

RECONSTRUCTION OF FACE FROM THE SKULL

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Forensic science (forensics) is the application of a wide area of sciences to answer questions of interest to a legal system. Forensics may relate to a crime or a civil action. Facial reconstruction from the skull is one of the application of science and art, to aid the identification of a skull with no identity.

The facial reconstruction from the skull—either drawing or sculpting—of an unidentified individual is a controversial subject. Many professional practitioners believe that they have portrayed how the deceased person looked like when he/she was alive. However, a study of Stephan and Henneberg ⁽¹⁾ claimed that facial approximations do not statistically contribute to the answer of missing persons cases. This may relate to how much the reconstructed face look alike compared to the real appearance of the person, or how the reconstructed face was portrayed and distributed. It may relate to how the family perceive to the attributes of the missing relative that might be missing at the reconstruction such as eye glasses, the way he/she wore the hair when alive, the unusual shape of lips/nostrils/moles/ears that might be very noticeable when the person alive but was missing after the reconstruction of the face.

As long as the missing person had no outstanding unusual shape of lips, nostrils, moles, etc. that could not be identified at the skull found, the reconstruction has higher rate of success. The variation of lips, nostrils, ears and eyes sometimes depend on which population the individuals came from. For example the variation of the shape of lips of White Americans are not the same as the those in Black Americans.

Facial reconstruction from the skull can be a necessity in some cases. A missing individual who leads to several families who claimed to be the family of the deceased, sometimes involves emotional ordeals. These false claims may be caused by an item found at the site near the skeletons to be found, that looks like the belonging of their missing relative. It could be caused by a scar on the same location of bone, found at the skeleton that is similar to the history of more than one missing persons, which has similar age and sex.

Identifying the the skeleton using DNA analyses to be compared with the DNA of the families of course is the best answer. However, it is more expensive to do such chore when there is a less expensive way to reveal the unknown individual.

Facial reconstructions are used for giving aid in finding or identifying missing people. This task is best given to someone who learned the way how to do it. This involves the knowledge of facial tissue thickness, and the art to build the face that involves creating the shape of nostrils, eyes, lips and ears. This forensic artists is may be available from the police department, or they may hire someone outside the department.

The individual's sex, age, race, height, and weight were documented at death. Additionally, heirs have provided many details about the individual's life,

including year of birth, health history, ancestry, occupations, hobbies, and maximum height and weight. The purpose of forensic facial reconstruction is to produce an image from a skull which offers a sufficient likeness of the living individual that it will facilitate identification of skeletal remains.

The 3D method^(1,2) uses modelling clay or plasticine to build up the depth of tissue on the skull (or a cast of the skull) to that of the face of the individual. The “landmarks”, that are the points—sometimes related to anthropometric points—on the skull have been known to have certain depth of soft tissue. The depths elsewhere are interpolated between these points (Figure 1) and then into the interstices (Figure 2).

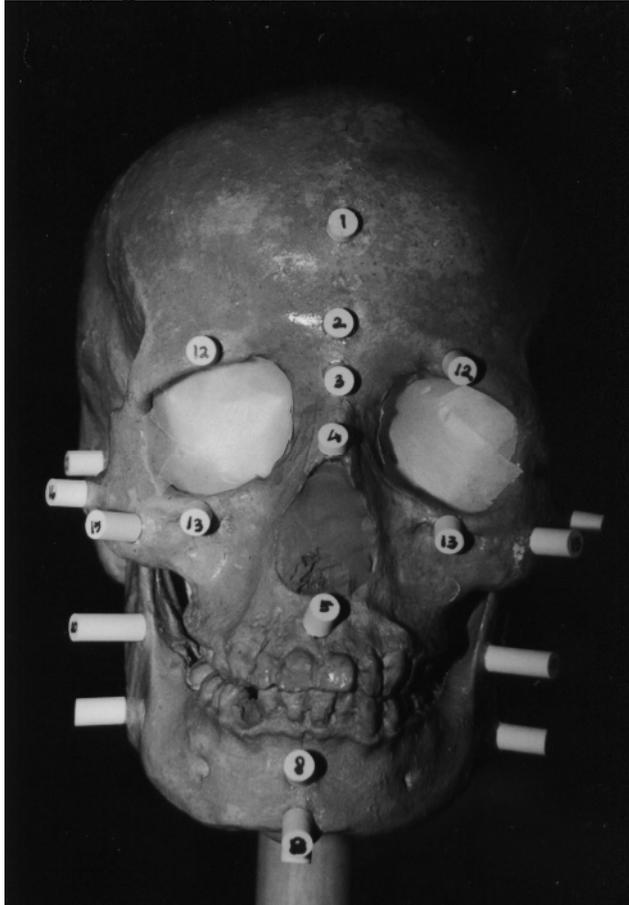


Figure 1. Landmarks on the skull



Figure 2. Depth of soft tissue

Reconstructions take one or two days. The results obtained will differ between reconstructions and sometimes between practitioners. This slight difference may be caused by the variation of the shape of eyes , nostrils, and lips that are reconstructed differently by the practitioners .

A facial reconstruction from the skull that was done by the author (Figure 3) was one of the example of the unfamiliar shape of eyes by the reconstructor to the shape of eyes of latina. Overall shape of face and nose were similar to the real person, but the eyes especially the upper lid, and the shape of the eyes did not resemble the real appearance of the individual (Figure 4).



Figure 3. An example of a facial reconstruction from the skull



Figure 4. The actual face of the individual on Figure 3

The facial reconstruction should be based on knowledge on local variations of physical variations. This is still missing at this time , especially around the Indonesian area that has diverse variety of face morphologies—from the western

part which has Mongoloid type of face to the eastern part which has Austromelanesoid type of face. More research concerning somatoscopy is needed to aid the more precise reconstruction of face from the skull.

References:

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