

The identification of unknown human remains

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Identity



sociocultural identity?

cultural identity?

personality?

human being as a distinct and unique individual!

individual's personal rights remain intact even after his or her death!



Identification – different scenarios



- 1) remains of one (or a few) individual(s), found outside, above or in the ground, no suggestion who the person or the persons may be, no clues that can point one to the person's identity
- 2) human remains are found in settings that suggest the identity of the decedent
- 3) mass disaster



Identitification – two-step system



1st step:

collection of identifying clues

=> "biological profile"

2nd step:

comparison of antemortem data and postmortem data to establish the decedent's identity



Biological profile



- sex
- age-at-death
- stature
- ancestry
- as much information as possible for additional identifying clues
 - old injuries
 - surgical implants (perhaps even with serial numbers)
 - DNA phenotyping



Establishment of identity



Obtain antemortem data for the individual or individuals determed on the missing persons lists as possible matches to the decedent's biological profile!

Is ante-mortem material already gathered in the process of registering the missing person?

Is this material even already been evaluated so that data such as DNA-analysis profiles or dental status reports are at hand?



Establishment of identity – practical considerations



Gather all possible antemortem comparison materials or restrict the collection of antemortem materials to fit the available postmortem material?

In a case with only skeletonized remains, it would not make sense to collect antemortem comparison data such as tattoos or finger prints, since these data aren't available postmortem.

But, in case the unidentified human remains turned out not to be those of the missing person...

Establishment of identity – choice of methods



- Forensic DNA-analysis
- Forensic odontostomatology (odontogram)
- Radiographic comparison analysis
- Skull-photo superimposition
- Photo-comparison analysis
- Implants with serial numbers
- Tattoos
- Finger prints



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Discovering places with suggestion of identity



The first identification step (biological profile) can be skipped.

But, it might not be better to also routinely compile a biological profile?



Mass disasters



Air plane crashes: collection of the antemortem data of the persons on the passenger list

But: the official passenger lists only rarely correctly correspond with actual the passengers on board!















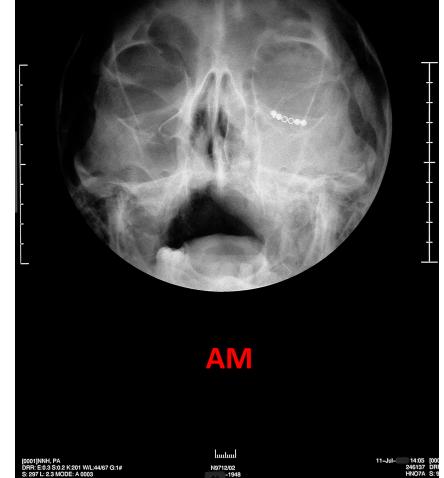












- Radiologie - Zentrum (RAZ)

RE36W

PM



Radiographic comparison: dental x-rays



PM











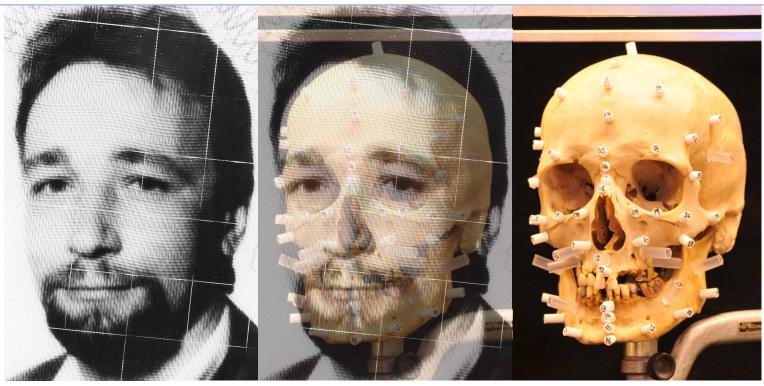






Case 2 - method





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CASE REPORT



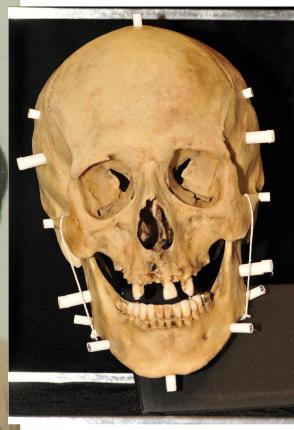
Superimposition technique for skull identification with Afloat® software

Christoph G. Birngruber • Kerstin Kreutz • Frank Ramsthaler • Jonathan Krähahn • Marcel A. Verhoff









AM

superimposition

PM

