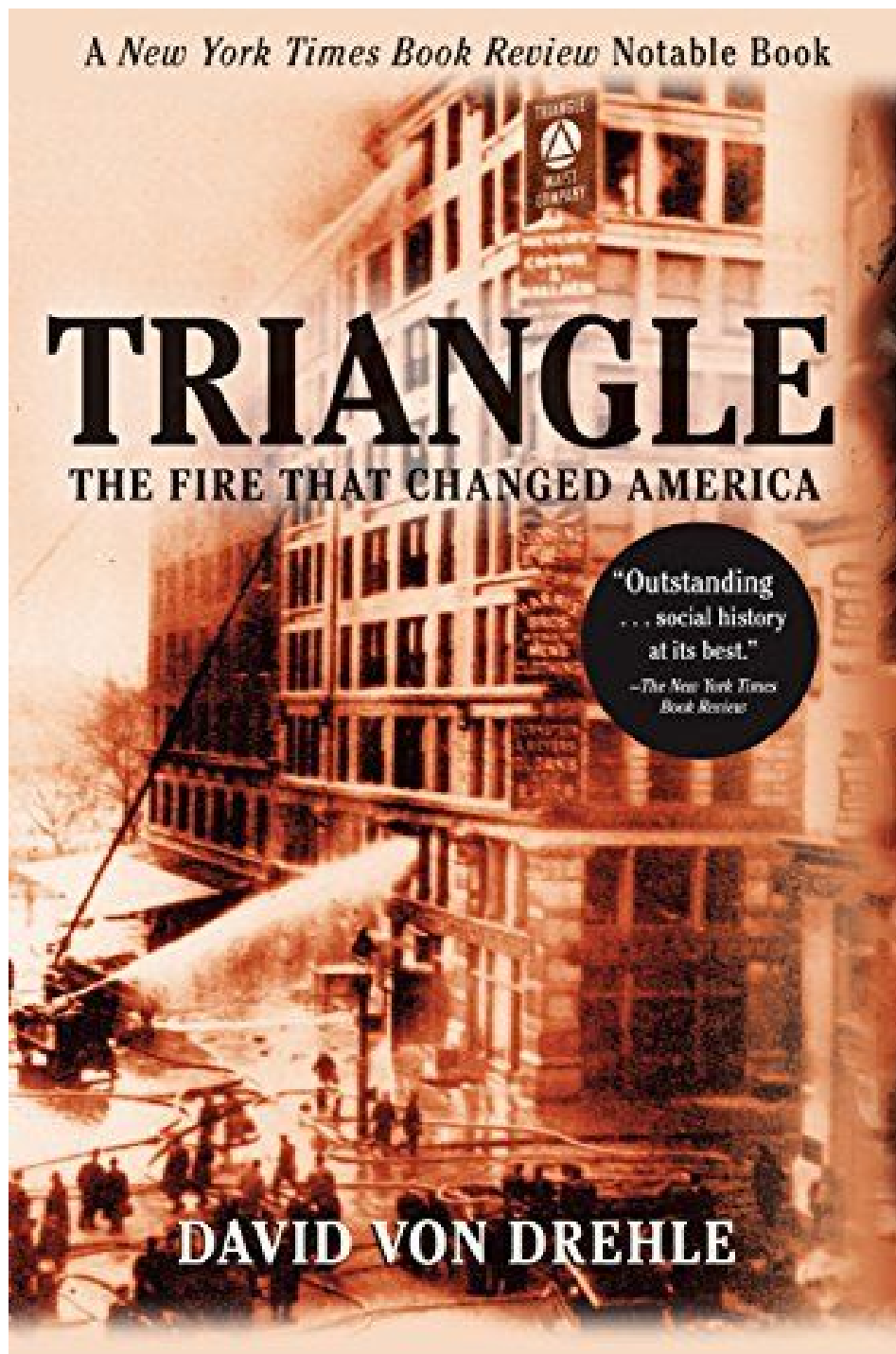


TRIANGLE: THE FIRE THAT CHANGED AMERICA

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Introduction

Triangle: The Fire that Changed America by David Von Drehle, is a devastating true story about one of the deadliest factory fires in U.S. History. During a time shortly before World War I, thousands of eastern-European immigrants flooded the United States in search of a new life for them and their families, only to be found with limited opportunities of work and generally found in sweatshops working in rough conditions for very limited pay. Due to working conditions at the time, the factory fire claimed the lives of 146 immigrant men and women and began the turning point in the importance of work safety.

Description of the Fire

The Triangle shirtwaist factory, owned by Issac Harris and Max Blanck, operated the top 3 floors of the 10 story Asch building built in Greenwich Village in Manhattan, New York. The building was located at the corner between Greene Street and Washington Plaza and was one of the largest blouse making factories during the time. The owners of the Triangle factory represented the very meaning of a “sweatshop” by employing approximately 500 workers, mostly Eastern-European immigrant women, who worked on average 84 hours a week making roughly \$7 week in crowded claustrophobic like conditions.

On March 25th, 1911, a fire broke out on the 8th floor of the factory which ended up taking the lives of roughly 150 men and women. Court officials believed that the cause of the fire came from a highly paid material cutter or their assistant who carelessly tossed their cigarette or match in a bin full of highly flammable scraps despite the building having “no smoking” signs on every floor. These bins were filled with pounds of highly flammable cotton scraps and tissue paper, which immediately caught fire and was the beginning of the end of the Triangle shirtwaist factory.

The first to notice the fire was Eva Harris, sister of the owner Isaac Harris who had begun yelling that there was a fire in the building. This event caught the attention of the manager Samuel Bernstein who didn't think too much of this because it wasn't the first time there was a fire at the Triangle factory. As the fire grew, cutters tried putting out the fire with fire pails of

water with no luck. One worker, Dinah Lipschitz tried to alert executives on the 10th floor through the use of a telautograph instead of a telephone which ended up failing and not delivering the message of the fire for roughly two minutes, then she decided to use the telephone. Contacting any floor using a telephone was not easy as each call had to go through a middleman. The fire grew exponentially, catching hundreds of pounds of fabric, tables, and chairs throughout the entire floor every minute. Louis Slenderman tried to take action by using a fire hose to put out the fire that is located on every floor by the stairway, but sadly none of the hoses worked because there was no pressure to push the water out. All that was available were small pails of water which was not enough to put the fire out. Each floor housed approximately 170 workers who had no prior fire escape training and were in a state of panic trying to escape from the fire. As the fire grew and smoke filled the room, workers had to struggle through the obstacles in the tight room. These obstacles consisted of rows of lined up tables nearly reaching wall to wall, chairs, machines, and piles of flammable clothing that were lying around. Sadly, those who made it to an exit faced more problems. The architect designed the doors to open inward and workers were piling up against the door trying to escape. Doors were also locked to keep workers from stealing during work hours, and when they were unlocked only two could fit through at a time because the stairs were just 33 inches wide. There was only one narrow fire escape that didn't reach the ground floor. Only a few were able to escape through the roof and an elevator that eventually broke down during the fire. As the fire was rapidly spreading the fire department arrived. Fire department ladders at the time couldn't reach the 8th floor. Time was passing, the options for survival were diminishing, the fire escaped ended up collapsing, exits were being overcome with fire and there was nothing to stop this fire from spreading. Workers who were trapped in the building faced a harsh decision of being burned alive or jumping off the building from the 8th floor in the hope of surviving the landing. All these little factors that hundreds of employees had to face while trying to escape the fire was what lead to the loss of so many lives at the Triangle Factory.

Impacts of the Fire

The Triangle Shirtwaist factory fire took the lives of roughly 146 mostly immigrant women as young as 14 years old. This great tragedy left behind many loved ones and opened the eyes of the country about the harsh conditions of sweatshops factories and poorly regulated labor laws. Many of these unregulated sweatshop's were often overlooked until this incident and this event forever changed the meaning of worker safety, improved working conditions and lead to the development of many safety building and safety codes that are used today. The fire consumed 3 floors of the Asch Building, but did not impact the integrity of the building. Even, today the building is still standing and is known as the Brown Building in Manhattan, New York.

Most Important Factors Influencing the Fire

The first factor that lead to the loss of lives, were the negligence of the owners who prioritized expanding the business instead of the safety of the workers. The owners believed space was money and they used a skyscraper building as a factory filled with hundreds of workers to produce their garments. The building they purchased lacked the safety needed to evacuate the hundreds of workers in the case of a fire. Stairs and the fire escapes were so narrow, it would have taken hours to evacuate the hundreds of workers at the factory when they only had minutes. The owners also set up each floor to house as many rows of tables, machines, chairs, and baskets of material as possible to make use of their space. Some exits were blocked by the buildup of months of highly flammable material in the way. Workers were working elbow to elbow and to escape they would need to have passed through the many obstacles set in place. The owners also failed to train their workers with a proper fire drill system, so during the fire the workers had no correct way to react when a massive fire erupted. Some workers tried to put out the fire in a building full of hundreds of pounds of flammable material instead of trying to evacuate immediately.

Communication was another factor that lead to so many deaths. Since there was no proper fire drill training, workers scrambled to communicate the presence of a fire to other floors in the building. Without the proper system of communication, precious minutes were lost during the fire by trying to alarm everyone. Many workers were immigrants of all ages that spoke different languages, some did not speak English and it is difficult to communicate while in a

state of panic. If everyone knew how to communicate properly with one another and throughout the floors of the building, there would have been more time to save lives.

Trust between the owners may have been one of the most significant factors to the loss of life at the factory. The owners always kept exits to the factory locked to minimize workers coming and going to prevent theft. After working hours, workers were searched one by one to catch anyone who decided to steal. Locked doors were so important to them that they were locked everyday during working hours despite the risks of a fire. During the fire, those who were able to guide themselves through a burning smoke-filled building and to the door to salvation were struck with a locked door. After making it to an exit there was no time to try for any other exits because the fire was growing every second. Those who had time to make for another exit had to decide between being burned alive, jumping off the building hoping to survive the fall, or making for the fire exit which was also damaged during the fire. This problem with trust caused most of the deaths by workers burning in flames or jumping off the building.

Lack of regulation was another reason why there were so many deaths at the Triangle Factory. Although there were overcrowding laws in place in 1911, there were no city authorities that would come by and check on the labor conditions in the factory. This allowed the owner to disregard the law of crowding and place hundreds of workers in their building and no one paid attention to this. If the crowding effect was properly regulated, then this would have allowed people to have the space they needed to evacuate and lessen the chances of injury. In addition to poor regulation, just before the Triangle factory fire, the Joint Board of Sanitary Control of New York published a report in 1911 regarding an inspection of fire dangers in factories located in New York. It was discovered that out of 1200 shops inspected; 14 had no fire-escapes, 101 had defective or no fire-escape drop ladders, 78 had obstructions to fire-escapes, 195 had more than one fire-escape, 23 had locked doors during work hours, and only 1 had a proper fire drill system (see table 1). Of the 1200 factories inspected, the Triangle factory was one of them. From their inspection it is apparent that many factories at the time did not practice fire safety and many workers were in danger in the case of a fire. The lack of regulation of these issues was a major problem at the time and it all changed after the Triangle factory fire. There were many factors

that lead to the loss of lives at the Triangle Factory, some of which could have been easily avoided.

Lessons learned from the Fire

A huge lesson I learned from this is the reason why there are codes and regulations today for businesses and building standards. Without codes and regulations, businesses would be able to treat their workers as they pleased and in the best interest for them. For example, in the past businesses were able to exploit workers by overworking them in harsh conditions and for very little pay. This allowed them to make the money they wanted and disregard the importance of safety in their factory. Today there are many regulations that businesses must meet that take care of these issues, like minimum wage, overtime pay and regulations to protect workers.

In the past, worker's compensation did not exist, and workers had to sue every time they were injured on the job. Even then, employers could have objected that the worker was negligent or assumed the risk when taking the job. The catastrophic event at the Triangle factory forever changed this issue. According to William Henning at Occupational Safety and Health Administration (OSHA), "As a result of Triangle and the hue and cry that arose out of the inability of victims' survivors to receive compensation, the state Constitution was amended, and a workers' compensation law subsequently enacted in 1913." This event made such an impact that the state Constitution was changed in order to enact the worker's compensation law that we still use to this day. Worker's compensation today is still highly regulated and even the California state law requires that businesses have a form of workers compensation. This provides the protection for workers all over the United States in the case they were injured on the job. Connecting this to buildings today, buildings are designed around fire sprinklers, fire escapes, and alarm systems which was not required at the time of the Triangle factory. Today buildings are designed around safety and are inspected in order to keep workers as safe as possible.

I also learned how important it is to design a building with doors that open outwardly, and they must be unlocked during working hours. This problem at the Triangle factory contributed to the major loss of lives and could have easily been avoided. According to New York State Labor Laws (Article 6, Section 80), "All doors leading in or to any such factory shall

be constructed as to open outwardly, where practicable, and shall not be locked, bolted, or fastened during working.” This is an important building code that solves two issues at the Triangle factory, and we still use to this day. This code solves the issue of a pileup of workers on a door and provides an easier escape during an emergency and negligence of the owners. Today many factories, restaurant’s, and grocery store exit’s open either outward or both outward and inward to abide to this code. Some stores use automatic sliding doors, but even those doors can be forcefully opened outward in the case of an emergency.

Built Environment of the Factory

The built environment at the Triangle factory influenced survival in a more negative way than positive. Almost every event that happened at the Triangle factory could have been prevented that could have decreased the amount of lives lost at the factory. Almost every part of the building that was used to escape was badly designed for survival. The building itself made survival during the fire harder because of how it was designed and maintained at the time.

The Asch Building itself did in fact positively influence survival in one way, the building did not collapse. Despite the raging intense fire, the building itself still stood after having 3 indulged in flames. If the building was built with other materials such as wood, then the fire would have spread more rapidly, and the building could have collapsed and crushed many of the workers. Negatively, the building’s design cut corners and was not built with a proper fire sprinkler system and an inadequate amount of fire escapes for the ten-story building. Kheel Center at Cornell University states that the architect designed the building with a smaller number of stairs that was mandated at the time. “Against the objections of the superintendent, the architect asked for and obtained an exception to the rule that required three enclosed staircases for the 10,000 square feet of the building’s floor space. He was allowed to put in place only two staircases, claiming that the fire escape ladder in the rear would serve as a third staircase and therefore as a means of egress in case of the fire.” I believe this design decision by the architect

was a mistake, had he added the extra staircase in the building then the workers would have had another exit for survival. The fire escapes in this building did not function as intended for the hundreds of workers trying to escape. At the time, one of those enclosed staircases were inaccessible due to the fire, the other was locked shut with doors that open inwards and the one fire escape was a flimsy 17-inch wide staircase which would have taken hours for hundreds of workers to escape from.

The one fire escape that the architect believed would serve as a staircase in case of a fire should have never accepted. First, the fire exit that was built was much less sturdy than a true staircase in the building. The materials of construction for the fire escape were made of a metal and not concrete like enclosed staircases. Overtime it should have been known that these materials would degrade when exposed to the elements. The fire escape was just 17 inches wide compared to the 33-inch wide staircases in the building. Following the materials used for this staircase Abe Gordon, survivor of Triangle factory and interviewed by Leon Stein, stated that, "I still had one foot out on the fire escape when I heard noise and turned around and people were falling, screaming all around. The fire escape collapsed -- no wonder, it was rusty on rust and no good." The flimsy metal fire escape warped with the heat of the fire and in return did more negative than positive for the workers trying to escape. With a fire escape design that didn't reach the ground floor, those who were stuck trying to get down the fire escape fell along with the fire escape and were injured from the weight of people and the ladder.

Conclusion and Recommendation

Buildings are a lot safer now, then they were in the past due to safety regulations and codes. Today it is not rare to find fire sprinklers or a fire extinguisher in a building and are required in many newly built buildings. I believe it would be rare for a fire of this severity to occur today, if one did occur then there would be fewer casualties than what happened at the Triangle Shirtwaist factory. Some of the reasons being that buildings now have max occupancies that limit the amount of people in a building at a certain time which was not regulated in the past. Fire alarm systems such as smoke detectors and fire drills are required in buildings and quickly communicate the presence of a fire, assuring that those who are in danger will evacuate

immediately the second a fire is detected. Automatic fire sprinklers can easily suppress a fire completely or dampen the fire spread to allow for those in a building more time to escape. Fire exits today are much more prevalent in a building and include detailed maps of evacuation routes that help everybody in an escape. Many buildings today are equipped with a system of notifying a fire department the moment a fire is detected, this method of instant communication helps to prevent the spread of a fire to its surroundings and possibly prevent total loss of a building. These are just a few examples of improvements in fire safety we do today differently than in the past. We've learned a lot from the Triangle factory fire, and I believe we are better prepared now than ever.

This book provides very important safety information and I would highly recommend this book for all readers as it has very in-depth information about the Triangle Shirtwaist factory. Not many people know what it took to create the fire safety and regulations we have today, and this book does a great job explaining the event and what came after this event. The book also does a great job of explaining what work conditions were like before reform and the challenges immigrants had to face when arriving to the United States. Overall, there is much to learn about fire safety and the book *Triangle: the Fire That Changed America* is a great place to start.

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Table 1.

TABLE VII
FIRE PROTECTION

Shops Inspected	First Inspection	Second Inspection
Shops in buildings with no fire-escapes.....	14	63
Shops with no or defectively placed drop ladders.....	101	236
Shops with obstructed openings to fire-escapes.....	78	153
Shops in buildings with more than one fire-escape.....	195	346
Shops with doors locked during day	23	25
Shops with doors opening in	1,173	1,379
Shops with no other exits	720	491
Shops with fire-escapes having straight ladders.....	65	
Shops without fire buckets		375
Chemical extinguishers found only in		135
Automatic sprinklers found only in.....		128
Shops with halls less than three feet wide.....	60	63
Shops with halls and stairways dark.....	58	124
Shops with defective treads and rails.....	51	51
Shops having fire drills	1	14

Source: “Joint Board of Sanitary Control in the Cloak, Suit and Skirt Industry of Greater New York. Annual report of the Joint Board of Sanitary Control in the Cloak, Suit and Skirt Industry of Greater New York.” *New York City: Joint Board of Sanitary Control*, [1911-1912]. 1st (1911). page 96 (seq. 98). *Schlesinger Library on the History of Women in America. Harvard University.* Table 7. 27 March 2020. <https://nrs.harvard.edu/urn-3:RAD.SCHL:479526?n=98>.