

## THE BEHAVIOR OF SURVIVORS AND VICTIMS IN A JAPANESE NIGHTCLUB FIRE: A DESCRIPTIVE RESEARCH NOTE

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In this paper we describe the range of behavior of persons in an immediately threatening fire situation. In particular, we wish to differentiate the behavioral responses of survivors and victims. The descriptions are drawn from interviews with survivors and persons who assisted in rescue and fire-fighting efforts, as well as post-disaster observations at the scene of the tragedy. A major effort was also made to plot graphically the physical movements of those involved in the situation.

First, a very brief account of the disaster is presented. This is followed by a discussion of certain patterns of behavior engaged in by those who fled and survived the fire. We conclude with a somewhat more speculative assessment of the different types of behavior displayed by those who died in the disaster.

### THE DISASTER

On March 13, 1967, at approximately 10.36 p.m. a fire broke out on the third floor of the clothing section of the Nichi department store. The fire was caused either by cigarette smoking or possibly by matches discarded by electric utility workers who were working late that night. When the fire was discovered, it had already developed considerably and was out of control. Even young, strong utility workers

were barely able to escape the fire by climbing down to the ground on already burning billboards at the front of the building.

As it turned out, the fire eventually burned out only the third and fourth floors of the building; but smoke went by way of an air duct to the seventh floor where the Cabaret Playtown was located. People trapped on that floor opened the doors of the central staircase, thus allowing smoke to pour into the club, and the result was a major catastrophe. Out of a total of 179 customers and employees in the club, only 61 survived. The other 118 died. Of those who were killed, 22 died as a result of jumping from the building. The rest died as a result of suffocation from carbon monoxide poisoning. None of these victims was directly burned by fire. Survivors got out of the building in several ways. Some ran down the emergency stairway when the smoke appeared; a few other people came down by the elevator when the fire was first noticed. Several people, determined to survive, escaped to the ground by way of an emergency fire ladder. However, many people fell because it was not fully or properly extended, its operating mechanism was old, and because of the crush from the number of people who were trying to use it. All other survivors were rescued by ladders put up by the fire department during its rescue efforts.

## THE BEHAVIOR OF SURVIVORS

It appears that those who survived and those who died in the fire behaved differently. Three kinds of survival behavior were noted.

**Behavioral Pattern One.** The first type of survivor behavior is illustrated by the actions of two women who ran quickly down the emergency stairway. This stairway faced out towards the street: this protected it from heat and smoke until the fire had grown quite large. On the other hand, the stairway was located in an unfortunate place, i.e., near the elevator shaft from which smoke was billowing. Furthermore, the entrance to the stairway was hidden behind a curtain in front of a cloakroom counter and the elevator. Thus, it was not visible to employees, waiters or hostesses.

The first person to run down the stairway was a woman who worked at the cloakroom counter. She smelled the smoke coming from the elevator and told a waiter about it. Then she ran down the stairway through the heavy smoke. The woman's behavior seems well ordered; perhaps it can be described as normal. Another escapee whose nickname was "Baisho" followed the same route. Her escape, however, was far more difficult and much can be learned from her survival process. She was in the same vicinity as the first woman, Ms. A. Her recognition of and reaction to the fire did not significantly differ from Ms. A's, except that she tried to reach the stairway later through the smoke and resistance of the crowd. After several attempts, she went to the rest room, where there were already many other customers, some unconscious. After vomiting, she found water and wet a piece of cloth. Holding the wet cloth, she controlled her breathing and finally dashed back to the stairway. She pushed open the curtain, and breathing some fresh air, ran down the stairs. On the way down, she was helped by a fireman.

How was she able to do all this in spite of the terrible smoke? How did she succeed in

escaping? Certainly her courage and determination to survive is clear. The use of the wet cloth was important. It cooled her body and protected it from the heat and smoke by acting as a shield and filter. There was, however, a more important factor in her specific case. She always went home by this stairway. The manager of the Cabaret Playtown used to tell the hostesses to use the stairway, since the elevators were for customer use only. Although most hostesses ignored this regulation, she kept it, either out of obedience, or because she was a loner. Whichever it was, her familiarity with the area and her daily pattern of behavior were the difference between life and death. This example indicates that survival behavior can be affected by prior knowledge. The importance of this factor in a crisis can be seen in any other similar situation.

**Behavioral Pattern Two.** The second type of survivor can be observed in the behavior of the newly-employed waiters. Many of them were part-time workers. In the crisis, the waiters returned to their own room where the windows faced the street. This pattern of behavior showed that people often return to the familiar and to habit in times of crisis. For example, one of the newer waiters was told by an experienced waiter what to do in case of a fire. He took the fire extinguisher out and tried to stop the smoke coming out of the air duct. This did not work. Since he could not think of any other way to stop the fire, he fled to his room. The room was insulated from the main hall by two doors. Since the windows of the waiters' room faced the main street, the fire truck's rescue ladder was able to reach it easily.

The behavior patterns of the older waiters were not as simple as those of the part-time waiters, but even they returned to the waiters' room. Let us consider Mr. B's case. Mr. B was standing near the front counter taking a customer's order when suddenly the kitchen area became noisy. He immediately went to the kitchen and found the thick smoke coming out

of the air duct. Neither buckets of water nor the fire extinguisher were able to stop it. He felt that his life was in great danger. First he decided to rescue customers and went to the elevator area. Heavy smoke was already coming from that area, too. Suddenly he thought about the theater adjacent to the Cabaret Playtown, whose interior was being remodeled. He remembered that the wall between the two buildings was only a wood veneering. If he could break the wall, people could perhaps escape into the larger theater next door. He opened the curtain and asked customers to go through the veneer door. Many people followed him, but when he went in, he found that the veneer panel had been replaced recently by a cement block wall. It was useless to attempt to break through the wall. The smoke was choking him. He saw another waiter, his friend, next to him hitting the wall with a broken piece of block. He tried to stop him and motioned him to get out of the dead end. Some people got out with him, but many remained in the area, jostling each other. When he was out, he saw the manager heading toward the door which led to the central stairway. There were perhaps twenty to thirty people following him. The manager tried to open the door by lifting it with his hands, but to no avail. He remembered that there was an electric shutter-button somewhere near. After searching, he found the button and pushed it. The door opened. He thought there was a door leading to the upper floors approximately ten meters ahead of him. Twice he groped for it, but he could not raise his face because of the suffocating smoke. The gathering crowd was scattered by this smoke. Some ran from it, others tried to get through it. The crowd turned into a mob and absorbed him. Unable to breathe properly and gradually losing consciousness, he wondered if he would die there, and the thought made him feel sorry for himself. He started to cry. Crawling on the floor, he happened to touch the stage in the dark. The whole layout of the area became clear in his mind. If the obstacle he was touching was

a stage, then it would lead him to the waiters' room where there was a window. He might be able to breathe there. Crawling on the carpet where the heat and smoke were thinner, he reached the waiters' room. Continuing, he came to the guest star's room and finally was rescued by the fire department with a rescue ladder.

In his case, we can see that he too survived by returning to his usual place, although he knew well the various escape routes and could tell the layout of the main hall in the dark by a lucky touch of the stage. The fact that he was physically strong and did not drink alcoholic beverages, in contrast to many of the customers, increased his chances of surviving. When the first escape route did not work, he tried another while conserving his energy. It would not be too much to say that what enabled him to escape was his thorough familiarity with the building.

**Behavioral Pattern Three.** The third type of survivor is represented by Ms. A and other customers. People of this type were rather overly cautious; this delayed their recognition of the fire. Because of it, they were not involved in, nor absorbed by the mob. They were also close to the window side of the room and far from the entrance and other exits, and it was this that led to their survival. This can be compared to a situation in which someone missed a bus ride and thus saved himself from an accident. Ms. A was pushed by the mob and could not reach the elevator area. As a consequence, she was separated from the chance of death in the dead end between the Sennichimae theater and Playtown, from the smoke coming from the elevator area and the kitchen area, and finally, from the mob which moved around and died in the central open space.

Those at the outer edge of the central open space could reach the window side, although scattered chairs and sofas blocked their way. When they reached the windows, they could breathe the fresh air and see the

rescue activities going on outside where the fire department was trying to reach the windows with a rescue ladder. Heartened by the increased possibilities of survival, they could tolerate the heat and smoke. In the case of Ms. A, she was uncertain about the possibility of escaping via the rescue ladder, and thus had a higher level of anxiety than the people on the window side of the hall. There people could tolerate the burning heat and choking smoke, because they could see that some hostesses had already been rescued by the ladder. People can often tolerate physical pain as long as they are informed, but not when they are in a state of uncertainty or anxiety. Thus suicidal jumping took place. Perhaps to wait for rescue meant death, as did jumping off. The chances were equal; thus the survival expectation became higher. The people who jumped off actually maintained a high degree of endurance and tolerance. Others came out of the dead end and escaped through the central open space. According to the testimony of Waiter B, many people had already fainted when he approached the stage in the dark. Thirty-six minutes passed between the start and the end of the rescue work, which according to the records of the fire department lasted from 10.47 to 11.23 p.m. Many people must have fainted within two to three minutes. It can be estimated that death occurred within four to five minutes. In spite of this, some were able to tolerate the heat and smoke of the fire for as long as thirty to forty minutes.

## THE BEHAVIOR OF THOSE WHO DIED

**Behavioral Pattern One.** Among those who died, the first type consists of those who perished in the dead end between Playtown and Sennichimae theater. They banged and scratched the cement wall in vain. Approximately fifteen bodies were found in this area. We can guess that these people reacted more quickly to the fire. The smoke must have been

thinner at the time the waiter was saying, "Come this way, you can escape". The people came to the dead end later and seemed to have desperately moved around to find a way out, since they could not go to the front desk area. First they went to the elevator area, then were pushed back by the huge clouds of smoke, then followed the older waiters. All went into the dead end with the first group of people. These people were perhaps quick to move and geographically near the entrance. About fifteen people recognized the situation as a dead end and turned back. Considering this, the actual number of people who entered the dead end must have been higher at one time.

Let us consider the psychological effect of the situation in the dead end. Someone started banging the cement block wall, then the other people started doing the same with a piece of cement or whatever was available. The author of this article has seen the scratches on the wall. It was certainly a miserable and disastrous scene. Why could they not move to the other places? In a crisis situation, people lose flexibility; it is part of human nature to do so. There was another tragedy caused by the large number of people moving around. Some persons who entered the dead end could not get out because incoming people blocked their way. They were thus trapped by the human obstacle.

**Behavioral Pattern Two.** The second type of people who died consists of those found in the central open space of the hall. How can it be explained that over thirty people died piled up in the central open space? This was the first question that came into the author's mind when he saw the pictures in the newspaper. The very peculiar feature of death in the central open space is the one most representative of the consequences of milling masses of people. When the first people to react decided to escape, they went to the elevator area and then were pushed back by the smoke and absorbed into the no-exit

area. Finding this to be a dead-end, they followed the manager. In an unknown and unfamiliar place, under desperate pressure, the only and best thing to do was follow the person in authority. Hostesses knew the manager was the most authoritative figure, since he usually gave them orders and was also supposedly the most knowledgeable person. When this authoritative figure ran toward the central stairway, approximately twenty to thirty people followed him. The other large number of people driven from the elevator area started following him too. Waiter B said, "We escaped from the dead end and wanted to go to the waiters' room, but I saw the manager going to the central stairway with about twenty to thirty people with him". Then the shutter of the door opened, and this is where the last catastrophe occurred. The heaviest smoke came out of this central stairway. The milling mass spread out again and retraced its steps, heading toward the elevator. The thick smoke blocked people's vision. People following the manager suddenly faced the reversed milling mass storming toward them. The opposing power of the two masses created a crush of people. The first person, perhaps, fell on the floor, tumbling, legs twisted and upside down. The people at the bottom of the pile could not help breathing gas deep into their lungs. As they resisted, they lost consciousness. The mass trapped these potential survivors, and they were crushed. In a generally crowded place like Playtown, a large open space becomes a very negative element when a fire or similar disaster occurs. People will be pushed towards the corners, sliding along the wall until they come to an obstacle. If there are not any obstacles, they will be pushed all the way to one of the four corners and finally stop. Thus, usually these corners are disastrous places. In the case of Playtown, there was a young hostess who was found dead in a small locker. The rescue party found her body there and tried to pull it out, but it was so tightly wedged that they had a difficult time.

**Behavioral Pattern Three.** The third type of death is no less cruel than the first and second. Twenty-one people died who jumped out the window toward the roof of the arcade and fell off the rescue bag. These people did not fall one by one as their tolerance weakened. Instead, according to a policeman, after the first person had jumped, the others started jumping off, falling like rain. People on the ground could not come near enough to rescue them after they hit the ground because it was dangerous to do so. Many people on the ground could not bear to see this suicidal jumping. They started shouting at the people in the building, "Don't jump off, you'll die . . . stop!" This screaming made an extraordinary sound. But people did not stop jumping. Later, survivors from this area told us that they could not understand at all what people on the ground were shouting about. In a way, the shouting sounded something like "hoolay" to them as people jumped. Some of those in the building even felt angry about the "hoolay" sound. Actually the people on the ground were shouting as loudly as they could, trying to stop the suicidal jumps. Why did this happen? First, let us consider the ones who jumped off toward the arcade side. The roof of this arcade seems to be about the height of the third floor when it is seen from the seventh floor at night. No one jumped on the main entrance side because the distance between the seventh floor and ground is so clear and visible. According to one of the inspectors, the arcade lights were all on under the roof. When one sees the lit roof from the upper floors, a so-called "white-out" phenomenon occurs, similar to what happens at the South Pole under certain weather conditions when the helicopter pilot loses his sense of height. Perhaps the same kind of sensory loss of perception of height led people to hope for survival if they jumped. (Another example of the "white-out" phenomenon occurred when Ms. Fumiko Miura, the well-known Japanese singer, was staying at the Oriental hotel in Kushiro, Hokkaido. The hotel caught fire while

she was there, and she experienced a very similar urge to jump from her room on the fifth floor to the first floor terrace). Regarding the arcade, it was very difficult for the fire department rescue party to approach that side because the arcade was in the way and the ladder could not be brought close because of the arcade roof. People in the building on this side could not see the rescue activities on the front side at all; this might have prevented their seeking other means of escape. Their backs were burning hot and the smoke was choking them to death. They approached the limits of tolerance and still saw no improvement in rescue possibilities. The situation looked so desperate that to wait another few minutes without any action seemed to promise death. Pain and torture increased. The arcade roof under the "white-out" phenomenon seemed temptingly close. The positive aspect of that possibility was constant from the beginning, but the negative aspects of staying where they were increased with the smoke and heat. People finally lost their self-control. They watched the first person jump. Someone was unable to hold on to the window frame and fell. Just as a tiny spark causes gunpowder to explode, catastrophe comes from these beginnings. People jumped off like raindrops and lost their lives as they crashed on to the ground.

No one would dare to risk this kind of suicidal gambling in ordinary circumstances. If each person had been acting independently, no such mass of people would have jumped from the building. Without question, this clearly shows the horror of some mass behavior during an extreme stress situation. To a greater or lesser extent, this kind of dysfunctional behavior also occurred in the use of the rescue bag. In this case, the problem was why the bag was not opened or used. The rescue bag was of no more use than a piece of cloth. Two waiters pulled the bag out of a box and set it on the ground. Both knew that the bag was an old-fashioned one, and had to have its mouth opened with the wooden arm. If what the waiters said was true, the milling mass of people became a mob; their behavior completely prevented using the rescue bag.

When comparing the results of an experiment on mice in a panic situation with the behavior that took place in Playtown, who can ignore an important implication of that experiment? In that experiment only one mouse escaped from the situation while five others died in the struggle to escape from a fire. It appears that the behavior of people attempting to survive can also lead to death of many of them.