
**Arson — In Spite, Fun and Profit**

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**Introduction**

Since the arrival of human beings on this planet and the discovery of fire, people have used fire to warm their shelters, cook their meals, and take advantage of their neighbors. Fire became not only a tool but, unfortunately, a weapon. Through the ages, humans have used fire to help defend their homes and, in war, to drive enemies out of their homes. Today, persons continue to use this primitive weapon against their fellow human beings (1).

**Arson**

Arson is a crime in most of the civilized world. In Minnesota it is a felony to use fire to destroy property (Minn. Stat. Section 609.561). It makes no difference if the property is that of another or if it is your own. This is a serious crime, with a 20-year prison term for setting fire to a dwelling or any building where someone may be residing. Only murder carries a more severe penalty.

What is arson? The statutes define it as the deliberate and intentional destruction of property by fire or explosion (2). While an investigator can determine that a fire is of incendiary cause, only a judge and jury can make a determination of "arson."

The major question for a fire investigator is whether the fire was of other than accidental cause. All other reasonable, potential accidental causes for the fire must be eliminated. If the investigator can not eliminate all reasonable accidental causes, the investigator cannot declare the fire to be incendiary.

Fires are categorized as accidental, incendiary, or uninvestigable. Accidental fires—caused by careless use of smoking materials, improper electrical equipment, careless use of flammable and combustible liquids, and acts of God such as lightning—are familiar.

Uninvestigable fires are those where all traces of the structure are destroyed by the fire leaving nothing but ashes in the wake. These are usually unwatched fires with no fire department response. It is usually impossible to determine origin and cause in these cases. That leaves the incendiary fire. What motivates the firesetter to take such drastic action?

**Motives for Arson**

The motives for arson fit into a number of commonly recognized categories (3,4). In order of frequency they are:

1. Juvenile firesetting
2. Spite/Revenge
3. Fraud
4. Pyromania
5. Hero (Image seeking)
6. Crime Concealment
7. Civil Unrest/Disobedience
Juvenile Firesetting

By far the greatest number of incendiary fires are set by juveniles (5,6). Many of these fires are a direct result of the inherent curiosity of children. Education appears to be the only deterrent. The National Fire Protection Association advocates teaching children from a very early age so children can, as the program is called, “Learn Not to Burn.”

When the fire happened and where it started may help the fire investigator determine whether juveniles were involved. For example, fires that occur midmorning on a school day are usually not the result of a juvenile fire setter, except possibly preschool children. The fire that occurs in late August, in midafternoon, in a basement closet is often the work of a bored child. Fires set in closets, under stairways, in sheds or garages, or open fields, are usually the work of a child between five and ten years of age (5,6). There are similar indicators for other age groups of children.

The U.S. Fire Administration’s program “Interviewing and Counseling the Juvenile Fire Setter” (7) is designed to assist the fire service professional in dealing with juvenile fire setters. The program provides a proven method of determining if the child requires professional psychological intervention, educational intervention or a combination of both. I used this program for about eight years with 100 percent success.

Some juveniles with fire setting problems pose more complex problems. This group usually has multiple motives for arson. (8). Children often use fire as revenge for some actual or perceived wrong that was done to them. In the larger urban areas of this country, juvenile arson is sometimes tied to fraud. There have been numerous cases of adults hiring juveniles to set fire to abandoned or badly run-down apartment buildings so the owners could collect the fire insurance.

Spite/revenge

The second most frequent motive for arson, spite/revenge, is probably the most deadly. When this is the motive, the fire setter has only one desire—to get even with someone. The fire setter cares little if someone is hurt or killed in the fire. Too often innocent people are also victims of the fire setter’s rage; a jilted lover throws a firebomb through the window of an apartment building into the living room of the ex-lover, killing the ex-lover and several others as well.

There may be a similar scenario when an employee, fired from the job, decides to take revenge on the business owner (9).

Fraud

Most people relate the word “arson” to persons who burn their business or home for profit. While fraud is only the third leading motive for incendiary fires, this class of fire is the most costly. Each year millions of dollars are lost through efforts to defraud insurance companies on buildings and other real property (10). The losers are the other policy holders who pay for these claims through their premiums (11).

There are two sub-types of fraud—one for direct gain and the other for indirect gain. Direct fraud is more well-recognized. These are the fires that people get caught setting; the records often point to the suspect; for instance, a business owner in deep financial trouble.

It is more difficult to develop evidence in a case of arson with no apparent motive, often the case in indirect gain. Consider the demolition contractor with a contract to wreck a large old building of wood and brick. If the wooden portion of the building burns in a fire and the building is reduced to a pile of brick rubble, the costs are less to dispose of the remaining rubble. The fire usually is recorded as the work of vandals or vagrants. Consider the case of a grocery store owner who sets fire to the competitor down the street. While the store owner doesn’t benefit directly from the misfortune of the other business, benefit may come from a business increase due to the lack of competition. Another fairly common type of indirect fraud occurs when business partners wish to divide a business or heirs must divide an estate. It is easier to split the proceeds from the insurance policy payout than it is to divide property. These cases are more difficult to investigate and proof is often nearly impossible to obtain. Usually, if they are solved at all, it is because someone informs on the guilty party and is willing to testify to the knowledge that they possess.

Pyromania

One of the strangest motives for arson, pyromania, is an uncontrollable urge to set fires which often has a sexual component. This type of arson fire is usually set by a person who could be best characterized as a “loner” or someone who is thought to be “strange.” The pyromaniac is often controlled by “voices” and sets fires in a pattern. One of the clues that fire investigators look for is the “pattern” fire (12): all the burned structures are garages; all the fires occur in one neighborhood; all the fires occur late in the evening on Tuesdays and Thursdays, etc. Once a pattern is established, the investigator has the opportunity to try to outguess the arsonist and set up surveillance in an effort to apprehend the suspect. This type of arsonist often will remain near the scene where they can watch the fire and receive sexual gratification from the fire. Women are involved in this type of arson as well as men and age does not seem to be a factor.

Hero (Image seeking)

The hero fire setter has yet another motive for setting fires. Many times these people have been the innocent discoverers of accidental fires. They “save the day,” receive a great deal of attention for their actions, and experience a feeling of having done something worthwhile. For most persons, that would be the end of it. This is not true for the hero fire setter. They like the attention that they received, additionally they may have been rewarded financially by their employer, the building owner, or the insurance company. Now to stay in that limelight, they have to set another fire in order to “discover” the fire. They often continue to set fires until an investigator finally puts the story together.

Another fairly common hero fire setter is the firefighter who starts fires in order to put them out. The motive here might be the money earned for fighting the fire, in the case of a volunteer, or the thrill of putting the fire out and being the only one at the fire scene who “really knows” how the fire started. Additionally, career firefighters have been known to set fires in order to convince a city council that they need more manpower, fire stations or equipment.

Crime Concealment

On rare occasion, fire is used to cover the fact that another crime has been committed. Examples are the burglar who sets fire to a store to hide the crime or the bookkeeper who sets fire to the company office to conceal embezzlement.
Although the hot line permits confidentiality, our experience shows most people are willing to identify themselves. All persons are eligible for a cash reward of up to $1,000 for information leading to an arrest or conviction. To date the Minnesota program, funded by insurance company and private donations, has given out over $6,000 during the past five years (17). The chapter itself also provides small amounts from time to time when the funds are depleted, as they are currently.

In addition, the insurance industry has developed a program, the Property Insurance Loss Register (PILR), to assist in catching the repeat fire settler who files claims for insurance on covered property. The PILR is a nationwide, all-industry, computerized, loss history repository for fire, lightning, vandalism, and theft loss (18). When a person files a claim with a member insurance company for a loss in excess of $1,000, a form is filed with PILR and the information is computerized. The computer automatically checks to see if the insured person has filed a previous claim. If a claim is noted, the company filing the most recent loss is notified. The motive is not to break the law, but to preserve established values, which do not include the trafficking of dangerous drugs nor abiding the violence which surrounds such activities (13, 14, 15, 16).

The Fight Against Arson

How do we combat this costly crime? A number of programs are in use around the country. The New York City Fire Department uses a program known as the “Red Cap” program. When fire marshals assigned to the arson bureau respond to a fire scene, they put on a red baseball cap. This cap signals people that there is a person on the scene whom they can talk. This encourages citizens who may have knowledge concerning the fire’s origins to come forth and provide this information to the fire marshal.

Closer to home, the Minnesota Chapter of the International Association of Arson Investigators sponsors an arson hot line. This hot line, which is answered 24 hours a day by Bureau of Criminal Apprehension personnel, allows persons who have information concerning a suspected or confirmed case of arson to call and provide that information to the authorities. Although the hot line permits confidentiality, our experience shows most people are willing to identify themselves. All persons are eligible for a cash reward of up to $1,000 for information leading to an arrest or conviction. To date the Minnesota program, funded by insurance company and private donations, has given out over $6,000 during the past five years (17). The chapter itself also provides small amounts from time to time when the funds are depleted, as they are currently.

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The insurance industry has also formed its own investigative unit, the Insurance Crime Prevention Institute (ICPI). This unit receives information from insurance companies and public safety agencies regarding suspected activities involving insurance fraud. It has been highly successful in uncovering large, multi-state fraud rings.

One of the most effective arson control methods is the “task force” concept for arson investigation. Such a task force is usually composed of a fire investigator, a law enforcement officer, and an attorney from the county attorney’s office. Under this team approach to the problem, the fire investigator detects the incendiary origins of fires, the law enforcement office performs criminal background checks, interrogations and report writing, while the prosecutor carries the case through the courts.

Investigation

To the lay public, the determination of the origin and cause of a fire is nothing less than a miracle. However, investigators learn to read burn patterns, and using the scientific tools that are available to them, are then able to determine a fire’s cause and origin.

Fires leave patterns when they burn. Almost all fires burn up and out from the point of origin. A fire will often leave a “V” pattern on a wall, pointing back to the point where it originated. The investigator then determines what was present at the fire’s origin that could have ignited the fire. Many investigators use combustible gas detectors to detect the presence of flammable or combustible residue. The photoionization method of detecting hydrocarbons is also employed. In addition to these devices, the investigator utilizes professional laboratories with equipment such as gas chromatographs and atomic absorption/mass spectrometers to detect minute traces of hydrocarbons that are undetectable by even the most sensitive field instruments. Through the use of these scientific instruments, the investigator is now able to detect foreign substances that previously went undetected and correctly label a fire “incendiary.”

But what happens when no trace of a flammable or combustible accelerant is found and yet the burn patterns reveal that an accelerant was present. An incendiary cause is still determinable by a negative approach. Under this approach a number of factors, when taken as a whole, eliminate all possible accidental causes of the fire. Such factors might include the char pattern and lack of any electrical, mechanical, or smoking materials which might have accidentally caused the fire.

Even with no residue present, sharp demarcation lines between burned and unburned cellulose materials, pooling of liquids in low spots, or fire rolling across the floor on the surface of the firefighter’s water from the hose, all indicate that an accelerant was used to increase the intensity of the fire.

Conclusion

What can the scientific community do to stop the problem of arson? Do we need more tools to do our job? Do we need more investigators? Do we need more law enforcement officers or prosecutors? I would answer each of these questions “probably not.” What we really need are fire investigators, law enforcement officers, and prosecutors who are better educated. Additionally, we desperately need better education of our school age children. I believe that the adults of our communities and the leaders of our nation are too old to change. We need to change the attitudes of our children. We have learned through the Smokey the Bear program of the U.S. Forest Service that we can change people’s attitudes about fire, but it takes a long time. It took 20 years for us to learn how not to burn our forests to the ground. We must teach children that if it is wrong to burn anything that is not meant to be burned. Children must “Learn not to Burn” and the only way they will do that is for us to teach them and teach them well.
References
17. Personal communication. Lawrence Plack, Treasurer, Minnesota Arson Reward Committee, April 15, 1988.
18. Personal communication. Minnesota Insurance Information Center, Minneapolis, MN.

Additional References