

AL4

Week 2, Monday

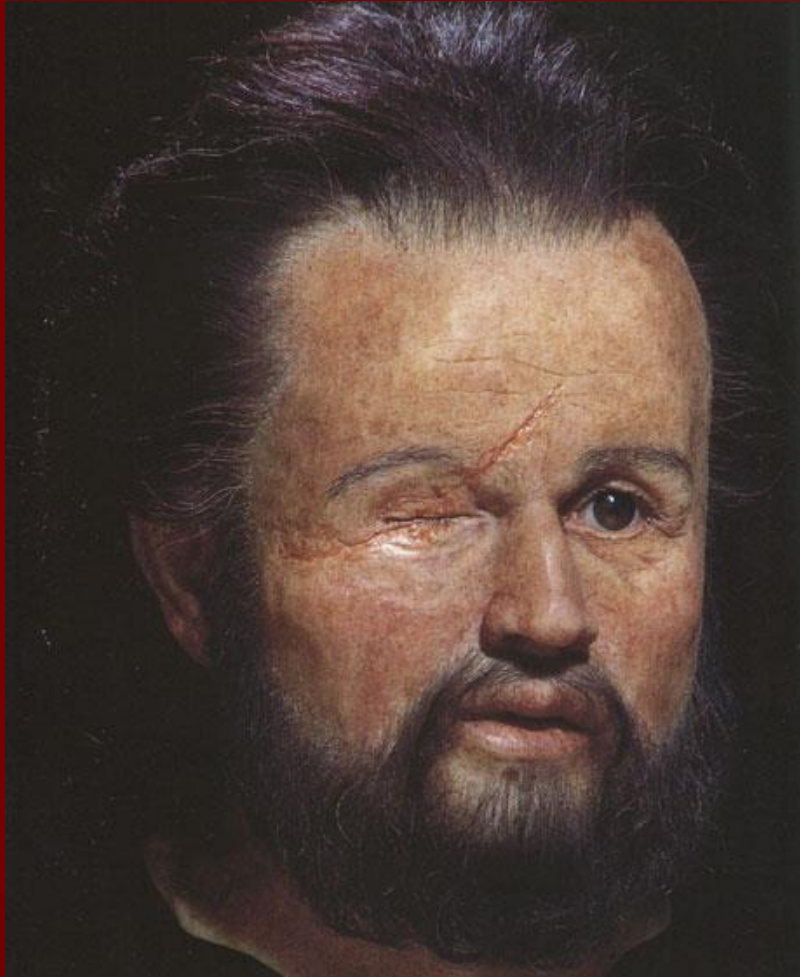
**Ancient Life in Death:
Forensics and Facial reconstructions**

HPAH5080/6080: Ancient Lives in Death

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Associate Professor in Egyptian Archaeology and
Heritage

■ Forensics and Facial reconstructions



Face of Philip II of
Macedon

Prag and Neave 1997
*Making Faces: Using
forensic and
archaeological
evidence*

Making Faces: The Plaster Covered Skulls, British Museum

Kathleen Kenyan (right) from her extensive excavations in Tell-es-Sultan, West Bank, 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 with their faces '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. PPNB, using CT scanning technology



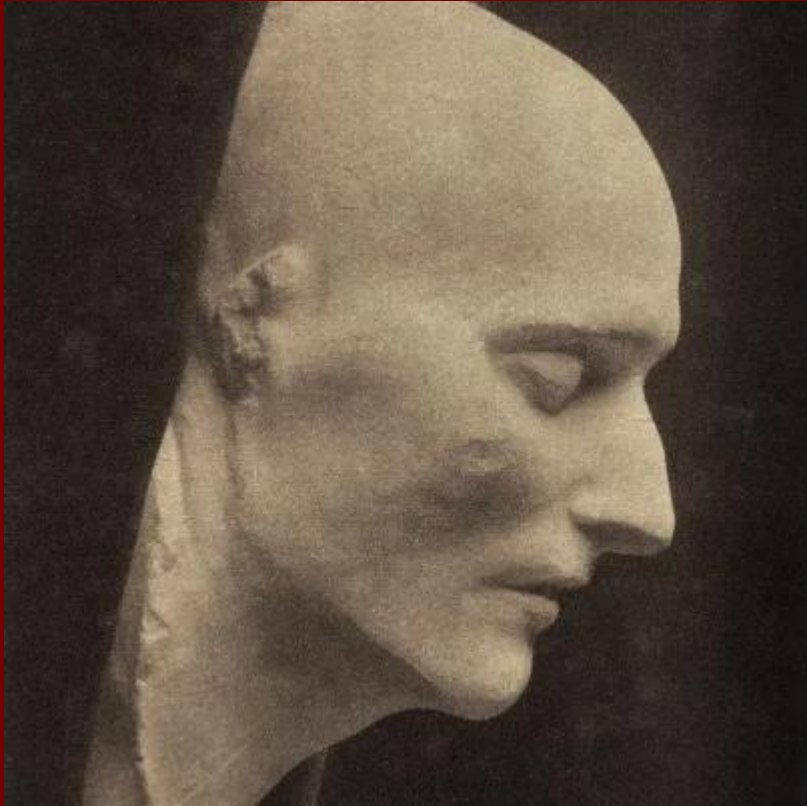
Mask of Agamemnon: a death mask



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.

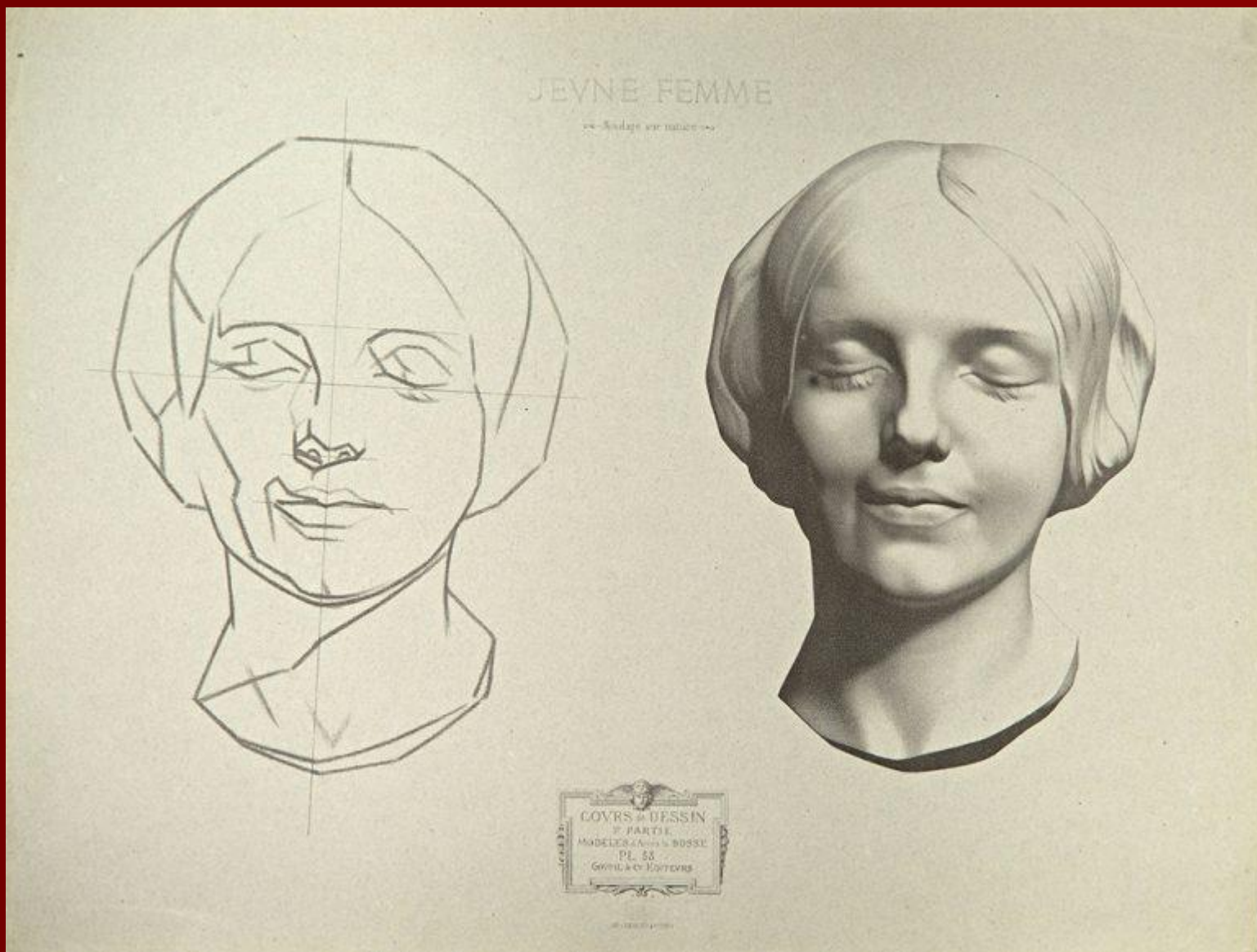
A life in death – started with a death mask



- Famous, such as Dante, Mary Queen of Scots, John Keats, and infamous e.g. Ned Kelly, John Dillinger...some such as Bonaparte were both!
- Here the body transforms into material culture or materiality

“I die before my time, killed by the English oligarchy and its hired assassins....” believed he was poisoned by the British, there was arsenic in his hair and wallpaper (but everyone had this) but histology says gastric cancer Genta, R. *Nature* (2007)

- death and burial,
- bioarchaeology,
- forensics



Traditional approaches to facial production - Death Masks



L'Inconnue de la Seine, 16 year old drowned unknown female pauper, taken to morgue → mass produced death mask as popular fixture for artists and poets after 1900 → inspired numerous literary and other works

(see Annie the resuscitation model for example)

Read Frances Larson's book 'Severed: a History of Heads Lost and Found'



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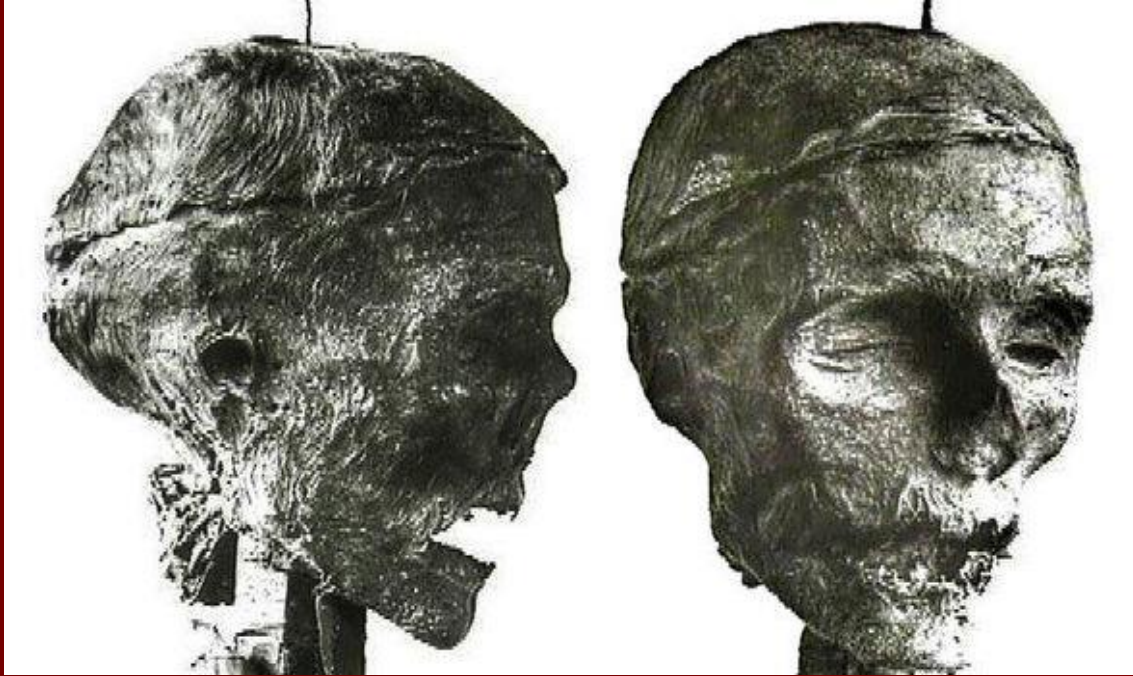
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The story of Oliver Cromwell

(Cannon Horace Wilkinson holding the head of Oliver Cromwell, 1949)



- Cromwell died in 1658 due to fever → embalmed and entombed in Westminster Abbey, 1660 dug up and dragged through the streets, hanged at Tyburn, decapitated to the delight of the crowd
- head was put on a metal spike until end of the seventeenth century when a storm blew it down
- Placed in museum case, later displayed for money → became star attraction as Victorian curiosity → feeds into the almost pathological view of morbidity and gothic
- subjected to craniometrical analysis, studied by phrenologists – is it actually Cromwell?
- owned by Wilkinson family for four generations until ownership became too onerous for the current family → reburied 1960 in a chapel in a Cambridge college in 1960

Making Faces – borrowing from forensic methods

- Snow CC, Gatliff BP, McWilliams KR.
Reconstruction of facial features from the skull: an evaluation of its usefulness in forensic anthropology. *Am J Phys Anthropol.* 1970;33(2):221-228.
doi:10.1002/ajpa.1330330207

Making faces: two dimensional

- Widely used,
- Medical illustrations
- photofit, court artist (along with crime scene sketches), journalists, etc.
- Forensic art and facial identity – facial anthropology



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

Still being used - so have to have some worth still Using the skull and muscle markers as the starting which can be surprisingly accurate...see right....



Making faces: Anatomical modelling or the Manchester Method



Pins to the correct depth of the muscle markings are attached to a reconstructed skull frame (issue 'correct' depth e.g. children, other cultural groups etc. forensic anthropology. Hair and skin texture is applied for more realistic look.

→ this method has been reported to be the best and most accurate method for the positive recognition of an individual

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 (than 2D)

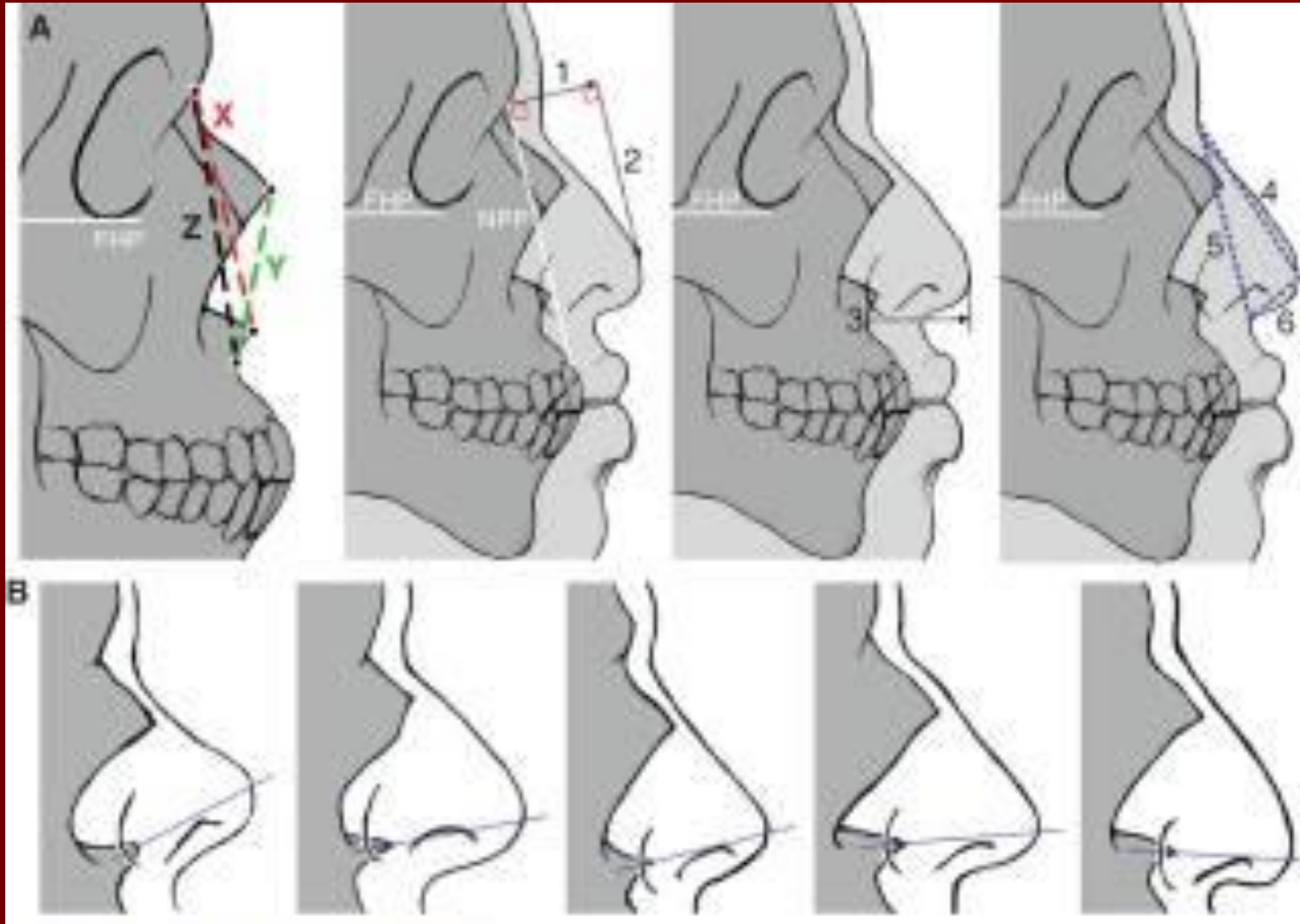
BUT, lack of texture to skin, smoothness of appearance, starring gaze etc. make them less reliable as good identifiers

Making faces: three different methods, producing different results, all based on the appliance of 'science'



- Methods all start with the skull
- Complications can arise with all, each have their methodological problems
- Each end up with a face that looks like it could be someone, at some stage in the past...

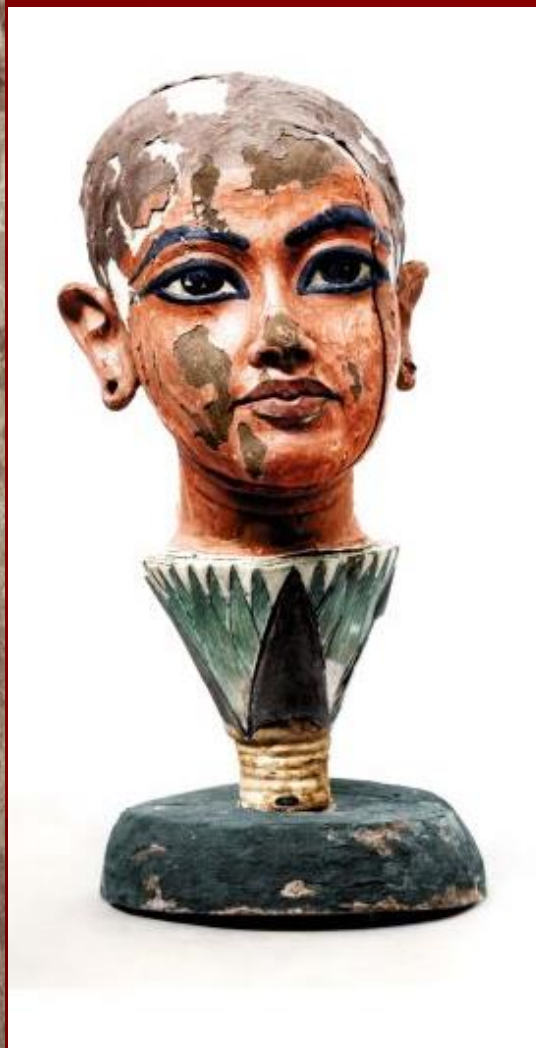
Traditional start with the object



So, if it all so scientific then surely accuracy is on offer, if it is just a question of matching the skeletal markers.....

....what could possibly go wrong!?!?

Tutankhamun



However, now don't even need the skull
CT scanning technology



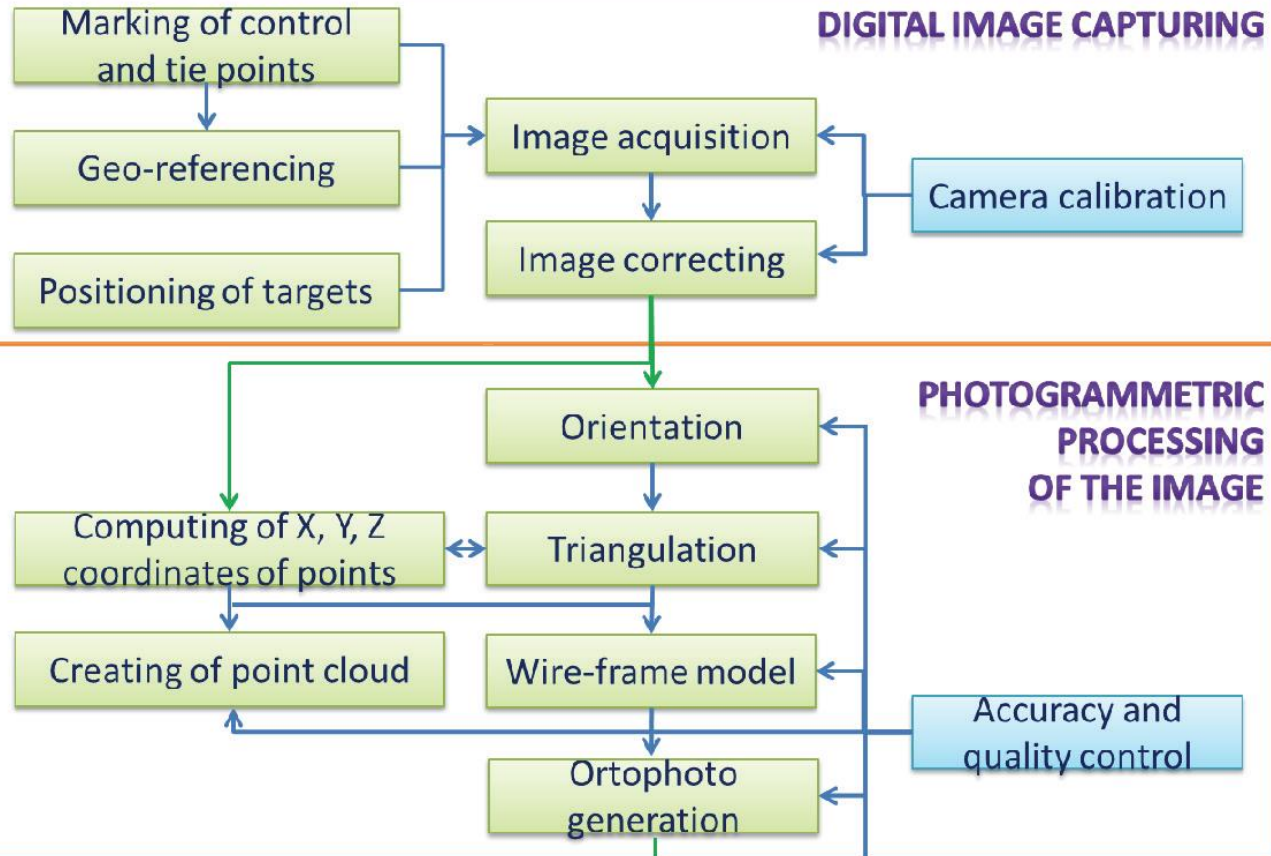
CT scans of Tutankhamun allows access
where other methods cannot go



Single point triangulation



Multiple point triangulation



Capture and manipulate image

Manipulate image and process to required format

Output to 2D or 3D High Resolution models

Points of View: science & how to read the body



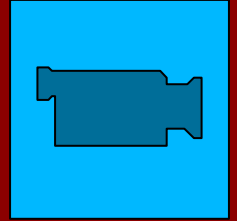
- Dubai International Airport installation of the 'fish' tank or aquarium
- Hides facial recon technology – 80 cameras scan faces and irises
- Encourages traveller to look around = takes more, more accurate images.
- Essentially, they are making a face.

His, the first skull portrait and bust of JS Bach



- Wilhelm His, 1894, an anatomist, physician and a sculptor – widely thought the first 'forensic' for identification purposes facial reconstruction
- Used a found skull in churchyard Leipzig, from a suspected burial place of JSB, was one of 12 oak coffins (known to have been buried in an oak coffin and ca. 65 yrs. old at death).

And into the 21st century 2008



3D reconstruction by Caroline Wilkinson, taking into account facial changes due to age, and chronic health problems

exhibit at the Bachhaus exhibit in forensic reconstruction

Skull to site scale

- Richard III, immersive reconstruction of the grave
- King in the Car Park now used to demonstrate academic argument, historical reality, not treated 'kingly' in death
- Emphasis moves to educational resource (schools = outreach), tourism and heritage



Note: Worth £45 million to Leicester's economy, roughly £1.5 million a year

Note: Listed as one of the top 25 sites to visit in the world

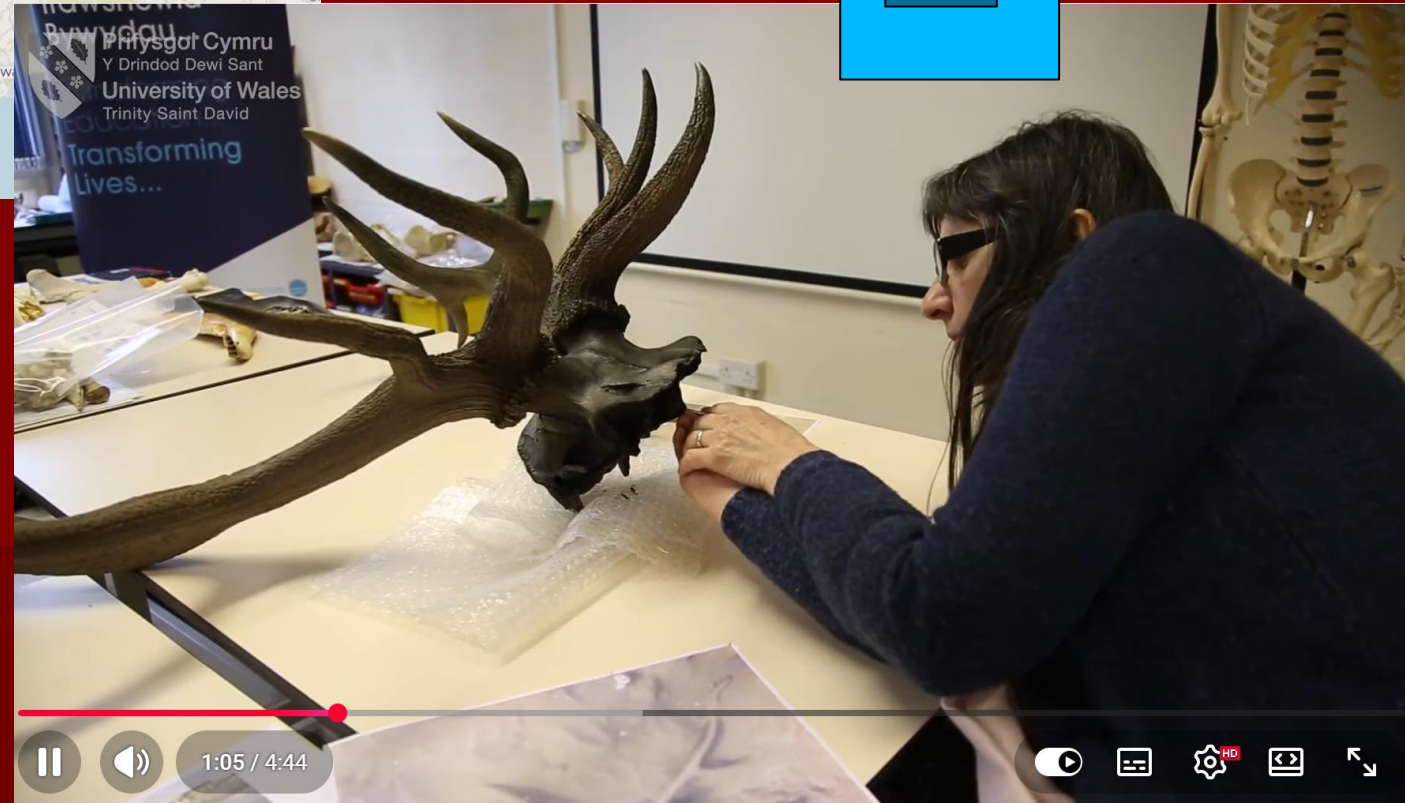
3D Photogrammetry: Red deer antlers from Borth Beach, Ceredigion



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



How to use and research



Not just faces, hands-on with Dame Prof Sue Black (Dundee University)



- Multidisciplinary research: microscopic/biomolecular analysis of adult and juvenile remains to establish biological and personal identity (sex, age at death, disease/trauma status) Matches, skin type, pigment marks, skin over the knuckles, vein patterns by eye!
- Appeal is for 5000 hands to build an automative process to recognise paedophiles, those with facial reconstruction

Case Study

TUTANKHAMUN

King Tut: cultural origins conflict

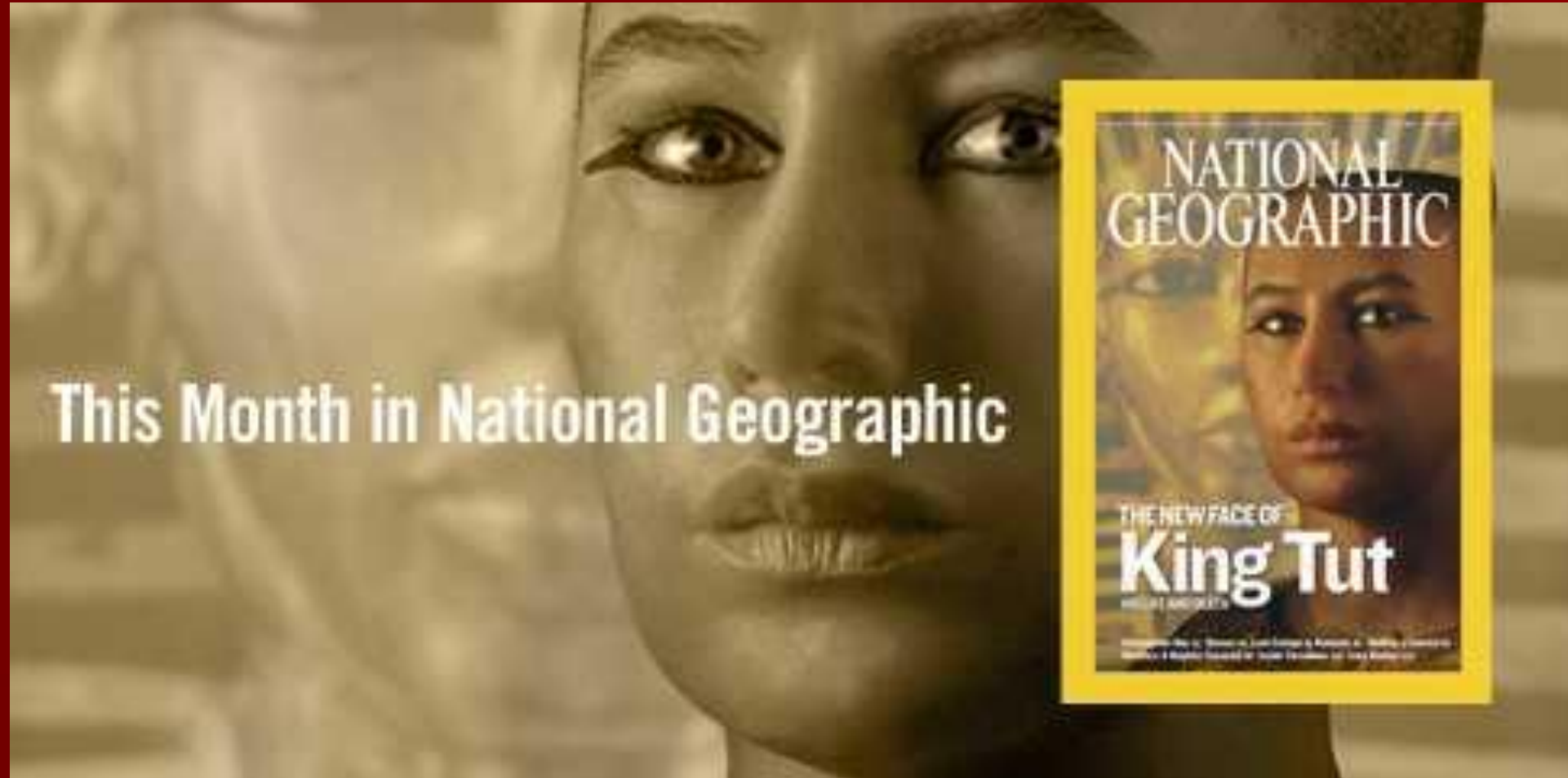




PLATE I

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.

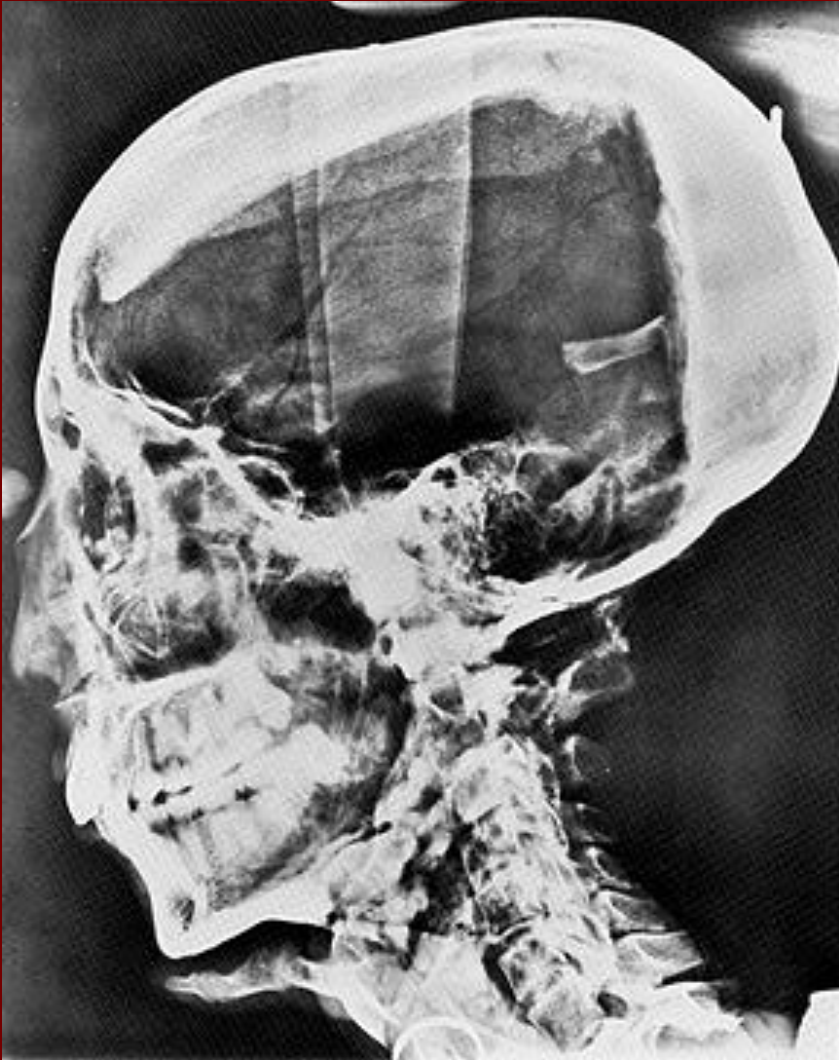
- ❑ The carved wooden head of the boy-king, painted, emerging from the lotus flower – here harking back to origin myths of the sun-gods emerging from water.
- ❑ Discovered in the Entrance passage.
- ❑ Taken from Carter, H. 1933 *The Tomb of Tut-ankh-Amen*. Volume III Cassell and Co, London
- ❑ Stunningly elegant – but what do we make of it as a 'facial reconstruction' or representation of the boy-king
- ❑ BUT ALSO A LIKENESS?

CT scanning technology

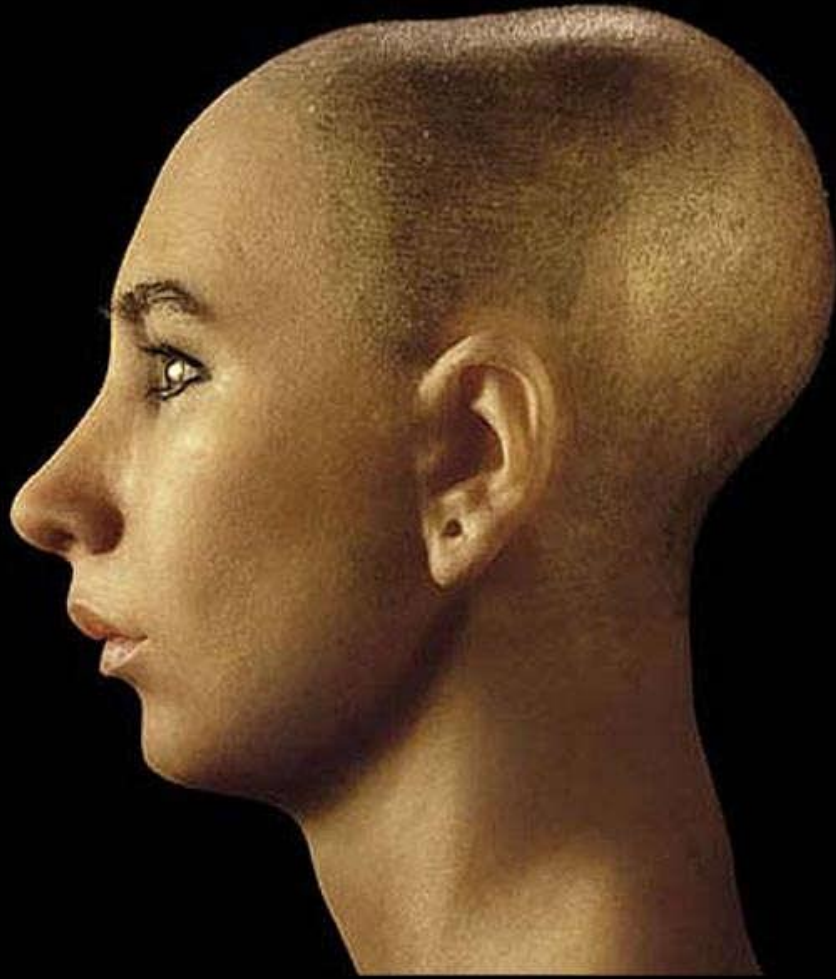
How controversial could this be?...in the Arab uprising....



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: one looks more European and one more African

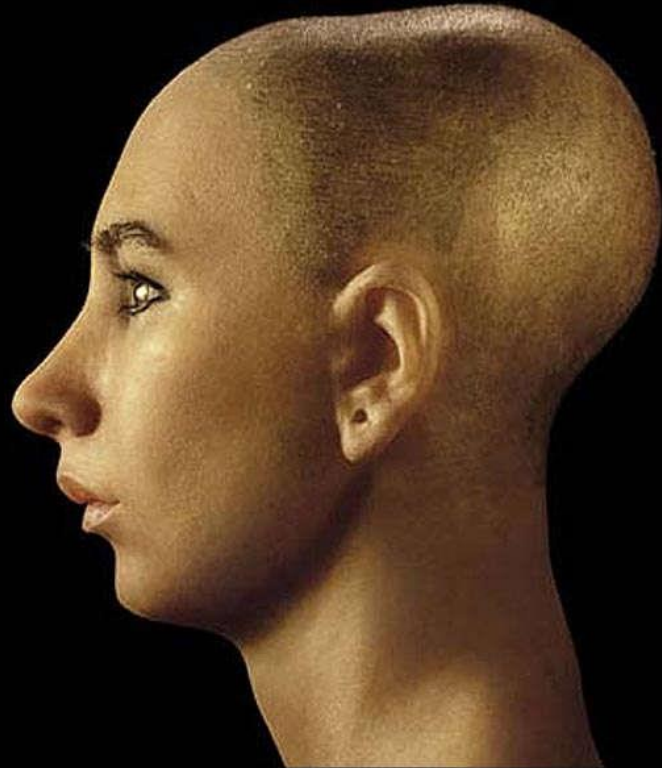


French model
developed by Elisabeth Daynès
for National Geographic



American model
developed by Susan Anton
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Two views of the same face: one looks more European and one more African



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- ☐ In what way are they similar?
In what way different?
- ☐ Both are capturing the top of the skull, round and sloping forehead, prominent nose, prominent upper lip.
- ☐ little chin – technical term.
- ☐ But are they the same chin?
- ☐ One is more attractive and more recognisably modern in its morphology, more Eurasian than African.

The Question of Race in ancient Egypt

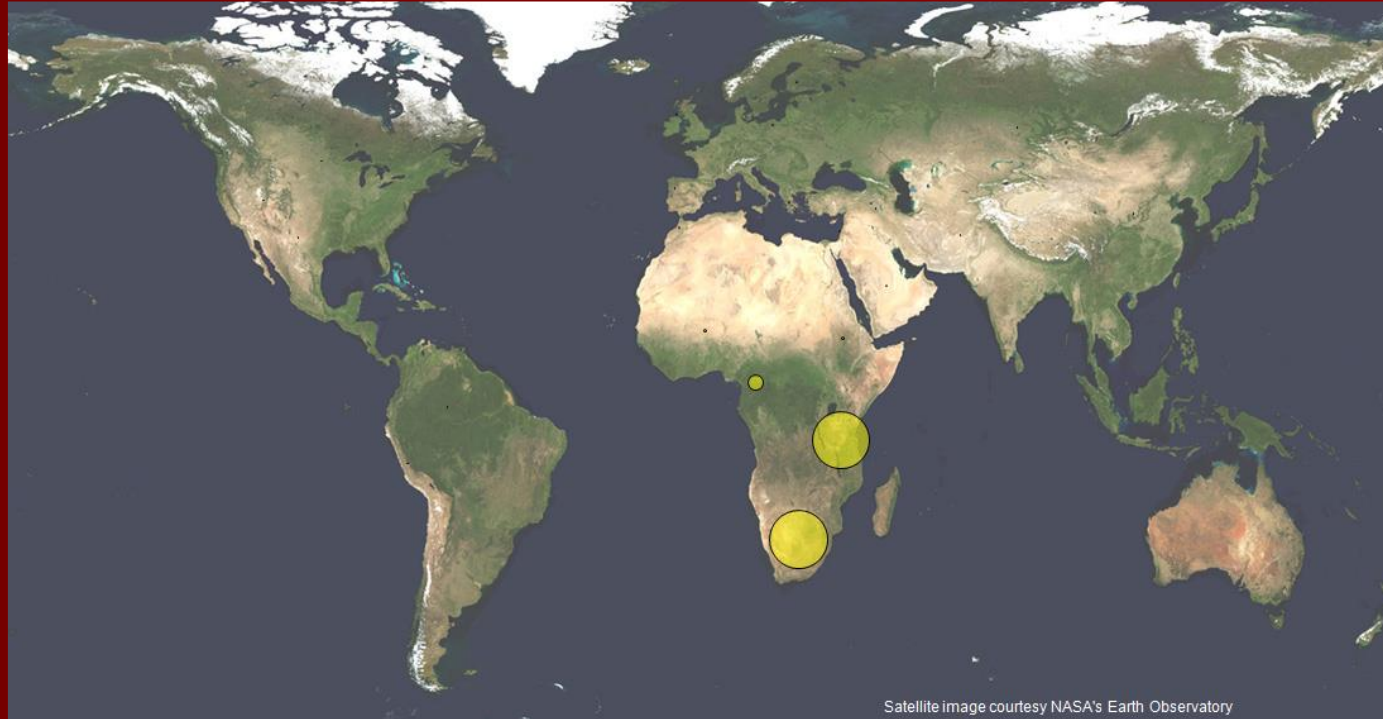
- Highly disputed in slavery, colonial and Afro-American discussions:
 - The human catastrophe of early modern slavery juxtaposed west and central Africans with northwest Europeans in the Americas:
 - genocidal experience --> race has become a dominant category for uniting and dividing people in modernity
- Within the race debate, ancient Egypt has become a terrain contested by three mutually exclusive views:
 - modern Egyptian: the ancient Egyptians are the same group of people as the modern Egyptians
 - Afrocentric: the ancient Egyptians were black Africans, displaced by later movements of peoples, for example the Macedonian, Roman and Arab conquests
 - Eurocentric: the ancient Egyptians are ancestral to modern Europe

Race – traditionally determined by skeletal features

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

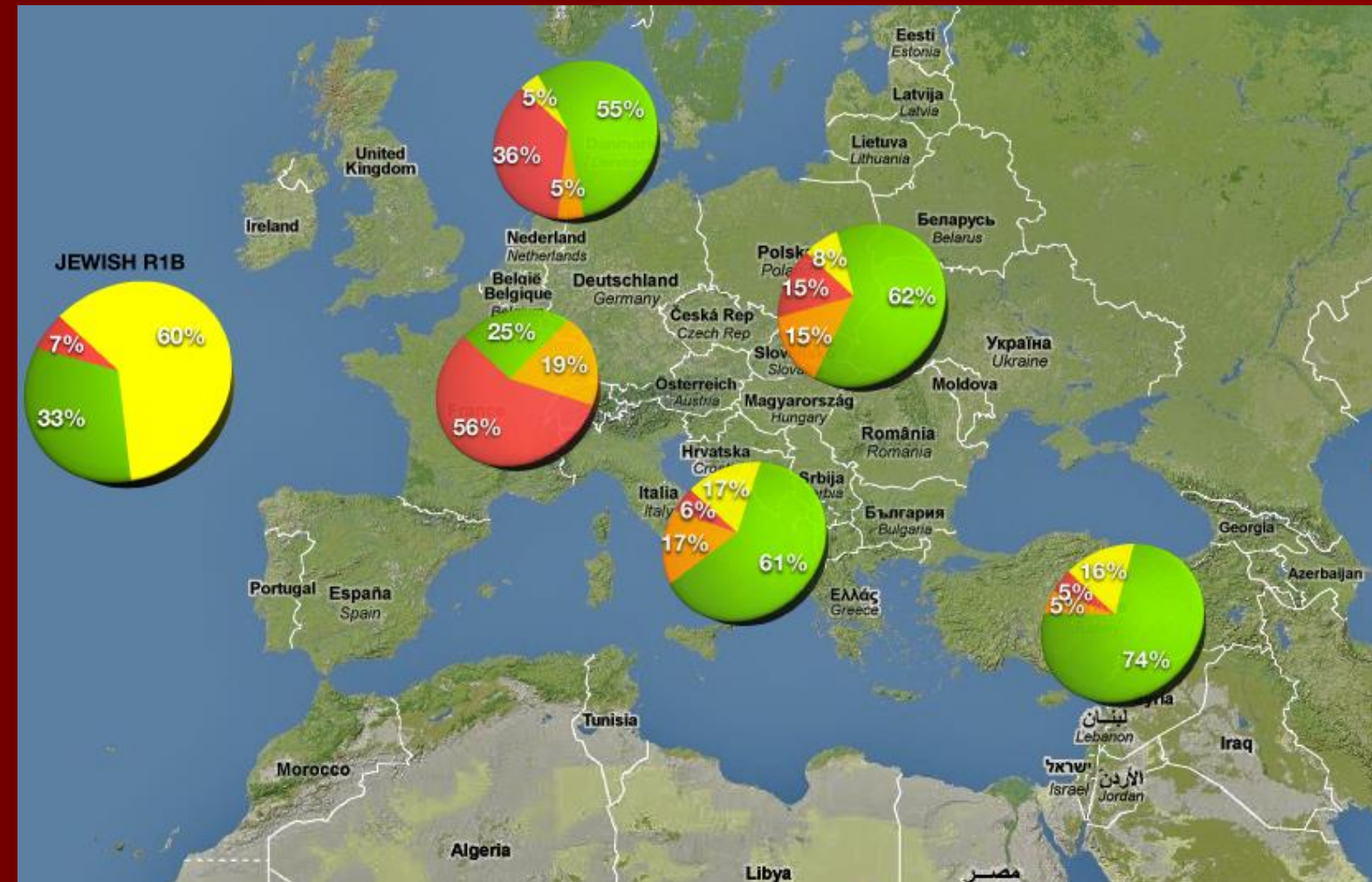


Amarna: DNA of Amenhotep III and family is not the clincher



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

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



- ❑ Discovery documentary claimed that that Tutankhamun belonged to an ancestral line (haplogroup called R1b1a2, on the Y Chromosome) which is rare in modern Egypt but common in western Europeans (very prominent in Jewish populations)
- ❑ Far-right groups used blood group data to claim that the ancient Egyptians were in fact Nordic
- ❑ others have been desperate to define the pharaohs as black African. the blockbusting 2005 tour was hit by protests in Los Angeles, when demonstrators argued that the reconstruction of the king's face built from CT scan data was not sufficiently "black."

Know Thyself Institute's post

The Whitewashing of ancient North Africa:

<https://youtu.be/i-y9DVnHZsw?si=A6bzz3J4tYXvMHkt>

"I have not spoken angrily or arrogantly. I have not cursed anyone in thought, word or deeds." ~35th & 36th Principals of Ma'at



RECONSTRUCTION BY DR ZAHIR HAWASS



RECONSTRUCTION BY KINGS MONOLOGUE



RECONSTRUCTION OF TUTANKHAMEN
WWW.KNOWTHYSELFINSTITUTE.COM



582

359 comments 87 shares

Like

Comment



Christian Corbet

20 July 2023

The new sanctioned face of King Tutankhamun.
For the first time in history we used Egyptian tissue markers and not Caucasian tissue markers!

72

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Comment

Most relevant



Sue Rose
So wonderful

2y



Steve Gerecke
absolutely fascinating

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Tamaris Ayles
I understood from interbreeding he had a massive over bite , and was not this good looking

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Christian Corbet replied · 1 reply



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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.

An ancient Egyptian view on race?

- how did the ancient Egyptians group human beings?
- Pictorial sources: differences include (verified from observation of the original, or from good photographic reproductions)
 - skin colour
 - facial features
 - hair & costume
 - material culture (tools, weapons, other artificial products)
- difference in the archaeological record:
 - distinctive hair, different material culture + burial customs in 'Pan Grave burials' (SIP)
 - blonde hair and burnt groups of burial goods found by Petrie (NK palace town at Gurob)
 - different pottery traditions between local (Nubian) and intrusive (Egyptian), among finds from the Egyptian smelting colony at Buhen in Nubia, Old Kingdom

An ancient Egyptian view on race?

- Written sources → define themselves or others as the same or different
 - references to foreign lands
 - lists of words for types of people (Onomasticon of Amenemipet, from the late New Kingdom, after 1300 BC)
 - The Great Hymn to the Sun (Amarna Period, reign of Akhenaten): differences in skin colour and language as the will of the creator
 - BUT no ancient Egyptian definition of Egyptianness
- pictorial and written sources indicate most four broad divisions of humans:
 - Egyptians
 - those living to the south (Nubians and others)
 - those living to the west (western nomads, 'Libyans' - anyone living west of Nile and south of the Mediterranean)
 - those living to the east (Asiatics)



Conclusions

- ❑ Technology is great, science is great → as a thing to use and exploit
- ❑ Methods and techniques are improving
- ❑ However, regardless of technology, science, methods and techniques, the fossils, the bones, the ‘data’ set stay the same. They are the same fossils, same bodies and bones.
- ❑ Our reconstructions and how we choose to present past populations are relational to us
- ❑ We write our cultural histories and we do so in our own image more often than not