

David R. Redsicker
John J. O'Connor



Second Edition

Practical Fire and Arson Investigation

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Investigation**

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Series Editor's Note

This book is part of a series entitled *Practical Aspects of Criminal and Forensic Investigation*. This series was created by Vernon J. Geberth, New York City Police Department Lieutenant Commander (Retired), who is an author, educator, and consultant on homicide and forensic investigations.

This series, written by authors who are nationally recognized experts in their respective fields, has been designed to provide contemporary, comprehensive, and pragmatic information to the practitioner involved in criminal and forensic investigations.

Preface

When I originally agreed to assist John O'Connor with the first edition of *Practical Fire and Arson Investigation*, it was mostly technical in nature. I provided a majority of the photographs and some personal knowledge and experience in certain areas.

Now it is ten years later and my knowledge and experience has grown. It is therefore appropriate and the time is right for updating this book with a second edition. While the knowledge and training levels of those responsible for the investigation of fire origin and cause have increased, unfortunately the rate of detection, arrest and conviction in incendiary fires has remained low. Training has reached the level of certification in many states. Several recognized organizations have supported minimum standards for fire investigators. While this book does not profess to be a certification requirement, it does support the necessity for standards or guidelines for the proper fire scene investigation. Such minimum guidelines should include the subject matter as outlined and contained in *Practical Fire and Arson Investigation*.

Keep in mind that this book, like the many others on the subject of fire investigation, has been compiled from each investigator's many and varied experiences in the field. And just as their individual backgrounds and experiences are unique, so too is each fire. The guidelines outlined in this text are just that—a guide for the investigation into proper origin and cause of fires. Conclusions must be based on facts supported by scientific principles and physical evidence.

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Arson: The American Experience

1



Arson has been described as the fastest growing crime in America. However, over the past 10 years the rate of identified arson in the U.S. has dropped by about 17%. National statistics have shown that, when measured on a cost-per-incident basis, arson is still the most expensive crime committed. The average loss per incident for arson is about ten times that for robbery.

The response to the problem of arson, when examined nationally, has improved in the identification of incendiary cause. However, few cases still lead to arrests, and only 3% of arrests end in conviction. This limited success is not difficult to accept and understand when you examine the various segments of society and the environment of the official agencies involved in the suppression and investigation of the problem.

Fire Service

About 42% of the fire protection in America is provided by volunteer fire departments. Like their paid counterparts, these people are specifically trained and equipped to suppress fire, not to investigate its causes. The dedication and personal bravery of the fire service, whether paid or volunteer, goes without question. Members of the fire services risk their lives daily to save lives and property in blazes, the causes of which may never be determined. Nationwide, 103 firefighters died in the line of duty in 1994.

Table 1.1 Estimates of 1994 U.S. Fires and Property Loss by Property Use

Type of Fire	Number of Fires		Property Loss	
	Estimate	Percent Change from 1993	Estimate (\$)	Percent Change from 1993
Fires in structures	614,000	-1.2	6,867,000,000	-7.3*
Fires in highway vehicles	402,000	0	961,000,000	+9.8*
Fires in other vehicles ^b	20,000	+8.1	150,000,000	-3.2
Fires outside of structures with value, but no vehicle involved (outside storage, crops, timber, etc.)	66,500	+27.9*	120,000,000	+90.5*
Fires in brush, grass wildland (excluding crops and timber) with no value or loss involved	503,000	+13.3*	—	—
Fires in rubbish, including dumpsters, outside of structures, with no value or loss involved	292,000	+1.6	—	—
All other fires	157,000	+23.6*	53,000,000	+12.8
Total	2,054,500	5.2	\$8,151,000,000	-4.6*

Note: The estimates are based on data reported to the NFPA by fire departments that responded to the 1994 National Fire Experience Survey. *Change was statistically significant at the .01 level.

^a This includes overall direct property loss to contents, structures, vehicles, machinery, vegetation, or anything else involved in a fire. It doesn't include indirect losses such as business interruption or temporary shelter costs. No adjustment was made for inflation in the year-to-year comparison.

^b This includes trains, boats, ships, aircraft, farm vehicles, and construction vehicles.

Police Service

The law enforcement community has not been spared from the menace of arson and fire in general. A police officer is often the first official at the scene of a fire. This is true because of the usual mode of operation, patrol. A police officer may be the first person to realize there is a problem. Many officers, after first notifying the appropriate fire department, have risked their lives while trying to save others, in fires that may receive little or no follow-up.

Most fire departments and most of the over 40,000 police agencies nationwide are too small and fiscally limited to have the people and equipment necessary to conduct detailed follow-up in fire investigation. Many state fire marshal offices are so understaffed and underfinanced that they too must be very selective in the type and number of fires they investigate.

Volunteer and paid firefighters have traditionally been investigative generalists avoiding detailed fire investigations because of a lack of appropriate training. As a result, many fires that warrant scrutiny are either entirely ignored or investigated too late for the investigation to have any legal bearing.

Table 1.2 Estimate of 1994 U.S. Losses in Incendiary and Suspicious Structure Fires

Type of Fire	Number of Fires		Number of Civilian Deaths		Direct Property Loss	
	Estimate	Percent Change from 1993	Estimate	Percent Change from 1993	Estimate (\$)	Percent Change from 1993
Structure fires of incendiary origin ^{*c}	53,000	-1.9	410	-1.2	964,000,000	-49.3 ^{ab}
Structure fires of suspicious origin ^{*c}	33,000	+8.2	140	-3.4	483,000,000	+7.3
Total structure fires of incendiary or suspicious origin ^{*c}	86,000	+1.8	550	-1.8	1,447,000,000	-38.5 [*]

Note: The estimates are based on data reported to the NFPA by fire departments that responded to the 1994 National Fire Experience Survey. ^{*}Change was statistically significant at the .01 level.

^a This includes overall direct property loss to contents, structure, vehicles, machinery, vegetation, or any other property involved in a fire. It doesn't include indirect losses, such as business interruption or temporary shelter costs. No adjustment was made for inflation in the year-to-year comparison.

^b This decrease reflects fire losses during three wildfires in Southern California in October and November 1993 and the World Trade Center explosion in New York City, resulting in estimated losses of \$1,039,000,000.

^c Should be cause, not origin.



Figure 1.1 Firefighters risk their lives daily. Unfortunately, very few of these fire scenes will receive an adequate investigative follow-up. In some cases, the cause of the fire will never be determined.

This combination of factors has resulted in the misclassification of perhaps as many as half of all the fires occurring and the inappropriate payment of millions of dollars in insurance.

Public Awareness

Americans are becoming distinctly aware of the far-reaching consequences of arson, largely because of the success of arson awareness programs. In recent years, federal, state and local governments, the insurance industry, and the mass media have disseminated substantial amounts of information regarding the crime of arson specifically and the causes of the fire in general. The best indication that these messages and warnings are being taken seriously is the tremendous growth in the manufacture and sale (in the millions) of smoke and/or flame detectors. Community groups have formed throughout the nation in an effort to curtail the seemingly unchecked spread of arson in their neighborhoods. The public is outraged and demanding swift action.

One type of official response to these demands has been the creation of arson task forces. The task-force approach represents a broad-based reaction to the fact that “arson is no longer a crime against property, but a crime against each and every citizen and a brazen attack on the entire economy of our country” (Dodson 1980, p. 20).

Fire Investigation Methodology

The investigation of fires or explosions is an art as well as a science. A combination of factual information as well as the analysis of the facts must be accomplished objectively and truthfully. The basic methodology of the fire investigation relies on a systematic approach and attention to all relevant details.

The systematic approach recommended is that of the scientific method, used in the physical sciences (such as chemistry and physics). This method provides for the organizational and analytical process so desirable and necessary in a successful fire investigation.

The scientific method forms a basis for legitimate scientific and engineering processes, including fire incident investigation. It is applied using the following six steps:

1. *Recognize the need.* One must first determine that a problem exists. In this case, a fire or explosion has occurred and its cause must be determined and listed so that similar incidents can be prevented in the future.
2. *Define the problem.* Having determined that a problem exists, an investigator or analyst must define how the problem can be solved. In this case, proper origin and cause investigation must be conducted. This is done by an examination of the scene, by a combination of other data collection methods such as the review of previously conducted investigations of the incident, interviews with the witnesses or other knowledgeable persons, and the results of scientific testing.
3. *Collect data.* Facts about the fire incident are now collected. This is done by observation, experiment, or other direct data gathering means. This information is called *empirical data* because it is based upon observations or experience and can be verified.
4. *Analyze the data (inductive reasoning).* All of the collected and observed information is analyzed by inductive reasoning. In this process, the total body of empirical data collected is carefully examined in the light of the investigator's knowledge, training, and experience. Subjective or speculative information cannot be included in the analysis, only facts that can be clearly proven by observation or experiment.
5. *Develop a hypothesis.* Based on the data analysis, the investigator must now produce a hypothesis or group of hypotheses to explain the origin and cause of the fire or explosion incident. This hypothesis must be based solely upon the empirical data that the investigator has collected.
6. *Test the hypothesis (deductive reasoning).* All other reasonable origins and causes must be eliminated. The investigator does not have a truly

provable hypothesis unless it can stand up to careful and serious challenge. This is done by the principle of deductive reasoning, in which the investigator compares his or her hypothesis to all known facts. If the hypothesis cannot withstand an examination by deductive reasoning, it must either be discarded as not provable and a new more adequate hypothesis tested, or the fire cause must be listed as “unknown.”

Model Arson Task Force

A model arson task force would incorporate the intelligence gathering networks of each separate investigative agency into one cohesive, coordinated, and goal-directed entity. This would provide for a more comprehensive attack on a selected number of aspects (e.g., suspects, leads) and avoid unnecessary duplication of effort. It would also make better use of assigned personnel and available resources. The sharing of investigative specialties (fire, police, etc.) and experience in a spirit of free-flowing communication would broaden the investigative capabilities of each investigator.

Role of the Fire Investigator

The fire investigator is a specialist operating in a unique field — a person with the field experience and technical training necessary to collect and evaluate factual information and identify criminal activity in situations where others perceive only confusion and chaos.

The primary goal of a fire investigator, as of any criminal investigator, is to determine the truth. In seeking the truth, the investigator must complete a post-fire examination of the structure or vehicle that is the subject of a suspicious fire and determine the origin and cause of the fire. Interviews must be conducted, evidence collected, and comprehensive reports of all findings prepared. To complete these tasks, the fire investigator must know and understand the rules governing proper crime scene techniques, the significance of interviewing strategies, and the technical requirements of fire science.

If, during the initial stages of inquiry, actions pointing to criminal conduct or evidence of criminality are uncovered, the fire investigator must automatically shift to his secondary role: to identify and move against those responsible. A fire investigator who has reason to believe that arson was committed is morally and professionally obligated to develop the case to its fullest extent.

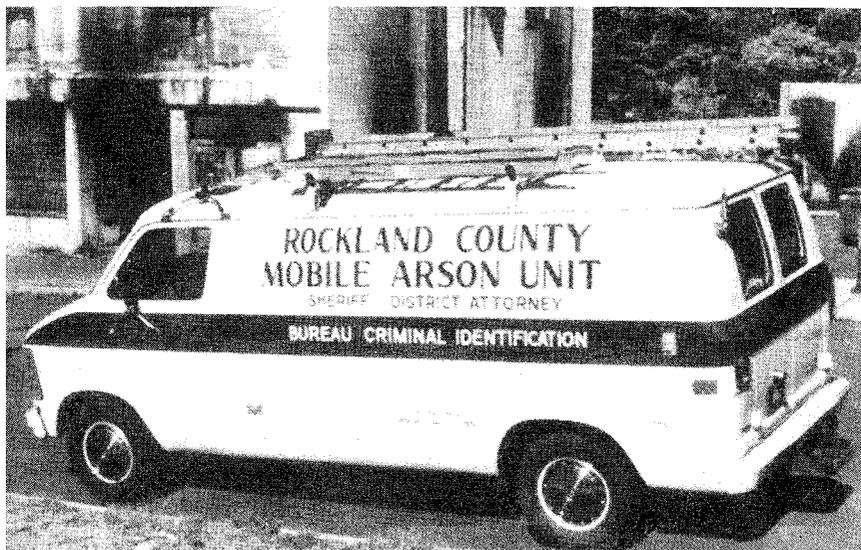


Figure 1.2 A fire investigator must be prepared to cope with any eventuality at the fire scene. Mobile investigative units, like the one pictured here, permit the ready availability of equipment and supplies. These highly visible units may also serve as a deterrent. A homeowner or small businessman may think twice about “selling his premises to an insurance company,” if he believes that highly specialized and equipped investigative unit is likely to respond to the fire scene and may uncover his culpability.

Managing the Fire Investigation

Arson and its related offenses are universally viewed as among the most serious crimes that a person can commit; as such, they warrant the most diligent and unfaltering of investigations. To ensure that every possible avenue is adequately explored and documented, the investigator should follow an investigative checklist. A ranking officer, assigned to supervise a fire investigation unit, must continuously monitor, coordinate, and direct the cases under investigation by subordinates. The field investigator conducts the actual investigation, while the supervisor, using personal experience and expertise, monitors investigative actions and provides administrative follow-up. This type of system is used by the overwhelming majority of fire investigation units nationally.

Case Management

To optimize their limited resources (people and equipment), many agencies have developed case management systems. There is a distinction between urban and rural settings in their use of case management systems, due primarily

to the difference in the volume of cases involved. Certain rural areas may refer every arson case to a case management system to ensure that every classified arson is adequately investigated. In an urban area with a high volume of cases to be investigated, the case management system is used to determine which cases should receive priority.

In some urban jurisdictions, for example, cases of fire occurring in abandoned buildings are quickly closed: the fire scene is examined and the case accurately classified, but there is no follow-up investigation unless more information is forthcoming. Even when such follow-up is conducted, no further action is taken unless the additional information provides specific data that may lead to a quick arrest in the case. The only action that may be taken would be to notify the appropriate city or state agency to order or request the demolition of the abandoned structure. Under normal circumstances, a fire intentionally set in an abandoned building and causing a death or other serious injury, or extending to and causing damage to an occupied building, is referred to the case management system.

Every case involving death or other serious injury is assigned to case management. However, for cases involving only property loss, some agencies use total dollar loss as the primary factor in designating a case for additional follow-up. For example, in Seattle, Washington, every fire causing at least \$1000 in damage is thoroughly investigated.

Investigative Checklist

There are three main reasons to use an investigative checklist:

1. To ensure that every pertinent fact about the case has been identified.
2. To identify the cases to be assigned to case management.
3. To serve as a supervisory tool in evaluating an individual investigator's performance and in the assignment of additional cases based on case load.

An investigative checklist should include the following types of data:

Identity of the assigned investigator

Victim information

Suspect/defendant information

Detailed information about the incident, including time, address, identity of the fire chief, first firefighter and police officer at scene, and so on; classification of the offense (e.g., arson [occupied, abandoned], arson/homicide)

- Detailed information relating to the investigative procedures and steps taken (e.g., photos, sketches, canvass)
- Identification of physical evidence and follow-up procedures (e.g., assigned prosecutor)
- Witness information

Crime Analysis

An integral part of the case management system is the keeping of pertinent statistical data relating to the incident or arson and related offenses occurring within the area for which the fire investigation unit is responsible.

The design of the crime analysis system depends on the length of time to be considered and the volume of cases in that period. The types of data to be extrapolated from the related reports would include: chronologic listing of incidents; date and time; classification, including whether residential or commercial, occupied or abandoned, forest or brush; point of origin (where the fire started-e.g., room, basement, attic, floor); type of accelerant used or suspected, if any; classification of damage; and death or other injury.

Basic Steps for Fire Investigation

Using the scientific method in most fire or explosion incidents should involve the following six major steps from inception through final analysis.

1. *Receiving the assignment.* The investigator should be notified of the incident, what his or her role will be, and what he or she is to accomplish.
2. *Preparing for the investigation.* The investigator should marshal his or her forces and resources and plan the conduct of the investigation.
3. *Examination of the scene.* The investigator should conduct the examination of the scene and collect basic data necessary to the analysis.
4. *Recording the scene.* The scene should be photographed and diagrammed, and notes should be made of the progress of the investigation. Valuable empirical data should be noted and preserved.
5. *Collecting and preserving evidence.* Valuable physical evidence should be recognized, properly collected, and preserved for further testing and evaluation or court room presentation.
6. *Analyzing the incident.* An incident scenario or failure analysis should be described, explaining the origin, cause, and responsibility for the incident. This analysis should be reported in the proper form to help prevent recurrence.

References

- Basic Methodology, in *Fire and Explosion Investigations*, NFPA 921, National Fire Protection Association, Boston, 1992.
- Braun, K. J. and Ford, R. E., Organizing an arson task force, *FBI Law Enforcement Bull.*, 50(3), March 1981.
- DeLuca, T. (Battalion Chief, Los Angeles City Fire Department), Los Angeles Arson Suppression Task Force, *Arson: Resource Exchange Bull.*, Federal Emergency Management Agency, U.S. Fire Administration, Washington, D.C., July 1980.
- Dodson, H.C. (Fire Marshals' Association of North America), "Is Arson Legislation Adequate/Inadequate?" *Arson: Resource Exchange Bull.*, Federal Emergency Management Agency, U.S. Fire Administration, Washington, D.C., July 1980.
- National Fire Protection Association (NFPA), Fire loss in the United States during 1993, *Fire Journal*, 1994.
- Sanders, Robert E., National response teams: ATF's coordinated effort in arson investigations, *FBI Law Enforcement Bull.*, 50(12), December 1981.
- U.S. Department of Justice, *Uniform Crime Reports: Crime in the United States*, 1982 (also, 1983), U.S. Government Printing Office, Washington, D.C., 1983 (also, 1984).
- Weisman, H. M. (Ed), *Arson Resource Directory*, Arson Resource Center Office of Planning and Education, U.S. Fire Administration, Washington, D.C., March 1980.
- Wood, W. (SAC Explosives Branch, ATF), "The Bureau of Alcohol, Tobacco, and Firearms Arson Program," *Arson: Resource Exchange Bull.*, Federal Emergency Management Agency, U.S. Fire Administration, October 1980.

Arson Motives and Pathology

2



Some people mistakenly believe that the poor, the elderly, and the mentally ill have “cornered the market in fire.” These same people believe that these groups suffer from some strange compulsion to burn themselves out of house and home. It would serve the arsonists in our society well to have us believe this nonsense.

The fact is that many supposedly respectable people are making large sums of money as arson brokers and “torches.” If we examine the backgrounds of the people who have been arrested and convicted of arson, we see that they represent a complete cross section of American society. In fact, our sample would cut across the spectrum of social respectability. In the past decade, people from every walk of life have been sentenced to prison after being convicted for this, the fastest-growing crime in America. Those convicted for arson include public officials, law enforcement and fire service personnel, lawyers, doctors, accountants, teachers, and insurance and real estate brokers, as well as organized crime operatives, drug addicts, and the poor, the elderly and the mentally ill.

It has been said that there is a cause for everything people do, or fail to do. Although the person may be otherwise normal, the act of destructive fire setting is not normal (Bromley et al., undated, S4.1, p. 1).

By those who are *not* “otherwise normal”, we mean those suffering from some form of mental illness. Such *pathological* motives are discussed in the section Psychological Compulsion. Most arsonists, however, are nonpathological; nevertheless, each does have a *motive*.

Motive is an inner drive or impulse that causes a person to do something or to act in a certain way. Basically, it is the cause, reason, or incentive that induces or prompts specific behavior. In a legal context, motive explains “why” the offender committed his unlawful act, e.g., murder, rape, or arson.

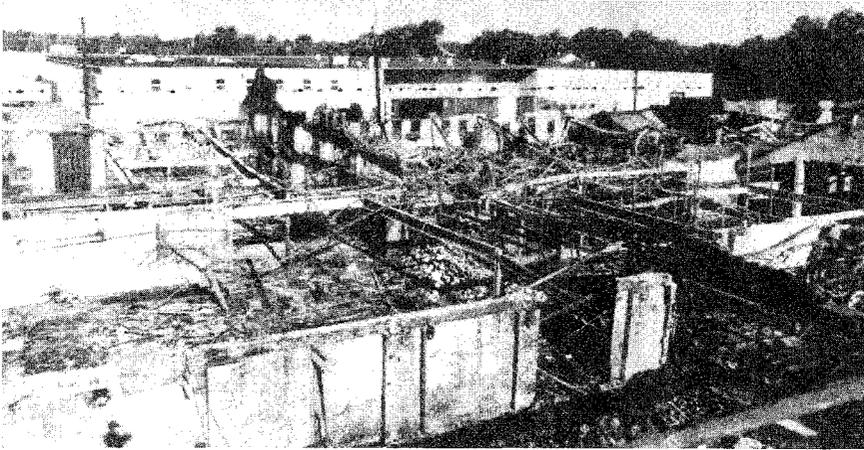


Figure 2.1 The motives for arson are as diverse as the walks of life from which the fire setters derive. These motives include profit (fraud), revenge, vandalism, crime concealment, and psychological compulsion.

Though motive, unlike intent (willfulness), is not an essential element in criminal prosecution, it often lends support to it. Motive, for instance, often plays a crucial role in determining the cause of a fire, as well as the identity of the person or persons responsible for setting it (Rider, 1980). The motives for arson are as diverse as the walks of life from which arsonists come. These motives include but are not limited to profit (fraud), revenge, vandalism, excitement, crime concealment, and the aforementioned psychological compulsion. The rest of this chapter describes and discusses each of these major motives for arson.

Arson for Profit

Arson for profit is responsible for about a half of all the fire-related property damage in America. It is probably the primary motive for the nearly 25% yearly increase in the rate of arson. The business of arson for profit has traditionally been one of high gain and low risk. Nationally, only 9% of all arson cases are cleared by arrest, and only 2% result in convictions. Insurance companies have paid billions of dollars in fire claims, even though many of these cases were still under active investigation by one or several agencies. As for risk, an arsonist in America has less than one chance in ten of being arrested and an even smaller chance of being convicted.

The economic gain to be derived from an arson-for-profit scheme can be either direct or indirect. A homeowner who destroys his or her home for the insurance proceeds gains directly when the insurance company settles



Figure 2.2 The expression “sell it to the insurance company” has become the call to arms for someone who views fire as a shortcut to disposing of a defective or unreliable automobile.

the claim. A security guard who starts and then puts out a fire in a warehouse where he works gains indirectly, when rewarded for quick action in saving the warehouse.

Insurance Fraud

Insurance fraud is probably the most common target in arson for profit. The expression “sell it to the insurance company” has become the call to arms for anyone who wishes to dispose of an unwanted automobile, a neglected house, or an unprofitable business. Insurance fraud has also been referred to as “the modern way to refinance.”

One such scheme, most evidenced in urban areas, involves the purchase of old, economically unsound, abandoned, and dilapidated buildings in depressed areas. These purchases are made with the smallest investment possible. Over the next several months or years, the property is sold and resold back and forth among a small group of investors. In this way, at least on paper, the value of the holdings increases. The building is then insured at the inflated “paper” value.

Another example is the person who buys a new or used car and either cannot meet loan payments and fears the loss of the initial investment, or finds that the automobile is unreliable and cannot get satisfaction from the dealer. The buyer in such a position may seriously consider “selling the car

to the insurance company"; in 1994 alone, there were almost 43,500 cases of automobile arson in the U.S. causing \$156 million in property damage (*NFPA Journal*, Sept/Oct, 1995).

A third and all-too-common example of insurance fraud is referred to as the *redecorating fire*. A homeowner who wants to renovate his or her kitchen but cannot afford the \$10,000 cost quoted by a contractor conveniently arranges a kitchen fire. The insurance settlement then pays for the renovation.

Welfare Fraud

The following rules are displayed in every social service (welfare) office in the City of New York:

Moving expenses: Welfare clients may move whenever they wish. However, moving expenses will be provided only if the move is necessary and if it is determined that the fees (i.e., moving expenses, security deposit, broker's fee, rent in advance) cannot be avoided. Moving expenses will not be provided more than once in two years unless the following conditions exist:

A. The move is the result of a fire or a disaster....

Although a disaster is impossible to arrange, a fire is not, and a large proportion of America's inner-city arson has been the direct result of welfare fraud fires.

In a typical welfare fire, the welfare recipient is either dissatisfied with his current living conditions, or needs cash. He finds a new apartment in a more desirable area. Then, usually under cover of darkness, he moves all his belongings (furniture, clothing, pets, etc.) to the new apartment. The next step is to replace some of the removed items with run-down furniture and clothing from a second-hand store or junk yard. Soon after this is done, he sets a fire. After applying to the local department of social services, he will receive funds to replace all the belongings that were supposedly lost. Besides, his moving expenses will be covered and he will get a finder's fee for having found a new apartment without departmental assistance.

It should be noted that some supposed welfare fires are actually insurance fraud fires disguised by the building owner to draw attention away from the nonresident owner to the resident welfare recipients. In other cases, the building owner encourages arson by having the services in the building (e.g., heat, hot water) rendered inoperable (usually citing economic hardship). A tenant of the building, after exhausting whatever administrative recourse is available, may then set fire as the only way to escape these conditions. Such a fire is correctly labeled a welfare fraud fire, but the conditions that precipitated it are rarely examined.

Business-Related Fraud

Eliminating Competition

One example of arson for business-related (-motivated) fraud is the setting of a fire to limit or eliminate competition. Say that a person owns a well-established business that has been operating in a particular neighborhood for many years. A new store, selling the same items, opens around the corner and, in time, cuts into the older store's business. After a series of price wars, the established store's owner determines that it is time to use other means to reduce or eliminate the competition. The simplest way is to burn them out.

In one actual case, the owner of a large piece of real estate offered to buy out one of his tenants, the owner of a five-and-ten-cent store. The owner wanted to tear down the five-and-ten to build a parking lot and restaurant, which would serve a nearby state-operated betting parlor. However, the owner of the five-and-ten refused to sell his lease. The property owner was eventually arrested and convicted for a fire that destroyed an entire block of stores.

Organized Crime

Organized crime groups in America have been and are well entrenched in the "arson-for-hire" business. The sequence of events in a typical organized crime operation, referred to as a *bankruptcy scam*, clearly highlights the magnitude of their involvement.

A person owns a successful business with an excellent credit rating; his only vice is betting on horse races or playing at the gaming tables. As the result of gambling losses, involvement with a loan shark, or extortion, he involuntarily and grudgingly accepts a new partner: an organized crime member or associate who may have bought the store owner's contract from a local loan shark. At the direction of his new partner, the store owner buys, to the extent of the store's credit, a large stock of items that can easily be fenced. When these items are delivered, they are simply reloaded onto another truck and resold (at a fraction of their original cost) to the general public by a network of reliable fences. Since the business is now in debt to the extent of its credit, the bills that come due in 90 or 120 days cannot be paid, and the organized crime partner arranges for the business to file for bankruptcy. While the bankruptcy proceedings are pending, the store burns to the ground. The fire, which was part of a package deal, was intended to: destroy the business's books and records, destroy the merchandise that was supposedly available for sale, and provide the basis for an insurance claim.

The partners then split the insurance settlement and the revenue from the fenced goods, according to a preconceived plan. Following the bankruptcy settlement, the creditors receive, at best, 10 cents on the dollar.

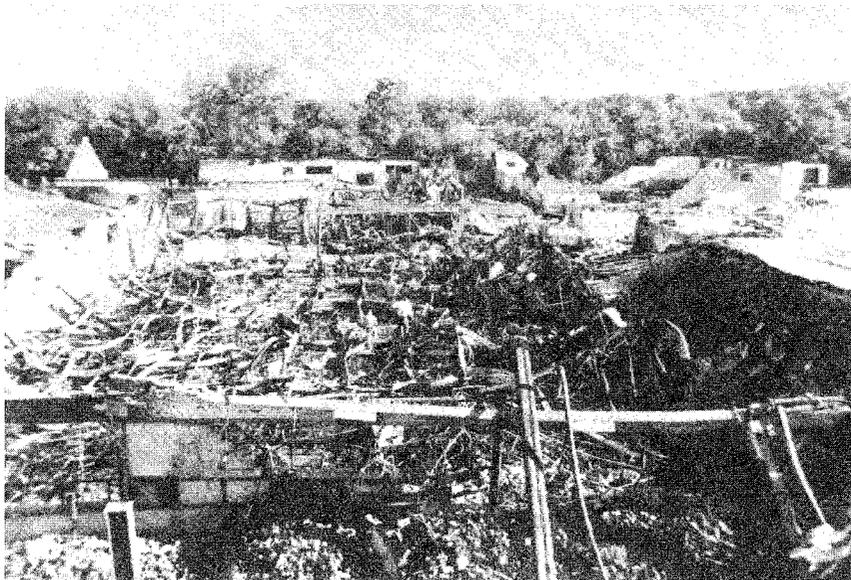


Figure 2.3 The investigation of conflagrations is arduous and costly. Insurance companies will often cooperate and assist by supplying or funding the heavy equipment necessary to properly excavate a fire scene.

Organized crime factions also use arson (and murder) to intimidate witnesses, to eliminate other criminal factions, and as a form of discipline to maintain order within their own ranks.

Demolition and Rehabilitation Scams

Another real estate scam in which the participants gain indirectly is one in which a speculator buys a large parcel of land that is dotted with old, abandoned buildings. The buildings are in such disrepair that the land is worth more without them than with them. The reason for the difference in value is that anyone who might consider buying and building on the property must add on the cost of demolishing the old structures. The landowner has a similar problem. The costs involved in having the building(s) torn down and carted away may be prohibitive, and fire may be seen as the only alternative. If the fire does its work, the speculator will save on the cost of demolition and the property will be more appealing to a prospective buyer.

A second and related scheme involves demolition companies themselves. Take, for example, a case in which bids are being accepted for the demolition of a 10-story building. Each demolition company (depending on the city) must add to its costs an allowance for *dumping fees*: charges for each truckload of debris dumped at a city-owned landfill. If, after winning the contract, a company realizes that its original bid was too low, it conveniently has one or

more fires in the building to be demolished and blames the fire on local juveniles or vandals. The more the building burns, the less there is to be trucked away; therefore, the fewer dumping fees have to be paid. In this way, the demolition company either breaks even or makes a profit.

A third scheme, referred to as the *rehabilitation scam*, involves the rehabilitation of real property under the guise of a redevelopment project. The insurance industry and federal lending agencies, such as the Small Business Administration (SBA), are the usual targets of this type of scheme. A person buys, at nominal cost, an abandoned or nearly abandoned building in an area that has been designated for redevelopment. The purchaser then announces his or her intention to rehabilitate the old building and to make it habitable again. The old building, the builder's "good intentions," and the political climate are all used as collateral and as an inducement to secure the largest SBA loan possible. So, for example, for an investment of only \$2000 or \$3000 and a show of good faith, this speculator may have as much as a several hundred thousand dollars of working capital. The next step is to collect receipts for materials that were never purchased and for work that was never done. The builder may rehabilitate one apartment out of 20 in a five-story walk-up apartment building. A telephone must be installed and the utilities may be operational in that one apartment. A friend or family member is identified to authorities as a tenant, and the apartment is furnished. The building is now occupied (telephone and utility bills, rent receipts) and qualifies for insurance. Some time after the building is insured, there is a fire. An insurance claim is filed, and there are ample bills and receipts to account for the SBA loan.

Many reasons for arson have been given by practitioners of arson for profit in business-related frauds (after conviction). Among these are the following: relocation when unable to break a lease or sell the old location, dissolution of the business, ridding the business of obsolete or unsalable merchandise, completion of a seasonal business, imminent business failure (business going bad), upgrading of equipment, labor or union problems, and employees who are afraid to come to work (crime in the area).

Building Strippers

Others who profit indirectly from arson include a group of people referred to as *building strippers*. A building stripper or junk dealer is a person who strips abandoned buildings of bathroom fixtures, copper tubing, and anything else of value to be sold as junk. Most building strippers realize that there is a much easier way to expose the items they are interested in taking. Now instead of spending hours butting through sheetrock and plaster walls, they simply start several carefully planned fires, and the responding fire units

do the work for them. In putting out the fires, the firefighters punch or cut holes in the floors and walls, saving the building strippers hours of work. This is in addition to the damage caused by the fire itself. As soon as the fire department has left the scene, the strippers remove all remaining items of any value. In New York City, building stripping is a summonsable offense for which a small fine can be imposed. Building strippers are rarely brought to court for the crime of arson or for the unnecessary risk their fires pose to the fire personnel who ultimately respond.

Commercial Fire Checklist

Good information is vital to the successful conclusion of an arson case. Many times a person will answer questions early in an investigation to avoid the aura of suspicion.

The investigation of an arson-for-profit scheme is very similar to many other white-collar-crime investigations. If a motive is to be discovered and documented for court presentation, the investigator must have the help of an investigative accountant. A comprehensive physical examination is usually enough to confirm that the crime of arson was committed. The “paper chase” which develops from an analysis of the business’s books and records usually identifies the motive and connects the defendant to the crime.

The following is a typical line of inquiry that an investigator would follow when investigating a suspicious supermarket fire. A similar program would be used when investigating suspicious fires in most commercial establishments (Lindsey, unpublished):

- Start gathering information as soon as possible after the fire. What are the relationships among the owners of the store?
- Names and addresses of suppliers (meat, groceries, beer, etc.)
- Did the owners of the store reduce their inventory before the fire?
- What is the dollar volume of business the store does per week on meats? (An estimate of total volume can be developed.)
- What are the owner’s gross earnings per week and the percent of markup?
- Does the owner have any financial interest in other stores nearby?
- Check storerooms and shelves for merchandise, beer, and meat that is the most expensive.
- Check with suppliers whether bills are overdue or checks for merchandise are bouncing.
- How much money does the owner owe suppliers?
- What is the name of the owner’s insurance company and what is the extent of coverage? Check with insurance agent.

- Has the owner applied to the Small Business Administration or any similar lending agency for a loan?
- Is the store protected by an alarm (burglar or fire)? If so, what time is it turned on daily? Was it on or off at the time of the fire? Was it circumvented?
- Was the sprinkler system working?
- Ask to see business records and tax returns.
- What flammable liquids are kept in the store (charcoal and lighter fluids, spray cleaners etc.)? Where are they kept?
- Are flammable liquids used to clean the floors or areas of the store? What types and when were they last used?

“It is certainly possible to prove the arson fraud scheme without positive evidence linking the subject to the fire scene,” according to Special Agent Robert E. Walsh, of the Criminal Investigations Division, Federal Bureau of Investigation (Walsh 1979). “Investigators often are required to initiate arson investigations involving fires in buildings that were torched several months previous and have since been razed.” Walsh also suggests that “investigators must review available information and reports to establish the identities of fires that have been included in this scheme.” Such information sources include “police/fire department records, local newspapers, state fire marshals, insurance agents, and informants. Walsh notes that while reviewing potential inner-city arson files, the following clues will indicate positive circumstantial evidence that the fire was set for an insurance fraud:

1. Presence of incendiary material
2. Multiple origins of fire (arson must be a total loss to be profitable)
3. Location of the fire in a building (look for fires near the roof, because many insurance adjusters will declare a fire a total loss once the roof is destroyed)
4. Suspicious hours (no witnesses)
5. Holiday fires
6. Vacant building
7. Renovation of building
8. Recent departure of occupants
9. Removal of objects (woodwork, plumbing, etc.)
10. Property for sale
11. Previous fire
12. Building overinsured
13. Habitual claimants
14. Fires occurring shortly before policy expiration
15. Fires where insurance has recently been obtained
16. Recent sale of building.

Agent Walsh further suggests:

After compiling a list of possible inner-city arson fires, the investigator may be able to develop positive circumstantial evidence of fraud from available records and demonstrate the proper investor's involvement by showing conflicting information, deception, and false statements.... It may be much easier to solve an arson fraud than it would be to prove a straight arson case (Walsh, 1979).

Revenge and Prejudice

Arson motivated by revenge, spite, and jealousy accounts for a high percentage of the number of intentional fires occurring in the U.S. Those who commit such arson include "jilted lovers, feuding neighbors, disgruntled employees, quarreling spouses, persons getting even after being cheated or abused, and persons motivated by racial or religious hostility" (Boudreau et al., 1977, p.19).

A fire that destroyed a Hispanic social club and killed 25 partygoers in October 1976 in the Bronx, New York City, was motivated by revenge. The jilted boyfriend of one of the victims apparently started the fire because his girlfriend would not leave the party to talk to him.

From an investigative standpoint, once the revenge motive has been identified, the number of people to be investigated can be narrowed tremendously because of the connection between the subject(s) and the target of arson.

Fires motivated by racial, religious, or similar biases are investigated in the same manner as those motivated by revenge. Most local newspapers are laden with articles describing in detail the burning of a group home for the retarded, a house of worship, or the home of a black family in an all-white neighborhood. The investigator must realize that constitutional as well as criminal statutes may have been violated in a racially or religiously motivated fire.

Vanity

This category of arson motive is also referred to as the *hero syndrome*. A night watchman or security guard who feels that he is being ignored may start a fire and then "save" the entire plant. This "heroic" act may draw attention to the splendid job he is doing and warrant a raise in pay, a bonus, or a reward. Vanity fires have been started by volunteer firefighters who happened to live in quiet residential areas where there were few calls for service, to gain the

attention of their family and neighbors and the respect of fellow firefighters for being the first to respond to the firehouse or scene. According to FBI Special Agent Anthony O. Rider, vanity arsonists, although few in number, have “the propensity for serious destructiveness” (Rider 1980, p. 12).

Fire Buff Arson

A special case of the vanity-motivated fire setter worth mentioning here is that of the fire “buff” — a person who enthusiastically attends the fires, perhaps to associate with and assist fire-fighting personnel. The term *buff*, in fact, most probably derives from the buff overcoats worn by volunteer firefighters in early 19th-century New York City. Says Agent Rider:

The fire “buff,” like the police “buff,” is an enthusiastic “hanger-on.” He generally represents a frustrated would-be fireman or would-be policeman. Although many buffs are civic-minded and constructive in their associations with the police and fire service, others are characteristically immature, inadequate underachievers. The fire buff who sets fires is seeking attention and attempting in a pathological way to win praise and social recognition for his alertness and heroism in reporting fires and helping to fight them” (Rider 1980).

Juvenile Fire Setters and Vandalism

In 1994, over 55% of arson arrests in the U.S. were due to juveniles. In some cases, the motive is certainly profit. Juveniles may be hired as incendiaries or “torches” by people who are unable to contact a professional torch or who are afraid to start the fire themselves. A juvenile hired to set a fire will generally work for much less than an experienced or professional torch. It is because of their lack of experience and their reliance on whatever supplies are available (e.g., gasoline) that these young incendiaries are likely to be trapped and die in a fire they might set.

A motive for juvenile fire setters is not always apparent. Vandalism is a common cause ascribed to fires set by juveniles, who seem to burn property just to relive boredom or as a general protest against authority. Many school fires as well as fires in abandoned autos, vacant buildings, and trash receptacles are believed to be caused by this type of arsonist (Boudreau et al., 1977).

Fire setting has been recognized as behavior that is learned at a very early age (Redsicker, unpublished). Children as young as 2 years old have started fires, destroying property and lives. An increasing number are revenge-motivated or have what is known in the profession as the “cry-for-help” syndrome. These young people often are the victims of neglect and abuse. Attempts to



Figure 2.4 The foundation is all that remains of this recently completed high ranch. Juveniles, either for a thrill or just on a dare, burnt the new home to the ground. (Photo courtesy of T. Brown.)

reach these children are being made through juvenile fire setter programs across the country. These programs are an innovative approach, not only to recognize juvenile fire setters, but, more importantly, to identify the underlying problems that surface as fire-setting behavior.

Crime Concealment

Escaped prisoners and armed robbers will often burn their (stolen) escape vehicles at the time they are abandoned. They do this to destroy fingerprints or other evidence that might connect them to the car and, therefore, to the scene of the escape or robbery. Torched getaway cars are only one example of arson for crime concealment:

Criminals sometimes set fires to obliterate the evidence of burglaries, larcenies, and murders. The fire may destroy evidence that a crime was committed and destroy the evidence connecting the perpetrator to the crime, or, in the case of murder, make it impossible to identify the victim. People may set fires to destroy records that contain evidence of embezzlement, forgery, or fraud. Arson has also been used to divert attention while the perpetrator burglarized another building, and as a means of covering attempted escapes from jails, prisons, and state hospitals (Boudreau et al., 1977).



Figure 2.5 An employee identified this desk as the central repository for all the business records for a company that had burned to the ground over a long holiday weekend. Although gasoline has been poured throughout the structure, the desk was not destroyed as planned. The business books and records had been moved before the fire.

Evidence that might indicate arson for crime concealment includes the recovery of burglar's tools (e.g., crowbar, lock picks) from the fire scene, or personal property strewn about a room that exhibits little or no fire damage. A detailed follow-up investigation is required if: business or personal records were left out (or file drawers left open) and exposed to fire; or valuable personal items or expensive office equipment or stock are missing after a close examination of debris (and presumed to have been stolen before the fire started).

A fire set to conceal a burglary several years ago in Westchester County caused the death of more than 20 people who were attending a dance several doors away from the scene of the burglary.

Psychological Compulsion

As we have seen, there are elements of many cases of arson that might best be described as psychological: vanity, prejudice, revenge, and perhaps even a desire to "beat the system." Developing a psychological profile of an arsonist during an investigation can be an invaluable aid to the investigator. It helps him focus his investigation, identify potential suspects, and develop appropriate

techniques and strategies for interviewing the various types of fire setters (Rider, 1980, p. 2).

This kind of psychological understanding is crucial in cases for which there seems to be no motive or, at least, none that is as readily comprehensible as those we have already examined. Such “motiveless” fire setting may be attributable to *psychological compulsion*.

In order to understand the role of psychological compulsion as it relates to fire setting, it is first necessary to examine the types of affective disorders that may lead to psychopathic behavior or criminal conduct.

Mania and Depression

Mania and depression are two behavioral extremes generally viewed as psychoneurotic or psychotic disorders. *Mania* is marked by mood elevation, physical and mental hyperactivity, and disorganized behavior. *Depression* may involve lethargy, lack of concentration, and sadness or dejection. Cycles or alternating mania and depression in an individual are termed *manic-depressiveness*.

Depression is a factor in some arson/homicide cases. Abhorrent as the idea may be to a rational person, people do commit suicide by fire. Suicide by fire is rare in Western culture, but common in Japan and the most common form of suicide in Bangkok, Thailand. A person in the depths of depression has one overriding concern: “How to die?” (See also Chapter 7, “Investigating Fatal Fires.”)

Pyromania

The *pyromaniac* (not a maniac using the clinical definition) is a person who has an “inordinate or ungovernable enthusiasm for starting fires, who lacks a conscious motivation for his fire setting” (Rider, 1980). Some writers have argued the point that “pyros” set fires to gain some sort of sexual gratification (Battle and Weston, 1975, p. 98). Whether or not this is true, it seems that the overwhelming majority set fires to gain some type of sensual pleasure.

Pyromaniacs set fires impulsively; they do not plan their fires. Rather than carry flammables or combustibles to use as fuels in setting fires, they simply ignite whatever combustibles are close by when they have the urge to start a fire. There is generally no connection among the targets of a pyromaniac’s fires other than that they may occur along a common route or path followed daily, for example, to a bus stop, to work, or to a local store.

A single pyromaniac may cause large amounts of damage and start many fires before a pattern or common thread is identified. Once the pattern becomes clear, the investigator should recommend and coordinate an extensive surveillance operation in the area.

It is important, while interviewing any suspected fire setter, to try to establish a reason (motive) for the fire-setting behavior. If the person cannot articulate a reason why they set the fire, they then may fall into the category of pyromania. However, most people, when questioned carefully about their fire setting behavior, will give reasons such as abuse, neglect, or revenge as their “reason” for starting the fires. These reasons are not the motivation of a pyromaniac.

Schizophrenia

Schizophrenia is the most serious of the affective disorders. It is generally characterized by disintegration of personality (inappropriate affect, disorderly thought and behavior) and withdrawal into self-centered subjective mental activity (autism). Of the four general types of schizophrenic personality (paranoid, simple hebephrenic, and catatonic), the paranoid schizophrenic seems to be the most likely to be an arsonist. The paranoid schizophrenic has a tendency toward excessive and irrational suspiciousness; everything is perceived from a defensive standpoint. The paranoid schizophrenic fire setter, because of this bizarre or perverted sense of reality and defensive posture, may use fire setting as a weapon against whatever is perceived as a threat.

Profile of the Pathological Arsonist

Rider (1980) found that, although there is no such thing as a “typical” pathological fire setter, the following cluster characteristics are common among them:

1. Less than 25 years old
2. Reared in distressing and pathological environments
3. Father absent from home
4. Domineering mother
5. Academic retardation
6. Slightly below average intelligence
7. Emotional and psychological disturbance
8. Social and sexual maladjustment
9. Unmarried
10. Psychological inadequacy and insecurity
11. Cowardly

The pathological fire setter may be “motivated by a multiplicity of factors” and spurred on by a “precipitating stressful situation or experience” (Rider, 1980).

Mass Disturbance (Riot)

The massive civil disturbance that rocked Miami, Florida, in May 1980 was reminiscent of our country's turbulent past. News reporters and photographers documented the all-too-familiar clouds of smoke billowing from fire-ravaged sections of the city.

The problems that plagued the authorities in Miami (arson, looting, shootings, mass arrests) were the same as those faced by the officials of New York City and many other cities during the 1960s. The words "riot" and "arson" often seem to be inextricably linked. The indiscriminate burning of businesses, homes, and automobiles during a riot, though a *consequence* of the civil disorder, is not motivated by it. People in a mob may commit acts that they would never do as individuals (*mob mentality*). Clearly, however, a riot may incite those already motivated for arson and provide chaos within which to escape.

Terrorism

In his *Minimanual of the Urban Guerrilla*, the Brazilian theoretician of urban guerrilla warfare, Carlos Marighella, defined terrorism as "an action, usually involving the placement of a bomb or fire explosion of great destructive power, which is capable of effecting irreparable loss against the enemy" (Marighella 1970, p. 32). Fire is one of the weapons in the terrorist's arsenal. This is often overlooked; media attention has traditionally focused on terrorist bombings and kidnapping incidents.

Because the primary goal of terrorists is often publicity, their violence is directed mainly against civilian targets. For example, the FALN (Fuerzas Armadas de Liberación Nacional Puerto Rriqueña — armed forces of the Puerto Rican National Liberation movement) claimed responsibility for the extensive use of incendiary devices against department stores in New York City. A number of these devices were secreted in the merchandise on shelves and clothing racks. Terrorists have also used arson as a diversionary tactic, and their associates have used the proceeds of insurance fraud (arson) to finance covert operations and to buy weapons and equipment. In one series of cases, insurance settlements from fires that occurred in New York City were being used to further the goals of terrorists in the Middle East. Recent acts of terrorism in the U.S. include the 1993 bombing of the World Trade Center in New York City and the bombing of the Federal building in Oklahoma City in 1995.

Today's investigator must be aware of the current trends and tactics of the terrorist and maintain a liaison with local intelligence units.

References and Selected Readings

- Battle, B. P. and Weston, P. B., *Arson: A Handbook of Detection and Investigation*, Arco Publishing, New York, 1975.
- Boudreau, J. F. et al., *Arson and Arson Investigation: Survey and Assessment*, U.S. Government Printing Office, Washington, D.C., 1977.
- Bromley, J. et al., *Cause and Origin Determination*, Office of Fire Prevention and Control, Department of State, State of New York, undated.
- Fitch, R. D. and Porter, E. A., *Accidental or Incendiary*, Charles C Thomas, Springfield, IL, 1968.
- Lindsey, A. (former Assistant District Attorney, Bronx, New York), "Commercial Fire Check List," unpublished course material, Arson Investigation Course, NYC Police Academy.
- Marighella, Carlos, *Minimanual of the Urban Guerrilla*, New World Liberation Front (underground U.S. publisher), 1970.
- Redsicker, D. (New York State Fire Academy), unpublished research.
- Rider, A. O. (FBI Special Agent), The Firesetter, a Psychological Profile, *Law Enforcement Bull.*, June-August 1980.
- U.S. Department of Justice, *Uniform Crime Reports: Crime in the United States*, 1983, U.S. Government Printing Office, Washington, D.C., 1984.
- Walsh, Robert E. (FBI Special Agent), "Inner-City Arson," *Law Enforcement Bull.*, October 1979.

