

# 102 MINUTES

THE UNFORGETTABLE STORY OF THE FIGHT  
TO SURVIVE INSIDE THE TWIN TOWERS

JIM DWYER AND KEVIN FLYNN



# **102 Minutes**

---

*The Unforgettable Story of the Fight  
to Survive inside the Twin Towers*

**Jim Dwyer and Kevin Flynn**

*For Mary, Maggie, and Kevin*  
*KF*

*For Julia Sullivan and Sheila Carmody*  
*and all who travel with them*  
*JD*

# Table of Contents

[Title Page](#)

[Prologue](#)

[1 - "It's a bomb, let's get out of here."](#)

[2 - "It's going to be the top story of the day."](#)

[3 - "Mom, I'm not calling to chat."](#)

[4 - "We have no communication established up there yet."](#)

[5 - "Should we be staying here, or should we evacuate?"](#)

[6 - "Get away from the door!"](#)

[7 - "If the conditions warrant on your floor, you may wish to start an orderly evacuation."](#)

[8 - "You can't go this way."](#)

[9 - "The doors are locked."](#)

[10 - "I've got a second wind."](#)

[11 - "I'm staying with my friend."](#)

[12 - "Tell the chief what you just told me."](#)

[13 - "We'll come down in a few minutes."](#)

[14 - "You don't understand."](#)

[Epilogue](#)

[Authors' Note](#)

[367 People at the World Trade Center](#)

[TIMES BOOKS](#)

[Praise for 102 Minutes](#)

[Afterword](#)

[Postscript](#)

[Lost](#)

[Notes](#)

[Acknowledgments](#)

[Index](#)

[About the Authors](#)

[Copyright Page](#)

## *Prologue*

**8:30 A.M.  
NORTH TOWER**

First into the office on the 89th floor of 1 World Trade Center, as always, Dianne DeFontes shut the door behind her, then locked it with a bolt that slid up and down, into floor and ceiling. The lawyers were unlikely to arrive at the office of Drinker Biddle & Reath for another thirty minutes. Until then, DeFontes, the fifty-one-year-old receptionist, would serve as the early voice of a humming, busy law firm engaged in global-trade litigation. Atop the world—or near enough, more than 1,000 feet above New York Harbor—she settled into a solitary bubble. She sipped coffee, spooned yogurt, answered the phone. He’s not at his desk right now; may I have him call you? She swapped the easy-on-the-feet running shoes she wore to commute for the easy-on-the-eyes dress shoes stashed in a desk drawer.

The conference room behind her stood empty. The hallway walls were lined with bookshelves, a law library for this satellite office of a firm based in Philadelphia. The 89th floor in the north tower of the World Trade Center gave the lawyers an office where they could see, and be seen, for miles. It had taken DeFontes a long time to get used to life at the trade center, but now, after thirteen years, she at last felt that she had her arms around it. She had a few friends on the floor—Tirsa Moya, her girlfriend at the insurance company down the hall, and Raffaele Cava, the older gentleman at the freight company who always wore a hat, no matter what the weather. DeFontes may have been the earliest arrival in her office, but Cava, at eighty years old, was always the first person on the 89th floor, at his desk by 6:30. To DeFontes, Tirsa and Raffaele were fixtures.

On the way to work, as her morning train rolled across Brooklyn, the towers grabbed hold of the sky ahead, staying in view until the train sank into the tunnel that crossed the harbor. From a distance, the sight surged through her with ... well, she found it hard to define the feeling. Familiarity. Maybe a kind of pride, a tiny fraction of ownership, or simply the pleasant jolt of seeing the familiar with fresh eyes, like glancing down from an airplane and spotting a particular house or a park. Of course, the view from the train was pretty much the only way the world at large saw the twin towers: two silver streams running in a blue sky. To DeFontes, they were all that. But they were also the place where she worked and ate and spent half her waking hours. The winter before, the building operators had set up a rink in the plaza, and she had finally learned to ice-skate. During the summer, she lolled over lunch in that same plaza, catching free concerts. In fact, a concert was scheduled for the afternoon; when she arrived that morning, the chairs were in place. As iconic structures, the towers could be seen for miles and miles; their human pulse was palpable only from the inside out. For DeFontes, the geography of the World Trade Center began in a desk drawer in room 8961 of the north tower, where she stashed her dress shoes.

With her door locked, Dianne DeFontes felt safe, if alone, in this colossus.

At 8:30 on Tuesday, September 11, 2001, she was one of the 14,154 people who typically arrived between midnight and 8:47 A.M. in the 110-story towers known as 1 and 2 World Trade Center. Another 940 were registered in the Marriott Hotel nestled between them, at 3 World Trade Center. Yet DeFontes' sense of solitude, while an illusion, should hardly count as a delusion. This small city of people was spread across more than 220 vertical acres: each of the 110 floors per tower was its own acre of space, not to mention the hotel, and a basement that gave the trade center more space below the street than the majestic Empire State Building had above it.

Vast as the whole physical place seemed from afar, people inside naturally experienced it on a far more human scale. Each floor provided a little more room than a football field. The count of 14,154 people in the towers worked out to about 64 per floor—or 64 spread across a football field, including the end zones. On the 89th floor, where Dianne DeFontes sat, 25 people were also arriving for work; her solitude actually was just a spatial illusion, from the low density of the place. This spaciousness made it easy to feel that each floor was its own island, part of an archipelago in an ocean of sky. A person in the south tower, sitting 131 feet away from DeFontes, might as well have been in the Bronx. For that matter, someone on the floor below, a mere 12 feet under her, was not only invisible but also inaudible.

All around Dianne DeFontes' corner of the sky, people she could not see were, like herself, poised on the brink of the workday. On 88, Frank and Nicole De Martini sipped coffee and chatted with Frank's staff and colleagues. The couple had driven in from Brooklyn that morning after dropping their children at a new school, and traffic had been light. Nicole worked in the south tower, but with a few extra minutes, she decided to visit Frank's office in the north tower to say hello. Frank worked for the Port Authority of New York and New Jersey, which built and owned the trade center. The agency had just completed a deal to lease the entire complex to Larry Silverstein, a private real estate operator, and down the hall from Frank's office, his colleague Jim Connors, a member of the Port Authority's real estate department, awaited a messenger who was bringing a flatbed trolley stacked with the indentures and documents that described the transaction in excruciating detail. The change in control had, inevitably, led to anxiety among members of the Port Authority staff who served as de facto mayors of the complex, masters of its byways, keepers of its lore. For the most part, they were being transferred to new departments within the Port Authority. Alan Reiss, who had run the world trade department, including the trade center, was downstairs on this Tuesday morning, in a delicatessen at street level, part of his own shift to new work. He was transferring to the post of deputy director of the Port Authority's aviation department, so he was having a cup of coffee and an English muffin with the deputy directors from some of the agency's other departments.

The 90th floor, directly above Dianne DeFontes, was not quite vacant, but close; Anne Prosser was just arriving for her job at Clearstream, an international bank. She would be getting married in a month. On this floor, some artists had studios because the Port Authority gave them unused space. They kept irregular hours and none had arrived yet for the day. Most of the 91st floor also was empty, but Mike McQuaid, an electrician, was there, installing fire alarms in vacant space that would soon be used by Silverstein Properties, the new operators of the trade center. McQuaid stopped at the

office of the American Bureau of Shipping, the only business currently on the floor, to chat with someone he knew.

Above him, on a quiet corner of the 92nd floor, a sculptor named Michael Richards was in his studio space, having worked through the night, as he often did. The rest of the floor was unusually busy, and tense. Carr Futures, a division of a French company, Crédit Agricole Indosuez, had summoned about forty of its brokers for a meeting on commission rates. The brokers, most of them men, led daily lives of wallet-to-wallet combat on the floors of exchanges that traded commodities; many of them had become wealthy through a combination of guile, charm, and pure nerve, without having stopped at the more prestigious universities or, for some, at any college at all. Tom McGinnis, who normally worked at the Mercantile Exchange trading natural gas for Carr, had told his wife that he expected the meeting to run from 8:00 until 8:30, when their boss, Jim Paul, had to join a conference call. The meeting would resume after the market closed at four o'clock. Instead, the schedule had slipped, which was not surprising, given the contentious topic of commissions for people who earned their living by thinking and acting quickly.

Carr Futures was hardly the only business in the trade center where many people came to work unsure of how much money they would go home with at day's end. And few companies in the trade center had more people, with more money at stake, than Cantor Fitzgerald, a bond-trading company famed for its aggressiveness. Yet the firm also encouraged its employees to recommend family members for jobs, so that it was not uncommon for a father to be working a few steps from a son, or for a brother to have an office just a flight of stairs away from a sister. The firm's founders had been art collectors, and Rodin sculptures were arrayed in well-lit displays around the office. Cantor occupied four floors near the top of the building—101, 103, 104, and 105—and they were far busier than most at this hour. Some 659 people were already at work.

One of them, the firm's managing director, David Kravette, stood by his desk, talking on the phone with his wife. She wanted to cancel their newspaper delivery. The paper was being thrown into the driveway, their kids were running out to the street to get it, so she wanted to put a stop to the problem.

Kravette listened impatiently. Clients were waiting for him in the lobby, nearly a quarter mile below his offices. They had just called from downstairs, more than a half hour late for an appointment. And despite Kravette's specific reminders, one had forgotten to bring a picture ID. So now they would have to be personally escorted through the lobby checkpoint. His assistant, heavily pregnant, was busy. He would fetch them himself. Just as he was departing for this irritating errand, his wife called to report on the newspaper-in-the-driveway crisis.

"Janice, I got people downstairs," Kravette said. "Let me talk to you later about this."

"Let's talk now," she responded. "I'm out all day."

And so it went, on the 101st floor and every other floor in the complex. Life simmered at 14,154 different temperatures, in the log-on ritual for e-mail, as men and women lined up the day's tasks, or as they unloaded some fraction of life at home that had been carried into the world of work. One woman called her husband to report that she had stopped at a drugstore to pick up a second home pregnancy test, still not quite able to accept the results of the one she had taken earlier that morning. A window

washer, bucket dangling on his arm, waited at the 44th floor of the north tower, having just grabbed a bite of breakfast in the Port Authority cafeteria on 43. In the health club atop the Marriott Hotel, a Roman Catholic priest with clogged arteries had just climbed down from the stationary bicycle, and was weighing a decision to complete his workout with a few laps in the pool. In the north tower lobby, Judith Martin, a secretary with Marsh & McLennan, had just hopped on an express elevator after finishing a final cigarette outside before work. On the 27th floor of the north tower, Ed Beyea rolled his wheelchair to his desk in the office of Empire Blue Cross and Blue Shield, his aide having set him up with the head pointer that he used to operate his computer. At the top of it all, Christine Olender called home from Windows on the World, the restaurant on the 106th and 107th floors of the north tower, where she worked as the assistant general manager. She had lived in New York City for twenty years, but still checked in most mornings with her mom and dad back in Chicago. Christine and her mother were organizing a visit by her parents to the city, no doubt one that would include a stop at Windows. Still, she had a busy morning ahead of her—besides the regulars having breakfast in the dining area called Wild Blue, a conference was about to begin in the ballroom, sponsored by Risk Waters, a big financial publishing firm. Mother and daughter agreed to talk again later.

As Dianne DeFontes was settling in for the day, the passengers on American Airlines Flight 11 from Boston were seated for their flight to California. The crew chief would have recited the procedures for an emergency evacuation—lights on the floors, locations of the exits, life vests under every seat. Among those who would have been listening, perhaps with the glaze of repetition, was Linda George, a buyer for the apparel retailer TJX who was on her way to Los Angeles for a buying trip. She was to be married at the end of October to a man she had met while playing volleyball. Their first date had been to see the movie *Titanic*.

As it happened, the safety rituals of modern airline travel—the instructions on the location of doors, life vests, emergency masks—were all the residue of seagoing laws enacted after the *Titanic* brushed against an iceberg and foundered in the North Atlantic in 1912. Perhaps the most famous safety inquiries of the twentieth century had examined the catastrophe. The goal had been to learn how such a mighty and supposedly unsinkable ship had been lost. Why had 1,522 of the ship's 2,227 passengers perished, even though the vessel remained afloat for nearly three hours after the collision? In the end, the deaths turned out to be not much of a mystery. The casualties were a result of poor preparations, communication failures and confusion, and a woefully inadequate inventory of lifeboats. If the hearings on the *Titanic* did not answer precisely why the unsinkable ship had sunk, they provided a clear explanation of why so many died and an agenda for reforms.

Moments after the American Airlines crew demonstrated the evacuation protocols that evolved from those revelations, Flight 11 turned unexpectedly south, toward the World Trade Center. It was a journey that had started some twelve years earlier.

In the summer of 1989, a group of mujahideen warriors, fresh from the triumph of turning back the Soviet invasion of Afghanistan, migrated from Central Asia and the Middle East to the United States. A battlefield formed in slow motion. One group of

the mujahideen took over a mosque in Brooklyn, installing Sheikh Omar Abdel Rahman, a blind fundamentalist cleric from Egypt, as spiritual leader. In November 1990, the group made its first strike in the United States, targeting Meir Kahane, a radical rabbi and Israeli politician who had made himself into a human megaphone of Jewish empowerment and anti-Arab views. Kahane was assassinated after giving a speech at a hotel in midtown Manhattan. A member of the gang was arrested fleeing the hotel, smoking gun in hand. Inside a locker at his job, and in boxes at his home, police found stashes of ammunition and tracts in Arabic calling for destruction of the “edifices of capitalism.” They also found pictures of American landmarks, including the Statue of Liberty and the World Trade Center. The gunman was quickly written off as a lone nut. City and federal officials overlooked blunt evidence that he had associated with quite a few men of similar ideological bent. In fact, most of the written material in his possession would not get translated for a long time.

The gunman’s accomplices in the Kahane assassination—followers of Sheikh Rahman—were not arrested until three years later, after they drove a yellow Ford Econoline van into the basement of one of those edifices of capitalism, the World Trade Center. At midday on Friday, February 26, 1993, a bomb in that van killed six people: Wilfredo Mercado, Bob Kirkpatrick, Steve Knapp, Bill Macko, John DiGiovanni, and Monica Rodriguez Smith. All had been in the basement, a few yards away, when the van exploded. The electricity mains failed. Then the backup generators were flooded. Dozens of cars caught fire, and the burning tires released waves of filthy smoke. For thousands of people in the towers, the loss of power meant a slow, labored evacuation down dark and smoky stairs, with no guidance from public-address systems. It took ten hours to get everyone out. Yasyuka Shibata had arrived that morning in February from Japan and was sitting down to lunch at Windows on the World when the explosion shook the china on his table. He walked down 106 flights in thick smoke. His face was covered with soot. He swiped at his face with a handkerchief as he spoke to a reporter. “I went from Windows on the World,” he said, “to a window on hell.”

The pursuit of the bombers, the farcical manner in which the plot unraveled—one of the conspirators went back to the truck rental agency and demanded a refund for his deposit on the van that he had just blown up—overshadowed deeper, more disturbing matters that emerged long after public attention in the crime had waned. The FBI, it developed, had had an informant inside the cell that carried out the bombing, but had fired him eight months before, in a dispute over his \$500-a-week stipend. Afterward, the agency quietly hired him back—for \$1.5 million—to penetrate other groups of Islamic radicals. The only person to be disciplined for the fiasco was the agent who had championed the informant.

In the eyes of the Fire Department’s senior commanders, the 1993 attack brought chilling lessons in what could go wrong when multiple emergency agencies respond to a disaster. The fire chiefs, while proud of having helped thousands evacuate, believed that their efforts at a coordinated response with the Police Department had simply collapsed. The next eight years appeared to be a golden era of public safety in New York, with crime dropping and the number of fires shrinking. Yet the rifts between the two agencies only deepened. In 1996, the Fire Department took charge of emergency medical response, and promptly stripped paramedics and emergency medical

technicians of the ability to listen to police communications. In 1997 and 1998, the city spent thousands of dollars for brand-new radios that would allow police and fire commanders to communicate with each other, but these state-of-the-art devices sat unused, on the shelves in police offices, and in the trunks of fire chiefs' cars. And just as the two departments had not worked together on February 26, 1993, they never returned to the trade center to drill together.

At the Port Authority, the 1993 attack had a revolutionary effect, at least compared with the reactions of other public agencies. The bombing shifted power in an argument that had gone on for the lifetime of the towers, a struggle that pitted safety against space. The stairs were crowded and dark; while it would have been very difficult to squeeze more stairways into the towers, the Port Authority marked the ones it did have with photoluminescent paint, and provided emergency lights with backup batteries. None of the tenants had known where to go, or whether to go, so a new sound system was installed, and a long-dormant fire warden program was awakened and revitalized. In the concourse shopping mall beneath the trade center, a half-dozen stores were torn out and replaced with corridors, so that the exits would comply with city codes. One of the deepest secrets of the two buildings was that their structural steel—webbed together in a novel, lightweight design—had never been fireproofed to the satisfaction of the trade center's engineers or architects. No one had ever tested the fireproofing of the steel in two of the tallest buildings in the world. In fact, it was crumbling off. Not long after the bombing, the Port Authority began to replace the fireproofing, and by the morning of September 11, had completed about 30 floors of the 220 in the towers.

And yet for those present on that blustery February day in 1993, the lasting image was of skyscrapers that appeared, from the outside, to be not only unmolested but Herculean in their indifference to an enormous bomb. The structural engineer explained that not even a Boeing 707, the largest airplane flying at the time they were built, could knock them over. The dead were buried, the basement rebuilt, a memorial erected, the buildings reopened. Over time, nearly all the 1993 bombers were caught and sent to prison. The Port Authority closed the garage to public parking. Ferocious-looking truck stoppers were set around the driveway entrances. No one would ever again be able simply to roll a truck bomb up to the base of the towers. Any person who entered the buildings had to clear a battalion of blue-blazered guards in the lobbies before boarding the elevators. The bottom twenty feet of the towers were as secure as any public space in the world. Every morning, Dianne DeFontes swiped her identification card at the turnstiles. The want of proper identification had held up the clients of David Kravette, stuck on the phone with his wife in the Cantor Fitzgerald office as they discussed the newspaper delivery problem.

By the morning of September 11, 2001, the 1993 bombing seemed to have been the work of another age. The towers had been hit with what the FBI described at the time as “the largest improvised explosive device” in the history of American crime. And yet the bones of the buildings stood with no visible scratches.

Nonetheless, the memories lingered in the soft tissue. Their potency ran in uneven currents across the archipelago of the trade center, where people came and went as businesses moved or floundered. The memory of that Friday in 1993 slumbered just out of sight, below the gloss and demands of work life, freeing the habitants of the trade center to savor the glories of a morning like September 11, 2001. With the sky

bright, the wind mild, a late summer day in New York had begun to unfurl its soft promises.

As Liz Thompson arrived that Tuesday morning for breakfast atop the tallest building in New York, she would mark the greeting that Doris Eng gave to her as particularly sunny in tone, if ordinary in language. Windows on the World relied not only on the charms of its views, but also on the welcome of its staff.

“Good morning, Ms. Thompson,” Eng had said.

Bright as the day, it seemed to Thompson. Glorious weather: a rich September sky flooded through the windows.

Familiar faces filled many of the tables in Wild Blue, the intimate adjunct aerie to Windows that Eng helped manage. As much as any one place, that single room captured the sweep of humanity that worked and played in the trade center.

Thompson, the president of the Lower Manhattan Cultural Council, was having breakfast with Geoffrey Wharton, an executive with Silverstein Properties. At the next table sat Michael Nestor, the deputy inspector general of the Port Authority, and one of his investigators, Richard Tierney. They ate there nearly every morning.

At a third table were six stockbrokers, several of whom came every Tuesday. For one of them, Emeric Harvey, Eng had a special treat. The night before, another manager at the restaurant had given her two impossible-to-get tickets to *The Producers* and asked her to pass them along to Harvey.

Sitting by himself at a window table, overlooking the Statue of Liberty, was a relative newcomer, Neil Levin, who had become the executive director of the Port Authority in April. No one could recall seeing him at Windows for breakfast before this morning. His secretary had requested a table a few days earlier and now he sat waiting for a companion, a banker friend.

Every other minute or so, a waiter, Jan Maciejewski, swept through the room, refilling coffee cups and taking orders. Maciejewski was one of the handful of restaurant staff workers on the 107th floor. Most of the seventy-nine employees were on 106, at the Risk Waters conference.

Already eighty-one people had arrived for the conference, including top executives from Merrill Lynch and UBS Warburg. They sipped coffee, chewed pastries, and speared slices of smoked salmon in the restaurant’s ballroom, which overlooked the East River. In the Horizon Suite, just across the hall from the ballroom, two exhibitors from Bloomberg L.P., Peter Alderman and William Kelly, had set up a booth and chatted amiably with a former colleague, Christopher Hanley of Radianz. As they stood beside a multi-screened computer display, a photographer from Bloomberg snapped their picture. Across the way, Stuart Lee and Garth Feeney, vice presidents for Data Synapse, were hosts for a similar showcase of their company’s software platform.

In the lobby, 105 floors below, an assistant to Neil Levin was waiting for the boss’s breakfast guest. When the guest arrived, they boarded an elevator, bound for the restaurant. But it was the wrong car, so they had to go back down to the lobby to start over again.

Upstairs, Levin patiently read his newspaper, watched carefully by Nestor and Tierney. Who, they wondered, was their boss meeting for breakfast? When it came to

gossip, the Port Authority had the insatiability of most bureaucracies, but Nestor and Tierney couldn't stick around to satisfy their curiosity, because Nestor had a meeting downstairs. Instead, they stopped briefly at Levin's table to say good-bye. Then they walked to the restaurant's lobby and caught a waiting elevator.

A few strides behind them, Liz Thompson and Geoffrey Wharton hurried to get on board. Nestor held the car open for them. Quickly, they stepped in. Then the doors closed and the last people ever to leave Windows on the World began their descent. It was 8:44 A.M.

# 1

***“It’s a bomb, let’s get out of here.”***

**8:46 A.M.  
NORTH TOWER**

A bomb, Dianne DeFontes thought, when thinking became possible again. At 8:46:30, an impact had knocked her off a chair in the law office on the 89th floor of the north tower, 1 World Trade Center. The door swung free, even though she had bolted it shut. In another part of the floor, Walter Pilipiak had just pushed open the door to the offices of Cosmos International, an insurance brokerage where he was president. Akane Ito heard him coming and looked up from her desk to greet him. Before Pilipiak could get the words “Good morning” out of his mouth, he felt something smack the back of his head, and he was hurled into a wall. Ceiling tiles collapsed on Ito. A bomb, they decided, several breaths later.

On the southwest end of the 89th floor, the insurance company MetLife had 10,000 square feet of space. After the initial slam, Rob Sibarium could feel every one of those square feet tilting as the tower bent south, so far that it seemed as if it would never recoil. It did, slowly returning to center. Something had happened in the other building, Sibarium thought. An explosion.

Mike McQuaid, the electrician installing fire alarms, was sure he knew what he was feeling: an exploding transformer, from a machine room somewhere below the 91st floor. Nothing else could rock the place with such power.

In the lobby, Dave Kravette had just ridden down from the Cantor Fitzgerald office to meet his guests, after ending the conversation with his wife about the newspaper delivery. Just a few steps out of the elevator, he heard a tremendous crash and what sounded like elevator cars free-falling. Then he saw a fireball blow out of a shaft. Around him, people dived to the ground. Kravette froze and watched the fireball fold back on itself.

She dropped the phone, Louis Massari would remember thinking. His wife, Patricia, had been reporting to him that she had bought a second home pregnancy test. The first one, that morning, had been positive, a surprise. Patricia worked as a capital analyst on the 98th floor of the north tower for Marsh & McLennan, an insurance and financial services concern; at night she took college courses. The pregnancy test was on her mind; it trumped, naturally, the test she was due to take that evening in her class and had been fretting over. So they had plenty to talk about.

“Oh, my God—” she said, and then Louis heard nothing. She had slipped, somehow, he was sure, and had pulled the cord out of the jack.

Higher still in the building, on the 106th floor, Howard Kane, the controller for Windows on the World, was speaking by phone with his wife, Lori. Kane dropped the

receiver, or so it seemed to his wife, because the sounds of clamor and alarm, the high notes of anxiety if not the exact words, filled her ear. Maybe he was having a heart attack. Then she could hear a woman screaming, “Oh, my God, we’re trapped,” and her husband calling out, “Lori!”

Then another man picked up the phone, and spoke. “There’s a fire,” he said. “We have to call 911.”

From the Risk Waters conference in Windows on the World, Caleb Arron Dack, a computer consultant, called his wife, Abigail Carter, on a cell phone. “We’re at Windows on the World,” Dack said. “There was a bomb.” He could not get through to the police emergency line. He needed Abigail to call 911 for him. The bomb may have been in the bathroom.

At another breakfast, in a delicatessen a quarter mile below Windows on the World, the former director of the world trade department, Alan Reiss, had not heard, felt, or seen a thing. He sat with his back to the window that overlooked the plaza. Suddenly, one of the other Port Authority managers, Vickie Cross Kelly, looking past Reiss’s shoulder to the window, called out.

“Something must have happened,” she said. “People are running around on the mall.” Reiss turned. He saw terrified people, sprinting in every direction. A person with a gun had set off the chaos, he guessed.

“I’ve got to go,” Reiss said, tossing a five-dollar bill on the table, then headed for the trade center police office, one floor above them, in the low-rise building known as 5 World Trade Center. Through big plate-glass windows that faced east toward Church Street, he could see a blizzard of burning confetti. This was not as straightforward as someone with a gun. Another bomb?

In 1993, Reiss had just opened the door to his basement office when the terrorists’ truck bomb exploded 150 feet away. Afterward, he had been part of the team that refitted the towers for better evacuation. As a matter of doctrine at the trade center, bombs were seen as a threat that could cause harrowing but local damage. They were unlikely to bring cataclysm.

In the weeks and months following the 1993 attack, the danger from a powerful bomb attack on the trade center, especially the two towers, had been considered by the Port Authority and its security consultants. Most experts agreed that while the towers could be hurt by a bomb, they could not be destroyed. Anyone might, in theory, sneak a bomb onto a floor, but the damage would largely be confined to 1 floor out of 110—or looked at another way, 1 acre out of 110. In general, bombs are as powerful as they are big. The larger the bomb, the bigger the explosion, the greater the damage. The 1993 terrorists had driven 1,200 pounds of explosive into the basement. Even so, the base of the towers, the strongest part of the buildings, easily deflected the explosion. Compared with the powerful load absorbed by the face of the towers from winds that blew every hour of every day, the truck bomb in the basement was puny.

Moreover, there was no simple way of getting 1,200 pounds of explosive to the upper floors, where the structure was not as dense as the base. If the monumentalism of the towers made them a natural target, their very height added protection, not vulnerability. Gravity was part of the built-in defense to the devastation of a big bomb.

From what Reiss could see, he was sure that someone had set off a big bomb. While it is true that small bombs—explosives fitted into a tape recorder or hidden inside a

suitcase—can blow an airplane out of the sky, that destructiveness has less to do with the bomb than with the altitude. What rips apart the aircraft is not the size of the bomb but a rupture in the fuselage at 35,000 feet, with the lethal force coming from the difference between the cabin pressure and the atmosphere. Those forces are not present even at the top of skyscrapers as tall as the twin towers, limiting the destructive energy of a conventional bomb to its size.

By the time Reiss had run up one flight on the escalator, he guessed that a truck bomb must have blown up somewhere around the trade center.

Reiss no longer worked in the basement, as he had in 1993, and he wondered, fleetingly, who in his old department had arrived for work on the 88th floor of the north tower. Up there, no one had illusions about a truck bomb. The moment arrived as a powerful fist rocking the building. As soon as Gerry Gaeta, a member of the team that oversaw construction projects at the trade center, could find his words, he hollered, “It’s a bomb, let’s get out of here.” And he was sure he knew how it had gotten up there. Moments earlier, a messenger had arrived with a trolley of documents for Jim Connors in the real estate department. Surely that was how the bomb had been wheeled in, Gaeta thought; the boxes of “documents” had been a Trojan horse.

Down the hall, Nicole De Martini had just drawn the last sip of her coffee and had risen to leave her husband’s office to go to hers, in the south tower, when she and Frank heard a boom from overhead and felt the building lurch. Nicole watched a river of fire spill past the window in Frank’s office. It was a bomb, they both thought. Or maybe the machine room had exploded, burning diesel fuel. Nothing else could explain the force they felt, one that seemed directly above them.

The elevators had rocked, swinging like pendulums. Pasquale Buzzelli, a Port Authority engineer going to his office on 64, felt the car right itself, then slowly descend to the 44th floor, where he had started from. Smoke began to pump through the shaft. No one seemed to understand what was happening, so he got back on the elevator, which now was working just fine, and rode up to the 64th floor. There he met his boss, Patrick Hoey, the engineer in charge of the Port Authority’s bridges and tunnels, who was just as puzzled.

“What happened, Pat?” Buzzelli asked.

“I don’t know, but it near knocked me out of my chair,” Hoey replied.

The tower had miles of elevator shafts. In one that served the middle of the building, six men were in a car bound for the upper floors. They felt the jolt, then a swoop. A window washer named Jan Demczur punched the emergency stop button. In a moment, fingers of smoke crept into the car, rising past the cuffs of the men in the car, pushing down from the roof. They rang the intercom. No one answered. On board another elevator, which had just left the north tower lobby, was Judith Martin, the secretary who had lingered outside for a cigarette. She and six other people were now stuck, pressing the alarm and calling for help.

In the Marriott Hotel, tucked between the two towers, the Rev. Paul Engel, naked except for a cross dangling on a chain around his neck, had just gone to the lockers after working out when he heard an impossibly loud screech of metal on metal, like the squeal of train brakes. A Catholic priest, Engel went every morning to the health club atop the hotel. Normally, he finished his exercise with some laps in the pool, but had skipped that part of his routine today. Now he quickly pulled on the nearest

garment, his swimming trunks, and peeked at the pool. It was on fire.

From a window on the 61st floor in the north tower, Ezra Aviles had seen everything. He knew it was no bomb. His window faced north, and he saw the plane tearing through the skies, heading straight for the tower. It had crashed into the building over his head—how far, he was not sure. In fact, its lower wing cut the ceiling of the 93rd floor, and its right wing had ripped across the 98th floor, at the very moment that Patricia Massari was speaking to her husband about her home pregnancy test.

Aviles worked for the Port Authority. He dialed five numbers, leaving identical messages, describing what he saw, and telling everyone up the chain of command to begin the evacuation. He called one colleague, John Paczkowski, but reached his voice mail. “It seems to be an American Airlines jetliner came in from the northern direction, toward—from the Empire State Building, toward us,” Aviles said. He ticked through a list of notifications—he had called the police and the public affairs office, and had beeped the chief operating officer for the agency. “Smoke is beginning to come, so I think I’m gonna start bailing outta here, man ... . Don’t come near the building if you’re outside. Pieces are coming down, man. Bye.”

Then he phoned his wife, Mildred, who was at home with two of their three children. “Millie, a plane hit the building,” he said. “It’s going to be on the news.”

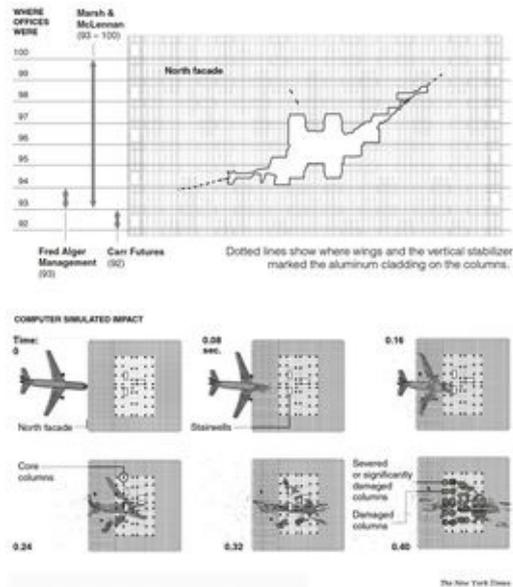
By then, the havoc was escalating, even if the cause was not apparent. In the police bureau at the base, Alan Reiss heard talk of a missile having been fired from the roof of the Woolworth Building, just a couple of blocks east of the trade center.

As Reiss was listening to this, a Port Authority detective, Richie Paugh, arrived.

“We’re going out onto the plaza to let you know what’s going on,” Reiss told the desk. He and Paugh walked down the hallway from the plaza, past an airline ticket counter. A revolving door put them under a soffit, an overhang sheltering the entrance to 5 World Trade Center. They peered out. Debris had rained onto the plaza—steel and concrete and fragments of offices and glass. Above them, they could see the east side of the north tower, and also its northern face. Instead of the waffle gridding of the building’s face, they now saw a wall of fire spread across ten or fifteen floors. Then they saw the people coming out the windows, driven toward air, and into air. The plane had struck not two minutes earlier.

#### North Tower: The Impact

By tipping its wings just before impact, Flight 11 cut a swath through seven floors, severely damaging all three escape staircases. The three staircases were clustered in the central core of the building as the building code permitted.



Sources: National Institute of Standards and Technology; Weidlinger Associates

On the ground, they saw an odd shape. Reiss looked closer. It was the nose gear of an airplane, missing the rubber tire, but with its wheel still connected to the hydraulic elbow that retracts into the bottom of the plane. Paugh began to take notes on its shape and location. Reiss protested. “There’s crap falling on us,” he said. “I don’t have a hard hat on or anything, let’s just drag it in.”

He and Paugh lugged the part into the police office. “It’s evidence, put a sticker on it,” Reiss said.

“A plane hit the building,” Paugh said.

“It’s a big plane,” Reiss added. “It’s not a Piper Cub. This is a bi-i-i-g fucking wheel.”

For hundreds of people on the upper floors of the north tower, death had come in a thunderous instant. The remains of one man who worked for Marsh & McLennan, which occupied space on the 93rd to 100th floors, would later be found five blocks from the tower. American Airlines Flight 11 had flown directly into the company’s offices. The impact killed scores of people who could never have known what hit them.

Flight 11 had hit 1 World Trade Center, the north tower, at 450 miles an hour, having traveled the full length of Manhattan Island, fourteen miles from north to south, in less than two minutes. When it slammed into the north side of the building, the plane’s forward motion came to a halt. The plane itself was fractionalized. Hunks of it erupted from the south side of the tower, opposite to where it had entered. A part of the landing gear landed five blocks south. The jet fuel ignited and roared across the sky, as if the fuel continued to fly on course, even without its jet. Much of the energy deflected from the speeding plane shot in waves down the skeleton of the north tower. The waves pulsed into the bedrock, rolled out to the Atlantic Ocean, and along the bed of the Hudson River. The impact registered on instruments in Columbia University’s Lamont-Doherty Earth Observatory in Palisades, New York, twenty-two miles to the north, generating signals for twelve seconds. The earth shook.

## 2

*“It’s going to be the top story of the day.”*

8:47 A.M.  
SOUTH TOWER

In the south tower, the one that had not been hit, the explosion brought Michael Sheehan to his feet. New Yorkers love the fable of their own imperturbability, to boast of how unflappable they remain whether confronted with a rooster that has gotten loose in the subway or a prime minister crossing Lexington Avenue. Yet no one could be blasé about explosions at the trade center. Not only height, mass, and population distinguished that patch of land and sky. The 1993 bombing marked it as an icon and target. Even if the memory of that attack had lost some of its vigor, it still slept fitfully in every pore of the place. Terrorists had already tried to kill these buildings and all in them. With the first bloom of fire on September 11, 2001, that history welled from memory into the moment. The force of Flight 11’s impact not only registered on seismographs miles away, it also jolted the people moored to the trade center workday.

Sheehan normally sat with his back to a window that faced west, overlooking the Hudson River. Now he was peering out the window, unable to see much. The glass was just twenty-two inches across, no more than the width of a magazine spread open, plus six inches. To see south or north was impossible. The towers had been designed by an architect who feared heights, and his antidote to acrophobia in the world’s tallest building had been skinny windows. That way, anyone unnerved by the unnatural height could look out while gripping both sides of the window.

Halfway up one of the highest human-made structures on earth, the stunted view permitted Sheehan to see west, but in no other direction. He glanced toward the street, saw nothing that could explain the blast, then pulled his head back and spotted confetti blowing overhead, in a blizzard. The same drafts carried billows of smoke. That was enough for Sheehan. He spun around.

He faced a room full of people who might have been dressed for work in construction, or an outing to the gym, or a day of golf. Brokers for Garban ICAP, they worked elbow to elbow along a line of desks fitted with telephones and computer screens, part of a company that handled \$200 billion a day in transactions among commercial banks and institutions that dealt in bonds. Sheehan, forty years old, wore running shoes—his father was the late Dr. George Sheehan, the cardiologist and running guru of the 1970s—and he put them to immediate use. He raced for the exit.

Another broker, George Nemeth, stood between him and the door. Sheehan did not notice him. He ran Nemeth down and kept going. Less than a minute after the explosion, Sheehan was heading down the stairway. He sized up the crowd—maybe twenty or thirty people from his office of about two hundred. What were the rest of

them waiting for? he wondered. That George Nemeth was still picking himself off the floor, Sheehan had no idea. That Sheehan himself had accidentally knocked Nemeth clear off his feet, he did not have the faintest notion. And he knew nothing about an airplane.

For a long moment, Sarah Dechalus thought the fire was trying to leap the 131 feet from the north tower to the south tower. Holding a fax that she had just picked off the machine, she watched from a window on the 98th floor of the south tower as orbs of fire blew from the north tower. In minutes, the television cameras of the world would be pointing at the same scene. Now Dechalus stood at the precise altitude where Flight 11 had struck the other tower. On the same floor, Marissa Panigrosso had been at her desk listening to Donna Summer music on headphones, so she felt the explosion as much as heard it. A hot blast slapped her in the face, as if the door of an oven had suddenly been thrown open. So intense was the heat that papers on desks were singed. Whatever had happened in the north tower, waves of anxiety were now moving through the south tower.

In their offices—Dechalus and Panigrosso worked for Aon, an insurance company—the steady, regular momentum of a workday suddenly slumped. In its place came the clatter of alarm. Panigrosso rose. All around her, people stood. Some screamed. Dechalus ran for the elevator. Panigrosso was stuck in place. She sat one desk from the window, but feared going any closer. Others edged forward, because they had to know.

“Get away from the windows,” a New York-accented voice commanded. “Everybody get away. Stay calm. Go to the stairs.”

It was Eric Eisenberg, one of the bosses at Aon. A new element was shaping the day: not ritual, not shock, but instructions. Panigrosso snapped out of her fog. “Let’s get moving,” Eisenberg hollered. She followed him and another supervisor, Gary Herold, toward the stairway.

Dechalus, waiting at the elevators, did not hear these directions. She carried an ID card, but not her Palm Pilot, or money, or even her handbag. Maybe she should get them. Suddenly, Eisenberg turned up in the elevator lobby. “Start going down the stairs,” he ordered. Dechalus turned for the stairway, along with others who had been waiting for the elevator. She ran into Panigrosso. Eisenberg, meanwhile, continued his rounds.

At that hour, thirty-two Aon employees had arrived at work on the 98th floor. On the other side of the building, Sean Rooney also had gotten a glimpse at the devastation. He called his wife, Beverly Eckert, at her job in Connecticut, but she had not yet arrived. He left a voice-mail message for her shortly before nine.

“Hey, Beverly, this is Sean, in case you get this message. There has been an explosion in World Trade One—that’s the other building. It looks like a plane struck it. It’s on fire at about the 90th floor.

“And it’s, it’s—it’s horrible. Bye.”

Deep inside the 84th floor of the south tower, surrounded by the hushing of air-conditioners that cooled the computer equipment, Richard Fern neither heard nor saw

anything. His alert came when the lights flickered—a power waver—which he knew could cause problems with the systems he ran for Euro Brokers, a trading operation. He rose to investigate. On the trading floor, where many of the brokers began their day at seven in the morning, they now watched at the windows, appalled and frightened, discussing how a bomb must have gone off in the other tower. The place was crammed with computer screens, keyboards, digital displays. Tiny fans were clipped onto many of the computer screens to provide some relief from the heat of all that hardware.

At her desk in the “repo trading pit”—an area specializing in repurchase agreements involving currency trades—Patty Troxell heard the thump. She stayed at her desk, but the areas around the windows quickly became crowded. The faces that turned away were billboards of distress. Seated next to Troxell, her friend Karen Yagos spoke. “Grab your bag,” Yagos said. “We’re going.” Next to them, Ann McHugh also rose to leave. She had recently joined Euro Brokers from Cantor Fitzgerald, which operated in the other tower—and where she had been working in 1993. As the women headed toward the stairways, McHugh tried to calm Troxell. And Troxell’s boss, Ed Mardovich, well regarded for his cool temperament, did not even leave their cluster of desks. He told Edward Keslo, who had just begun work at Euro Brokers the day before, that the disruption probably involved the automatic window-washing gadget that ran on tracks along the outside of the building. Keslo decided to leave anyway, prodded by the alarm in the department of Jose Marrero, a jack-of-all-trades who worked for Euro Brokers’ facilities department. Marrero, who served as one of the fire wardens for the floor, was anxious, but could not persuade many people to leave. Mardovich and nine others on the repurchase desk—half of the twenty people working there that morning—stayed. Nearly fifty of Euro Brokers’ traders also remained.

All of them were seated or standing in the southeast corner of the tower, trying to look out the windows. Rich Fern had emerged from the computer room and got his first view of papers and flames drifting across the sky. He went to another office, and took in an even more distressing view of flames shooting from gashes in the other tower. More fire wardens appeared and started to usher people toward the stairs. These wardens, like Jose Marrero, were Euro Brokers employees who had volunteered to clear the floor during fires or provide guidance in a crisis in which evacuation might be required. The program had been given fresh emphasis at the trade center after the 1993 bombing, although wardens had been required for most skyscrapers long before then. In effect, they were a human measure meant to make up for what the Fire Department saw as the safety deficiencies in tall buildings like the trade center that had been erected under the 1968 building code. That code, championed by the real estate industry, had made it cheaper to build tall buildings and more profitable to own them. It had been enacted over numerous objections from the Fire Department, which complained that fire safety was being compromised. After fires in two new skyscrapers had killed five people in 1970, the city required owners of private skyscrapers to operate a fire warden program as part of Local Law 5, a package of safety measures enacted at the request of the fire commissioner, John T. O’Hagan.

As for the trade center, executives of the Port Authority of New York and New Jersey often boasted that the agency had voluntarily used the 1968 code in the construction of the towers, even though it was not required to do so because it was not bound by the laws of either of the two states that had created the agency. But when it