PALEODONTOLOGY

WE LOVE ANCIENT TEETH,MOUTHS AND BONES

Overlaping terminologies ???

Study of the history of life on earth as based on fossils

Forensic odontology ..???

Concerned With legal cases

Paleontology

Paleodontology

Study of study of human teeth from prehistoric to Medieval periods

Dental Bioarcheology / Dental Archaeology

PALEODONTOLOGY

“palaios” – ancient

“odontos” – tooth

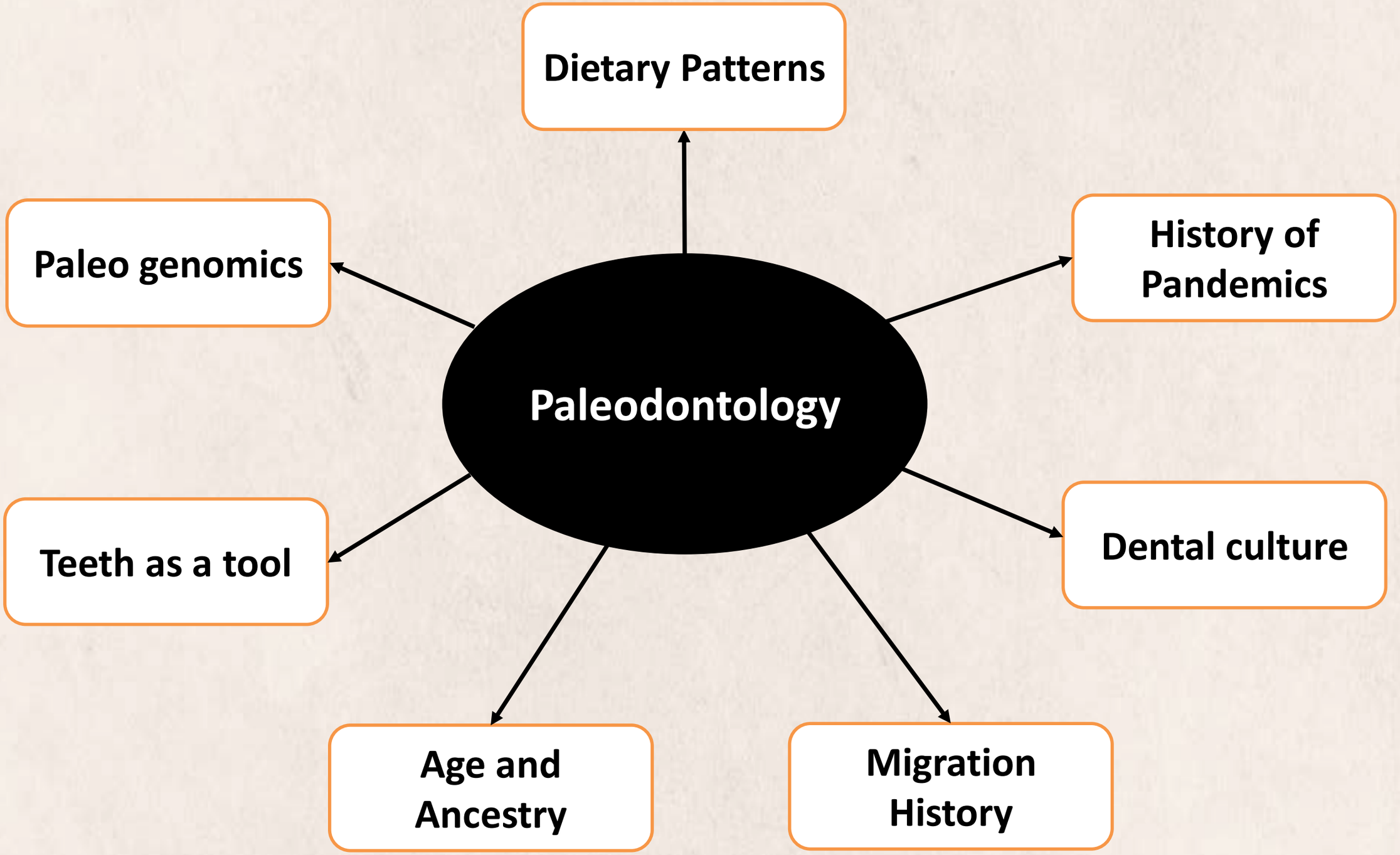
logos - study

First mention of the word *paleontologie*, as coined in January 1822 by Henri Marie Ducrotay de Blainville in his *Journal de physique*.

Study of teeth and Associated oral structures through skeletal or fossil remains.

Aspects of Paleodontology

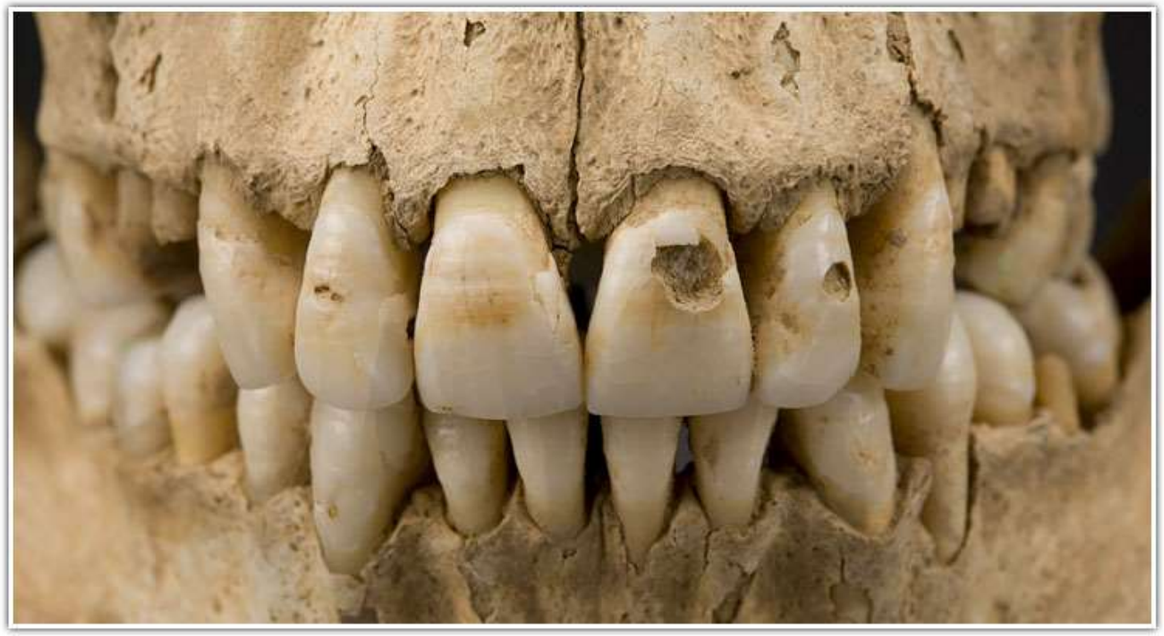
Studying Ancient Teeth Opens a Window Into Our Past



Paleogenomics

Field that studies DNA in Ancient teeth

Archeology Uncovers oral bacteria and gum disease in the past



Cooper (Journal Nature Genetics)

"Oral bacteria in modern man are markedly less diverse than historic populations, and this is thought to contribute to chronic gum disease, oral and other disease in post-industrial lifestyles"

"With the introduction of processed sugar and flour in the Industrial Revolution, we can see a dramatically decreased diversity in our oral bacteria, allowing domination by caries-causing strains and gum disease."

"The modern mouth basically exists in a permanent disease state."

Dietary habits

- The physical condition of the dentition can provide valuable information on diet and health status.
- Studies of macroscopic wear and dental microwear yield evidence of dietary texture.
- Biomonitoring of trace elements assist in evaluating an individual's nutritional and environmental status.
- Stable isotope analysis of tooth enamel is a technique that was first applied to the study of human subsistence in the 1970s

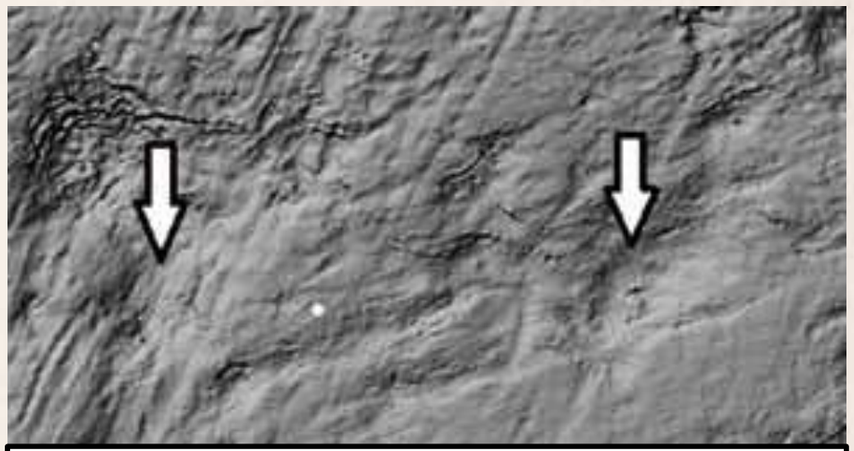
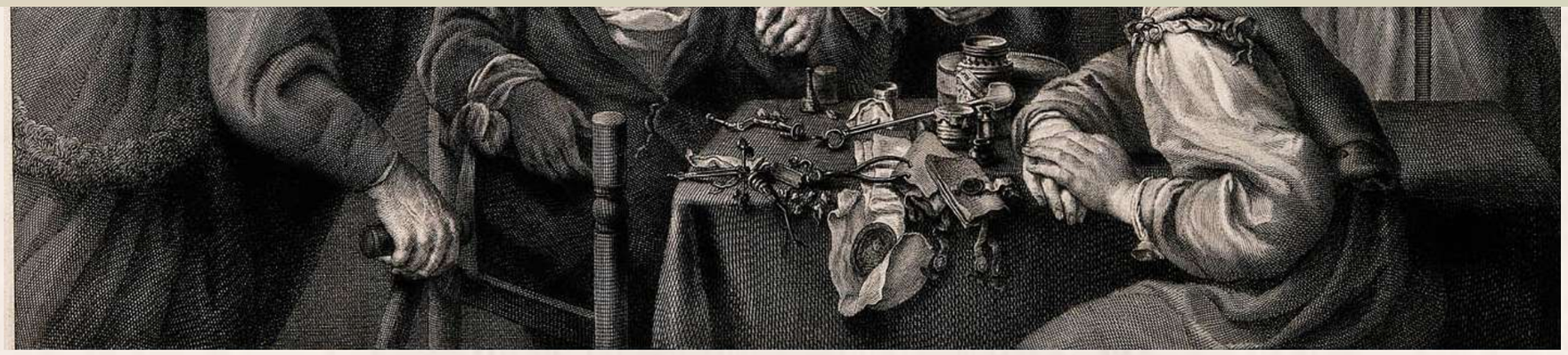


Photo-simulation of microwear showing pits and scratches.

Lateral view of a mandible of a hunter-gatherer demonstrating a flat wear plane.

Dental Culture

Ancient Tooth Provides Evidence of Human Dentistry 6,500 Years Ago



General dentistry has its roots in the Indus Valley Civilization, as early as 7000 BC.

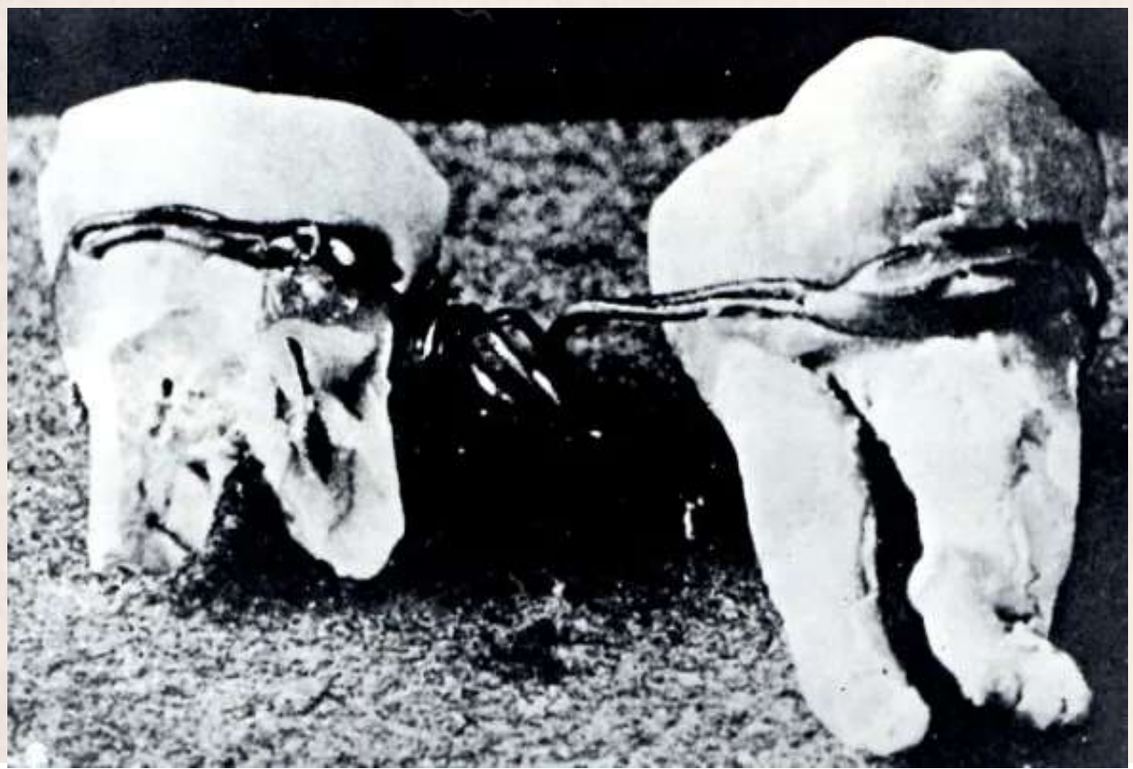
Mandible of a 4th dynasty mummy (2625-2510 BC), with a gold wire bridge

The work shows intricate gold work around the teeth. The two donor teeth had holes drilled into them, wires were strung through the holes and then around the neighboring teeth.

Ancient Dentistry – 13,000-Year-Old Tooth Filling Discovered In Italy

MessageToEagle | April 11, 2017 | Archaeology News |

Non-removable orthodontic appliance discovered at Giza by H.Junker



Archaeologists discover 2,300-year-old dental implant in Iron Age burial chamber

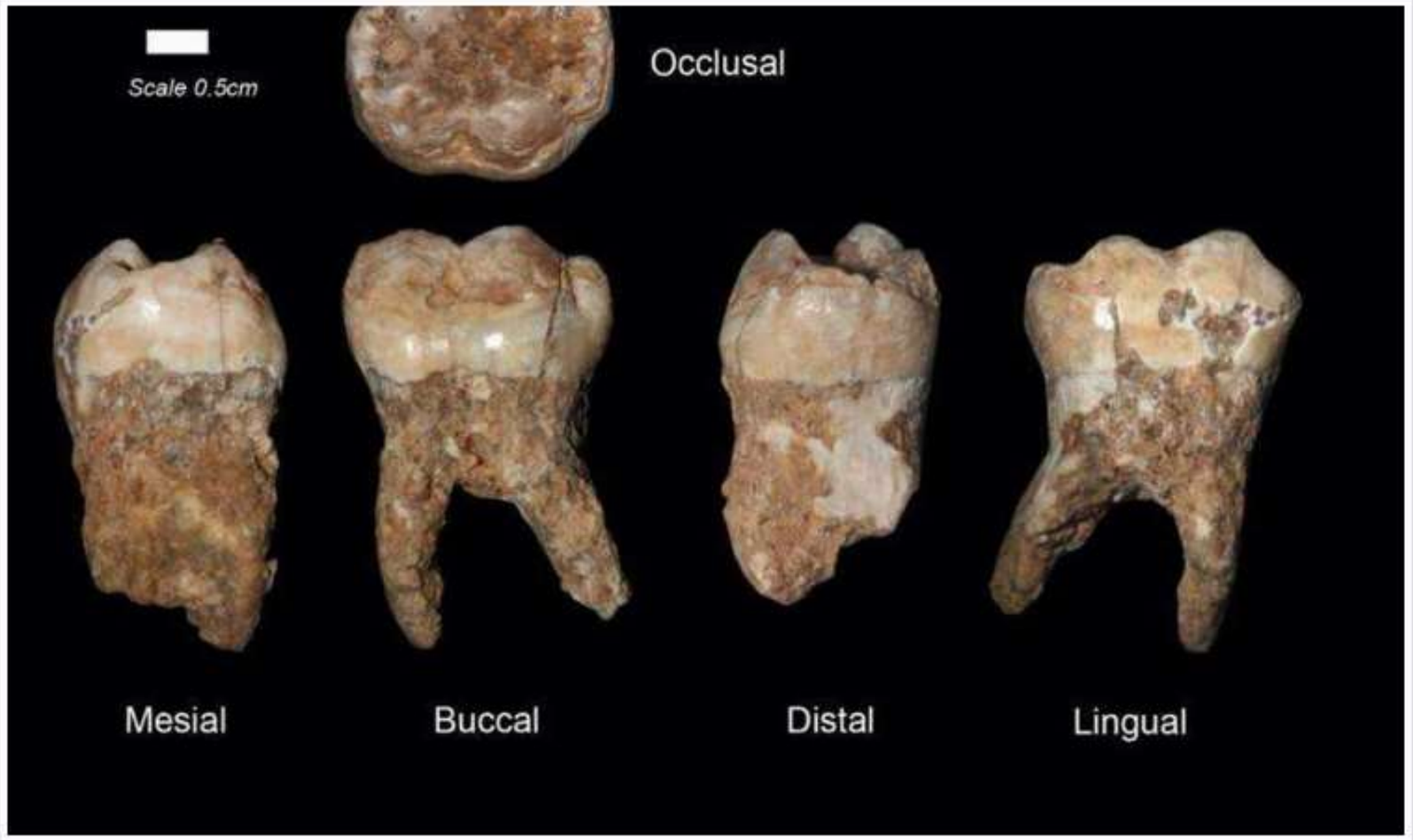
- Discovery of an Iron Age tooth implant among the remains of a Celtic woman in northern France.
- The implant is the oldest of its kind discovered in western Europe.
- The finding was made in a 2,300-year-old richly furnished burial chamber in Le Chene, France.
- The iron implant, which is the same size and shape as incisors from her upper jaw, was found alongside the rest of her teeth.
- It is believed that the iron pin was covered with a wooden- or ivory-carved tooth

From jewel-capped teeth to golden bridges – 9,000 years of dentistry

8,500-Year-Old Human Teeth Used As Jewelry Discovered at Prehistoric Archaeological Site

The two drilled 8,500-year-old human teeth found at Çatalhöyük in Turkey. Credit: University of Copenhagen

At a prehistoric archaeological site in Turkey, researchers have discovered two 8,500-year-old human teeth, which had been used as pendants in a necklace or bracelet.



UPDATED 19 JUNE, 2018 - 17:49 APRILHOLLOWAY

Ancient teeth reveal evidence of 400,000 year-old manmade pollution in Israel

A multi-national team of researchers found the first known case of manmade pollution in a cave in Israel.

The evidence was found in the **hardened dental plaque** of 400,000-year-old teeth, which had locked-in respiratory irritants, including traces of charcoal— a manmade environmental pollution.

Teeth as a tool

- **Activity indued dental modifications**
- **Mouth as a third hand**
- **Baikal case study of hunter gatherers**

Teeth as a evidence of pandemics

Ancient teeth show history of epidemics is much more older than we thought

The growing evidence suggests that these first epidemics forced societies to make epoch-defining transformations.

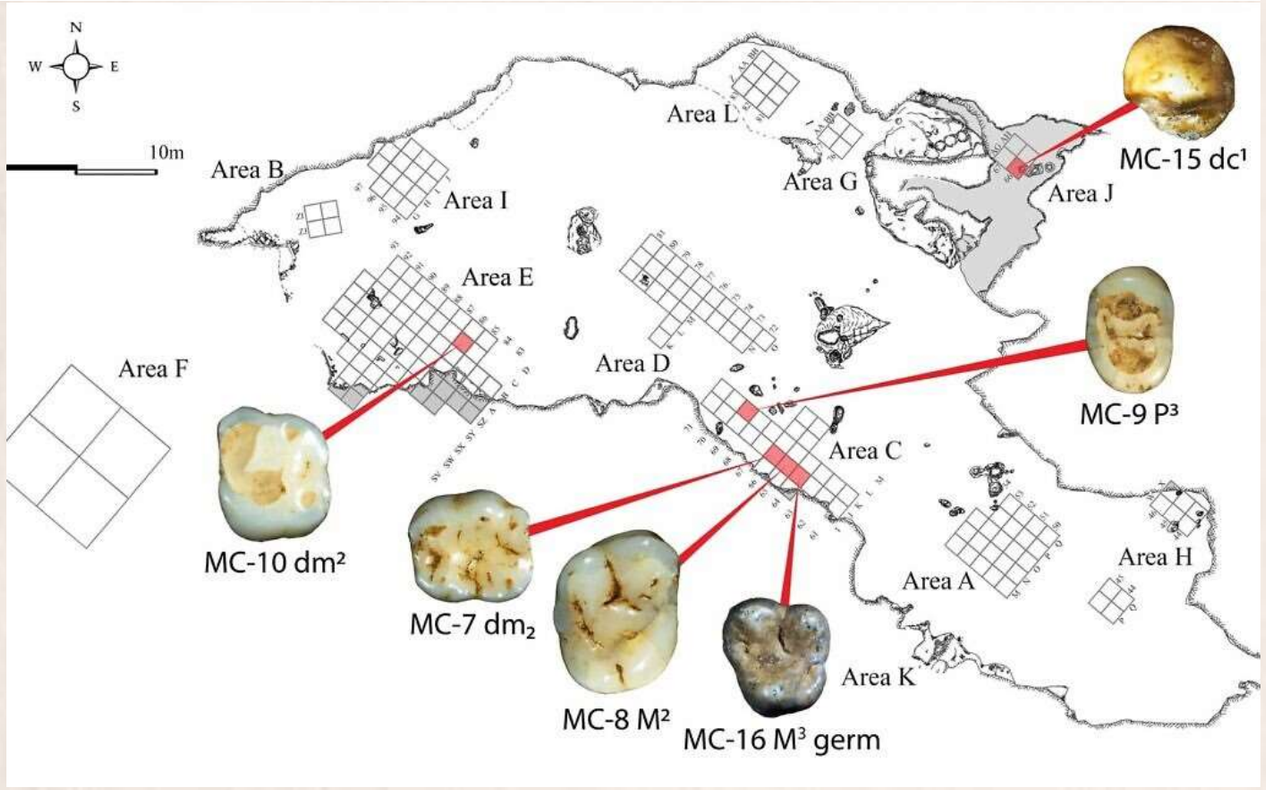
For some infectious diseases like syphilis , TB and leprosy
the location, characteristic and distribution of Marks on the skeleton bones can serve as distinctive pathognomonic indicators of the infection.

History of Migration

ARCHAEOLOGY / SIX TEETH AMONG FEW HUMAN REMAINS IN ISRAEL FROM ERA

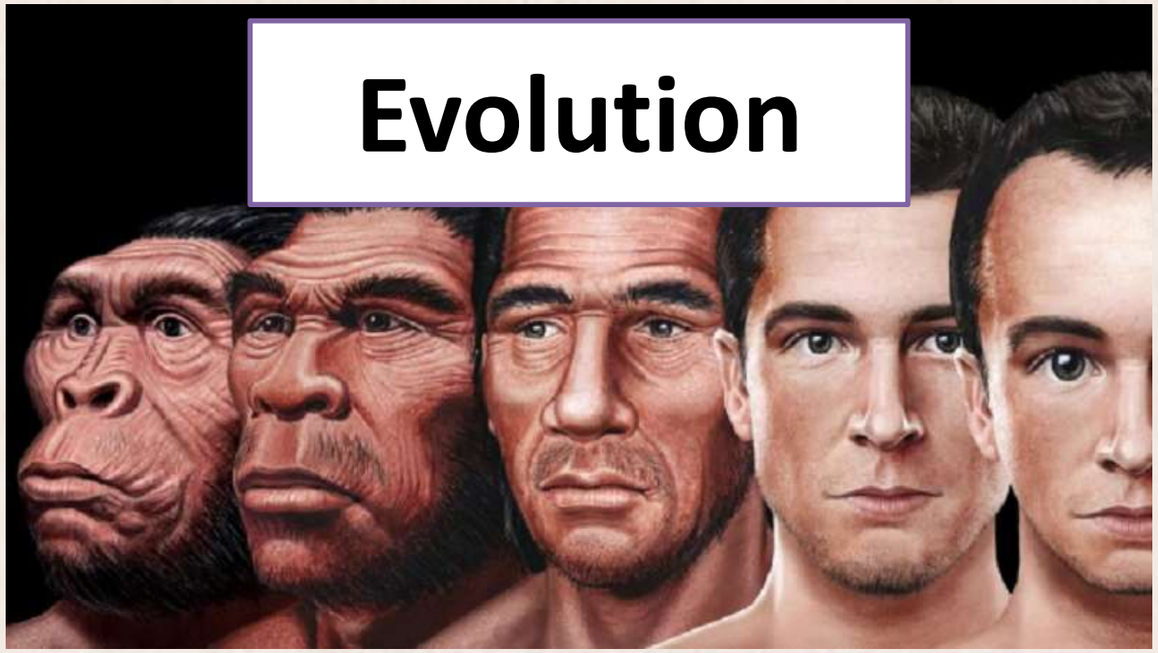
Ancient teeth show some early humans came to Israel from Europe 40,000 years ago

View to manot cave with a mark of the area where some of the 40,000-year-old teeth were found. (Prof. Israel hershkovitz)

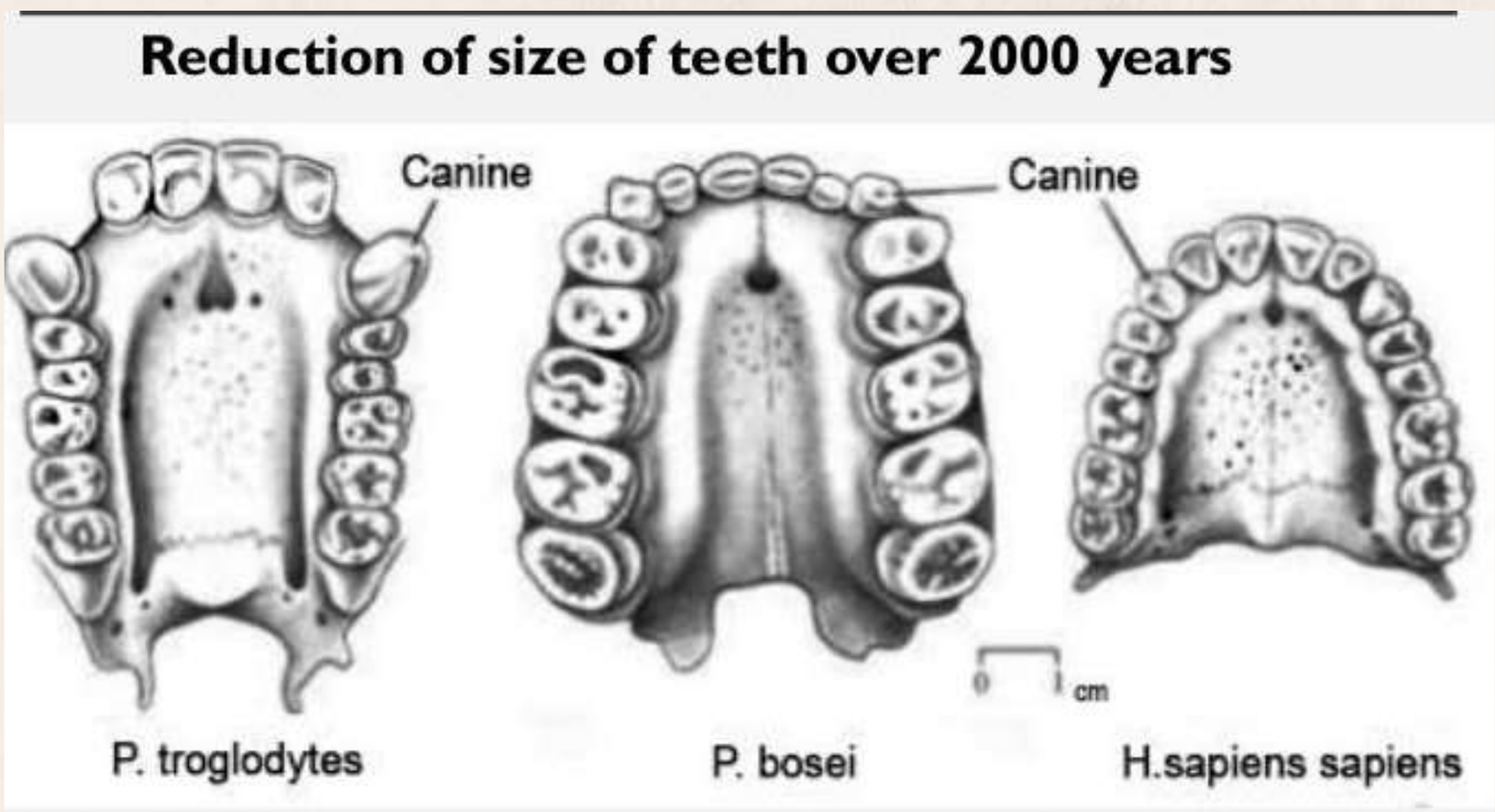


A map of manot cave excavations cites with indication for the location of the 40,000-year-old teeth. (Dr. Rachel sarig)

Evolution



Changes in Dentition over a period of time



Dental Anthropology

- Reduction in size of teeth
- Reduction in number of teeth
- Reduction in thickness of enamel

Ancient Teeth Reveal the Roots of Humankind

From diet to evolution, prehistoric chompers tell archaeologists a surprising amount about our ancestors

Teeth are disproportionately prevalent in archaeological sites: scientists often find dozens or hundreds for every skeleton or skull. That's because the enamel covering a tooth is already 97 percent mineral, and teeth are stronger than bones, so they're more likely to survive, writes anthropologist Peter Ungar in *Evolution's Bite: A Story of Teeth, Diet, and Human Origins*.

Thank you!

The study of ancient teeth through Paleodontology unveils a wealth of information about the lives, habits, and health of our ancestors.

By delving into the secrets hidden within these enigmatic relics, we gain a deeper understanding of human history and evolution.

REFERENCES