it is over. It is done for its own sake, and not for any other motivation. In some cases it is all about the pleasure of seeing what other people have to do to extinguish the fire, and the pyromaniac may enjoy reading of the effects of what they have done. Many arsonists claim that they just like to set fires for the sake of fires and the blaze of dancing flames. Many pyromaniacs feel a relief of stress in watching things burn or smolder, and the condition is fueled by the need to watch objects burn.

A study done in 1979 by the Law Enforcement Assistance Administration found that only 14 percent of fires were started by pyromaniacs and others with mental illness. (Wikipedia, 2006)

Pyromania has many causes, including excessive alcohol usage, unemployment, and a poor home life. As pyromania develops, it may appear immediately in adolescence or take years to manifest itself in some adults. Some signs of pyromania are an odd or extreme obsession with lighters, matches, or fire in general. Arson is a growing problem and is no less dangerous than any other crime. And, since it usually destroys its own evidence, it is twice as hard to detect. (Battle and Weston, 1987)

What is the Art of the Investigation?

Arson Investigation involves the dedicated study of fire-damaged physical evidence and crime scenes to detect arson. The techniques involved in such investigations require a basic grounding in the chemistry of fire, the materials used in the formation of fire as well as the various ways in which fires are interrelated and initiated. (Forensic Science Resources, 2000)

The investigation into a possible arson starts with the fire itself. To create and sustain a fire three factors must be present. These three factors are known as the fire triangle. The fire triangle consists of oxygen, a fuel source, and heat. In most cases the percentage of oxygen concentration must be above 16%. The fuel may be any flammable substance. The heat source needs only to match the ignition temperature of the fuel. In a fire involving arson the arsonist will have altered one or more of the factors in the fire triangle. The arsonist may increase the fuel load by introducing some type of flammable material such as kerosene, gasoline or alcohol. The person setting the fire may increase the oxygen intake of a structure by opening windows or cutting or punching holes in ceilings and walls. Fire will follow the highest concentration of oxygen to its source. By ventilating a structure at the top and starting a fire at the bottom of the structure an arsonist can cause the fire to race upward through the structure. The fire will rapidly involve the whole structure rather than be confined to one room.

An arson fire involves the introducing a source of heat that can be as simple as a match or as complex as chemicals with a very low ignition rate. A fire is considered to be arson in nature when all evidence that it may be accidental has been ruled out. To say that the cause of a fire was arson and therefore deliberate, the investigator must have sufficient evidence the one of the factors in the fire triangle was tampered with. (Steck-Flynn, 2006)

Investigator Facts

There are many types of investigators, with fire and arson investigators being only a couple. There are state arson investigators, fire marshals and insurance investigators (fire). What are the differences between them? State investigators are usually certified by the State and are employed by the state, whereas fire marshals, while still certified by the state, are usually with the fire department and whatever city or county they are assigned to. Insurance investigators are not primarily with any state, and received their training and certification independently from any state or federal affiliation. They get their certifications mostly from the International Association of Arson Investigators (IAAI). State investigators and fire marshals report to the state insurance commissioner. Insurance investigators usually work for independent investigation companies and are hired by insurance companies so that they can give the appearance that they are using “unbiased” people. But insurance companies like consistency so they have a tendency to go with the same investigator or investigation company for most of their claim processes. (Hurst, 2000)

Fire and police investigators arrive at a scene as a part of the rapid response team. The team immediately start looking for suspicious individuals as they videotape the fire and hope to catch someone suspicious on tape. The first part of investigating the fire is determining whether it is accidental or set on purpose. Crime scene processing will begin once the fire is cool enough and the fire marshal has deemed it safe enough to approach and there is no fear of “reflash” or the fire starting again on its own accord. Investigators collect and preserve evidence, maintain chain of custody, and submit the evidence to the crime lab for processing. Photos will also be taken to help preserve the scene and determine the cause of the fire.

The Job of the Investigator

According to experts, the basic arson equation is “arson + circumstantial evidence = conviction” (Baker, 2005). The job is the investigator is to present the case and evidence with such an air-tight testimony that it can be proved “beyond a reasonable doubt” that a crime had been committed and therefore brings forth a conviction. Investigators who specialize in the origin and cause of the fire are more efficient at determining the corpus delicti, or body of the crime, of arson. This is a true test of the investigator’s proficiency. They must be able to prove the actual burning of the property, the intent and the malice behind the act. They must also be able to bring with them proof of an incendiary device no matter how simple. All natural or accidental fires must be ruled out in order to prove arson.

The investigator must also look into the behavioral science of the arson. They must determine if this is the work of someone new, a serial arsonist, or someone setting fires for a laugh. They need to identify suspects that have motive and opportunity. The investigator keeps a detailed file of all MO’s, serial characteristics, and trademark behaviors found at each fire investigated so that they may target an individual or individuals as necessary. (Baker, 2005.)

Logic would imply that the fire department should detect whether or not the fire was accidental and then the police would investigate the crime, get the evidence together and prepare the case for trial. Investigating an arson case requires a certain coordination between the police and fire department concerning the preservation of physical evidence, which is often damaged by the fire and the source used by firefighters to extinguish the fire, witnesses, and deciding whether the victim is a suspect or not. After the determination has been made that a crime may or may not have been committed, a warrant may be issued based on probable cause. A warrant is not needed to enter the building to fight a fire and the fire marshal may determine at that time whether or not a warrant may be needed for further investigation and the need to search for evidence.

Although the fire department is responsible for determining whether or not arson has been committed, it is up to the police to verify such a conclusion. The investigator must have a basic understanding of what they are looking at to determine what accelerant

was used, what type of igniter was used, etc. They must be able to look at the burn pattern to determine where the fire started, whether or not it had one or more point of origin, and whether there is a particular odor not normally present at a fire. They must also look for any type of incendiary device to see if that's what may have started the fire. Arson investigators are found to be more effective and efficient if cross-trained with fire department personnel and vice versa. The fire fighters could benefit from police training when responding to a fire and noticing certain things that may seem out of the ordinary. (Hess & Wrobleski, 2006)

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