April 2021 Speaker
Dr. Myriam Nafte
Forensics in Crime Solving

"Unlike in film and tv, forensic scientists in real life do not solve crimes all on their own. Rather, they analyze to assist police investigations," Dr. Myriam Nafte enlightened us during her illuminating talk on the use of forensics in crime solving. Myriam is a forensic anthropologist, a person who studies human remains for clues in questionable deaths. "The term forensics is from ancient Latin – 'forensis' for people watching and listening," she explained. "Methods have advanced significantly since as recently the 1990s," she went on. "DNA analysis can now identify fingerprints on anything touched, even gum or a glass. Digital technology creates 3-D images of a crime scene to supplement photographs. Digital facial reconstruction is possible from the skull. In the late 1970s Brian Dalrymple, a forensic scientist at the Ontario Provincial Police, pioneered laser detection of fingerprints that otherwise would be undiscovered. His method is used worldwide. Other types of analysis originated in the military."

She explained the intricate forensic anthropological process in fascinating detail. "First, are the remains bones or instead tree roots or shells? Then, human or animal? - a skeletal bear paw looks a lot like a skeletal human hand. From when? Sex, adult or child, race, how long dead, trauma before, during or after death?" The next step is identification. "Teeth are at the top of our list because dentists keep records; today, electronically. Blood stain analysis for blood type. DNA analysis isn't always possible, though. There was no DNA evidence in the Bruce McArthur serial murders case: the remains had been shredded by a woodchipper and the victims were transients for whom there were no missing person reports or dental records. The skull's characteristics show whether male or female. A wide pelvis indicates a woman; wide from giving birth. We also look for personal markings: scars, tattoos, past surgeries – hip replacements, for example, have serial numbers. Before a body is brought to the morgue the hands and feet are enclosed in protective covering to preserve fine scapings under the nails, if any. People try to save their lives by scratching their attacker."

She said her background as an anatomical artist of the human body "inside and out gave me an advantage. I knew type of bone, shape, size and texture from illustrations I had done."

"Human remains are found anywhere and everywhere: underground, fridges, freezers, toilets, house foundations, walls, roofs, attics, sewers, for example. The tools of murder and methods of getting rid of bodies have changed over the years but there still is sloppiness. Killers usually leave a trail but no evidence was left in the Sherman murders. It was a professional hit job that never will be solved. The killers are likely long gone to another country."

The case that upset her most was a toddler who was dismembered with the parts put under the porch. "The toughest cases are children. Investigators become hypersensitive over time, not desensitized. It's brutal. Some quit/drink/commit suicide."

Myriam also explained what physical evidence the police look for at the crime scene, such as fingerprints, footprints, car tire treads, weapons, bullets; that only "expert" witnesses, scientists like herself, are permitted to give an opinion in a trial; that it is essential to keep track of the who, where and why of the handling of evidence to prevent charges of misconduct; circumstantial evidence "too often" influences a jury's decision.

This report would be incomplete without this interesting piece of information from Myriam: "The words 'testimony' and 'testicles" are both from the Latin 'testis' – 'witness'. Before the Bible existed, men placed their hand on their testicles when they took the oath to tell the truth. Since testicles were 'witness' to male virility, the belief was that lying under oath would result in their progeny being cursed."

Susan Goldenberg