An Interview with Bone Detective Diane France

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We have all heard the expression, “eyes are windows to our souls.” Similarly, a forensic anthropologist might say “bones are windows to our lives.” When someone dies and their identity is unknown, skeletal clues can uncover who that person is and the circumstances surrounding their death. Using scientific techniques, these bone detectives help solve cases involving unidentified victims from crimes, fires, plane crashes, wars, and accidents. Forensic anthropologist Diane France views her work as a series of puzzles as she helps law enforcement, medical examiners, and families piece together hard cases.

Describe this field.

Forensic science, in general, is literally the application of science to answer legal questions. Forensic anthropology is a subfield of biological anthropology—the study of physical (biological) aspects of humans and nonhuman primates. So, forensic anthropology applies the scientific study of humans to answer legal questions.

In essence, if a deceased person is unidentifiable through methods such as dental comparisons and fingerprint analysis, a forensic anthropologist (FA) tries to figure out who that person is and the circumstances surrounding the death. We use various techniques to gather information. Primarily, we rely on skeletal clues, even if the body is relatively intact with soft tissue remaining. For instance, clues such as gunshot wounds, blunt trauma, and sharp injury (e.g., knife wounds) are found by studying the skeleton directly and by viewing x-rays taken postmortem (after death). A person’s photograph, taken antemortem (before death), can be compared to a skull in question—this method is used more to exclude individuals for further comparison than for positive identification. Some anthropologists apply a clay face to a skull using standard soft tissue depth measurements. The media then puts that model in the newspapers and on television to see if anyone recognizes the face, which leads to hints about who the person might be.

How did you choose this?

I have always loved science and been intrigued by bones; however, I began college thinking I wanted to be a marine biologist. I was taking required science courses in biology, chemistry, and
physics, but I decided to branch off into general and biological anthropology for my elective courses. Through my electives, I became hooked on human bones, which is how I ended up in forensic anthropology. It was not always easy—in graduate school I sometimes had to work three jobs while taking a full load of courses.

A typical day?

A typical day for an FA depends on the work environment (e.g., a university, federal government identification lab, or state crime lab). I have an uncommon situation professionally. I started a small business 20 years ago that manufactures museum-quality plastic replicas of biological (primarily skeletal) materials for museums and universities, so I spend a significant amount of time working at that business every week. In addition, I am a private FA consultant; therefore, the forensic anthropology part of my day depends on the caseload. My caseload can range from no cases to mass fatality incidents such as plane crashes. I also write professional books and belong to a volunteer group that helps law enforcement look for clandestine graves and recover the evidence (including bodies) from those graves. I spend some time each week with that group—NecroSearch International, which consists of about 35 individuals with different fields of expertise—as we go all over the world helping law enforcement.

Background needed?

Classes in biological anthropology (including osteology), physics, chemistry, and human anatomy are essential. Also, classes that offer human soft tissue dissections from donated bodies are recommended, although difficult to come by. Occasionally, a knowledge of culture is helpful in identification—e.g., some cultures do things to their skeletons while alive that still show up after death—but for the most part, this field is biological in nature. An understanding of scientific inquiry is vitally important.

Obtaining a doctorate degree and becoming certified as an expert by the American Board of Forensic Anthropology (ABFA) are very helpful achievements; however, not everyone who practices forensic anthropology has taken these steps. To become certified, one has to have had a doctorate in biological anthropology or a closely related field for three years, have practiced enough in the field to submit five case reports to the ABFA for review, and then be invited to sit for eight-hour board exams. Although a pretty rigorous process, it is important for understanding the depth of knowledge necessary to be termed an expert. I am trained as an FA, have a doctorate in biological anthropology, and am certified as an expert in forensics.

Advice for students?

There are two ways to tackle problems in human identification and determination of circumstances surrounding an individual’s death. One approach is to memorize the numerous ways a body can react to physical stress and different biological environments. The other tactic—which is more interesting, fun, and makes a whole lot more sense—is to have the ample background needed to discover clues and determine how a body reacted to specific situations. The more courses students take in biology, physics, and to some extent chemistry, the more they
will understand how the human body reacts to different situations (e.g., how a bone would break
given certain physical pressures in distinct areas).

Most importantly, students should be curious and observant about the world and everything in it.
Students should also know early in the game if they can stand the sight of a decomposing body
and if they are willing to get dirty while looking for clues. Real life forensic investigators,
including law enforcement and scientific teams, do not work the jobs of television CSIs; we do
not solve crimes in an hour and stay clean while simply shining flashlights on evidence.

Most memorable experience?

Many experiences come to mind. I helped with the recovery process at the Fresh Kills Landfill
on Staten Island after September 11, 2001. I have assisted with body identifications after plane
crashes and after a forest fire in Colorado killed 12 young smokejumpers. I have worked to find
bodies of people (usually young women) who have been missing for decades and determined
what happened to them. I went to Russia with NecroSearch and became involved in a
controversy about whether or not the Russians have actually identified Anastasia (one of Czar
Nicholas II daughters, incorrectly portrayed in the Disney film). The Russians are still looking
for the bodies of two of the Romanov children. By the way, the Russians state publicly and seem
to believe that they have identified and buried Anastasia, but I believe they are probably still
looking for Anastasia and Alexis (the son).

—By Megan Sullivan