

Lily Robinson woke up and found herself two blocks east of the White House. She loved Washington DC. It was the jewel of the nation, gleaming white buildings on such a grand scale. As her head rested deep upon a plumped down pillow, she closed her eyes and reflected on her present assignment.

The nation's capital evoked images of foreign intrigue and deception, and Lily imagined what it would have been like to work during the years of the Cold War.

She was staying at the Willard Hotel on Pennsylvania Avenue. So were the delegates from a Western African nation. They reminded her of a rosary pea, moving around in their flowing orange Bubu and black cap. The delegates and their security team occupied most of the 8<sup>th</sup> floor and blocked off many of the entrances and exits, making it difficult for Lily to move around freely.

The United States national election had gone as expected. Her handlers had had a part in that. Yet there were still some loose ends that Lily was asked to tie up.

The meeting took place in a small boardroom in the hotel. There was an oval wooden table with mismatched chairs in the center of the room. Lily focused on one of the prints on the wall, depicting a battle between two sailing ships, titled "The Capture of HM Brig-Sloop Reindeer by the American Ship Sloop Wasp on the 28<sup>th</sup> of June in 1814 (by Derek G.M. Gardner, RLMA).

Today's battles were rarely fought on the high seas. They were more likely to be fought in the boardroom. In conflict, something was always captured, whether it was strategies, confidences, people, property, or souls. What had Lily surrendered to become an assassin?

There was a time when Lily Robinson merely lectured on toxins and poisonings. On many occasions she had been asked about the best way, the least detectable way to poison someone.

Then several years ago she read the obituary of a medical examiner colleague. The newspaper told a story of a wife dying of natural causes and a husband who died suddenly from shock and sympathy at his loss. The medical examiner had been an associate, who had pressed Lily for details on natural toxins and best recipes for murder. Lily knew better. He had committed suicide, but only after killing his wife. At some point governmental agencies too learned of Lily Robinson's art and pressed her into service.

The murder was to take place on the Mount Vernon estate in Virginia. Lily carefully dressed for the occasion. She wore her black Armani suit and black patent leather Prada booties, with four inch heels. As she looked at herself in the mirror, she admired the suit with its bow-like pockets and three central shiny black buttons. The gloss of the buttons reflected the faux croc pattern of her booties and harmonized the presentation.

The car service dropped Lily Robinson off at the entrance to Mount Vernon. It was drizzling as she exited the car, umbrella in hand. She was greeted by an elegant white building with a circular pebbled driveway. Lily's heels stuck in the pebbles and impeded her progress toward the house. She reflected on how pebbled and

brick walks were not constructed with high heels in mind and fretted over the damage these stones might cause her special shoes.

Lily moved in and through the house, out to a small reception of people on the piazza, which overlooked a rolling lawn and glorious Potomac River. It wasn't a particularly cold night, so Lily lingered a bit longer on the piazza to breathe in the fresh country air.

She reentered the house and mingled among the guests. There, across the room, she identified her intended target, a tall man of medium build, wearing a gray Zegna suit and a salmon and blue striped tie. He had short blond hair and striking blue eyes.

Lily Robinson worked her way across the room to introduce herself and reminded him of their seating arrangements for dinner. She took her place next to the foreigner.

Lily had been told of his deceptions, of buying and trading sensitive secrets from the last administration, and it was thought that a simple elimination would be best.

Lily picked up her outermost fork and started her salad of warm goat cheese, field greens and champagne vinaigrette. She engaged in distracting conversation with the wife of a dignitary sitting opposite her.

Lily carefully moved her left hand under the table as she turned and smiled at the diplomat. He hesitated for a second before he placed a fork full of salad into his mouth, and just for an instant she thought she saw the diplomat's face register momentary irritation.

By the time the entrée was finished, the foreigner was not feeling well, and complained of a severe stomach upset. He called for his car and left the Mount Vernon estate.

When the affair was finally over, Lily returned to the Willard Hotel, only to find that the entrance hall was blocked by the African security team. The rain had found its way through an open window and flooded the end of the hall. She would need to find another way around to room 851.

Several days later it was reported from Embassy Row that the diplomat had died. He had a preceding illness that lasted three days. He presented with severe gastrointestinal symptoms, thought initially to be the flu or food poisoning. His symptoms worsened with high fevers, bloody diarrhea, and by the time he received supportive care he already had massive organ failure.

Lily grabbed her suitcase and departed for home. The African delegates were waiting for their limousines. Lily waited with them under the canopy at the hotel's entrance and slipped her umbrella into her bag. The rain had finally stopped.

Recollections, Lily Robinson and the Mount Vernon Affair.

For this assignment I was inspired by the 1978 Cold War case of Gyorgi Markov, but with a twist. Gyorgi Markov was a Bulgarian journalist, who while at a bus

station in London, was stabbed in the leg with the tip of an umbrella. The umbrella had been modified to inject a small pellet that presumably contained ricin.

I thought about using an umbrella and ricin, but decided on the more potent toxin, abrin, which was hidden in the heel of one of my shoes. By releasing a lever in the shoe I exposed a small injectable device. The small gauge of the needle allowed me to easily stab the tip of the leg of the diplomat, producing a sensation no more annoying than an insect bite; abrin and ricin.

The rosary pea or jequirity pea, *Abrus precatorius*, is a plant common to many tropical locations, and the source of the toxin abrin. While all parts of the plant are poisonous, it's the seeds, bright orange with a small black cap, that are primarily implicated in poisoning. The seeds or beads have traditionally been used for ornamental purposes; *Abrus* means beautiful. As in prayer beads, *precare* means to pray, jewelry maracas, Mexican shaker, or used in folk medicine.

Interestingly, because of their uniform size, the seeds have historically been used for weighing gold and jewels in Southeast Asia; one carat equaling two seeds.

As a result of their availability in certain geographic areas, the seeds are utilized as a means of suicide in some countries. However, many poisonings with jequirity beans and castor beans are unintentional, as a result of ingestion of the beads from ornamental objects by children. Patients who ingest the crushed seed, whole seeds often pass through the GI tract intact, develop vomiting, diarrhea, and epigastric pain.

As the abdominal pain progresses, patients exhibit bloody diarrhea and melena. Central nervous system manifestations include altered sensorium, generalized tonic-clonic seizures and diffused cerebral edema, with raised intracranial pressure. In latter stages, patients present with toxic hepatitis, acute renal failure, hemolysis and acute demyelinating encephalomyelitis has been reported.

Abrin is a toxalbumin, as is ricin, with an estimated fatal dose of 0.1 to 1 microgram/kilogram or one or two crushed seeds.

The mechanism of action of the toxin is inhibition of protein synthesis. The toxin is composed of A-chain with N-glycosidase activity that inhibits protein synthesis, and a B-chain that binds cell surface receptors and facilitates the A-chain's entry into cells.

The A-chain irreversibly binds the 60S ribosomal subunit, effectively blocking the binding of elongation factor 2 and the beginning of protein synthesis.

Ricin is derived from the castor bean, *ricinus communis*, which originated in Asia and Africa, but has now been spread to many regions around the globe. These perennial shrubs have large, deep green divided leaves and produce spiny fruits that contain modeled seeds resembling an engorged tick.

While the outermost shell casing of the plant is used to make castor oil, it is the crushed inner seeds that contain the toxin ricin. Ricin has been considered historically for use in chemical warfare, as it can be prepared as a rudimentary plant extract or in powdered, crystalline, or liquid forms.

Like abrin, ricin is a glycoprotein lectin, composed of an alpha and beta chain, linked by a disulphide bond.

Detection of ricin in fluids has been by immunologically based methods, which can measure concentrations at approximately 0.1 ng/mL.

Other methods such as matrix-assisted laser desorption/ionization-mass spectrometry, or MALDI mass spectrometry, have also been used. Abrin has been detected in food and beverages by enzyme linked immunosorbent assay and electrochemiluminescence technologies.