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Best Practice Recommendation for Facial Approximation in Forensic Anthropology



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Foreword

This best practice recommendation was developed to provide guidance to practitioners for producing facial approximations from skeletal remains. Facial approximations (also referred to as facial reproduction, facial reconstruction or facial depiction) are produced for the purpose of generating investigative leads in cases involving unidentified human remains by estimating the antemortem facial appearance of an individual. The production of facial approximations should be a joint effort among experts from the fields of anthropology, anatomy, and forensic art. Knowledge of human cranial and soft tissue variation and anatomy, as well as artistic ability, is essential for the production of useful facial images. Various methods (e.g., two-dimensional and three-dimensional) and techniques (e.g., sketch, clay, and digital) are accepted means of producing facial approximations. Facial approximations are generated to elicit recognition of an individual, are solely for investigative purposes, and should not be used as evidence contributing to identification of unidentified remains.

This document was revised, prepared, and finalized as a standard by the Anthropology Consensus Body of the AAFS Standards Board. The draft of this standard was developed by the Anthropology Subcommittee of the Organization of Scientific Area Committees (OSAC) for Forensic Science using the document initially published by the Scientific Working Group of Forensic Anthropology (SWGANTH) and recognizing facial approximation from skeletal remains as an important part of the investigation of unidentified human remains. This document is intended to assist forensic anthropologists and forensic artists when producing facial approximations from skeletal remains.

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All hyperlinks and web addresses shown in this document are current as of the publication date of this standard.

Keywords: *facial approximation; forensic anthropology; forensic art; personal identification; unidentified remains*

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Best Practice Recommendation for Facial Approximation in Forensic Anthropology

1 Scope

This best practice recommendation sets forth guidance for facial approximation from skeletal remains. The production and assessment of facial approximations using skeletal remains represents a combination of varied methods of art and anatomical science that continue to evolve. Therefore, recommendations for specific techniques are not addressed. Facial imaging procedures such as composite drawings and postmortem imaging from photographs are not addressed.

2 Normative References

There are no normative reference documents. Annex A, Bibliography, contains informative references.

3 Terms and Definitions

For purposes of this document, the following definitions apply.

3.1

facial approximation

An investigative technique combining anatomical knowledge, artistic capability, and forensic anthropological evidence to render an estimate of an individual's facial appearance in life.

3.2

personal identification

The association of a set of remains to a known individual.

4 Requirements

4.1 General

Facial approximation methods should be employed with a spirit of scientific integrity: subjective interpretation should be limited; scientifically tested and published methods should be used, when possible; and method weaknesses and limitations should be communicated. Information from remnant soft tissues and genetic tests can be included into the facial approximation.

The production of facial approximations should be a joint effort among experts from the fields of anthropology, anatomy, and forensic art. Knowledge of human cranial and soft tissue variation and anatomy, as well as artistic ability, is essential for the production of useful facial images. Extensive training, education and experience in these fields are essential. Although some individuals may possess all of these skills, a team approach usually is necessary.

Practitioners should implement this best practice recommendation to the fullest extent as applicable, practical, and appropriate.

4.2 Procedure

The production of facial approximations should incorporate information about the individual from the recovery scene and as determined from skeletal analysis by a qualified forensic anthropologist.

Various methods published in peer reviewed journals (e.g., two-dimensional and three-dimensional) and techniques (e.g., sketch, sculpture and digital) are accepted means of producing facial approximations.

Facial approximation images should be carefully developed based on skeletal evidence, and the result should be evaluated by all relevant specialists (e.g., anthropologists, forensic pathologist, law enforcement, etc.) before they are publicly disseminated.

Morphologically accurate copies of skeletal material, produced in a non-destructive manner (e.g., 3D scan printing), should be used as the physical base for sculpted approximations and the skeletal material itself should not be used. If copies cannot be produced without damaging the original material, 2D approximations should be conducted instead.

The practitioner should have access to all relevant information from the scene (e.g., photos, personal belongings recovered with remains, etc.) and the skeletal material to examine relevant features for facial approximation.

The following practices are considered unacceptable and should be avoided when producing facial approximations.

- a) The use of facial approximations as a means of identification of unidentified remains.
- b) The production of facial approximations without the requisite input from anthropological analyses. Likewise, practitioners should not attempt facial approximations without requisite skill and training in forensic art.
- c) Any practice that unnecessarily jeopardizes the integrity of the evidence.

4.3 Considerations

Facial approximations may not produce the exact likeness of an individual. Given the difficulty in scientifically assessing the variation in human faces and developing tissue depth measurements, statements regarding the accuracy of particular facial approximation methods, or success rates of practitioners should be carefully presented.

4.4 Reporting

Reports or other means of communication accompanying the production of facial approximations should include statements explaining that facial approximations are solely for investigative purposes and should not be used as evidence contributing to identification of unidentified remains.

No forensic facial image should be released/provided to an investigative agency/disseminated without a clear statement of purpose accompanying it such as “This facial image is the most likely appearance of the person in life, based on available information. It is not intended to be an exact likeness or portrait.”

Annex A **(informative)**

Bibliography

The following bibliography is not intended to be an all-inclusive list, review, or endorsement of literature on this topic. The goal of the bibliography is to provide examples of publications addressed in the standard.

- 1] Prag, J., Neave, R., *Making Faces*. British Museum Press, London, 1997.
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