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### TRAGEDY, OUTRAGE & REFORM Crimes That Changed Our World: 1911 – Triangle Factory Fire – Building Safety Codes

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# 1911 – TRIANGLE FACTORY FIRE – Building Safety Codes

chapter I from the book

## **TRAGEDY, OUTRAGE & REFORM** **Crimes that Changed Our World**

Paul H. and Sarah M. Robinson

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## PREFACE

As we go through our daily routines, all but the Pollyannas among us see flaws in our existing world. We may try to avoid dwelling on them, but they are there and they bother us, sometimes a lot. What is easy to miss, without the perspective of even recent history, is that the flaws are generally minor, even trivial, compared to the often appalling state of affairs that existed in the same space just decades ago.

Within the memory of living persons, our world was one of essentially no building or fire codes, woefully ineffective criminal law enforcement, no system of food or drug safety, no protection of the environment, the appalling treatment of some people based on race or other group characteristic, rampant drunk driving, rampant domestic violence, rampant sexual assault, and a host of other conditions that we would now find intolerable.

What can seem almost bizarre to us is that people of not that long ago accepted this state of affairs as perhaps regrettable but tolerable. When we examine that not-too-distant past we frequently end up scratching our heads wondering, “what were they thinking?”

Of course, this has always been the way of progress. You can be absolutely sure that in our not-too-distant future people will be scratching their heads wondering about us, “what were they thinking?” We may each have our pet theory on what their source of wonderment will be, but more likely than not, if history is any judge, most of us will guess wrong. Our successors will find appalling and intolerable things that we as a society are presently quite willing to tolerate.

This process of the continuous march of progress – of increasing and shifting expectations and ever-rising baselines – is an interesting story in itself. One might think it is the natural result of hundreds or thousands of small steps of gradual improvement over time. And in some cases it is. But it turns out that the march of progress also has some sharp turns in it. The path of march may sometimes follow a long series of course corrections but sometimes it is a quick left turn or an unexpected lurch to the right. Sometimes our present circumstances seem entirely acceptable – until they aren’t. Then in a flash, we suddenly feel different about things, and often just as suddenly do something about it.

This book is about that fiery dynamic – changes that come quickly, sometimes suddenly, sometimes unpredictably, sometimes inexplicably. Our focus will be on a particular group of triggers to change that we think are the most interesting, the most powerful, and sometimes the most unexpected: *crimes*.

In the cases we explore, the general dynamic is the same: a terrible crime provokes public outrage that in turn produces important reforms. But there are many differences in how the dynamic works and what drives it. Why do some crimes trigger a turn from the path while similar crimes only a year or two before did not? Or, why didn’t the turn wait until a similar crime several years or decades down the path? Or why a turn at all, rather than many gradual course corrections?

The exact nature of the crime-outrage-reform dynamic can take many forms, and we will explore those differences as we work through some of the most important cases of the past century. Each case is in some ways unique but there are repeating patterns that can offer important insights about how change comes, and how in the future we might best manage it.

But what these extraordinary cases have in common is that all of them are crimes that changed our world.

# 1911

## TRIANGLE FACTORY FIRE

### Building Safety Codes

It is a pleasant early spring afternoon and you are standing on the sidewalk at 27 Washington Place in New York City. The building in front of you is a beautiful neo-Renaissance specimen ten stories tall. Situated on the corner of Green Street and Washington Place, on the New York University campus, hundreds of people use it every day in comfort and safety.

If you were standing at that same spot on the early spring afternoon of March 25, 1911, at 4:45 PM, you would be dodging an onslaught of burning screaming bodies, mostly of young women. The crowd in the street around is also screaming, but some of this is drowned out by the roar of the fire on the top three floors, in the Triangle Shirtwaist Factory. Young women are hanging out of the windows and standing on ledges trying to escape the flames. In many cases their dresses are already on fire.

Like watching a suicide jumper but times a hundred, you are helpless to do anything. The flaming bundles are now falling in doubles and triples, all hitting the pavement with a sickening thud. When the rain of horror is over, 146 people are dead.

Perhaps most striking about the horrific event is that there is nothing terribly unusual about the factory on the upper floors. It is like hundreds of other factories in the City, but because of the ghastly public spectacle the factory owners are put on trial, but then acquitted of criminal liability under law.

The building's façade looks the same today as it did 100 years ago, but it is very different on the inside. Its safety and comfort is as typical of today's buildings as the danger of the Triangle Shirtwaist Factory was common in the factories of its day.

How did we get from there to here? In large measure, it was due to the horror of those falling flaming bodies.

On the afternoon of March 25, 1911, as the sun sinks toward the west over the New York City skyline, a fire breaks out in the ten-story Asch Building. The top three floors of the building are occupied by six hundred employees, most of them young women, of the Triangle Shirtwaist Company. True to its name, the company manufactures shirtwaists, a type of women's garment similar to a blouse. It is about fifteen minutes before the five o'clock closing time. Someone drops a still-burning cigarette into a wood box under one of the cutting tables on the eighth floor. The box is filled with cloth cuttings that ignite. Workers at the cutting tables run to get buckets of water to extinguish the fire. The company has some twenty-seven buckets of water distributed throughout the thirty-thousand square feet of its three floors. Before they can extinguish the flames, the fabrics hanging on a wire above the cutting tables catch fire.<sup>1</sup>

The factory is perfectly designed to fuel a massive fire. The floors, tables, and chairs are all made of wood. Cotton cloth in bolts, half-finished garments, and piles of scraps are everywhere. The sewing machines drip oil that coagulates on the factory floor, flammable fabrics and templates are everywhere. The factory is practically built to burn, and it does. The fire is quickly out of control, far beyond the reach of a few buckets of water.

In theory there are several routes of escape: two staircases, a fire escape, and two elevators. But the reality is different. One of the stairwells is locked. Management locks the

door to prevent employees from taking breaks without permission or stealing company property. The other stairway is unlocked but narrow. At less than three feet wide, there is only enough room for a single-file procession. The fire escape is even narrower. It descends to the second floor above a small courtyard that serves primarily as an air and light shaft. The two service elevators carry only ten people each.

A bookkeeper on the eighth floor calls the tenth floor and tells them about the fire. The tenth floor is occupied by the company's management and owners. There are only sixty employees on the tenth floor and they are able to evacuate onto the roof where a New York University professor and some students from the next building over help them get away from the burning Asch building. The same bookkeeper tries to call the ninth floor but no one answers. Workers on that floor don't realize there is a fire until they see smoke billowing up past their windows.

There are some 275 people on the eighth floor and another 300 on the ninth. Those on the eighth floor have already jammed the escape routes before those on the ninth even know of the danger. A hundred or so people escape via the unlocked staircase but the well-fueled fire fills the stairwell with smoke. Some workers descend the narrow fire escape but a large metal shutter blocks their way at the eighth floor landing. The desperate employees try to climb around the shutter but the going is slow and soon a crowd jams the stairs behind it. The fire escape sags under the weight, then falls away from the buildings, sending bodies, some aflame, tumbling into the courtyard below. Rebecca Feibish, a 17-year-old emigre from Romania three years before, is at work on the ninth floor. She is the third of seven children and her annual salary of \$300 is the highest in the family. When she realizes the danger, she grabs her friend, Sylvia Riegler, and the two try to find a way out. Sylvia, is not able to master her terror but Rebecca pulls her forward, pleading with her to make the effort.

The elevator operators are trying to do their best to ferry as many people as possible out of the building but they can only do so much. Soon the elevators fail. Gaspar Mortillalo, one of the operators, can't force his elevator past the seventh floor to reach the fire because heat has warped the elevator tracks. As the elevator descends, Mortillalo hears the thud of bodies landing its roof. As fire continues to consume the building and the heat becomes unbearable, agonized workers slide down the elevator cables. Some jump down the elevator shafts. Joseph Zito, the other elevator operator, can no longer get his elevator to ascend due to the accumulated weight of bodies on top of it.

The factory becomes a veritable furnace. The heat hits 1,000 degrees as the fire reaches out with its merciless tentacles, enveloping the building and grabbing at the clothes and hair of the hapless factory workers. People are forced out the windows by the flames. They fall or jump, many with clothes afire, down to the street below. Rebecca jumps. The teenager survives the fall but the doctors are unable to save her and she dies at the hospital. Sylvia, too fearful of heights to stand in the window, heads back into the burning factory.

**P**atrolman James P. Meehan of Traffic Division B is riding his horse through Washington Square Park that afternoon. He gets into a conversation with his superior, Lieutenant William Egan. A boy runs up to the pair gesturing wildly in the direction of the Asch building. Meehan rides toward the building, halting his horse in front of 23 Washington Place. Smoke is issuing thickly from the eighth floor. A bystander tells the policeman that he saw something looking "like a bale of dark dress goods" fall out of the window. "Someone's in there all right. He's trying to save the best cloth,"<sup>2</sup> the man says.

Another cloth bundle falls from an open window. A gust of wind catches the bundle and it bursts open. It is not a bundle of cloth at all, but the falling body of a girl whose dress is on fire. More people come running, summoned by the screaming onlookers. One man, John H. Mooney, runs to Fire Box 289 at the corner of Greene Street and raises the first alarm at 4:45 PM.

Patrolman Meehan runs into the building and bounds up the stairs two at a time. He meets a mass of scared girls coming down and he squeezes himself against the wall so they can pass. Moving further up, he trips on an unconscious girl between the seventh and eighth floors. He revives her and sends her down the stairs. By the time he gets to the eighth floor, he sees that the fire is only a few feet away from the door to the stairwell. He directs several more girls down the stairs with the help of a machinist named Louis Brown. Brown has worked his way to the front of a pack of girls and is able to force a door open. Sylvia had found her way to that area and is right behind Brown as it opens. Brown, Meehan, Sylvia, and the girls rushing out behind them are able to make it down the stairs.<sup>3</sup>

As they descend, Meehan hears banging coming from the other side of the sixth floor door. Giving it everything he has, he shoulders the door and it springs open. The floor is filled with terrified women. The employees who took the fire escape down from above discover that it is not a path to safety. They reenter the building at the sixth floor, and eventually fight their way down to the street. By this time, fire engines and police vehicles are arriving. One witness, a coroner named Dr. D.C. Winterbottom runs to a store and grabs a telephone. He freezes for a moment before he can collect himself enough to scream at the operator: "For God's sake, send ambulances."<sup>4</sup>

As medical personnel arrive on the scene, they stare in horror at the ghastly scene. Dozens of women are hanging from ledges. Some, their dresses ablaze, jump out of windows. The sounds of fire whistles and bells resound through the streets. Men on the streets yell up to the women not to jump. Wildly waving their arms, they yell "Here they come!," referring to the emergency personnel. Some men bring over blankets to catch the falling women. The bodies land on the blankets with such force that they rip the cloth out of the hands of the would-be saviors. They fall with tremendous force crashing into the sidewalk with sickening momentum. Where there are iron grates the sidewalk, the bodies hit with such force that they smash through the grates. People are jumping in ones, twos, and threes, falling, and then crashing with the bone-crushing thumps.

Bodies begin to pile up on the sidewalk. Some are on fire, and firefighters douse them with their hoses. The water runs red with the blood. The bodies soon bury the fire hoses, forcing the firefighters to clear the bodies out of the way before they can continue to fight the fire.

Firefighter Captain Howard Ruch tells his men to open up life nets to catch the people who keep jumping as the fire pushes more and more workers out of the windows and off the ledges. The men unfurl the nets and loop their arms in. The first net is ready just in time to catch three falling bodies. The bodies hit with 11,000 pounds of force and the firemen are knocked off their feet and some tumble into the net. The nets rip and some start burning. People are now jumping in threes and fours. The nets are useless. Even the smallest bodies go right through. One woman survives the jump and Chief Edward J. Worth sends her across the street. She walks ten feet before collapsing, dead. The firemen try to raise ladders, but the ladders don't reach past the sixth floor. One worker tries to grab at a ladder as she falls past it, but she misses and plummets downward, her clothes ablaze.

A girl walks out on a ledge moving away from the window. She takes off her wide-brimmed hat and throws it out, away from the building. She then takes some coins and bills

from her handbag and casts them out over the street. The coins bounce on the cobble stones, and she plunges after them. A young man on the ninth floor holds a girl out of the window away from the heat and drops her. He takes another girl in his arms and drops her too. Then he takes a third, as if, to quote reporter William Shepherd, he was helping her “into a street car instead of into eternity.” The man sees “that a terrible death awaited them in the flames and his was only a terrible chivalry.”<sup>5</sup> The man takes one more girl in his arms and she puts her arms around him and they kiss. The man drops his lover and then casts himself out over the piles of the dead below.

On the Washington Place side, people are jumping feet first from the open windows. On the Greene Street side, people are stuck inside, stuffed up against closed windows. The windows finally break and from the empty frames a torrent of fiery bodies pour out into the air and onto the streets.

At 4:57, no more than twenty minutes after the fire starts, the last body, a young girl wreathed in burning clothes, jumps from a ledge on the ninth floor. She catches on an iron hook sticking out at the sixth floor and hangs there burning before something gives, and she falls to the sidewalk.

The dead number 146, mostly women, many of them very young.

**W**hy is the Triangle Waistcoat Factory in a condition that allows this monstrous disaster? Owned by Joseph J. Asch, the structure is built in 1901 at the cost of \$400,000. The building is 135 feet tall. Were it fifteen feet taller, the law would require metal trim around the door and window frames as well as stone or concrete floors, all of which would provide greater structural support in a fire, but at 135 feet its entirely wood construction is legal. The building has 10,000 square feet on each floor, which, according to the law, requires three stairwells for exit. But the law as applied in this instance seems to be open to personal interpretation. The architect successfully argued that “the staircases are remote from each other and, as there is a fire escape in the court[yard], it practically makes three staircases, which in my opinion is sufficient.”<sup>6</sup>

State law dictates that doors in factories “shall be so constructed as to open outwardly, where practicable, and shall not be locked, bolted or fastened during working hours.” In the Asch building, the stair landings are too narrow to allow the doors to open outward. Thus, outward-opening doors are judged not “practicable.” The dangers of inward-opening doors has been established by earlier fires where people pushing to exit from a fire make it impossible for the doors to open inward. Panic bars, developed in response to the problem, were commercially available in 1911, but not legally required.

The Asch building’s “third staircase,” the fire escape, runs from the top floor and stops at the second story, leaving a one story gap, but as Manhattan Borough President George McAneny puts it, the law “leaves enormous discretionary power with the Building Department.” An expert in fire insurance and prevention, Arthur E. McFarlane, points out during the investigation that a lot of builders “decided to build their loft buildings without any fire escapes at all. Others put them in the air shaft which, in case of fire, becomes its natural flue. Others bolted on all-but-vertical 18-inch ladder escapes such as could not legally have been placed upon even a three-story tenement house.” (The law for commercial buildings like Asch is different than the laws for residential buildings.)

In 1911, New York City doesn’t have laws mandating fire sprinklers in factories. It is not that the value of such systems is doubted. Fire Chief Edward F. Crocker notes that there has never been a death in a building with a sprinkler system. It is simply that it is up to the person



who must pay for the devices to install them or not. Additionally, fire equipment of the day can't combat fires higher than eighty-five feet in the air. That means that the top three floors of the Asch building, the entirety of the Triangle Factory, is out of reach of the fire hoses.

Crocker has previously testified before New York State Assembly to these failings: "I think if you want to go into the so-called workshops . . . twelve, fourteen or fifteen story buildings they call workshops, you will find it very interesting to see the number of people in one of these buildings with absolutely not one fire protection, without any means of escape in case of fire."<sup>7</sup>

Even cheap fixes, such as fire drills, are not mandated. P.J. McKeon, a fire prevention expert who lectures at Columbia University, inspects the Triangle Shirtwaist Factory in 1909. The factory owners are trying to increase their insurance coverage. McKeon is worried about the crowded top three floors of the building. Upon learning that the building has never had a fire drill so workers will know how to respond to a fire, McKeon recommends such a drill, but no drill is organized.

On October 15, 1910, just months before the deadly fire, Fireman Edward F. O'Connor inspects the Asch building. Based on the then-current building codes, he reports that the fire escape and stairways are "good." Further, the building, a veritable matchbox, is legally considered "fireproof." So, after the tragedy, Joseph Asch is able to accurately tell reporters "I have obeyed the law to the letter. There was not one detail of the construction of my building that was not submitted to the Building and Fire Departments. Every detail was approved and the Fire Marshall congratulated me." After the fire, Albert G. Ludwig, the Chief Inspector and Deputy Superintendent of the Building Department says that the Asch building "could be worse and [still] come within the requirements of the law."<sup>8</sup>

The rain of burning women is not quickly forgotten. The Collegiate Equal Suffrage League holds a rally at Cooper Union on the Friday after the fire.<sup>9</sup> A banner across the speakers' platform reads "Votes for women. Locked doors, over-crowding, inadequate fire escapes. The women could not, the voters did not alter these conditions. We demand for all women the right to protect themselves."<sup>10</sup> The event's program includes a speech from Dr. Anna Shaw, a well-known suffragist.

"As I read the terrible story of the fire," Dr. Shaw says to the emotionally-raw crowd, "I asked, 'am I my sister's keeper?' For the Lord said to me, 'where is thy sister?' And I bowed my head and said, 'I am responsible.' Yes, every man and woman in this city is responsible. Don't try and lay it on someone else... You men – forget not that you are responsible! As voters it was your business and you should have made it your business." (Women did not get the vote until nine years later, in 1920.)

Dr. Shaw faults the law: "Something's got to be done to the law," she argues to applause. "And if it's not constitutional to protect the lives of workers then we've got to smash the constitution! It's our 'instrument,' and if it doesn't work, we've got to get a new one!"<sup>11</sup> The crowd learns that over fifty thousand workers die every year in work accidents, around a thousand a week. As for the owners of the Triangle Shirtwaist Factory, "Mr. Harris and Mr. Blanck were there at the time the fire broke out. They escaped. We congratulate them. My friends, what a tremendous difference between the captains of ships and the captains of industry!"<sup>12</sup>

Chief Crocker, the perpetual critic of weak fire safety codes, sends a note that is read to the assembly. Crocker wants the crowd to understand that choices are being made. These

deaths are not the wrath of God or an accident: "It comes down to dollars and cents against human lives no matter how you look at it."<sup>13</sup>

The National Women's Trade Union League holds a similar rally in the Metropolitan Opera House on April 2, 1911. They attempt to channel the outrage into creating safer conditions for factory workers. The International Ladies' Garment Workers' Union (ILGWU) organizes a funeral procession to mourn the women who died in the fire.<sup>14</sup>

A commemorative funeral march of over 120,000 people is held on April 5th, a Wednesday. It is a frigid, rainy morning eleven days after the fire. The city essentially shuts down for the event. Three-hundred thousand people line the route, paying tribute as empty coffins roll by. The funeral parade takes four hours to pass by. With the dead duly honored, the raw emotion of the public becomes focused on the perceived negligence of the owners, Max Blanck and Isaac Harris.

Two weeks after the fire, the owners are charged with first and second degree manslaughter for locking the doors that prevented the workers from escaping. They are indicted and brought to trial. The prosecutors must prove that Harris and Blanck either locked the doors or ordered them to be locked. Their defense is easy, simply noting that they took no such action and had no knowledge of it being done. On December 27th, they are judged not guilty. Angry crowds yell "Murderers!" as they leave the courthouse.<sup>15</sup>

Several survivors and dozens of family members of those who died bring civil cases against Harris and Blanck. Most families cannot afford the legal fees required to bring a civil suit. There is no such thing as Workers Compensation in 1911, but the owners eventually settle, agreeing to give the twenty-three litigants \$75 per victim or the equivalent of five weeks' wages.

Under existing law, the owners have not done anything so bad or so different from what others do to be singled-out for criminal punishment. Nor are any officials found to have done wrong. The law's expectations for building safety are low. Chief Crocker seethes. He testifies: "The fault in New York City is that there is nobody responsible for anything. The Fire Department is not responsible; the Building Department is not responsible; the Police Department is not responsible; the Health Department is not responsible. If anything happens they are all stepping from under."<sup>16</sup>

On the day of the fire, Frances Perkins is having tea with friends just down the street from the Asch Building. The group hears the fire engines and goes into the street to investigate. Perkins, a Mount Holy Oak graduate, watches, helpless to prevent the deaths.

Perkins is the Executive Secretary of the New York Consumers League. Her work in economics and social work combines with her deep personal convictions to make her an effective lobbyist. She has long had a vision of doing "something about unnecessary hazards to life."<sup>17</sup> Summoning her considerable talents, Perkins quickly starts the process for reform.

She taps into the public outrage of the moment and calls on politicians generally and Governor John Dix in particular to act. Recounting her eye-witness memories of the fire, she reminds everyone, "I can't begin to tell you how disturbed the people were everywhere. It was as though we had all done something wrong. It shouldn't have been. We were sorry. Mea culpa! Mea culpa! We didn't want it that way. We hadn't intended to have 147 girls and boys killed in a factory. It was a terrible thing for the people of the City of New York and the State of New York to face."<sup>18</sup>

Governor Dix, who understands the real source of power in New York, suggests that Perkins consult Tammany Hall – the Democratic machine that controls New York City at the time

– and its powerful bosses, Assemblyman Alfred Smith and Senate Majority Leader Robert F. Wagner. The powers of Tammany Hall decide that, given the continuing unrest, they will support legislation that promotes worker safety. On June 30, 1911, an appropriation is made to establish the Factory Investigating Commission (FIC) and the first state-sponsored investigation into worker safety is underway. Perkins is appointed Executive Secretary to lead the Commission's work.

Perkins uses the momentum of growing public discontent to obtain funding to study more than just the safety of garment shops in Manhattan. The FIC examines first-hand the working conditions and safety of 1,836 factories across the state, interviewing hundreds of civic and union leaders, factory workers, and public officials over four years.

The Commission does not lose sight of the headline event, the source of the outrage that created it, and its primary focus remains fire hazards. Ex-Chief Crooker, the long-time critic of existing regulations, testifies alongside many other experts regarding the inadequate codes, and the impossibly-confusing overlapping mandates across different city departments and agencies. Armed with these front-line reports, the FIC is able to get fifteen separate reforms enacted at the state level.

The New York City Board of Alderman also uses the FIC report to justify creation of the Bureau of Fire Prevention. The City enacts the Sullivan-Hoey Fire Prevention law, which clarifies the responsibilities of the different city agencies with respect to code promulgation, inspections, and enforcement. The City's Municipal Building Code becomes more safety-oriented: sprinkler systems must now be installed in all factories, as well as lighted exit signs, exit doors that open outward, and on-site fire-fighting equipment. Systemic issues are also addressed, including the problems of evacuating large groups from high-rises and the storage of flammable materials in public buildings.

New York State follows New York City's lead. Over several rounds of legislation, laws are put into place that reorganize the New York State Department of Labor and assign broad powers to the Department. A new Industrial Board is empowered to promulgate an Industrial Code that will carry the force of law.

In turn, New York's unprecedented response to the Triangle Shirtwaist Factory fire prompts many states to enact similar reforms.

On paper, the situation in New York City improves greatly. The Tammany bosses Wagner and Smith (the latter will soon become governor) work with Perkins in part because they want to change the image of their political machine, and are seeking a broader political base. However, they still need the support of business owners. The cost of implementing the reforms would fall on owners, and sprinkler systems, fire extinguishers, and redesigned egress do not come cheap. The ultimate solution to their dilemma: strong laws but weak enforcement.

Violations of the new codes frequently are not taken seriously. In 1913, Blanck and Harris, the owners of the Triangle Shirtwaist Factory, are running a new factory where the doors are again being chained, trapping 150 women inside without means of escape in case of fire. The result: Blanck is fined twenty-five dollars. He understands the game. Later that same year, on December 23, Blanck is again found to be violating the law and is issued a warning. On this occasion he is not fined.

Nationally the movement brings real change to fire prevention and public safety. New York is the nation's leader in passing fire-safety legislation. Even though its own enforcement is

weak, its legislative action sets an example to inspire others, whose enforcement is not so weak.

Tammany boss Wagner continues with his worker-safety reform movement when he becomes a U.S. senator. Frances Perkins also becomes a national power, as Secretary of Labor under President Franklin Roosevelt, and adds an informed voice to the federal efforts toward fire safety. As the state and federal reforms take shape, Perkins reflects on the efforts, noting that they are “based really upon the experience that we had in New York State and upon the sacrifice of those who, we faithfully remember with affection and respect, died in that terrible fire on March 25, 1911.”<sup>19</sup>

While the Triangle Fire is effective in starting the reform movement for building safety and spreading it beyond New York, the movement remains primarily reactive.<sup>20</sup> Each forward step requires a new tragedy. There is still no pro-active search for codes that will avoid tragedies *before* they happen.

In March of 1937, a natural gas explosion at the New London School kills 298 people in Texas. Most of the victims are children. Natural gas is not commonly used as a commercial heating fuel at the time but waste gas from a nearby oil field is piped into the school building to heat it at essentially no cost. Natural gas is colorless and odorless, so when a leak occurs in the school’s system no one notices. A shop teacher turns on an electric sander, providing the spark, and ignites the explosion. The building seems to lift into the air, then smashes to the ground, its walls collapsing. Its roof falls in, burying its victims under brick, steel, and concrete. A two-ton concrete slab flies 200 feet from the building before landing on and crushing a 1936 Chevrolet. The explosion is heard four miles away.<sup>21</sup> Once the cause of the fire is understood, Texas passes legislation requiring that odorous mercaptans be added to natural gas. By giving natural gas a distinct odor, similar to garlic or rotten eggs, dangerous leaks become easier to detect. The reform quickly spreads.<sup>22</sup>

In 1942, a fire at the Coconut Grove Night Club kills 492 people. The firefighters have difficulty getting into the building because the doors, which open inward, are blocked by stacks of bodies. Further, the exits are too narrow to manage the volume of fleeing patrons, and decorative draperies cover the exit signs. The Club also has highly flammable finishes.<sup>23</sup> Within a few years, commercially viable flame retardants for fabrics are developed. Interior finishes of buildings become regulated.

The flammability of fabrics in other contexts is not immediately considered, however. Yet, all over the country children are regularly injured by seemingly benign sources. Items such as costume cowboy chaps quickly melt and burn the child if exposed to even moderate heat, yet are legally sold. After many children are injured, the federal government enacts the Flammable Fabrics Act of 1953, forbidding the use of dangerously flammable textiles in making clothes. Consumer Product Safety Commission tests impose flammability standards for all clothing.<sup>24</sup> The Children's Sleepwear Standard of 1972 goes on to subject children’s sleepwear to special regulation.<sup>25</sup>

On December 7, 1946, a fire breaks out in the Winecoff Hotel in Atlanta, Georgia, killing 119 people. It remains the worst hotel fire in United States history. After the deaths, changes are made to building codes for hotels. The changes apply the same rules already mandated in many other types of buildings, such as requiring fire-retardant finishes, multiple exit stairways, and fire doors to seal off stairwells.

In 1958, 92 school children and three nuns die when their school, Our Lady of Angels, burns. The building was not built to be a school and thus not legally bound to meet school

building codes. While the school is clean and well run, a pile of cardboard somehow ignites and goes unnoticed. The school has a fire-safe brick exterior but the interior is made almost entirely of combustible wooden materials — stairs, walls, floors, doors, roof, and cellulose fiber ceiling tiles. Moreover, the floors have been repeatedly coated with flammable varnish and petroleum-based waxes. There are only two (unmarked) fire alarms in the school. The four fire extinguishers are mounted seven feet in the air and thus unreachable to many. The only fire escape is beyond reach because the well-fueled fire quickly fills the hallway with suffocating smoke and superheated gases.

Sweeping changes in school fire-safety regulations are thereafter enacted, including fire safety doors at stairwells to slow the spread of a fire. Some 16,500 older school buildings in the United States are brought up to meet the new codes within one year after the disaster. The head of the National Fire Protection Agency gives voice to the larger issue: "There are no new lessons to be learned from this fire; only old lessons that tragically went unheeded."

As awareness of fire danger grows, new problems are exposed. In the 1970's, a new gadget makes its way into most American kitchens, drip-coffee makers. They are wonders of convenience; set it up and coffee is made and kept warm all day. By the mid-1980's, tracking the causes of fires becomes common, and the numbers reveal a grim story: hundreds of fires are being caused by the innocent-looking coffee devices. In 1996 alone, 500 residential fires are started by the machines.<sup>26</sup> An inexpensive thermo-coupler, which is known to fail with regularity, is found to be the problem. Mr. Coffee, pitched by baseball hero Joe DiMaggio, is the most famous brand of drip-coffee makers and has many recalls of its machines. But in fact almost all brands are fire-hazards.

Regulating consumer goods to prevent fire-hazards soon after becomes common. Appliances are now tested and must meet safety standards before reaching retail shelves. The cost is passed on to the consumer often at pennies per item.

Building safety, on the other hand, remains a maze of problems with no easy fix. Throughout the United States, model building codes are developed by a wide range of organizations, including local government officials, insurance underwriters, private groups, union organizations, and the federal government, without much thought to uniformity or guiding principles. The United States has no national building code. Rather, state, tribal, or local governments are left to decide for themselves what to do or not to do.<sup>27</sup>

To make it easier for governments to formulate reasonable practices, in 1994, an overarching International Code Council (ICC) is formed to coordinate comprehensive codes for building construction safety and fire prevention. The ICC is an umbrella organization containing a family of International Codes including the International Residential Code (IRC), the International Building Code (IBC), and the International Existing Building Code (IEBC). In the United States, each state and many municipalities still decide for themselves which specific codes they will adopt but the model codes provide at least a nudge towards greater uniformity. The "Eurocode," in contrast, is now in force in the entire EU, superseding all national codes. The model codes are constantly being improved. Today all fifty states, the District of Columbia, and every United States Territory have adopted some ICC codes.

The fire-safety reforms sparked by the Triangle Factory Fire have indeed changed our world. At the time of the 1911 workers died at a rate of about 1,000 per week in the United States, while the nation's population stood at 94 million. One hundred years later, the U.S. population is 322 million, yet the weekly on-the-job death toll is down to 90, less than a tenth of what it was even though the population is now more than three times larger.<sup>28</sup> The numbers are compelling: the odds of dying on the job during the year 1911 was 1 in 1,800; the odds that

a given worker will be killed this year are 1 in 69,000. As a point of comparison, it is more likely that today's worker will be killed crossing the street, a chance of 1 in 54,538.<sup>29</sup>

What does the Triangle Fire and its aftermath tell us about the tragedy-outrage-reform dynamic? Why did the Triangle Fire have the effect that it did? Why was *it* the trigger for reform rather than one of the many other earlier fires, which were even large disasters?

The 1903 Iroquois Theater fire killed more people, 602. And it was equally horrendous. Families were at the theater for a holiday show. The stage curtains caught fire, which spread instantly to the ceiling and quickly engulfed the entire building. With the flames racing through the building, people panicked. Women and children screamed as the living tried to climb over those trampled to death at the exits. The piles of corpses reached seven feet high and became walls that penned in the living. By the time firefighters arrived, no one remained alive.

One might speculate that, while the theater fire was horrific, the horror was private. We could only imagine after the fact the terrible sufferings, but only after officials later reconstructed the events that must have occurred. The Triangle Factory Fire, in contrast, was public. Nothing can match the riveting effect of raining flaming bodies, where it is the bystanders on the sidewalk who are doing the screaming.

But this is a cheap answer, we think. More likely, it was the social and political environment that changed between the 1903 theater fire and the 1911 factory fire. The real cause for the change lay with Theodore Roosevelt, an aggravated Tammany Hall, and a presidential assassin.

The political bosses of New York found the energetic young governor Roosevelt a troublesome man. His commitment to ridding the state of corruption and his desire to improve the lives of average citizens interfered with the Tammany Hall way of doing business. To get rid of Roosevelt, they promoted him to obscurity – he became Vice President under William McKinley. But the plan went awry when McKinley was assassinated and Roosevelt, at 42, became the youngest President this country has ever had.

With him, Roosevelt brought to power the Progressives, who had previously been more an intellectual movement than a political one. His “Square Deal” promised the average citizen a government of fairness, which would break the trusts, regulate the railroads, and provide pure food and drugs. The goal of building safety fell squarely within the nature of the Progressive agenda.

On the other hand, while the rise of the Progressives created kindling, it is doubtful that the dramatic string of building safety reforms would have happened without the spark of the Triangle Fire. The Progressives had an endless list of ways in which average citizens' lives could be improved. But this is where raining flaming bodies trumped the others on the list.

The striking horror of that Saturday afternoon occurred in a sea of raised expectations. The outrage was strong and sustained because the average citizen was now less likely to accept such horrible disasters as simply a terrible accident, as just one more bad thing in a tough, unforgiving world of many inevitable bad things. A tragedy of this nature and dimension touched people's hearts in a way that could not be ignored because it so vividly conflicted with their new feelings of hope and expectation.

The “progressive” agenda may have run its course. Setting \$15 an hour as the minimum wage hardly has the moral force of preventing falling flaming bodies, and may not even be good for the people it is trying to help. But no matter what one may think of progressivism today, it did significantly contribute to the public outrage over the Triangle Factory conditions, and helped to convert those feelings into reform.

As we shall see in other chapters, every “trigger case” has its own unique story, partly a product of human nature generally and partly a product of the social and political context of the moment.

## NOTES

<sup>1</sup> The following account draws from: Leon Stein *Triangle Fire*; “How Regulation Came to be: The Triangle Shirtwaist Fire” by dsteffen at <http://www.dailykos.com/story/2010/03/21/846135/-How-regulation-came-to-be-The-Triangle-Shirtwaist-Fire>

<sup>2</sup> *Triangle Fire*, 14

<sup>3</sup> <http://www.perno.com/amer/docs/The%20Triangle%20Shirtwaist%20Factory%20Fire.htm>

<sup>4</sup> *Triangle Fire*, 15

<sup>5</sup> *Triangle Fire*, 20

<sup>6</sup> *Triangle Fire*, 23

<sup>7</sup> *Triangle Fire*, Opposite from table of contents

<sup>8</sup> *Triangle Fire*, 29

<sup>9</sup> This narrative is drawn from the following sources: <http://trianglefire.ilr.cornell.edu/legacy/legislativeReform.html>; <http://triangleshirtwaisthd.weebly.com/main-event.html>; <http://trianglefire.ilr.cornell.edu>.

<sup>10</sup> *Triangle Fire*, 139

<sup>11</sup> *Triangle Fire*, 139

<sup>12</sup> *Triangle Fire*, 140

<sup>13</sup> *Triangle Fire*, 141

<sup>14</sup> Information in this paragraph is drawn from the following sources: <http://trianglefire.ilr.cornell.edu/supplemental/timeline.html> (Timeline)

<sup>15</sup> “How Regulation Came to be: The Triangle Shirtwaist Fire,” 7

<sup>16</sup> “How Regulation Came to be: The Triangle Shirtwaist Fire,” 8

<sup>17</sup> [http://francesperkinscenter.org/?page\\_id=574](http://francesperkinscenter.org/?page_id=574)

<sup>18</sup> <http://trianglefire.ilr.cornell.edu/legacy/legislativeReform.html>

<sup>19</sup> “Triangle Shirtwaist Factory Fire (1911),” *available at* The New York Times from March 11, 2011, at 1.

<sup>20</sup> <http://magazine.sfpe.org/professional-practice/history-fire-protection-engineering>

<sup>21</sup> <http://nlsd.net/index2.html>

<sup>22</sup> [https://www.utexas.edu/safety/fire/safety/historic\\_fires.html](https://www.utexas.edu/safety/fire/safety/historic_fires.html)

<sup>23</sup> <http://www.nfpa.org/newsandpublications/nfpa-journal/2014/july-august-2014/features/inside-threat>

<sup>24</sup> <http://workingperson.me/2015/02/a-brief-history-of-fr/>

<sup>25</sup> <http://www.scientificadvisory.com/ses.html>

<sup>26</sup> <http://www.consumerwatch.com/household/appliances/coffeemakers.php>

<sup>27</sup> Information in this section is drawn from the following sources:

<http://www.epa.gov/region9/greenbuilding/codes/standards.html> ; <https://www.fema.gov/building-codes> .

<sup>28</sup> <http://www.census.gov/popclock/>

<sup>29</sup> <http://www.economist.com/blogs/graphicdetail/2013/02/daily-chart-7>