

CULTURE DESK

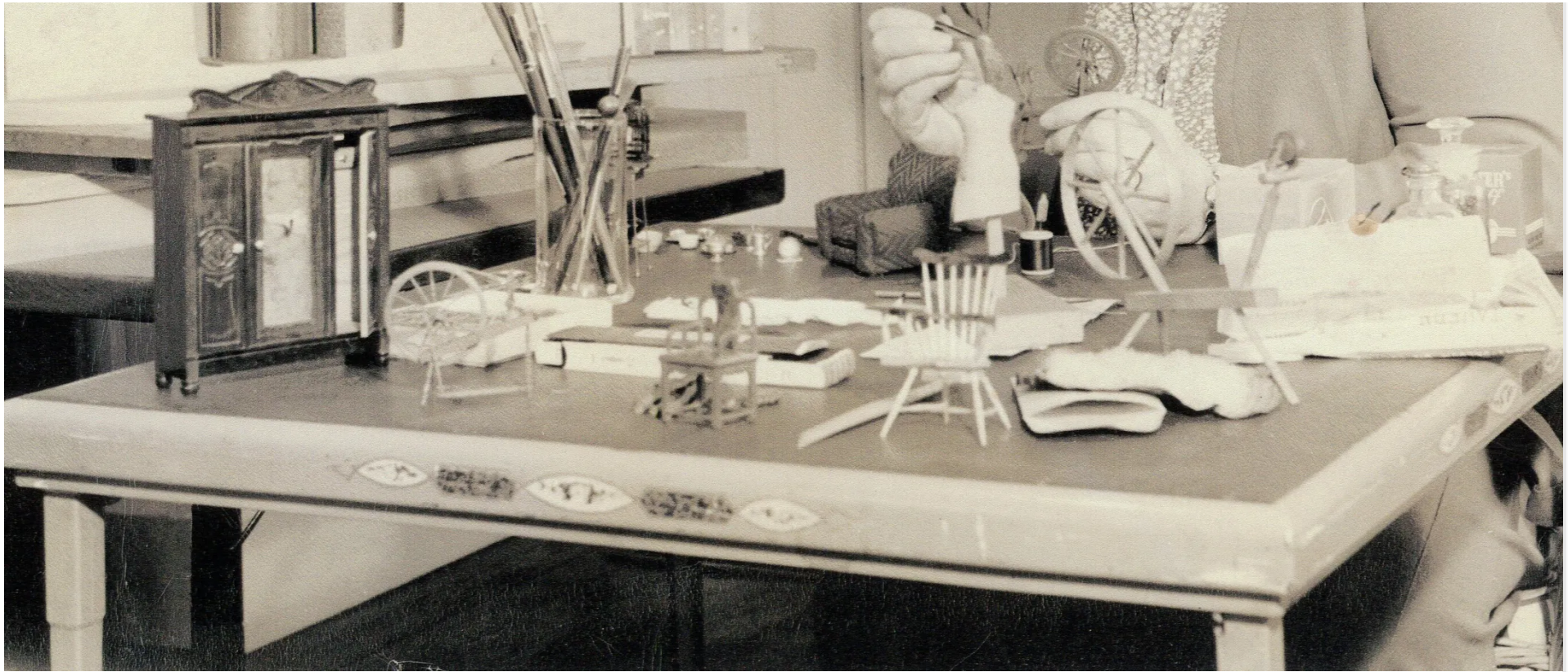
# THE WOMAN WHO INVENTED FORENSICS TRAINING WITH DOLL HOUSES

By Elizabeth Evitts Dickinson

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One April morning in 1948, Annie Morrison was discovered face down on the ground beneath her second-story porch, a wet rag and a wooden clothespin at her side. A medical investigator determined that she had fallen from the porch by accident, but an undertaker later discovered that she'd been shot in the chest. The bullet was the same calibre as a revolver owned by her husband, Harry Morrison. Harry denied having murdered his wife; according to a statement to the police, he had been sitting in the kitchen when he

heard “a sort of noise,” and went outside to find the laundry blowing in the breeze and an empty chair tipped against the railing.

Homicide detectives and forensic investigators have puzzled over the Morrises’ porch for almost seventy years. The scene is one of the many miniature dioramas that make up the Nutshell Studies of Unexplained Death, which the pioneering criminologist Frances Glessner Lee created as teaching tools. Lee based the scenes on real homicides, accidents or suicides; by the nineteen-fifties, when she was a millionaire heiress in her sixties, with three children and five grandchildren, she and her assistants had completed twenty. The models, made by hand at a scale of one inch to one foot, include a blood-spattered interior, in which three inhabitants have been shot to death; the parlor of a parsonage, in which a young girl in a white dress and red ballet shoes lies on the floor with a knife lodged in her gut and bite marks on her body; a rooming house, in which a woman has drowned in the bathtub; and a country barn, in which a man hangs from the rafters.

Lee made her Nutshells with staggering specificity, in order to “make you stop and see that it could be the smallest detail that turns a case,” as Timothy Keel, a major-case specialist with the F.B.I., who studied the Nutshells when he was a homicide detective in the Baltimore City Police Department, told me. The Morrises’ duplex includes a porch swing and miniature garbage cans filled with tiny hand-hewn beer cans; Lee also knitted the laundry hanging from the line, sewed Annie Morrison’s gingham dress and shamrock apron, and placed the doll in a crater of splattered dirt. “It is extremely interesting to note the effect of these models on the students,” Lee wrote. “At first glance, they are impressed mainly by the miniature quality—the doll house effect—but almost immediately they enter into the reality of the matter and completely lose sight of the make-believe.”

Today, academic and law-enforcement programs use life-size rooms and role-playing or employ virtual-reality re-creations of crime scenes for training, but Lee's Nutshells remain a gold standard. "It doesn't matter that they are set in the forties," Keel said. "The science and psychology of death-scene investigation still apply." The recent spate of true-crime documentaries, such as "The Staircase" and "The Jinx," have taken as their premise that, for all of our advancements in forensic science, it is the imprecision of the human mind that most often derails justice. As Lee wrote in 1952, "far too often the investigator 'has a hunch,' and looks for and finds only the evidence to support it, disregarding any other evidence that may be present."

Surprisingly, Lee, the daughter of a wealthy industrialist and a patron of the arts, seems to have understood better than most the narrative nature of death. Born in 1878, she came of age as advancements in ballistics, toxicology, and fingerprinting offered new avenues for crime detection. In 1881, an assassin named Charles Guiteau shot President James Garfield, who later died, an event that Lee's mother recounted in her journal. (As an adult, Lee amassed an extensive collection of manuscripts and photos related to crimes and trials, which includes a photograph of President Garfield's spine taken post-autopsy and poems written by Guiteau as he waited to be executed.) As a child, Lee read Sir Arthur Conan Doyle, and learned to silversmith, paint, and crochet; her mother was a keen craftswoman, and the family's house on Chicago's Prairie Avenue was decorated in the fashionable Arts and Crafts style. The Glessners regularly dined with friends, including the landscape architect Frederick Law Olmsted, who helped design the grounds of the Rocks, the family's fifteen-hundred-acre summer home in the White Mountains of New Hampshire.

Lee aspired to study medicine, but, in 1897, after a grand tour of Europe, she made her societal debut, and, a year later, at age nineteen, married Blewett Lee, the law partner of one of her brother's friends. It was a terrible union and, in 1906, with three children, they separated. Lee fought for a divorce and, in 1914, left for Santa Barbara. The filmmaker Susan Marks, who has interviewed Lee's grandson and great-grandchildren for a



forthcoming film about Lee, hired several researchers and an archivist to locate her personal papers, but they were never found.

When Lee returned to the East Coast, she split her time between Boston and a cottage at the Rocks, before she opened an antiques shop with her daughter, Frances, in the early nineteen-twenties. Later, following the death of her brother, George, from pneumonia, and of her parents, she took over the management of the dairy farm her father had started at the Rocks.

During these decades, one of Lee's closest friends was George Burgess Magrath, who had been a classmate of her brother's at Harvard, and became one of the country's first medical examiners. In 1921, Magrath, an early practitioner of ballistics, helped convict Nicola Sacco and Bartolomeo Vanzetti, who had murdered two people during a bank heist, by matching bullets retrieved from one of the victims to Sacco's pistol. He was also the author of several papers in which he argued against politically elected coroners, who often had no medical experience or legal training, and proposed that only medical examiners should investigate sudden or suspicious deaths. In 1931, Lee, who had received a generous inheritance from her late uncle, George B. Glessner, gave two hundred and fifty thousand dollars to found a new Department of Legal Medicine at Harvard Medical School and to endow a chair of legal medicine, a position that Lee insured went to Magrath, a man "who practically created his profession," she said. In 1934, she donated her collection of manuscripts to create the George Burgess Magrath Library of Legal Medicine. The department officially opened in 1938, and included new training tools such as plaster casts showing "the peculiarities of certain types of injuries" and "wounds made by various types of bullets and powders," as well as "mounted specimens, in various stages, of the insect life sometimes infesting human remains," as Lee wrote in 1952.



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Photograph Courtesy Office of the Chief Medical Examiner, Baltimore, MD / Renwick Gallery of the Smithsonian American Art Museum

*Frances Glessner Lee, Three-Room Dwelling (detail), about 1944-46.*



In 1943, twenty-five years before female police officers were allowed out on the beat in their own patrol cars, the New Hampshire State Police commissioned Lee as its first female police captain and educational director. Lee, troubled that patrolmen and detectives rarely knew how to secure a scene for the medical examiner or to identify circumstantial evidence that might prove valuable in a forensic investigation, imagined a seminar where policemen from around the country could visit the Department of Legal Medicine and learn from its staff. “Since visual studies of actual cases seem a most valuable teaching tool, some method of providing that means of study had to be found,” she wrote.

Lee and her carpenter, Ralph Mosher, and later his son, Alton, made the Nutshells at a workshop at the Rocks. Inside the dioramas, minuscule keys rest in the door locks, lights turn on, and hand-rolled cigarettes, less than a millimeter thick, rest in ashtrays. Pencils fabricated from toothpicks contain real lead. Lee sewed the curtains, designed the wallpaper, and painted miniature portraits for décor. She used pins and a magnifying glass to knit clothes, and a lithographic printing method to reproduce minuscule newspapers. In 1953, *Popular Mechanics* dispatched a reporter and photographer to shadow Lee in her workshop. The article described the way postage-stamp-size shingles were “split with a razor-like tool” and “carefully nailed to a small wall section” to mimic cedar-shake siding on a house, and how a sliding gadget—a kind of miniature vice—was “specially built to hold a bit in place during cutting of a tiny baseboard molding.” Benzedrine inhalers, tiny tubes of amphetamine that could be purchased over the counter, Lee noted, with “a little red paint and remodeling” make “excellent fire hydrants for a city street.” In a 1945 letter to a colleague at Harvard Medical School, Lee said that she was “constantly tempted to add more clues and details” but that she restrained herself so that the Nutshells wouldn’t get too “gadgety.”

Lee stuffed her dolls with a mix of cotton and BB shot to give them the malleable heft of a corpse. She painted detailed ligature marks on necks, and colored the skin to indicate livor mortis. Some of the Nutshells were

based on cases that Magrath had told her about; others were pulled from articles that she'd collected over the years. "An effort has been made to illustrate not only the death that occurred, but the social and financial status of those involved, as well as their frame of mind at the time the death took place," she wrote.

Lee held her first police seminar at Harvard in 1945; within three years, the Harvard Associates in Police Science (HAPS) program was "as sought after in police circles as bids to Hollywood by girls who aspire to be actresses," according to the writer Erle Stanley Gardner, who attended the workshop, in 1948, to research plots for his Perry Mason series of mystery novels. After a morning of lectures, the trainees were led to a room with black walls, where the Nutshells were kept in glass cases. Photos from the time show Lee's short, thick gray hair topped with a black pillbox hat, her thin, round glasses propped on an ample nose. Lee assigned two Nutshell Studies to each man and gave him a flashlight and ninety minutes to deduce what had happened in both. "The investigator must bear in mind that he has a twofold responsibility—to clear the innocent as well as to expose the guilty," Lee instructed her trainees, warning them that the witness statements could be inaccurate. In the case of Annie Morrison, Harry's statement was true: he did not shoot his wife. By studying the angle of the bullet in the body, the investigators were to conclude that the shot had to have come from below, not inside, the house. ("Further police investigation brought to light the fact that two boys in the neighborhood had been amusing themselves shooting off a recently acquired .22 rifle and one shot had found its unintended mark in Annie Morrison's body," Lee wrote in the model's solution.) Corinne May Botz revealed the solutions to five of Lee's scenes in her book on the Nutshells, published in 2004, but the others have been well guarded over the years to preserve the dioramas' effectiveness for training. Not all have satisfying answers; in some, bias and missteps by police and medical examiners have irrevocably compromised the cases.



The HAPS seminar always culminated in an elaborate banquet at Boston's Ritz-Carlton Hotel, at which Lee instructed the Ritz to give the policemen "the best you can provide." (She also made sure the wine steward "shut off any one who seems to talk in a loud voice.") Lee hosted her final HAPS banquet a few months before she died in January of 1962, at the age of eighty-three. After the money that she left ran out, Harvard closed the department and absorbed her manuscripts collection into the main library; in 1966, the Nutshells were moved to Baltimore, at the request of the state's medical examiner, who had studied in Lee's program at Harvard. Since then, the training program has been revived as the Frances Glessner Lee Seminar in Homicide Investigation, held at the Office of the Chief Medical Examiner in Baltimore. The O.C.M.E. is a high-tech medical center that includes a lab outfitted with DNA technology and a full-body scanner capable of rendering every minute detail inside of a corpse, down to the smallest of fractures. Yet, according to Bruce Goldfarb, who works at the O.C.M.E. and observes each annual Nutshells seminar (which follows a similar structure to the one Lee devised in 1945), in many ways the system has not changed since Lee was running her program. There remain few training programs for cops; in some counties in the U.S., a high-school diploma is the only requirement to be elected coroner; and there are only sixteen states that are exclusively on the medical examiner's system.

One afternoon earlier this year, eighty cops, prosecutors, and forensic-pathology students gathered for the seminar inside a conference room at the O.C.M.E. Participants had spent five days learning about the telltale signs of blunt-force blood splatter; how a white, frothy fluid known as a "foam cone" forms in the nose and mouth of a victim of a heroin overdose; and the fact that grieving family members may reposition a body not out of guilt but out of embarrassment for the deceased. Goldfarb stood in the back of the room listening as trainees walked their colleagues through a Nutshell scene, while a member of HAPS led the discussion. In one diorama, the victim was a woman found lying dead on her back next to the refrigerator in her modest kitchen, a metal tray of ice melting near her shoulder. The oven door was open, a Bundt cake still baking inside.

“If this was an accident, you just don’t fall perfectly like that,” a young male policeman said, pointing to the woman’s feet, which were tucked under the gas range. Another male detective noted the rosy hue of the doll’s cheeks, a possible sign of carbon-monoxide poisoning, and wondered if she’d committed suicide. Maybe, he said, “she was overcome by the oven fumes.”

A female forensic-pathology student pointed out that there were potatoes sitting half peeled on the kitchen sink. “Why put yourself through the hell of cooking dinner if you’re going to off yourself halfway through?” She had an instinct about the woman’s husband, who had told police that he had come home to find his wife on the floor, and then left to get law enforcement, “rather than doing what I would like to think I would do, which is hope I can revive my spouse.” Another student shook her head slowly in agreement, a story gradually forming in her mind.

*A selection of Frances Glessner Lee’s Nutshells is on display through January 28, 2018, at the Smithsonian Institution’s Renwick Gallery, in Washington, D.C.*

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