

Sample Chapter
From
“The Unseen Things are Made Visible”

Teresina fell asleep as Sherry carried her down the hall from the kitchen table and laid her down onto the soft mattress between the dark wooden spindles of her crib rails. Sherry could barely hear her steady, baby-sleep breaths under the staccato, slapping, halting clatter outside the window.

On the south side of their building, choppy gray waves crashed their foam onto the beach and over the low row of boulders that separated the rear yard of their building from the sandy beach. Gray-green water with foam like the marbling of a Delmonico steak spread out onto the flat yard, covering the low junipers and scattering white pebbles under churning water.

Ricky and Sherry’s building was a flat-roofed, rectangular four story apartment building built in the mid 1960’s of blonde brick. In 1998, it was bought by a developer from Tulsa, Oklahoma and converted into condos. The conversion required adding something that would entice people to buy the units – besides having the Atlantic Ocean in the back yard, of course.

Balconies – with navy canvas stretched between guard rails – cantilevered from the south wall, overlooking the Ocean. The other three sides had views only to the other buildings. Ricky and Sherry bought a unit on the east side because they judged that the ocean view through the window, or from a balcony, was not equal to the added cost of the unit. Their side unit had natural light on one wall and they were not the kind of people who sat on the balcony or looked out the window to see the Ocean. They had busy lives, even before Teresina came along. Both were working and Jessie was not yet sixteen when they moved there. Contrary to the opinion of most teenagers, sixteen-year-olds require a lot of their parents’ attention. Ricky and Sherry wondered for many years if things turned out the way they did for Jessie because they had given her too much or too little attention. When they did have time to enjoy the ocean, they went down to the common grounds on the south side of the building.

A navy canvas canopy with gold edging ran along the entire wall on the ocean side and continued along the east side of the building to the parking lot, so that owners would have sheltered access to car or taxi in bad weather. Chairs and chaises with beige cushions – a shade lighter but the same hue as the brick – were arranged beneath the ocean-side canvas canopy. These chairs were punctuated by low tables. A granite-topped counter sat near the wall, across which drinks were served in the evenings. On weekend afternoons, a modest lunch menu was generated in an apartment that had been converted into a kitchen and pantry with stainless steel grill, fryers, a convection oven and a range. The two bedrooms of the unit had been fitted with insulated steel panels and served as walk-in cooler and freezer. An adjacent apartment had been gutted and converted to a community room so that the whole space on the water side could be reserved by residents for family gatherings and parties. The lunches served there were pretty good and sometimes drew customers from along the block although there was no sign along the street to draw them in – word just gets around in a neighborhood. The association organized parties on certain occasions and raised funds with a modest cover charge and with profit from food and drink sales.

This covered area facing the ocean gave onto a landscaped yard with stone pavers, low stone walls, and tough, compact evergreen shrubs punctuated by heavy teak London Park benches with matching side tables. When Ricky and Sherry had time to enjoy the ocean front, they would come down here. Sometimes there were neighbors sitting out here and sometimes they had the place to themselves. They had become acquainted with several neighbors this way and otherwise would not ever have gotten to know any of the people in the building. When Jessie was in High School, she could have this place to be with her friends and avoid the embarrassment of exposing them to her aged parents. Some of Jessie’s friends had parents who were young enough to be Ricky and Sherry’s children. Having a baby at the end of Sherry’s reproductive life put a strain between Jessie and her parents. When she was mad at her parents – and in high school that was often – dear Jessie would insist that she had been an accident. This accusation hurt Ricky and Sherry because of the many years that they had tried for Jessie. The inability to conceive a child plants doubt in a very deep place. Most teenagers have a gift for finding their parents’ deepest weaknesses.

The seawater flowed across this landscaped yard, sending heavy teak benches, tables – and the glazed ceramic pots with orange trees and palms that had not yet been brought into the dining room – toppling and

crashing into the brass posts that held up the navy canvas canopy. A heavy teak bench shattered one of the glass doors.

The seawater flowed across the stone paving of the seating area, crowding the chaises and tables against the wall and then flowed through the shattered door, into the hall behind the community room and down the stairs that led into the basement of the building. Mechanical equipment, tenant storage and the transformer vault were located in the basement. This transformer vault was really just a room, built of rough, gray concrete block walls which supported a concrete deck. This overhead concrete slab served as the vault's ceiling and the floor of the unit above it. The concrete block walls sat on the concrete floor of the basement. Seawater flowed in skipping cascades down the stairs. It rose to more than a foot above the basement floor and swirled around the concrete room that held the transformer like a pack of wolves around an elk. The bottom of the army-green steel door to this room had rusted many years ago and the seawater flowed steadily through the brown crumbly lace at its base, tearing away loose parts of the rusted steel and bending the bottom of the door toward the interior of the vault.

The seawater filled the room and flowed into the galvanized steel pipe that carried the old, cracked, rubber-coated aluminum conductors that fed the transformer from the overhead electrical lines on Sea Street. These rubber-coated conductors, installed in 1963, were calculated to be of sufficient size when the transformer was installed in 1998, when the building was renovated. The cost of replacing the conductors could not be justified given that no evidence was found in 1998 that the insulation was degraded. These feeder conductors carried the current directly from the 12,400 volt line that ran above the street on wooden utility poles. The three aluminum feeders ran down a galvanized steel sleeve screwed into the side of the wooden pole whose creosote coating had many years ago weathered away to expose gray, open-grained douglas fir. From this sleeve, the feeders went underground in a galvanized steel pipe that passed beneath the foundations of their building, under the basement floor and curved upward through the concrete pad on which sat their transformer.

The 12,400 volts of the overhead lines pushed current through these feeder conductors into the transformer. This current flowed through miles of thin copper wires that were wound around a frame within the pale green steel casing of the transformer in Ricky and Sherry's basement. These small wires transformed to the higher street voltage down to 240 volts to feed appliances and equipment and was split to 120 volts to feed the lights and outlets throughout the building.

And so, the higher voltage that is efficient for the transmission of energy from the power plant, had for decades been safely transformed into lower voltage that could be used in their building. If 12,400 volts were unleashed within their building, the resulting current would turn lights, toasters, televisions, ovens, pumps, water heaters and ventilation units into bombs of various payload. As this electrical energy raced through the tiny copper wires of the transformer windings, getting knocked down to usable voltage, the resistance of the copper converted electrical energy to heat, so the copper windings were bathed in oil that circulated into fins on the outside of the pale green cabinet through which the heat in the oil could be dissipated into the air in the vault. That air was circulated with air from outside the building by fans and ducts.

The underground steel pipe that contained the rubber-insulated conductors, which connected the 12,400 volt over-head lines with the transformer in Ricky and Sherry's basement, filled with seawater. The pipe, filled with conductive seawater, became a large, low-resistance conductor that delivered current pushed enthusiastically by the high voltage out on Sea Street.

Receiving this wonderfully uninhibited current, the copper windings heated rapidly and the oil that was meant to cool the transformer, instead, expanded explosively, rupturing the steel casing of the transformer with a thunderous concussion, sending steel fragments to slam against the concrete block wall and the concrete slab ceiling of the vault. A shock wave traveled through concrete, soil, floors and walls that could be felt up to the top floor of the building and two blocks away.

In the two and a half seconds that it took the transformer to explode, the current in the main distribution gear for their building dramatically surged and the panel overheated rapidly, turning its copper and aluminum contacts into liquid. Some of the breakers were fused into a lump of conductive material and could not retract to cut the current. These continued to deliver current into the building. The investigators who later examined the remains of the electrical system were unable to determine how many couples fused on that Monday afternoon. The gaps formed by other thermal couples that successfully tripped, were easily jumped by plasma arcs across their puny gaps. This wonderfully uninhibited current shot through the building's electrical system, making proper bombs of the devices we discussed earlier and turning the moisture in the wall materials

into super-heated steam before igniting the combustible components of the building.

Octavius Reginald Johnson was a man of many talents and interests. He had been in charge of the care of the building on Sea Street since some time before its renovation in 1998 – no one was sure how long. He was known to the residents only as “Johnson.” He had seen over-currents in this old building before. He had given some thought over the years to what might happen if the full force of the overhead lines made their way through their transformer and into the old building’s outdated wiring and through the dusty, corroded gear whose replacement had always taken a back-seat to urgent daily and monthly expenses.

In the course of a few seconds, conditions played out just about as Johnson had imagined during the past 22 years – sometimes at 3:30 in the morning after the condo association had voted down his latest proposal to re-wire the building. He understood that it is difficult to talk people into spending money on things they cannot see. On that day, the unseen things became visible.

One of Johnson’s talents was safety officer. Although he had thrown the main electrical disconnect with both hands, he knew, as he ran knocking and yelling from door to door, that a strong likelihood existed that parts of the building in hidden places had reached combustion temperature and that these parts just might be spreading their warmth to other parts second by second.

The battery-powered fire alarm pinged at leisurely intervals through the halls that were lit only by the dim yellow emergency spot-light heads mounted on pitted chrome battery cases up near the ceiling. The dim light produced an increasingly visible beam as smoke rose in the supposedly fire-rated corridors. The quality of fire-rated construction is never fully verified until it is needed.

Sherry had closed the door to Terry’s room and was walking softly down the hall to the bathroom when the deep, muffled explosion sent a compression into her chest. She could hear the soft pings coming from the hallway. She turned and her gut tightened when she heard Johnson’s voice and his rapid knock on their door. “Mr. Sherman, you gotta get out now, we got a major electrical failure – theah could be a fiyah,” his voice came through the door. Mr. Sherman, a retired NYPD Lieutenant, had lived in Unit 207 for 16 years before Ricky and Sherry bought it – even before the Oklahoma developers bought it. Sherry flung open the door.

“Johnson,” she called, “what was that noise?” Johnson was already knocking on Unit 209. He turned.

“Transformer’s blown up, basement’s flooded, you gotta get out now. Theah could be a fiyah. You gotta get out now,” he shouted while looking at Sherry but loud enough to be heard through 209’s door.

Smoke stung Sherry eyes. She threw on her jacket, grabbed her purse and rushed into Teresina’s room. She quickly wrapped her in the blankets that covered her little body, scooped her out of the crib, and flew out the door, down the hallway toward the kitchen. The smoke from burning plastic stung through her sinuses and brought water to her eyes. She loosely covered Teresina’s face with a blanket and ran into the smoky corridor. The girl was now fully awake and loudly crying, coughing and choking.

She turned to the right, toward the rear of the building. To the north, along Sea Street, the stair only went down a half flight to the exit because Sea Street was higher than the terrace at the ocean-side of the property. Although they had always been told to evacuate to the higher Sea-Street side, a man and woman in their forty’s that Sherry had never seen before, were racing through the smoke toward the lower ocean-side exit. The man had a brief case and the woman held her purse and a document box under her left arm. They were both using their free arms to feel the corridor wall and almost knocked Sherry and Terry over, as they ran past. A few other people were in the corridor going toward the Sea Street exit.

When Sherry got to the door of the stair tower, it was just closing from the people in front of her so she turned her non-Terry shoulder toward the steel door and shoved it open again. A panic of tenants descended from the upper floors. Their high-pitched foot falls on the concrete steps and landings combined with the lower-pitched thuds on the crowded half-flight of steps below her. The door to the street was being held open by someone on the outside and Sherry went as fast as her tilted back would allow down the steps, holding onto the rail with her non-Terry hand. Her purse strap came off her handrail-side shoulder and fell all the way to her wrist. The purse got between her feet. She tripped and fell into Mrs. Newtown, a tall, thin, 76 year-old woman who lived alone in Unit 314 since her husband’s death last year.