

CHAPTER THREE

Giving Faces to the Lost

TO match remains with an identity, investigators must match the skeleton with records of a missing person. This is easiest if the person has been reported missing. A missing person's loved ones may file reports with several agencies. The largest databases of missing persons in the United States are the FBI's National Crime Information Center (NCIC), the National Center for Missing and Exploited Children, and the National Missing Children's Organization and Center for Missing Adults (NMCOC). In Canada, the largest databases are the Canadian Police Information Center (CPIC) and the Royal Canadian Mounted Police Missing Children's Registry (MCR). The Internet is becoming an important place for information of all kinds, including international missing-persons databases.

These centers and databanks keep records of hundreds of thousands of children and adults who have been reported missing. However, just reporting someone missing does not mean his remains can be identified when found. First, the sheer numbers of reports can make it difficult to find the right identity. Second, the information recorded about the missing person might not be the information investigators need to



identify remains. The forensic anthropologist needs information that will help identify bones. He will need to ask: Did the person have a skeletal disease or abnormality like scoliosis or arthritis? Did she ever suffer from a broken bone? What was the condition of his teeth? Even in the case of intact bodies, information that might seem trivial can be important. Did the missing person have jewelry she always wore? Scars? Tattoos or piercings? A special shape of fingernail or color of nail polish? Did he shave various parts of his body? If the person is female, has she given birth? If so, how many times? Even the smallest

Missing person poster

MISSING

HAVE YOU SEEN KYLE?



Name: Kyle Donagekeels

Date of Birth: December 12, 1979
Height: 5' 10"
Weight: 145 lbs.
Build: Slim
Hair: Brown
Eye Color: Green

Missing Since: June 29, 2002
Missing From: Binghamton, NY

Circumstances: Kyle was last seen at the Oakdale Mall wearing a blue plaid shirt and blue jeans.

IF YOU HAVE SEEN KYLE OR KNOW OF HIS WHEREABOUTS, PLEASE CALL THE BINGHAMTON POLICE AT 1-(607)-555-9009 OR CALL THE:



**MISSING
CHILDREN**
SOCIETY OF NEW YORK

1-800-555-4008

email: info@mikd.org
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detail can identify a person—or let the right identification be overlooked.

The biggest problem with missing persons databases is that a person might never be reported missing. This can happen for a variety of reasons. Maybe the person was visiting from another country. Perhaps he had no family and few friends. She may have been murdered by a family member who did not report her disappearance. Maybe his loved ones simply did not know to whom to report the disappearance, or they were ashamed to admit that a loved one disappeared. Perhaps the report never made it from the police department into a national database, or the investigators may have stopped searching for an identity.

The most difficult cases for forensic scientists are unidentified remains. In these cases, the forensic anthropologist needs to reconstruct the victim's appearance and last moments from his bones, and find someone who will recognize and identify him.

MATCHING A DECEDENT TO A MISSING PERSON

If the decedent's teeth have been found and the person has ever had dental work, forensic investigators can find the person's identity through dental records. Once the investigators know the decedent's age, sex, race, and stature, they can begin searching for missing persons who fit that description. When they have possible matches, they can request dental records for those people and see if any fit the dental work of the remains.

Another way to look for identity is through medical records, especially X-rays. The forensic anthropologist looks for identifying marks on the bones, such as healed breaks, fractures, surgical marks, amputations, bone diseases and abnormalities, and arthritis. Again, a list of possible matches is found and medical records are requested. If the records are of the victim, these changes in the bones should match the victim's X-rays.

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CASE STUDY: FINDING MWIVANO

Two young boys found the first bag on a warm summer day at a park near the Wisconsin River. Thinking they were looking at a dead animal, they called their mother. Immediately certain of what she was looking at, she quickly called the police. The decomposing remains in the bag were of a young woman.

Over the next few days, seven more bags were found. All contained various body parts of the same woman. Her body had been cut into pieces, with the skin of the face removed. From the soft tissue on the remains, the forensic pathologist determined that she had been a young, healthy, dark-skinned female. Fingerprint experts and other investigators worked hard on the case. No match could be found for the decedent's prints. With no tattoos, scars, or broken bones, there were very few hints to her identity. Since her teeth were perfect, there were probably no dental records. Without a face, investigators had no clue who she may have been.

Desperate for a name before the killer could disappear or strike again, the investigators called Dr. Emily Craig, a forensic anthropologist and forensic artist working in the state of Tennessee, and asked her to do a facial reconstruction.

Since the skull contained crucial evidence—the marks of the knife the murderer had used to cut off the victim's face—a copy of the skull was made with computer scans and lasers. Using this copy, the pathologist's report, and her own skill, experience at facial reconstruction, and extensive knowledge of human anatomy, Dr. Craig carefully



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built a face over the skull, trying to make a life-like image of the victim.

The skull had several confusing anomalies that made determining race difficult. Although Dr. Craig felt that some features were quite different from those of an African American, she ended up with a sculptural portrait of a young, black woman. Now the key was to put a picture of this sculpture in a place where it would be found by someone who would recognize the victim. That place turned out to be a bulletin board in a grocery store several towns away.

The victim was Mwivano Mwambashi Kupaza, a twenty-five-year-old student from Tanzania. This explained her non-American features but African skull. The woman who identified her was her cousin's former wife. The murderer was Mwivano's cousin, Peter Kupaza, a forty-year-old Wisconsin man. Young Mwivano, in a strange country with few acquaintances, had nowhere to go to get help after she was raped by her cousin. Shortly afterward, Kupaza murdered Mwivano, butchered the body, stuffed the body into plastic bags, and dumped the body into the Wisconsin River. Until Mwivano's body was identified, her Tanzanian relatives believed she was still living in the United States, while her Wisconsin acquaintances were told she had gone back to Tanzania.

After the identification, Mwivano's parents and other Tanzanian relatives were notified and came to the United States for Peter Kupaza's trial. Kupaza was found guilty and sentenced to life with no chance of parole for thirty years.



Investigators also look for surgical appliances such as pacemakers, artificial hips, false teeth, and metal plates and pins. By their appearance or serial number, these appliances can be traced to doctors and manufacturers. If a manufacturer can be found, forensic investigators can find the doctor who installed the device and identify the patient who received it. Identifying a person is much easier if there is a list of possible identities from which to choose. In this way, missing person reports help investigators. These reports lead investigators to possible dental records and X-rays that may belong to the decedent.

The skull gives investigators the best chance to identify a decedent. The bones of the skull influence our appearance

Investigators will compare skeletal remains to existing X-rays to help identify a victim.



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Facial records or facial reconstruction. The forensic artist uses the face that to someone someone who tors and give they can be matching, D the identity

The Russian means of facial artist model skull. The details of each of the

strongly. Two ways the skull is used to identify a person are photo superimposition and facial reconstruction. Photo superimposition is a technique that can be used to find the true identity from among a list of possible identities. The forensic anthropologist takes a photograph of the skull and a photograph of the person from life. A photograph showing the person's full face and looking forward is the best to use for this. The photograph of the person's face is superimposed over the photograph of the person's skull. If the skull belongs to the person in the picture, all points of the face will match. If a part of the face does not match the skull, then the skull does not belong to the person in the picture.

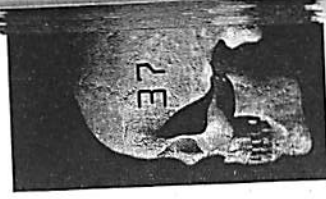
All these techniques are used when the investigators have some ideas about who the victim may have been. In cases in which there has been no missing-person reports filed, they need to give a face to the dead, hoping that someone who recognizes her will step forward and give the investigators a name.

FACIAL RECONSTRUCTION

Facial reconstruction is sometimes called facial approximation or facial restoration. It is a technique combining art and science. The forensic artist (usually also a forensic anthropologist) uses the skull and knowledge of human anatomy to sculpt a face that will look enough like the victim to be recognizable to someone who knew her. If the reconstruction is successful, someone who recognizes the victim will contact the investigators and give them the person's name. After they have a name, they can use other techniques, like dental records, X-ray matching, DNA testing, and photo superimposition, to confirm the identity.

The Russian Method and the American Method are two means of facial reconstruction. In both types, the forensic artist models a face onto the victim's skull or onto a cast of the skull. The difference is that the Russian Method builds models of each of the face's muscles before adding the "skin," while

Giving Faces to the Lost





the American Method adds strips of clay to build the face without sculpting the muscles underneath.

To model on the skull, the bones must first be cleaned. This means that all remaining soft tissue must be gently removed by slowly boiling the bones in soapy water. After the bones are clean and dry, the artist either prepares the skull or makes a cast. A cast is very useful because it keeps the actual skull from being damaged.

A cast of the skull can be made by placing the skull in alginate—a rubbery substance that you're familiar with if you've ever had an impression of your teeth made at the dentist's office. After the alginate has hardened, the skull is removed, and the impression left in the alginate is filled with plaster or a special type of plastic. This plaster or plastic skull becomes the base over which the forensic artist sculpts the face.

Using computers and lasers is another way of making a model skull. This method is called rapid prototyping. It is accurate and especially useful if the investigators wish not to disturb the head in any way. A special X-ray-like picture called a *CT-scan* is taken of the head. The CT-scan can tell the difference between bone, soft tissue, cartilage, and teeth. This scan saves a detailed picture of the skull bones onto a computer. The computer uses guided laser beams to create an exact, three-dimensional model of the skull out of layers of plastic or of paper covered in *polyurethane resin*.

After the forensic artist has a clean skull or model skull, she begins to build the face. First, the artist cuts tiny rubber or wooden pegs and gently glues them onto the head. These pegs show thickness of flesh at different points of the face. The artist uses a chart based on the victim's age, sex, and race to find averages for flesh thickness. Depending on the method the artist is trained in and the chart being used, between twenty-one and thirty-six different pegs will be glued onto the form.

The artist guesses eye color based on common types for the victim's racial group and region, and places glass eyes in the

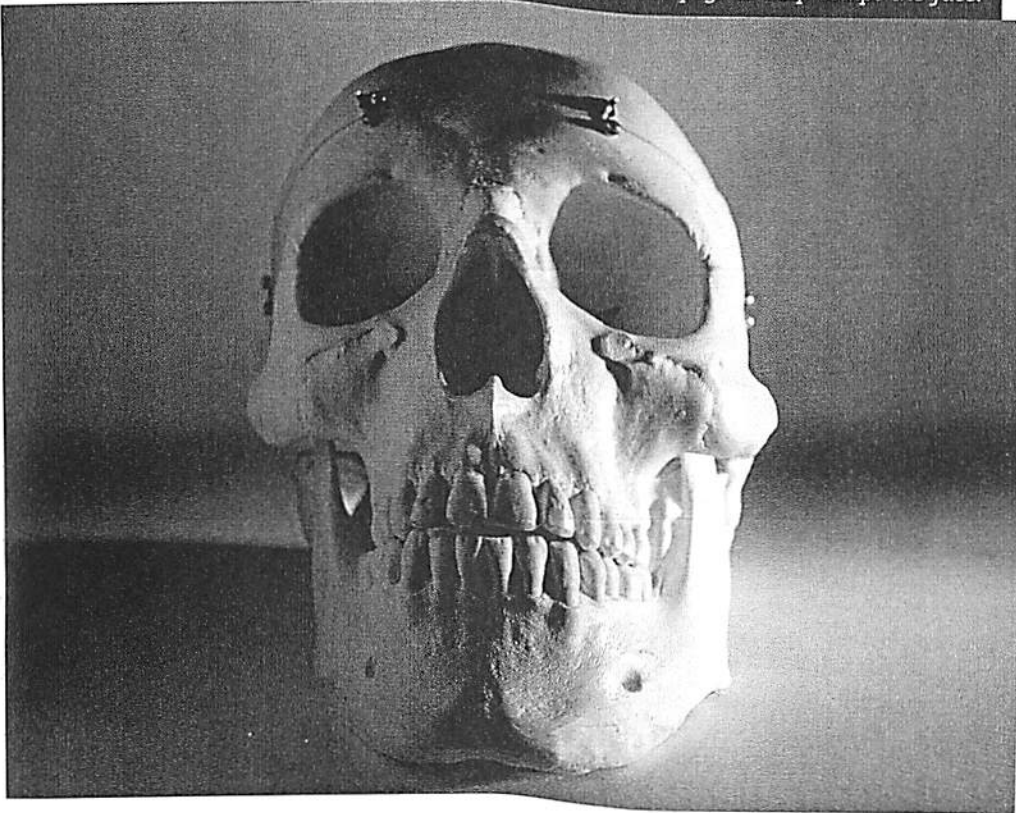
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sockets. Then she begins to add the flesh by layering clay strips of different thicknesses onto the skull.

The most challenging part of sculpting the face is making the features resemble the person in life. These features include the lips, nose, eyelids, and ears. The artist does not know what the unidentified person really looked like, so the artist has to judge what the person probably looked like based on the smallest details of the skull and on averages for the victim's age, race, and sex. A facial reconstruction rarely looks exactly like the actual person, but it needs to look enough like the victim that a friend, family member, coworker, or acquaintance will

A forensic artist places pegs on the skull to indicate flesh thickness and uses these pegs to help sculpt the face.





CASE STUDY: USING FORENSIC ANTHROPOLOGY TO IDENTIFY A MURDERER

Back in November 1971, John List murdered his entire family. Police had no doubts about who had done the crime, since List left behind several notes explaining why he had to "free his family's souls." But List had disappeared.

Frank Bender, a forensic anthropologist, was hired by America's Most Wanted to create a bust showing how John List would look now. Although Bender had experience in aging faces, he realized he needed a psychological portrait, not just a physical one. A psychological profile would help him estimate how List might have altered his appearance, as well as how List's personality could influence the natural aging process. So Bender turned to criminal psychologist Richard Walter.

Together, psychologist and artist concentrated on specific behaviors:

- What would List's diet be?
- Would he still be around the same weight?
- What was his level of vanity?
- What was his degree of rigidity?
- How would he dress?
- What would his usual expressions be?

They looked over what was known of List's past habits and what others who had known him reported. Then they decided which of his traits would remain consistent, despite attempts to adopt a new iden-

Giving Faces to the Lost



tity. They figured List would be paunchier, with drooping skin around the jowls, deep worry lines, and a receding hairline. Despite the fact that List had a pronounced surgical scar behind his right ear that could betray him, he would not have opted for cosmetic surgery. He would likely still have financial difficulties and would be wearing glasses picked for a specific reason.

Finally, the bust was finished and taken to the television studio. The show was broadcast, and the forensic sculpture had its intended effect. A former neighbor of a man named Bob Clark called in with compelling details.

Ten days after the call, agents entered the office where Clark worked—about 240 miles (386 kilometers) from the original crime scene—and arrested him. Although he insisted they had made a mistake, his fingerprints confirmed his identity as that of John List. He was convicted of five counts of first-degree murder and sentenced to life in prison.



Forensics is a multidisciplinary field, meaning specialists from many related fields need to work together. Among these many specialists are forensic pathologists, forensic entomologists, mark and trace analysis experts, document experts, and fiber analysis specialists. They work together with the medical examiner and law officers to solve crimes. Forensic investigators must understand a wide range of disciplines and appreciate everyone's contributions in order to do their jobs most effectively. Cooperation is key for a successful investigation.

recognize it. Creating a realistic and accurate reconstruction takes a lot of talent and care on the part of the forensic artist.

When all of the flesh has been added to the face, the artist adds as many details as possible to make it look realistic: color to the skin and lips; a wig, mustache, or beard; texture to the skin by blotting it with a damp sponge; eyebrows and eyelashes; wrinkles to an older person; or sometimes a bit of clothing. The artist wants to make the reconstruction recognizable without making too many guesses that might make it inaccurate.

With computer scanning, several pictures of the same face with different features can be made. Changing a detail like a different hairstyle, a mustache, an eye color, or even a hat or glasses may be enough to jog a memory and give the investigators a victim's name.

Sometimes the remains are of people who died accidentally or naturally, who committed suicide, or who died hundreds or even thousands of years ago. In these cases, identification and confirmation of manner of death or age of the remains will be enough to end the investigation. In most forensic anthropology investigations, though, the victim died violently and relatively recently at the hands of another person. Once a murder victim has been identified, it is time for investigators to look for a killer. To do this, they must reconstruct the crime.

