

Mummy Part 2

Science: Forensics and faces
Bringing the dead back to life....

Psusennes I or Pasebakhaenniut
1047 – 1001 BC.



Science Approaches Part 2: Overview

- Perspectives – points of view
- Mummification process – a little
- What the mummy can reveal
- Body – what they knew, what does it tell us
- Iconography
- Case study: facial reconstruction and racial debates
 - Reconstruction
 - Recognition (it uses and abuses)

3D Photogrammetry: Red deer antlers form Borth beach, Ceredigion



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David



Points of View: science

Science is about reconstructing or “reading” the body. We hold the view that the body can bear witness to past actions. How they lived, and died, as in, their earthly life somehow left its mark on the body.



After all, the dead don't lie.....do they?

The Plaster Covered Skulls British Museum

Kathleen Kenyan (right) from her extensive excavations in Tell-es-Sultan, near Jericho

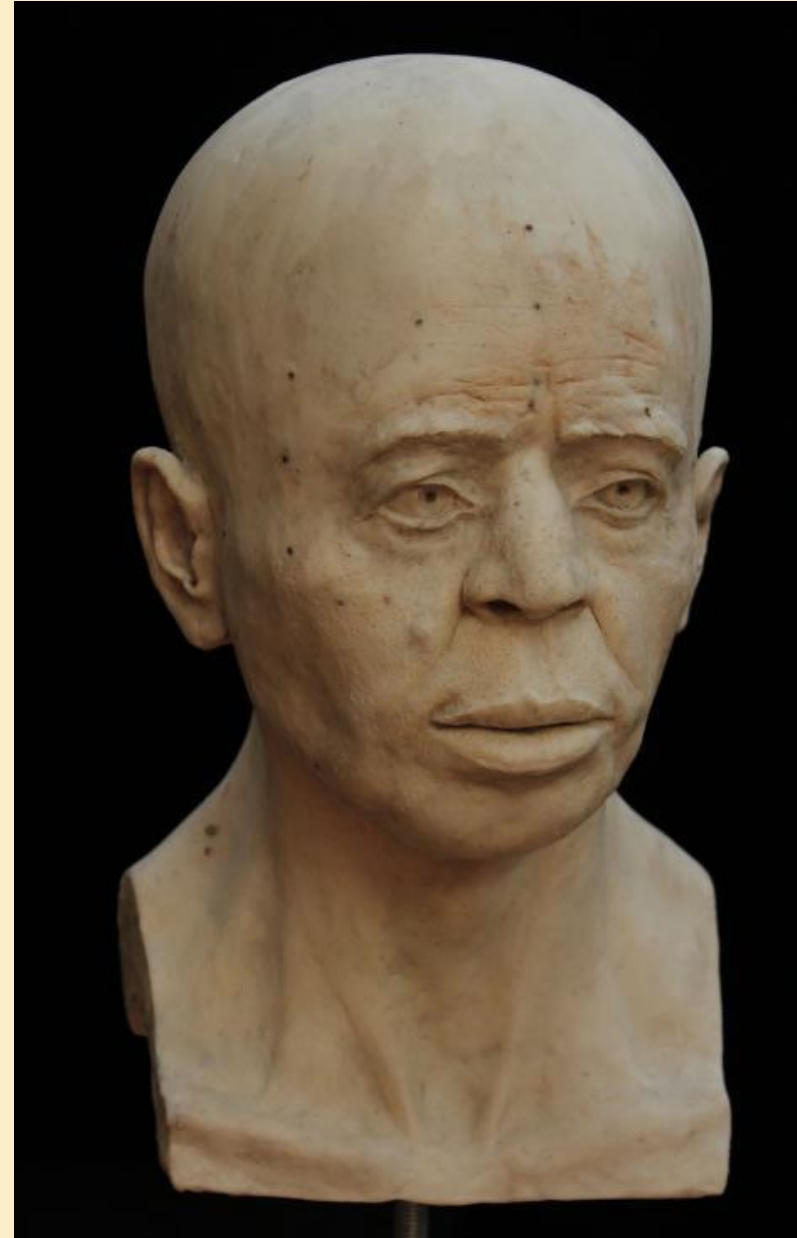
The Jericho Skull now in the British Museum, is around 9,500 years old, most of these come from the PPNB period in the Levant has now been 'reconstructed'

Shells are used for eyes, cavities are filled with soil and plaster, painted, and buried, usually under the floor.



The Jericho Skull

British Museum



Rameses II at 92 years of age.



Thought to have died his
hair auburn to make him
look younger

Mask of Agamemnon: a death mask



A funeral mask, made in gold, beaten and shaped, was found over the face of a body in designated Grave V, a burial shaft at Grave Circle A, Mycenae, by Schliemann in 1876.

It is actually part of a long tradition, certainly recurrent throughout pre history and the historic periods becoming very popular in the middle ages.

For the rich and famous such as Cromwell, Dante, Beethoven, Chopin, and for the infamous e.g. Ned Kelly, the Australian bushranger, in AD 1880.

Making faces: two dimensional



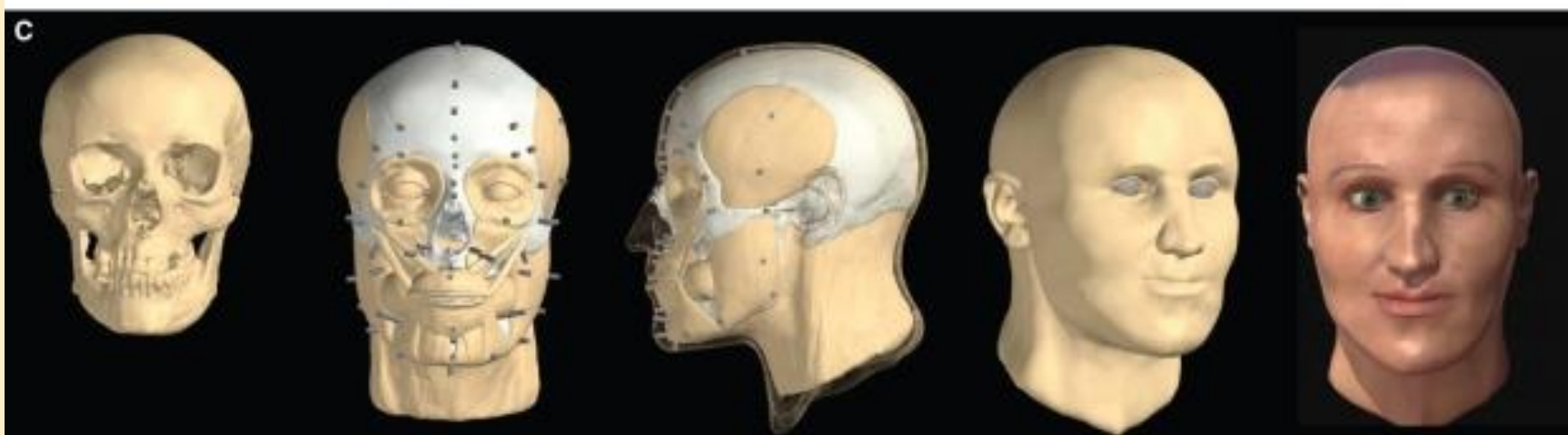
Static facial reconstruction typical of many forensic settings, medical illustrations etc. using the skull and muscle markers as the starting point.

Making faces: Anatomical modelling or the Manchester Method



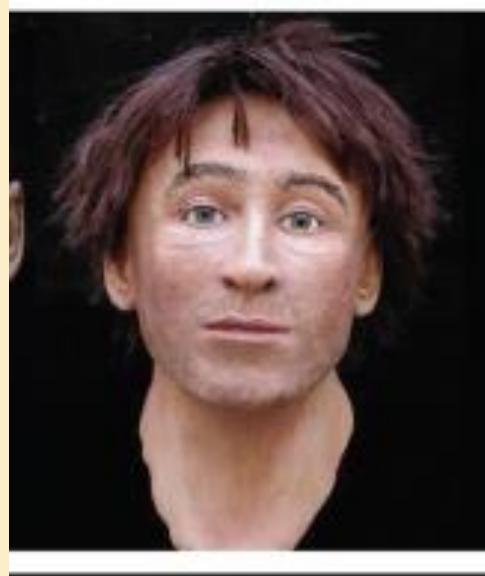
Pins to the correct depth of the muscle markings are attached to a reconstructed skull frame and each muscle group attached in sequence to build the facial features up. Hair and skin texture is applied for more realistic look.

Making faces – 3D virtual

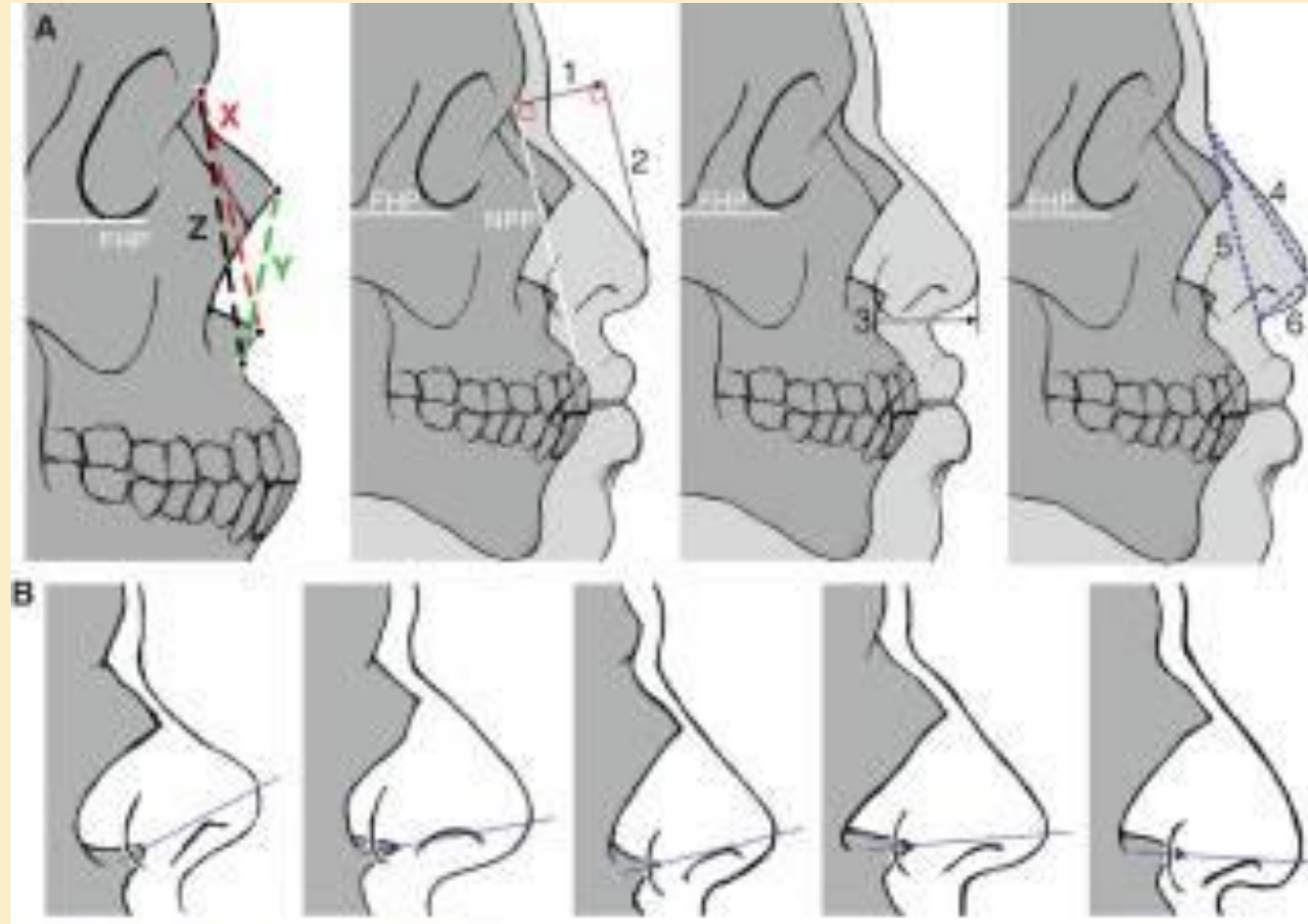


A number of packages available: input data, rotate it, change lighting etc.
3D modelling established as more reliable in terms of accuracy in test runs

Making faces



So, if it is all science, observable, measurable
etc. and all done in the best possible taste –
how does this happen?



King Tut: cultural origins conflict

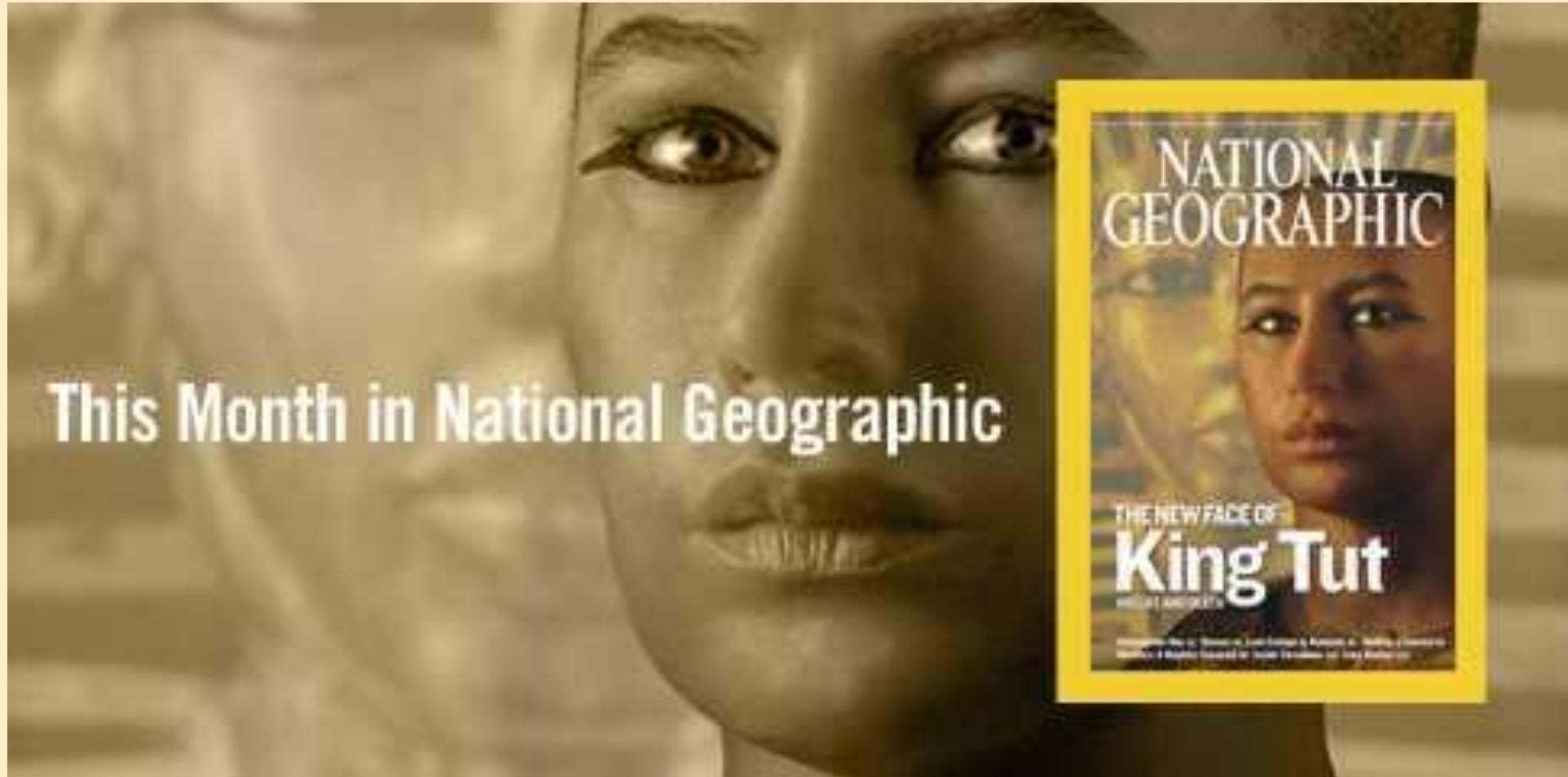




PLATE I

A PORTRAIT HEAD OF TUT-ANKH-AMEN

A carved wood and painted portrait head of the young boy king, represented, traditionally, springing from a lotus flower, like the young Sun-god who sprang from the primeval waters. It was discovered in the Entrance Passage of the tomb.

The carved wooden head of the boy-king, painted, emerging from the lotus flower – here harking back to origin myths of the sun-gods emerging from water.

Discovered in the Entrance passage.

Taken from Carter, H. 1933 The Tomb of Tut-ankh-Amen. Volume III Cassell and Co, London

Stunningly elegant – but what do we make of it as a ‘facial reconstruction’ or representation of the boy-king

CT scanning technology

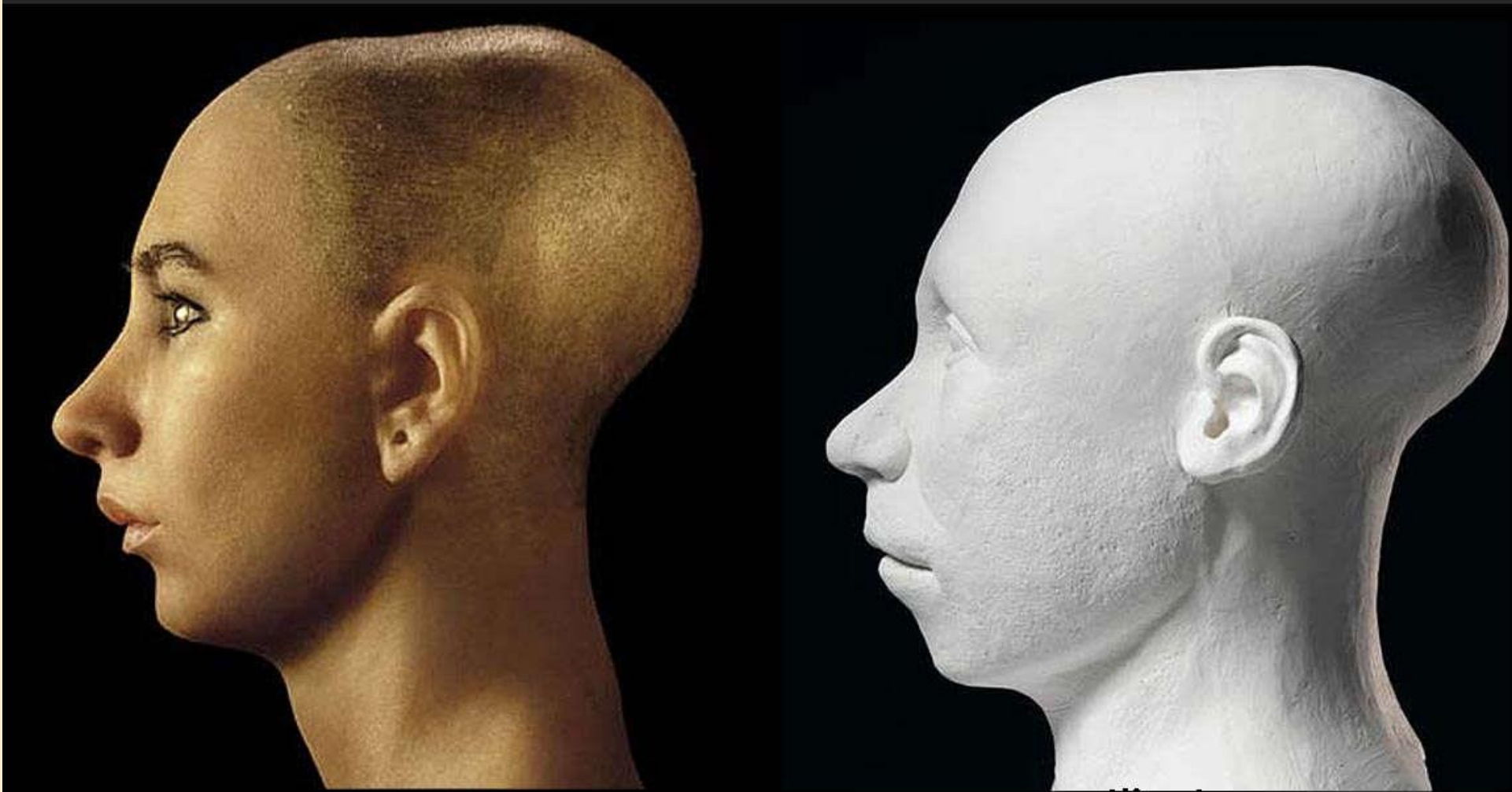
How controversial could this be?...in the Arab uprising....



Image given to three teams, American, French and Egyptian and each came up with three different reconstructions....Egyptian one looked most manly – suspiciously so...given his gracile skull.....



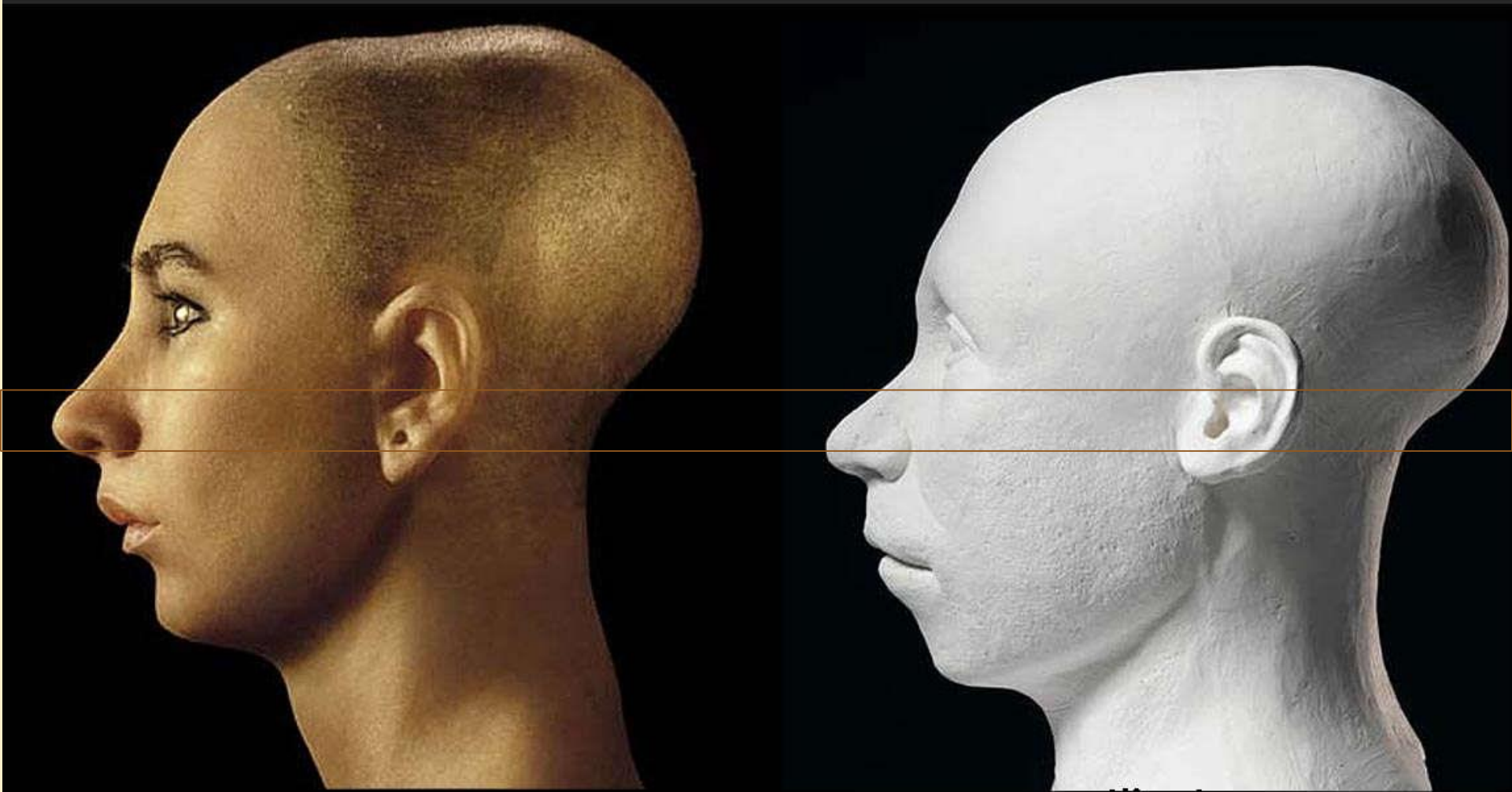
Two views of the same face



French model
developed by Elisabeth Daynès
for National Geographic

American model
developed by Susan Anton
for National Geographic

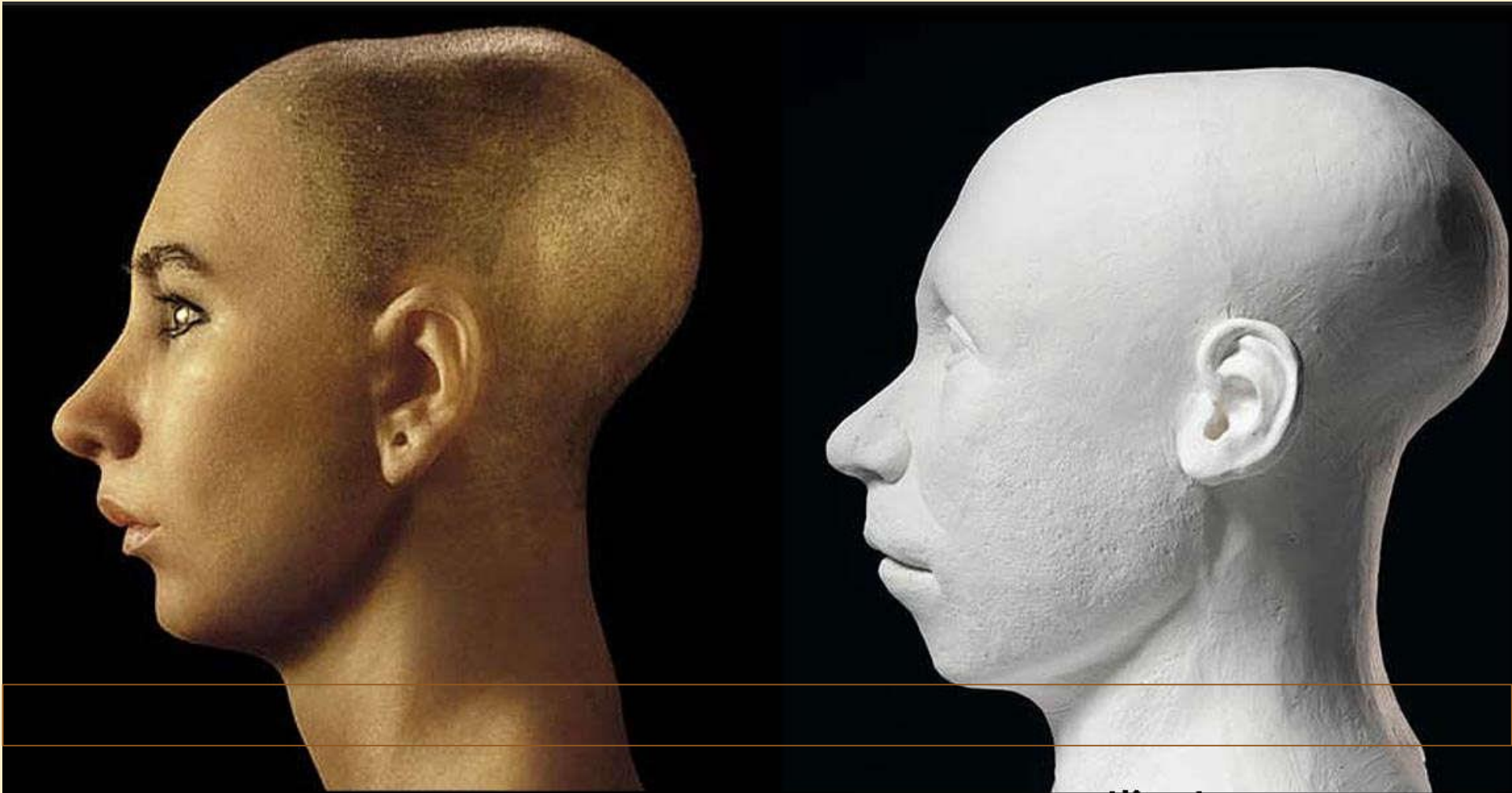
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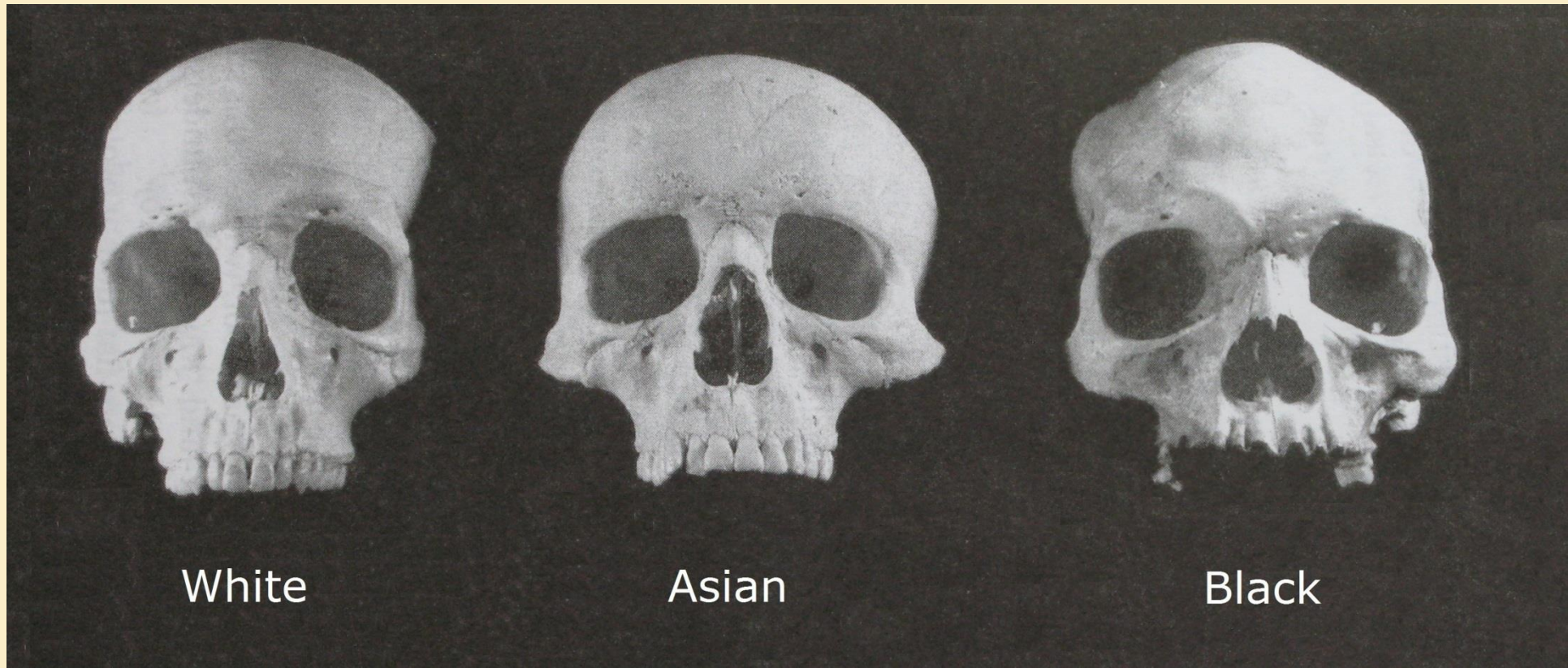


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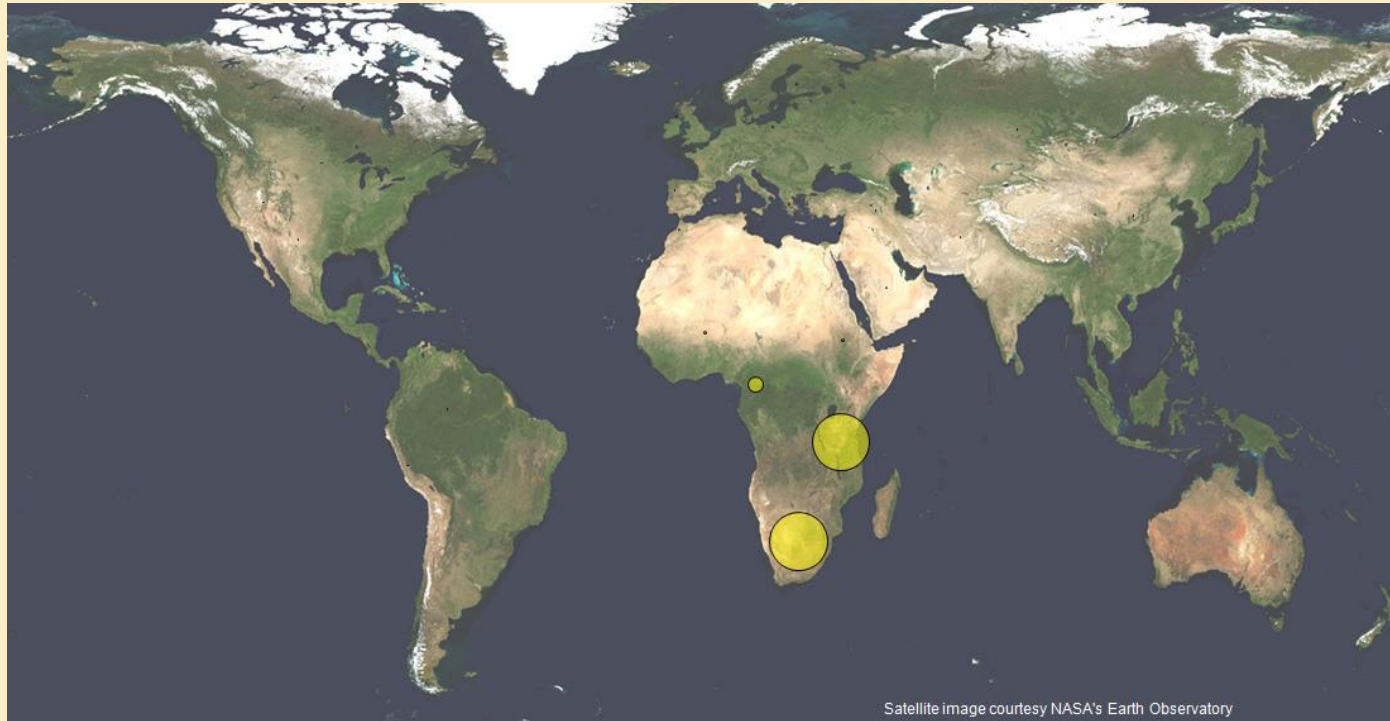
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Race – as determined by skeletal features

- Skull shape – width, height.....
- Feature shape – width and height of e.g. nose

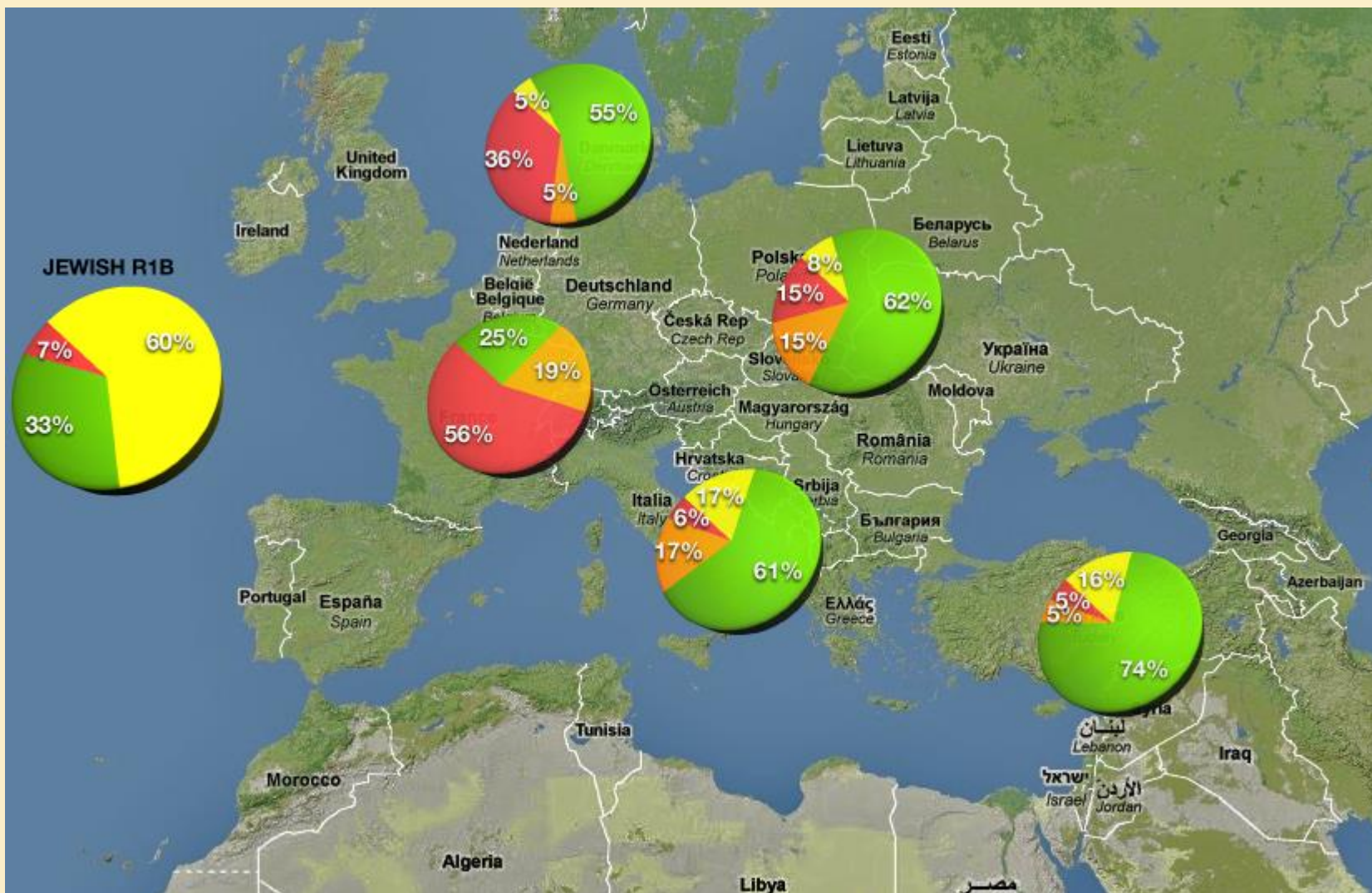


Amarna: DNA of Amenhotep III and family is not the clincher



Genetic markers found in predominantly African populations
D18S51=19 and D21S11=34 – suggesting Horn of Africa

Or, R1b1a2, Y Chromosome shared with about half the European male population.....



Contemporary view



The boy-king vanquishing very obviously coloured Nubians and Syrians or as Carter calls them, 'Southern or African foes' - Colour was clearly important to them

Image taken from the painted wooden casket No. 21, left side panel.



A face of his time



The elegant carved wooden head of the boy-king, painted, emerging from the lotus flower

There is little that is 'African' here?

However we view him, and we do make in our own image, he was clearly not African, Nubian or otherwise to them.

This would have been akin to chaos, not part of their world view, not part of the perfection in the image of their gods.