

A close-up photograph of a skull, focusing on the upper and lower teeth. The teeth are light-colored with some dark staining or wear. The skull bone is a light tan color. The image is slightly out of focus, emphasizing the texture and shape of the teeth.

Teeth & Modifications

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Dental Modifications

1. **Unintentional:** through repetitious motions related to occupation, accidental fractures, etc
2. **Intentional:** require forethought and desire to change the look or presence of teeth in the jaws

Move over pearly whites and golden grills!

Not a recent phenomenon but one that started several millennia ago



The earliest dental modification

7th century BC among the Etruscans



- ❖ 2 teeth fixed within a gold band by 2 fastenings
- ❖ Both teeth have been shaped, filed down to the same size to create clean, square edges.
- ❖ The spaces on either side of the two fixed teeth suggest how the device might have been worn, with the gold bands fitted around living teeth.





- 20 devices have been found from Etruria
- All with pure gold bands
- The purity of the metal lends it a high malleability, enabling the wearer to mould the band in the mouth to secure its position

❖ Meant to be flashy & noticed → isolated to the labial teeth (incisors & canines)

❖ Different types (e.g., staining teeth)



tooth removal, inlays

cutting

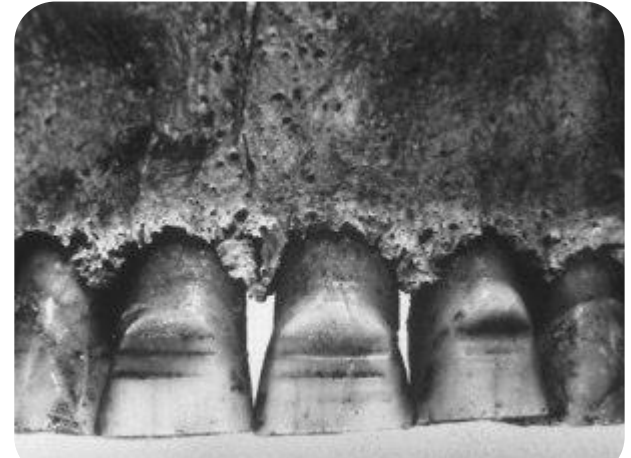
incising



1. Incisor teeth inlaid with gold (Source: Ancient-Origins.net)



2. Dental Cutting/Filing (Source: University of Minnesota-Duluth)



3. Incised teeth (Source: Forsyth Gallery)

- ❖ A variety of different patterns were used to cut and incise teeth, which varied culturally
- ❖ Teeth were drilled for gold, pyrite, & **jade** inlays, which were cut precisely to fit into the tooth/teeth

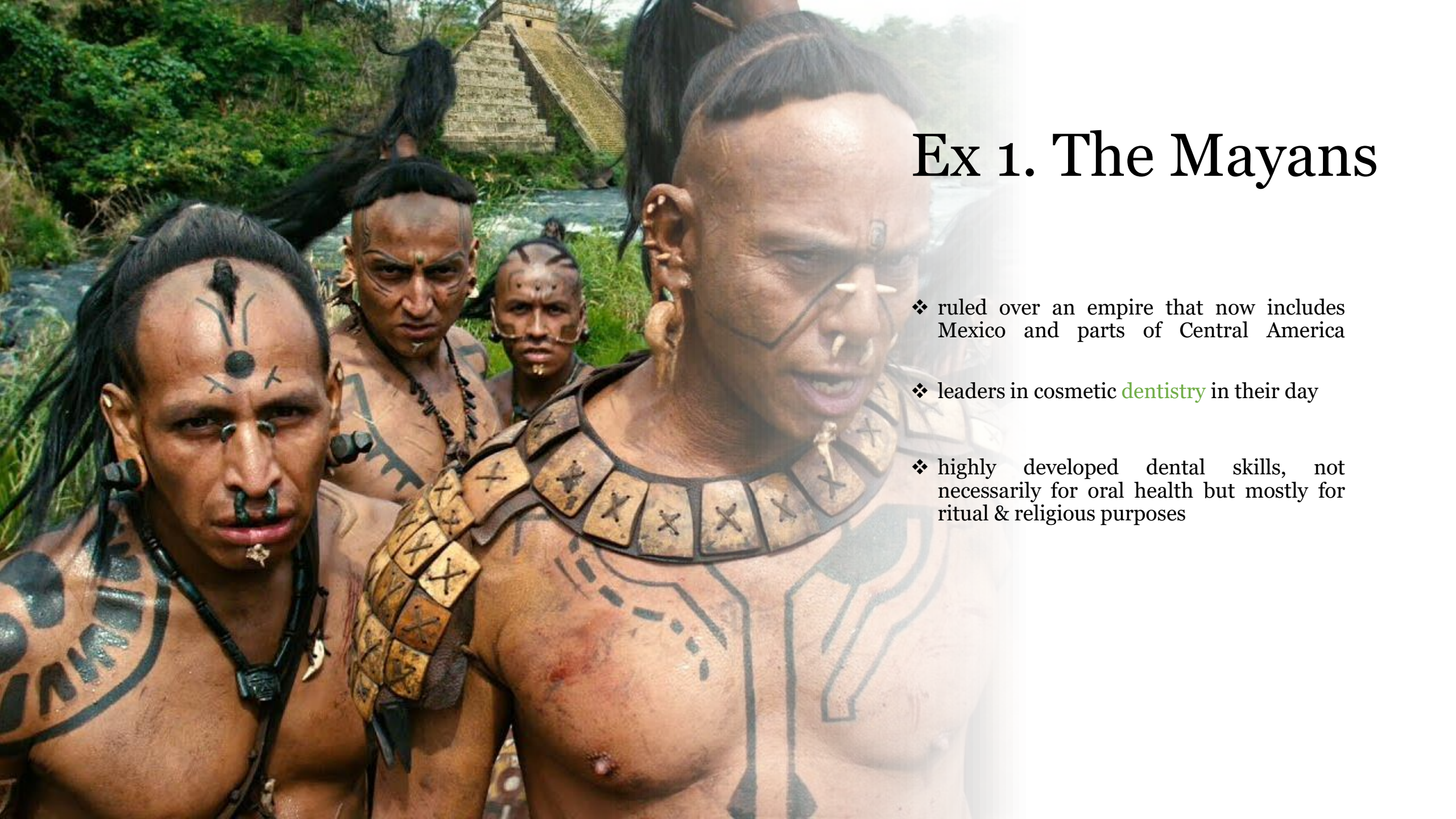


Where? Teotihuacan
When? 350 to 450 AD



A woman
A jadeite tooth that was cemented or attached with fiber to her mandible

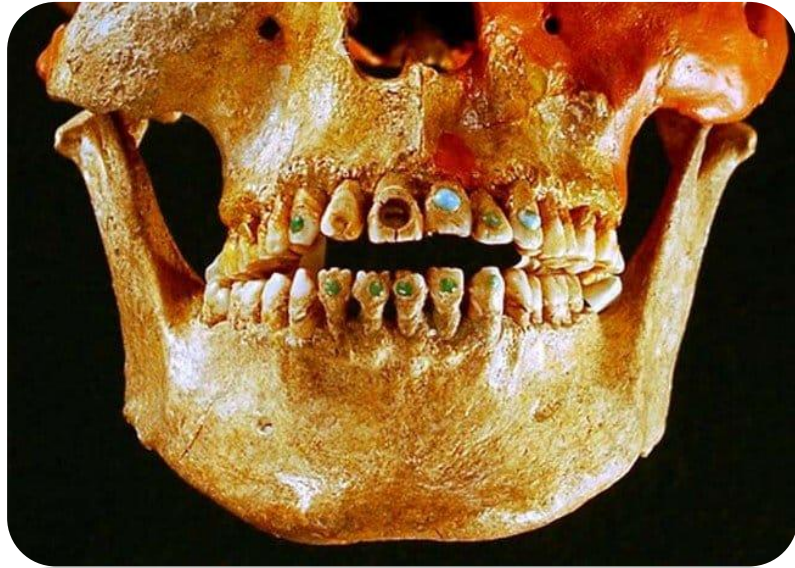




Ex 1. The Mayans

- ❖ ruled over an empire that now includes Mexico and parts of Central America
- ❖ leaders in cosmetic **dentistry** in their day
- ❖ highly developed dental skills, not necessarily for oral health but mostly for ritual & religious purposes

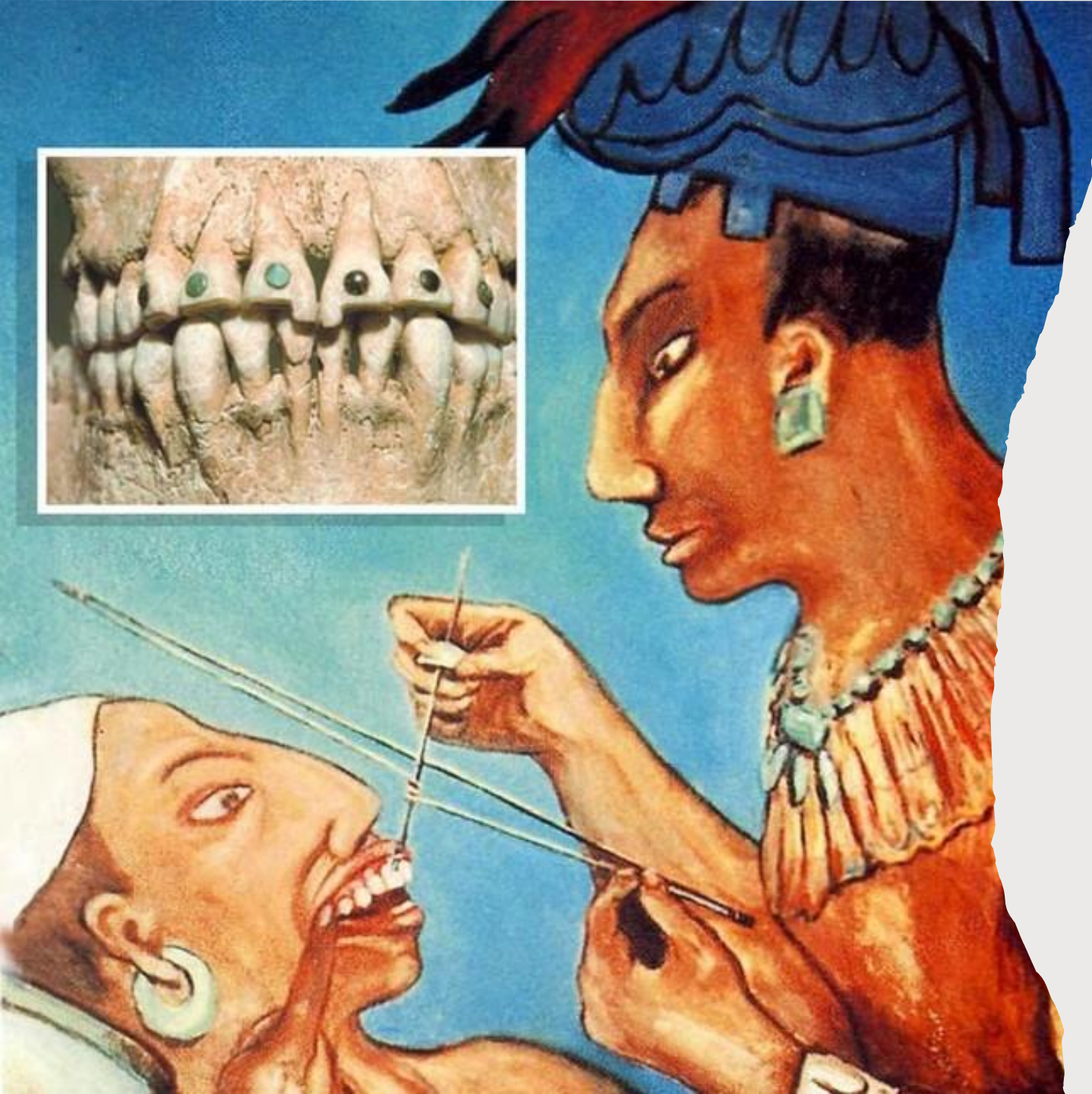
- Between 250 - 900 CE Mayan royalty would decorate their teeth with pieces of Turquoise, Quartz, Pyrite, Jade and other precious stones



- The lighter the **Jade** the wealthier the wearer was

Jade was:

1. a very special stone to them
2. worn as a statement that they were responsible for life-giving rain, fertile crops, & ensuring their people were well fed and prosperous

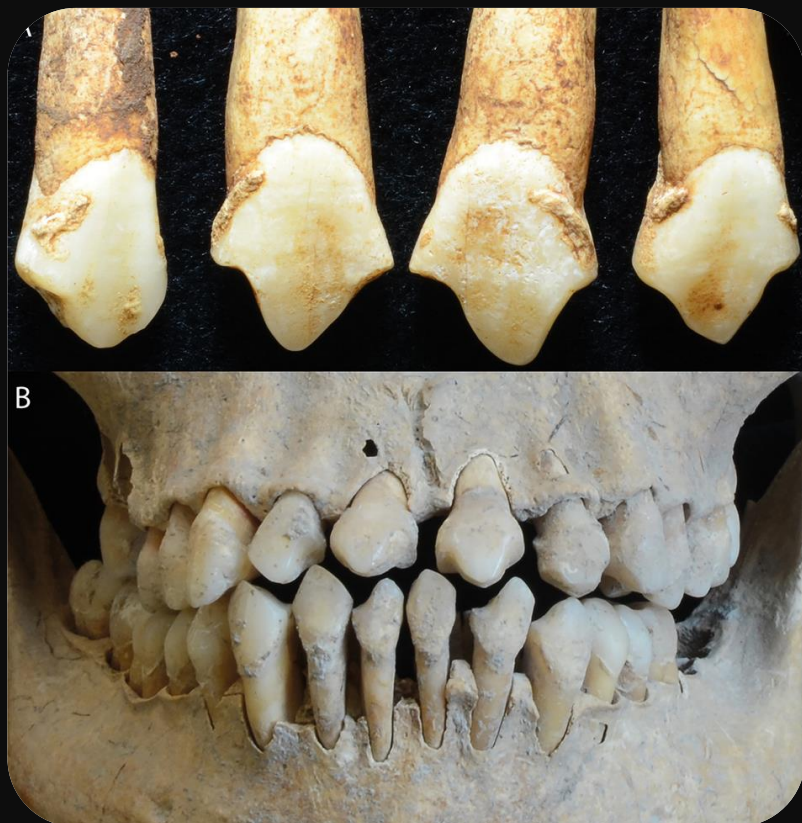


1. The gemstones were created as stone inlays then placed in man made cavities in the front teeth
2. A straw like tube usually made from copper was spun between the hand or in a bow/rope drill
3. an abrasive slurry of powdered quartz and water was used to cut a round hole through the enamel
4. Occasionally, a thin, sharpened animal bone hardened by fire may have been used
5. An adhesive made from plant sap and crushed bones was used to cement the gemstones in place

Ancestors of the Mayan living in South East Mexico, Belize, Honduras & Guatemala still carry on the tradition of **tooth adornment**



Social Identity and Dental Modification at the
Postclassic Maya Urban Centre of Mayapan
Serafin et al. 2021



Late Postclassic Mayapan burials exhibiting C pattern of tooth filing: (A) Maxillary incisors of young adult female burial 09-01; (B) Middle adult female burial 21



Late Postclassic artistic depictions of personages with pointed teeth: (A) female Chen Mul Modeled effigy censer from Zacbo, Yucatan (courtesy Alfredo Barrera Rubio); (B) female Matillas Fine Orange ceramic figurine from Aguacatal (redrawn by Wilbert Cruz Alvarado after Matheny Reference Matheny1970, fig. 52a); (C, D) male Chen Mul Modeled effigy censers from Mayapan.

Ex 2. Southeast Asia

14th- 16th century: Tooth adornment was common practice among pre-colonial Filipinos

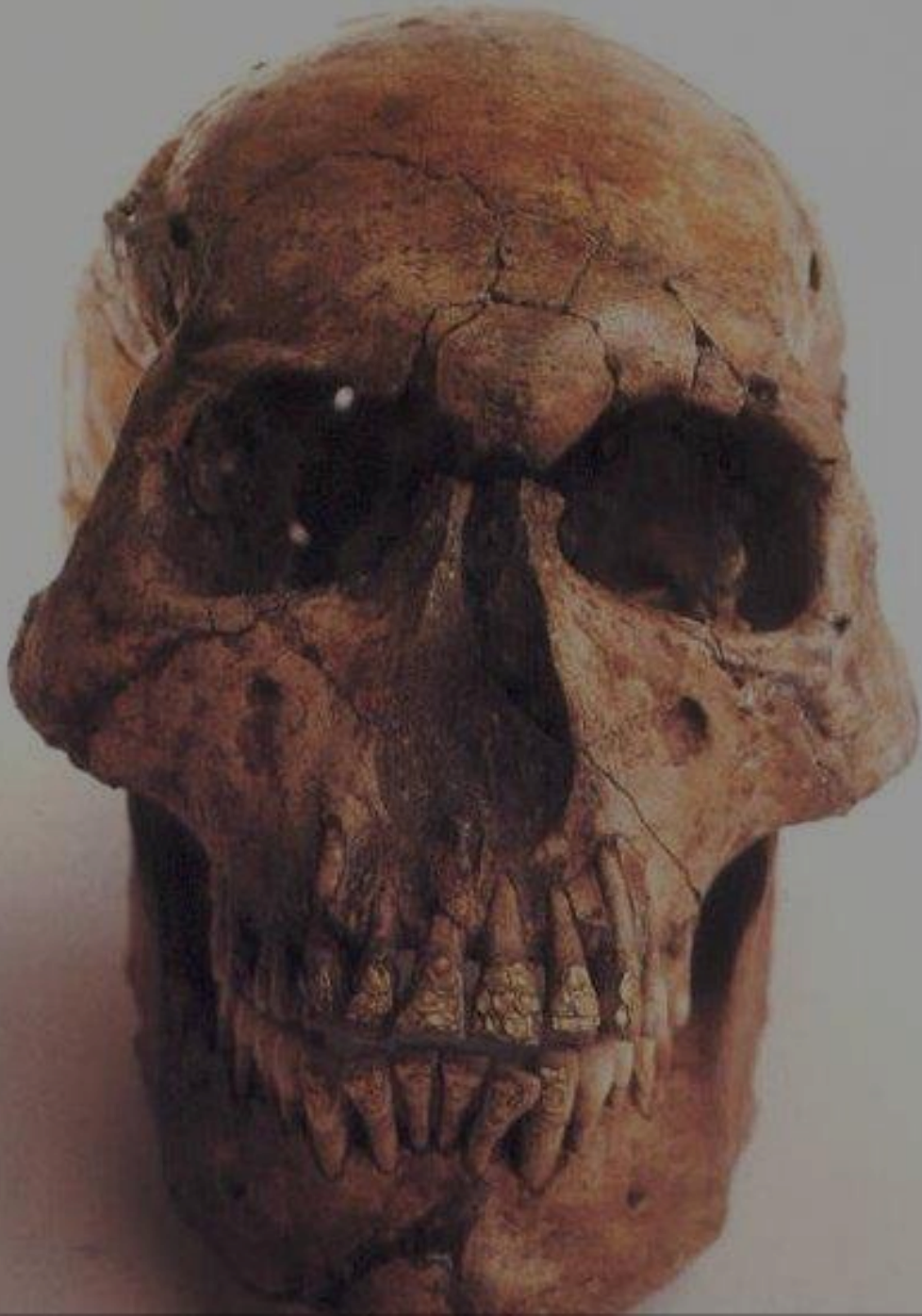
According to Ancient Filipino mythology the creator of the world, Melu had solid gold teeth

The Filipino tribes followed in his footsteps:

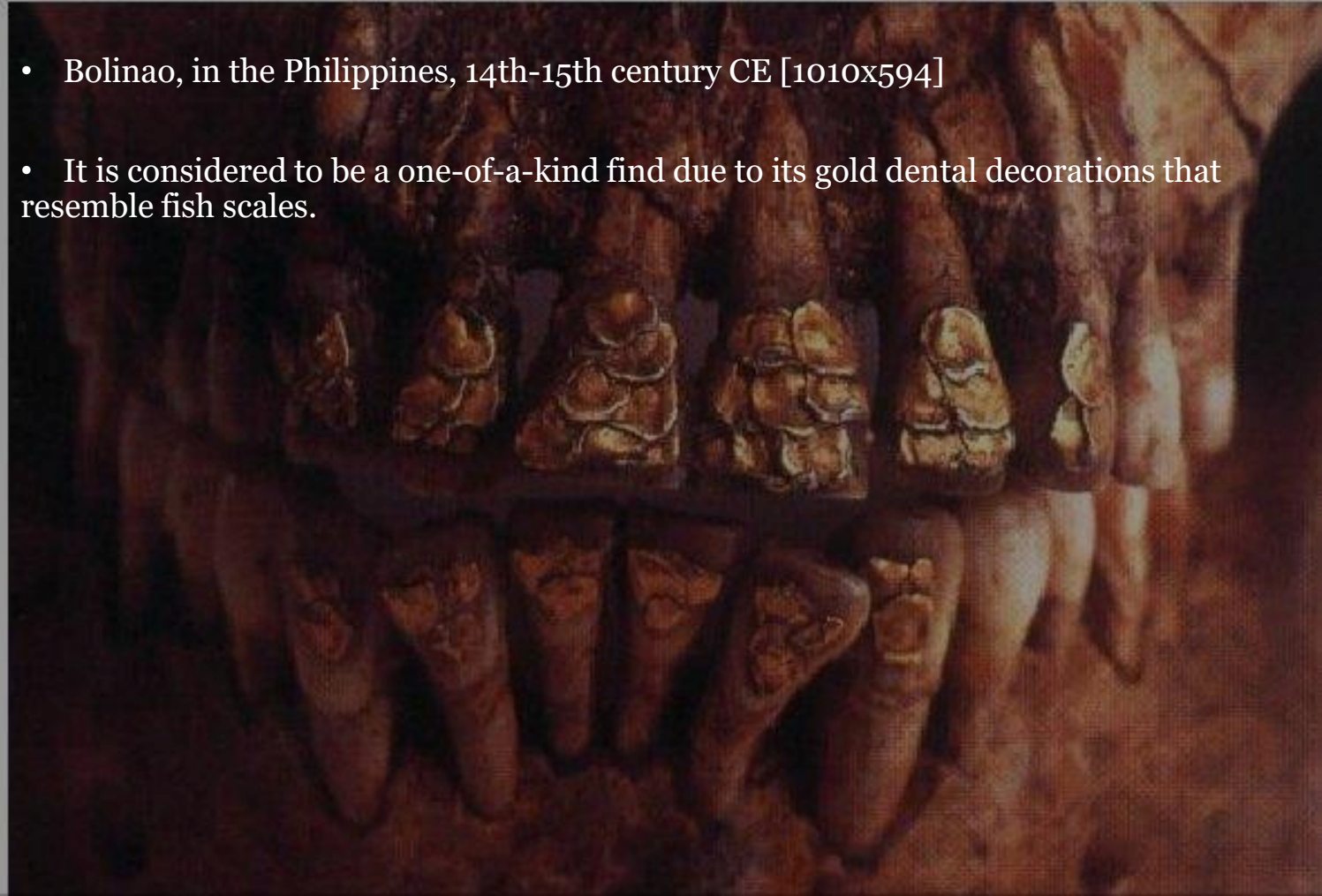
1. Fill down & decorate their teeth with gold
 2. Cover their front teeth with fitted gold bands
- ❖ The bands made it impossible to speak but were removed to eat
 - ❖ They were worn for rituals & passed down for generations
 - ❖ The oldest examples date back to 1300AD



The Bolinao Skull



- Bolinao, in the Philippines, 14th-15th century CE [1010x594]
- It is considered to be a one-of-a-kind find due to its gold dental decorations that resemble fish scales.



Tooth staining occurred through the habitual chewing of specific plants:



Betel leaves



Tobacco



Coca

But why?

- Some scholars have debated if **gender** was a motivating factor in completing dental modifications, but this does not seem to be the case
-
- The most common motivation cited in the literature is **social status**, though, which is not too far off from modern motivations for intentional dental modifications



rites of passage



ethnicity



aesthetics



mourning the loss of a loved one



fighting off evil spirits



appear fearsome in battle



Eastern Germany 9,000 years ago
A shaman's front teeth filed down to the pulp early in life



Photograph Juraj Lipták

Since no other European culture exhibited this practice and Vikings travel quite a lot, anthropologists believe they learned these techniques from other places — it's unlikely that they developed the technique themselves, researchers believe



Image via British Museum

Social Anthropology for more data?

- ❖ Through participant observation, perhaps a dental modification ceremony can be witnessed so that the process can be fully documented
- ❖ Also, interviews with people who have had their dentition modified could help shed light onto reasons why filing and ablation are still occurring



Ota Benga, a famous Congolese pygmy, shows off his sharpened teeth

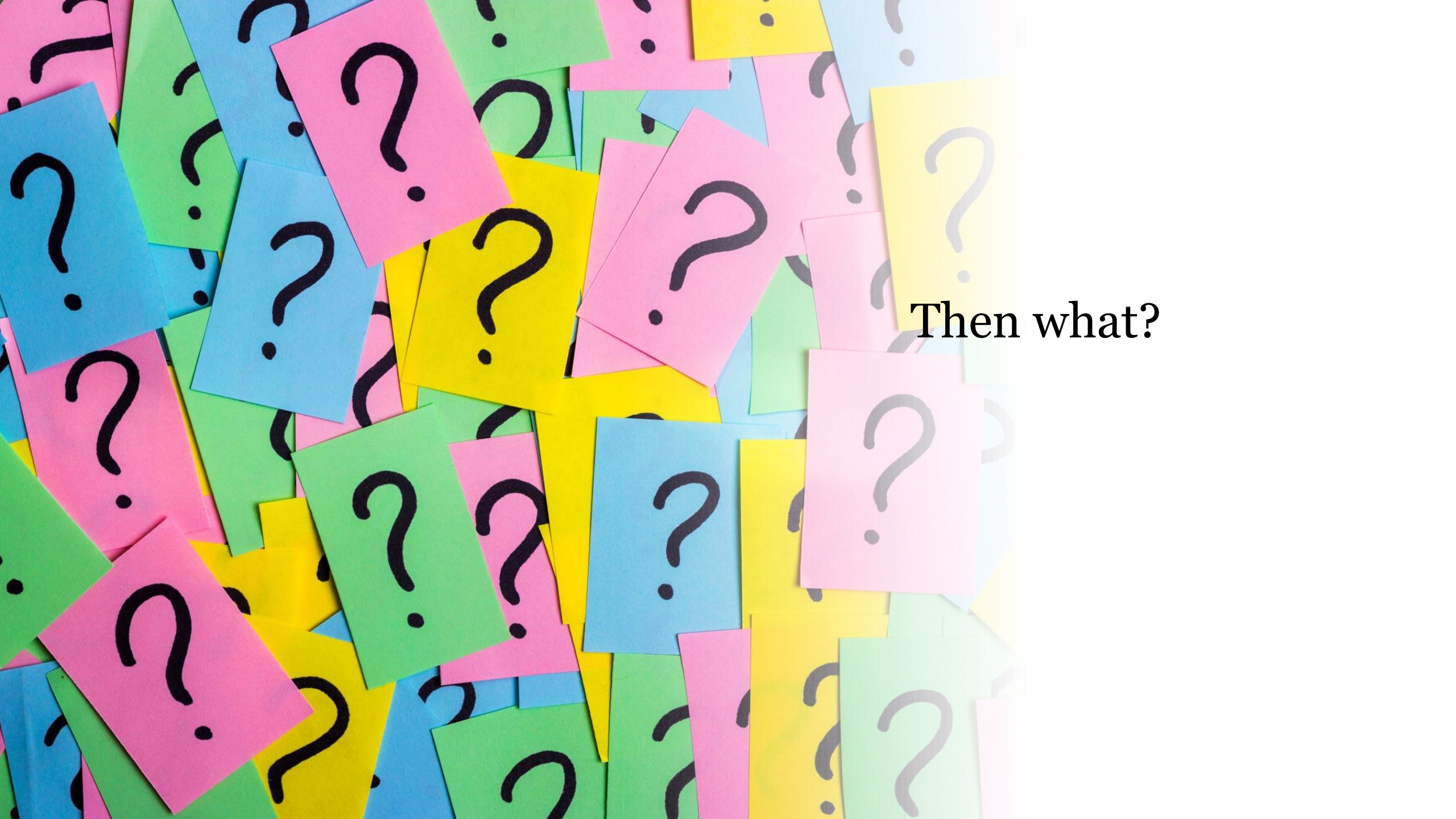


A man with filed teeth (probably Mentawai) smokes in a photograph by Dutch photographer Christiaan Benjamin Nieuwenhuis who worked in Sumatra

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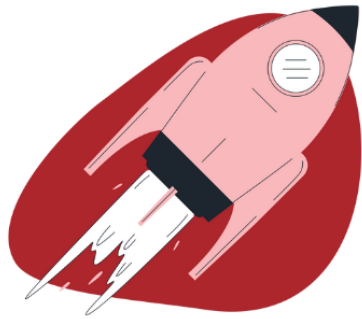




Then what?

Online database

THE ISOARCH INITIATIVE



Welcome to **IsoArch** – the premier community-driven platform for isotope research in **bioarchaeology** and **forensic sciences**.

More than just a **database**, IsoArch embodies a collaborative spirit and an unwavering commitment to **open data culture**. By fostering **knowledge-sharing**, IsoArch offers researchers an unparalleled opportunity to connect and collaborate.

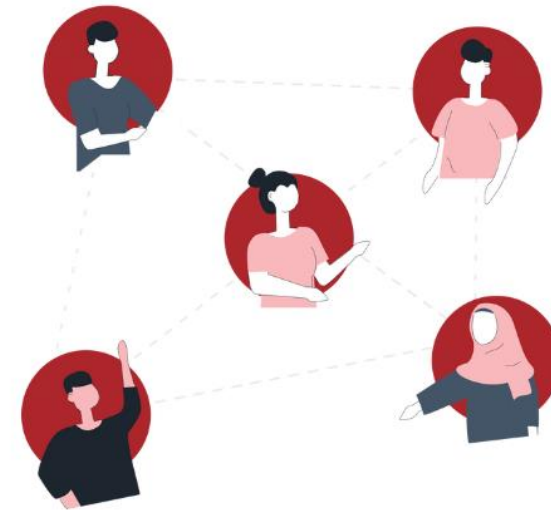
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IsoArch is an open and collaborative database of georeferenced isotopic measures of bioarcheological samples from all time periods and all around the world

We help members of the community to share their data in a consistent and persistent way, by providing them a safe home and encouraging discussions about common ways to organise them to ease data exploration

Associations & Forums



Dental Anthropology Association

The [Dental Anthropology Association \(DAA\)](#) supports the exchange of knowledge and strives to stimulate interest in dental anthropology. We also publish the journal, "Dental Anthropology."

Expeditions



The Wellcome Collection, a London museum that explores the crossover between medicine and the arts, looks at the history of dentistry in a new exhibition. Credit...Wellcome Collection; Utrecht University Museum Collection; Museum of London



Mayan tooth inlaid with jade



Carved ivory upper and lower dentures (18th century)



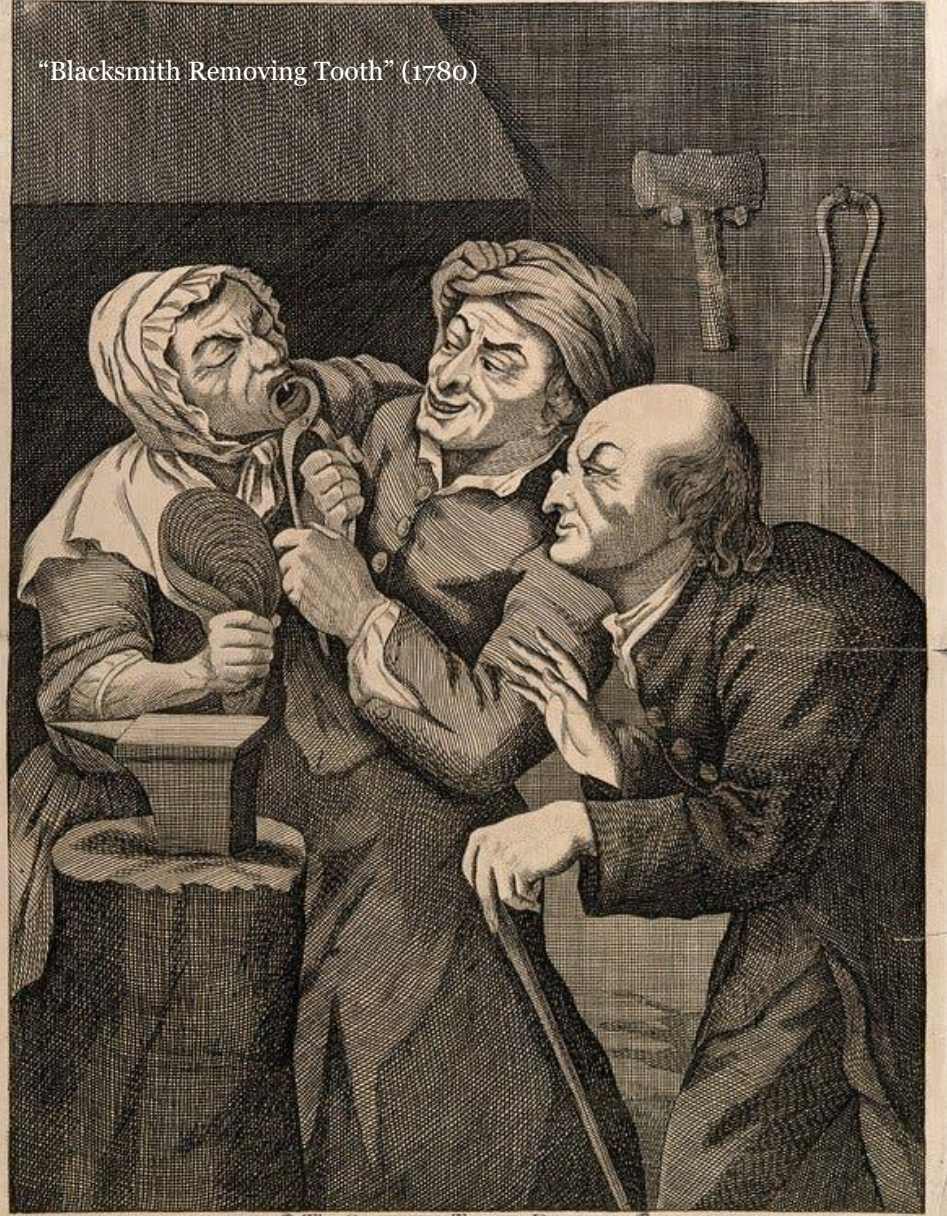
Woman's skull with dental bridge (1870)

"A Woman Covers Her Eyes as She Steals the Teeth of a Hanged Man" by Goya



A caza de dientes.

"Blacksmith Removing Tooth" (1780)



Printed for & Sold by BOWLES & CARVER. **The COUNTRY TOOTH DRAWER.** N^o 69 in St Pauls Church Yard, LONDON.

<i>Why Dams! how you hallow! and hold by my horn.</i>	<i>That I trust you you neer shall make me believe.</i>	<i>No doubt you'nt growth Gaffer and lets up his hand.</i>
<i>I never heard such a noise since I was born.</i>	<i>It's easy as drawing a pin from ones sleeve.</i>	<i>Yet half of an hour is a great while to stand.</i>
<i>How you punch up your hat and squeeze up your eyes.</i>	<i>I challenge the Country for drawing you teet.</i>	<i>And tho' you're surpris'd to hear my Dame howl.</i>
<i>Howe looks both the drums of my ears with your eyes.</i>	<i>I've drawn teet with presser like a three legged stool.</i>	<i>Yes thro' round the shop is a pretty good howl.</i>

13



Set of 19th-century dental instruments

In 1960s...

British Dental Association says that the figure is now around one ton

There's still room for improvement

And more to do about research on human teeth!

Thank you

