EARs DON't LIE

Ear Analysis Has A Long History Of Use

In Identifying People in Old Photographs

by Joelle Steele

Before the science of fingerprinting came into common use in the early 20th century, the ears were also used to identify people. A man named Alfred Victor Iannarelli developed the forensic method of ear analysis for the purpose of identifying people in 1949. His system, called the Iannarelli System of Ear Identification, relies on biometrics, the measurement of body parts, in this instance, the ear in particular. Iannarelli has impressive credentials in law enforcement as well as extensive experience in studying ears and making identifications based on ear analysis and comparison. He is still active as a Consultant in Forensic Identification and Police Administration in the San Francisco Bay Area of California.

Law enforcement forensics experts, such as those working for the FBI, have known about Iannarelli’s system and "ear biometrics" for a long time, and they still analyze ears when comparing photos of known criminals with photos of suspected criminals who have undergone facial damage or plastic/reconstructive surgery, because ears are rarely modified surgically they heal far too slowly and often very unattractively. Ear biometrics are still used today as a back-up to fingerprinting when a criminal has had his fingerprints removed, or in identifying bodies when the fingers have been removed or destroyed. Remember, not everyone has a DNA profile in a database!
ABOVE: The ear of Anastasia Romanov (left) and the ear of Anna Anderson, an Anastasia imposter (right). DNA ultimately proved what facial features analysts already knew, that Anderson was not Anastasia.

Ear biometrics is also used by facial features experts in identifying people in photographs. After I have compared the head/face shapes of two people, the next thing I look at are the ears, if they are visible in the photos. If the ears don’t match from one person to the other, then the two photos cannot be of the same person. There is no reason to waste time examining the faces further. In addition to being unique to each person, ears are also reliable for comparisons of people because they do not change with variations in the facial expression (i.e., when you smile or frown).

When analyzing and comparing ears, look at how the ears line up with the features of the faces, the jaws, and how big the ears are in proportion to the heads. Look at how far they stick out from the head and where they line up with the features of the face. However, before you start aligning ears with facial features, you must first determine whether the photo was taken from an angle that is either higher or lower than the person. If it is, the ears will not be aligned correctly with the eyes or any other feature for the purposes of an accurate comparison. You’ll need to rely on other individual ear traits for comparison.
Look at the shape and size of the ears of each person as shown in the illustration above. These formative structures of the ear are entirely unique to each person. The helix of the ear, which forms the entire outer shell of the ear, will never be the exact same shape in any two people, not even people who are closely related. The intertragal notch may be higher and/or wider from one person to the next. The concha area can be deep or shallow, wide or narrow. So always look very closely at these details when they are visible in a photograph.

Also look at the lobes to see if they are attached or unattached (free), and if they are unattached, whether they hang close to the head or stick out. Lobes can be narrow, wide, flat, creased, pointed, squared, etc. Also look for the Darwinian tubercle (also called the auricular tubercle or Darwin's tubercle), a little nodule on the outer edge of the helix, and be sure both people have it in the exact same place. It's a hard little node to see in most photos, but if it's there, you should be able to find it. Depending on whose statistics you read, it appears in anywhere from 20-35% of the population.

Also note that on any given head, one ear may look different than the other or it may be placed a little higher/ lower on the head. No person is ever completely symmetric. Notice the difference in Abraham Lincoln's ears in the two photos at left below.

ABOVE: The two ears on the left are those of Abraham Lincoln. His ears did not match each other in appearance. On the far right is the ear of a man in a photograph purported to be of Lincoln. As you can probably see, the would-be Lincoln ear is not a match for either of Lincoln's ears.

Ears grow with age, although in most cases it is not evident until advanced age. According to a 1995 British study with several other physicians and hundreds of subjects aged 30-93, James A. Heathcote, MD concluded that our ears grow at an average rate of about .22mm (.01 inches) per year. This study was confirmed by a Japanese study of 400 people in 1996. While average growth rates vary from person to person and may vary during different stages in a person's life, we can assume that an individual with a 2" long ear at age 30 would, by age 80, have achieved about a 25% growth rate, resulting in a 2-1/2" long ear.

**SUMMARY**

After you make a match between head/skull/face shapes in any two people, it's time to look at the ears. If they are visible and clear in a photo, you are truly in luck, because they are one of the best traits to compare that will help confirm or rule out a match between any two faces.

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