



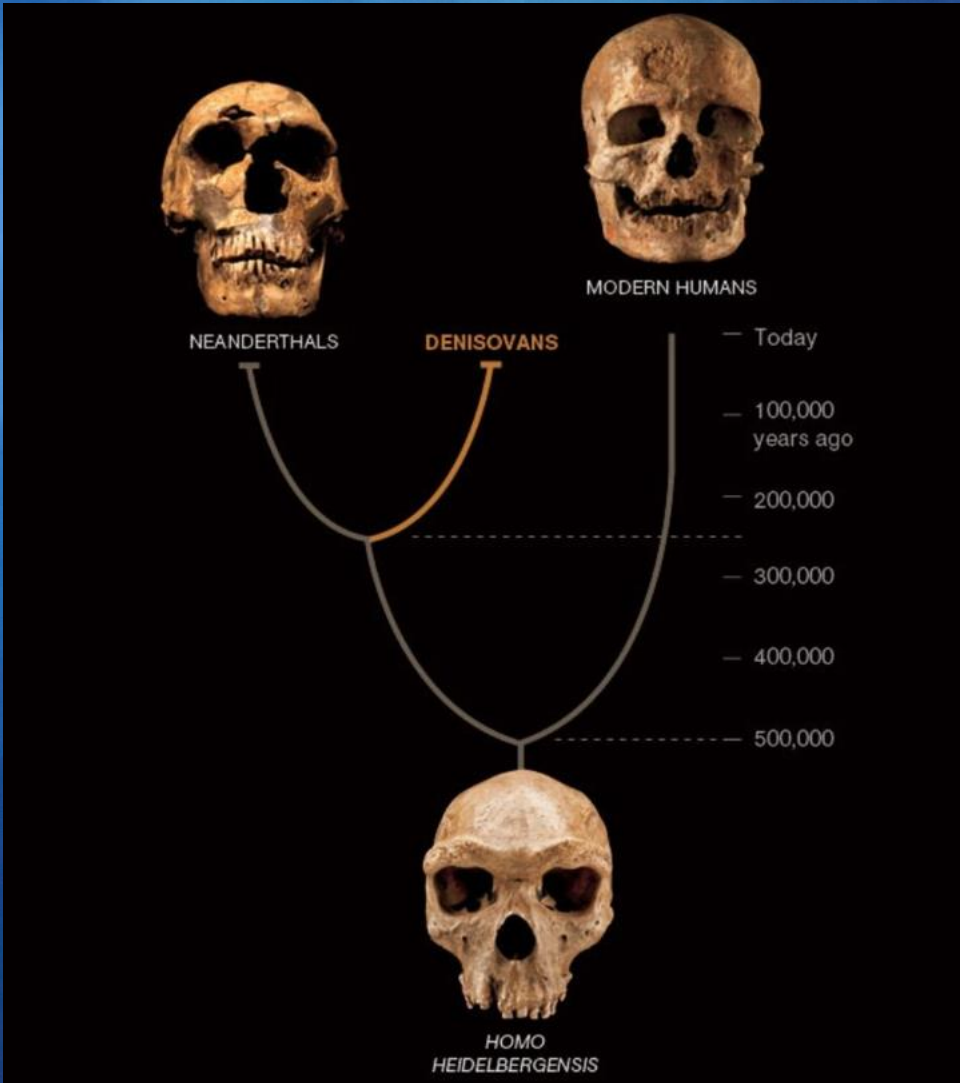
BioAnthropology of Childhood

Dr Arwa Kharobi

Child Born 90,000
Years ago had
Neanderthal
Mother and
Denisovan Father



According to a 2010 study, Neanderthals and Denisovans were closely related. DNA comparisons suggest that our ancestors diverged from theirs some 500,000 years ago.



Evidence of interbreeding between different hominin species, including Neanderthals & Denisovans based on genetic research

Homo sapiens share a small % of their genetic material with Neanderthals & Denisovans

Nuclear and mitochondrial DNA sequences from two Denisovan individuals

Susanna Sawyer^{a,1}, Gabriel Renaud^{a,1}, Bence Viola^{b,c,d}, Jean-Jacques Hublin^c, Marie-Theres Gansauge^a, Michael V. Shunkov^{d,e}, Anatoly P. Derevianko^{d,f}, Kay Prüfer^a, Janet Kelso^a, and Svante Pääbo^{a,2}

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Contributed by Svante Pääbo, October 13, 2015 (sent for review April 16, 2015; reviewed by Hendrik N. Poinar, Fred H. Smith, and Chris B. Stringer)



A molar tooth found at the archaeological site of Denisova cave provided crucial genetic evidence for the existence of the Denisovans—a hominid species discovered in only 2010. The tooth belonged to a woman who lived more than 50,000 years ago.


PHOTOGRAPH BY ROBERT CLARK, NATIONAL GEOGRAPHIC



The bone fragment 'Denisova 11' from several angles (photo taken by Tom Higham)

→ interbreeding occurred between these hominin groups at different times & in various geographic regions

→ complex web of genetic relationships



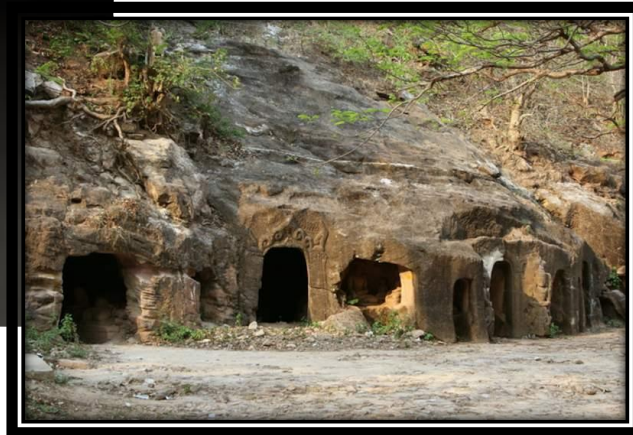
Famous fossilized children in history

relatively rare,
preservation of child remains is often more challenging due to their smaller size & delicate bones

The Taung Child (*Australopithecus africanus*)



- ❑ Discovered in 1924 by Raymond Dart
- ❑ Taung, South Africa,
- ❑ Fossilized skull of a young *Australopithecus africanus*, an early hominin species
- ❑ One of the first pieces of evidence that showed hominins walked on two legs, and it helped change our understanding of human evolution.





Dikika Child (Australopithecus afarensis)



- ❑ Also known as "Selam,"
- ❑ A nearly complete fossilized skeleton of a young Australopithecus afarensis individual
- ❑ Discovered in Ethiopia in 2000
- ❑ Dates back to about 3.3 million years ago
- ❑ Has provided important insights into the anatomy and development of early hominins.

Homo naledi (Rising Star Cave, South Africa)

- ❑ Fossils of infants & children,
- ❑ Contributing to our understanding of this newly discovered species of early humans.



A researcher holds a reconstruction of a *Homo naledi* child's skull based on fossil pieces and teeth (lighter-colored areas) found in a remote passage inside a South African cave system.



Shanidar 1 (Neanderthal Child)

- ❑ Shanidar Cave in Iraq
- ❑ Provided insights into Neanderthal burial practices & potential evidence of compassion & care for the deceased.

"La Ferrassie 1" (Neanderthal Child)

- ❑ Ferrassie cave, France
- ❑ The remains include those of an infant and a child
- ❑ Contributed to our understanding of Neanderthal lifeways & family structures






Famous fossilized children in history

While these fossilized children have greatly advanced our understanding of human evolution and prehistoric life,

it's important to note that the study of child remains in archaeology and paleoanthropology often involves careful ethical considerations due to the respect and sensitivity required when dealing with the remains of children.







Rare

Fetuses in bioarchaeology

In practice, many apply the description of '**fetus**' to babies from bioarchaeological samples identified as younger than 37 weeks gestational age



Research Article

Brief and precarious lives: Infant mortality in contrasting sites from medieval and post-medieval England (AD 850–1859)

Mary E. Lewis & Rebecca Gowland

First published: 13 June 2007 | <https://doi.org/10.1002/ajpa.20643> | Citations: 56



Article

Long bone lengths and gestational age distributions of post-contact period Arikara Indian perinatal infant skeletons

Douglas W. Owsley, Richard L. Jantz

First published: November 1985 | <https://doi.org/10.1002/ajpa.1330680303> | Citations: 29

[Home](#) > [Journal of Archaeological Method and Theory](#) > [Article](#)

Published: 24 April 2008

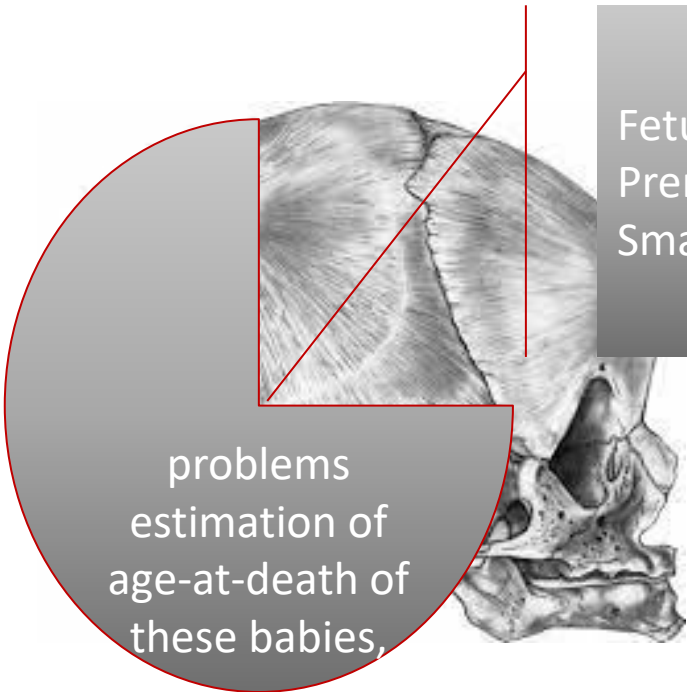
The Bioarchaeological Investigation of Childhood and Social Age: Problems and Prospects

Siân E. Halcrow & Nancy Tayles

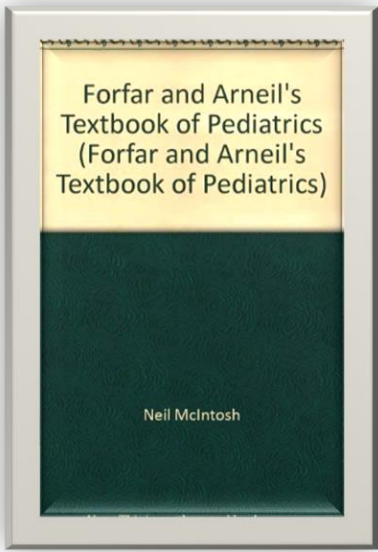
[Journal of Archaeological Method and Theory](#) **15**, 190–215 (2008) | [Cite this article](#)

3518 Accesses | 95 Citations | 1 Altmetric | [Metrics](#)

concept of fetuses in archeology



Fetuses?
Premature births?
Small-for-gestational age full-term births?

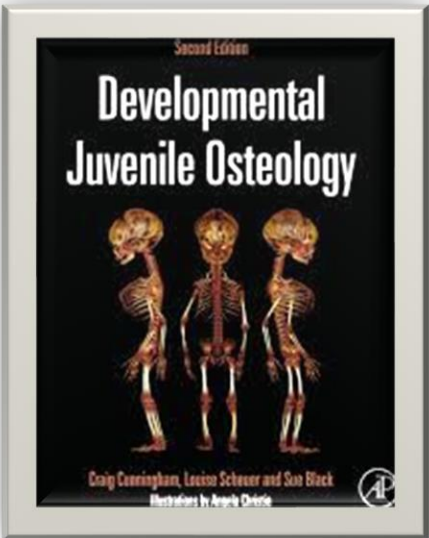


- Medical definition:** A fetus is an unborn baby
- In archaeology:** in-utero skeletons are the most certain fetal finds
- Skeletal remains in-utero may be **neonatal mortality cases**
- Caution is needed in research to accurately identify fetal remains



12 The Bioarchaeological Investigation of Children and Childhood

Siân E. Halcrow and Nancy Tayles



AMERICAN JOURNAL OF PHYSICAL ANTHROPOLOGY 158:155-164 (2015)

Brief Communication: The Use of Non-Adult Vertebral Dimensions as Indicators of Growth Disruption and Non-Specific Health Stress in Skeletal Populations

Sophie L. Newman* and Rebecca L. Gowland

Department of Archaeology, Durham University, Durham DH1 3LE, UK

KEY WORDS Vertebrae; axial growth; post-medieval; puberty; stature

Bioarchaeological research consider fetuses



- ❑ Fetal bioarchaeological research is often **overlooked**
- ❑ Preterm infants are excluded from studies due to a **lack of fetal bone size data** (Johnston 1961)
- ❑ **Focus on infanticide** evidence has diverted attention from fetal contributions
- ❑ Fetuses can help understand **maternal health, disease, and social organization** in bioarchaeology (Bonsall 2013; Faerman et al. 1998; Gilmore and Halcrow 2014; Mays and Evers 2011; Mays 1993; Mays and Faerman 2001; Smith and Kahila 1992).

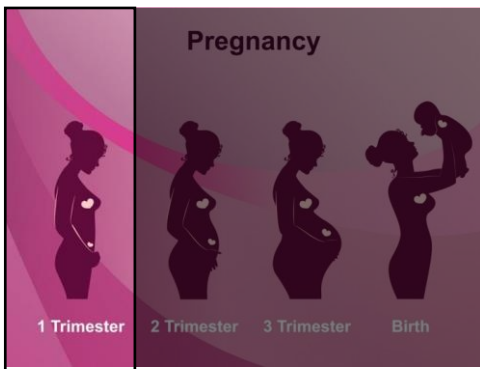




About 3 in 10 pregnancies end in spontaneous abortion, often due to genetic issues (Fisher 1951)

Most first-trimester fetuses are not found in bioarchaeology due to limited bone development

Bone formation before the second trimester is poorly mineralized and hard to identify in archaeological contexts

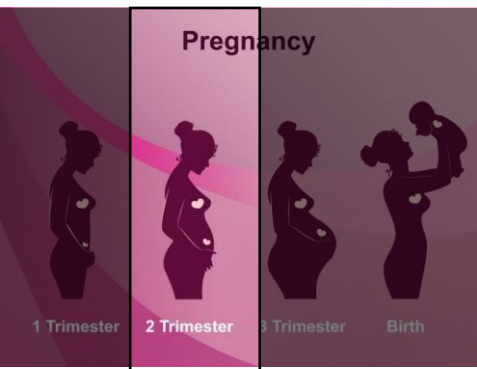


1st trimester fetus (archaeological context)

- The only first trimester fetus reported from an archaeological context
- The smallest burial ever recorded
- From the Libben sample, Ohio,
- A Late Woodlands site occupied 8th-11th century AD
- The long bones measure less than 2 cms



Fetal skeletal material from the prehistoric Libben site
White *et al.* 2011: 329



2nd trimester fetus (archaeological context)



Owsley & Jantz 1985:
3 fetuses \leq 28 weeks
gestation

Arikara sites, South **Dakota**



Wheeler 2012

well-preserved fetus of 20
weeks gestational age

Kellis 2 site, Dakhleh Oasis,
Egypt



Hillson 2009:

findings of fetuses 24
gestational weeks

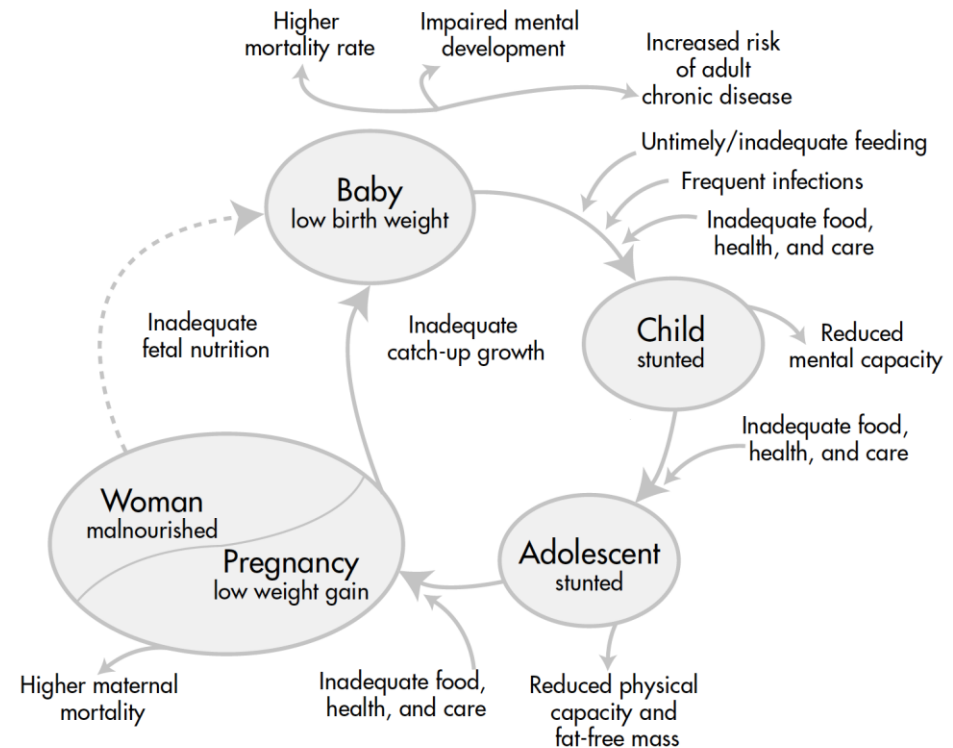
large Classical period infant
cemetery, Kylindra,
Astypalaia, **Greece**

Differentiating burial types <-> health status

The potential to contribute to research on:

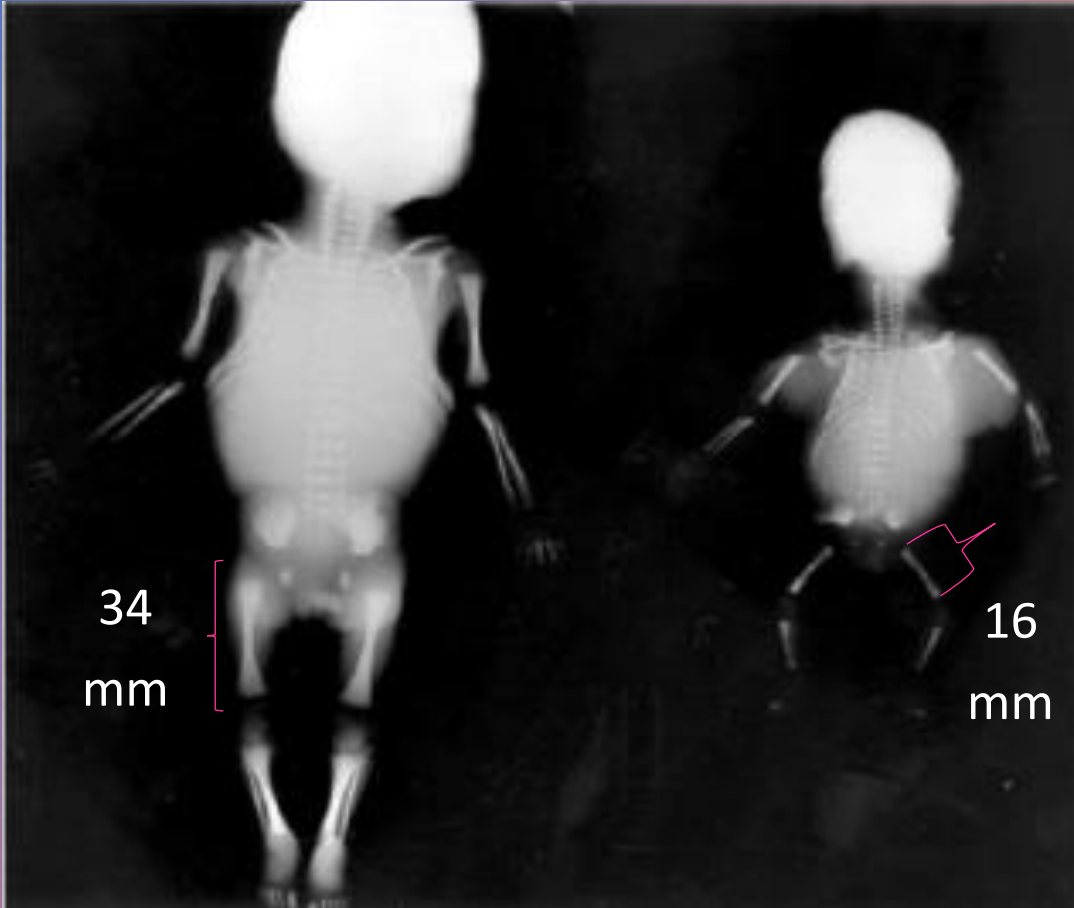
- maternal health
- cause of death for both

'a premature birth is more likely to indicate poor health and/or nutritional status of a woman, compared with a baby who died around full-term from obstructed labor'.



Differences in Size Due to Growth Restrictions

Two fetuses at 24 weeks gestational age



Olsen et al. 2002b: 671

Population-specific factors (nutritional status & access to healthcare), play a significant role in fetal growth

substantial variations in the size of individual fetuses **of the same gestational age**, often attributed to growth restrictions resulting from factors like:

1. maternal malnutrition
2. placental abruption during prenatal development

It is more precise to assess the **age distribution** of a population rather than trying to determine the **exact gestational age** of individual remains

Infant jar burials from the Iron Age site of Noen U-Loke, NE Thailand.

(Photograph courtesy of C.F.W. Higham)



(burial 100) **full-term infant**, approximately 40 gestational weeks



(burial 89) **pre-term infant**, or 'fetus', approximately 30 gestational weeks



Fetuses burial types

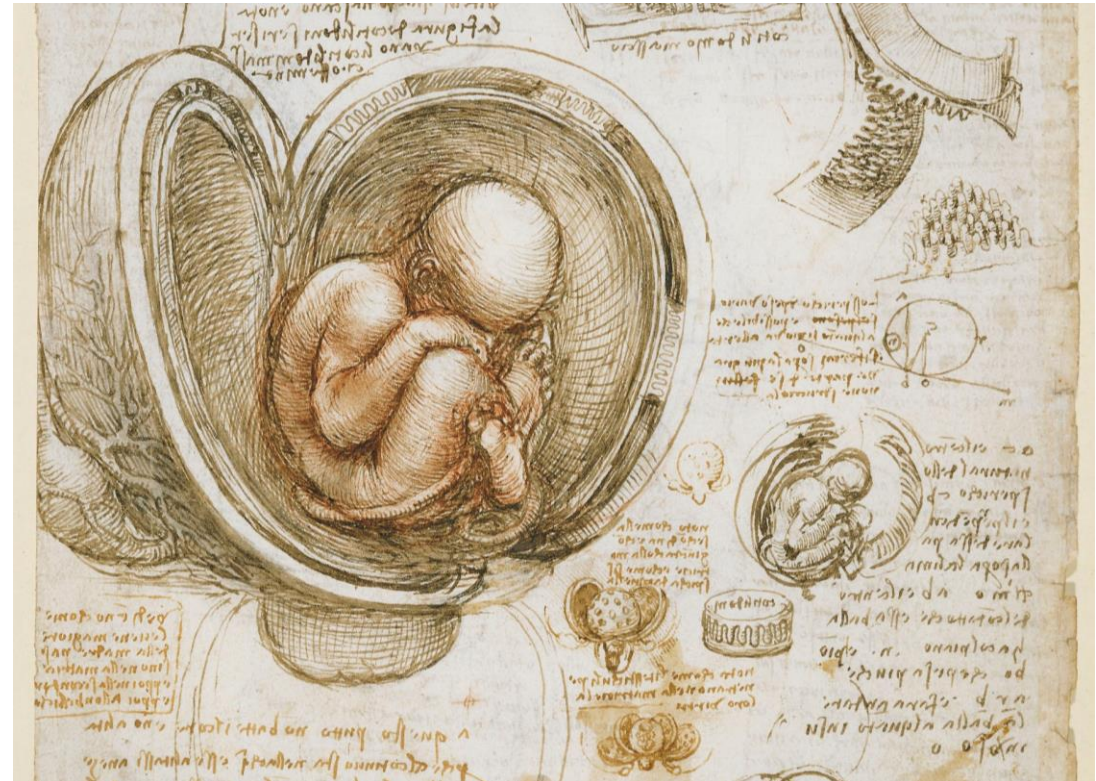
1. In-utero fetuses
2. Post-birth 'fetuses'
3. Multiple fetal pregnancies & births
4. Post-mortem birth ('coffin-birth')

1. In-utero fetuses

If the skeletal remains of a baby are found crouched in a fetal position within the pelvic cavity of an adult female, the mother likely died while the fetus was in-utero, before or during labor

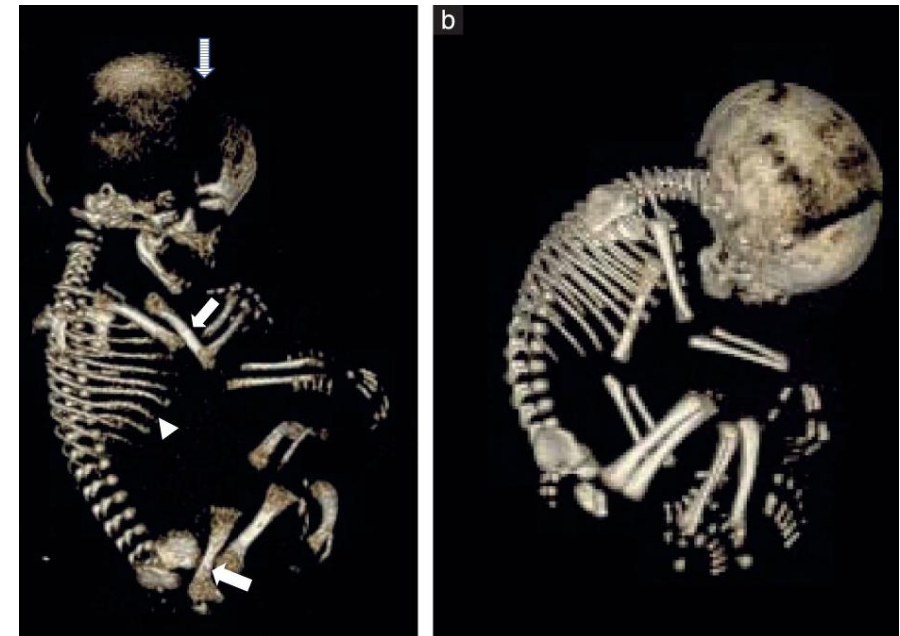
→ Cause of death: pregnancy or labor complications

(Lewis 2007: 34)



1. In-utero fetuses

- ❑ Very little evidence in bioarchaeological context
- ❑ Approximately 20 cases of pregnant or laboring females being argued to represent complications from childbirth
- ❑ Not due to absence of evidence, but rather from the small bones being missed or misidentified during excavation, or reported only in the grey literature
- ❑ Numerous accounts of fetuses being misidentified as animal bones during excavation (e.g. Ingvarsson-Sundström 2003) or being found co-mingled with adult burials post-excavation

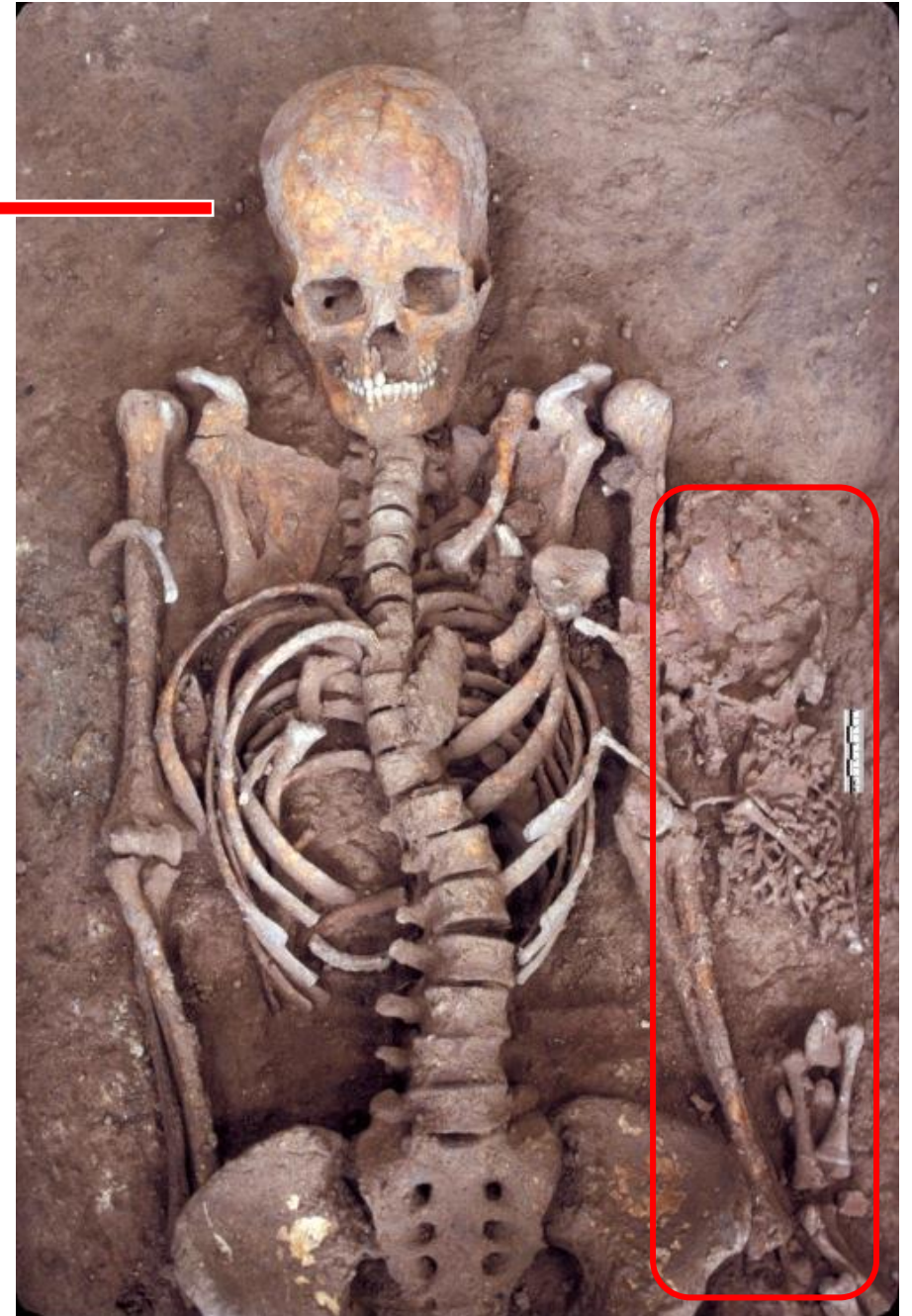


2. Post-birth 'fetuses'

If a perinate is found buried alongside an adult, with the same head orientation, then the infant has been buried post-birth, whether naturally or by caesarian section (Lewis 2007: 34)

very common in some contexts: newborns placed on the chest of adult women (*presumably their mother*)

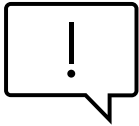
(Standen et al. 2014)



Full-term neonate buried alongside an adult female from Khok Phanom Di (photograph courtesy of C.F.W. Higham).



Ancient DNA analyses may be used to assess the relationship of the adult & fetal burials where the fetus has been placed on the purported mother, or the archaeological context is unclear



Important to distinguish these relationships, as in some contexts, e.g. in the Anglican burial tradition, babies were interred with non-maternal women in instances of coinciding death

(Roberts and Cox 2003: 253).



Detailed relief of a mother breastfeeding from the sarcophagus of Marcus Cornelius Staius, 150 AD; with Gallo-Roman infant burial with grave goods in what is now Clermont-Ferran photographed by Denis Gliksman

3. Multiple 'fetuses'

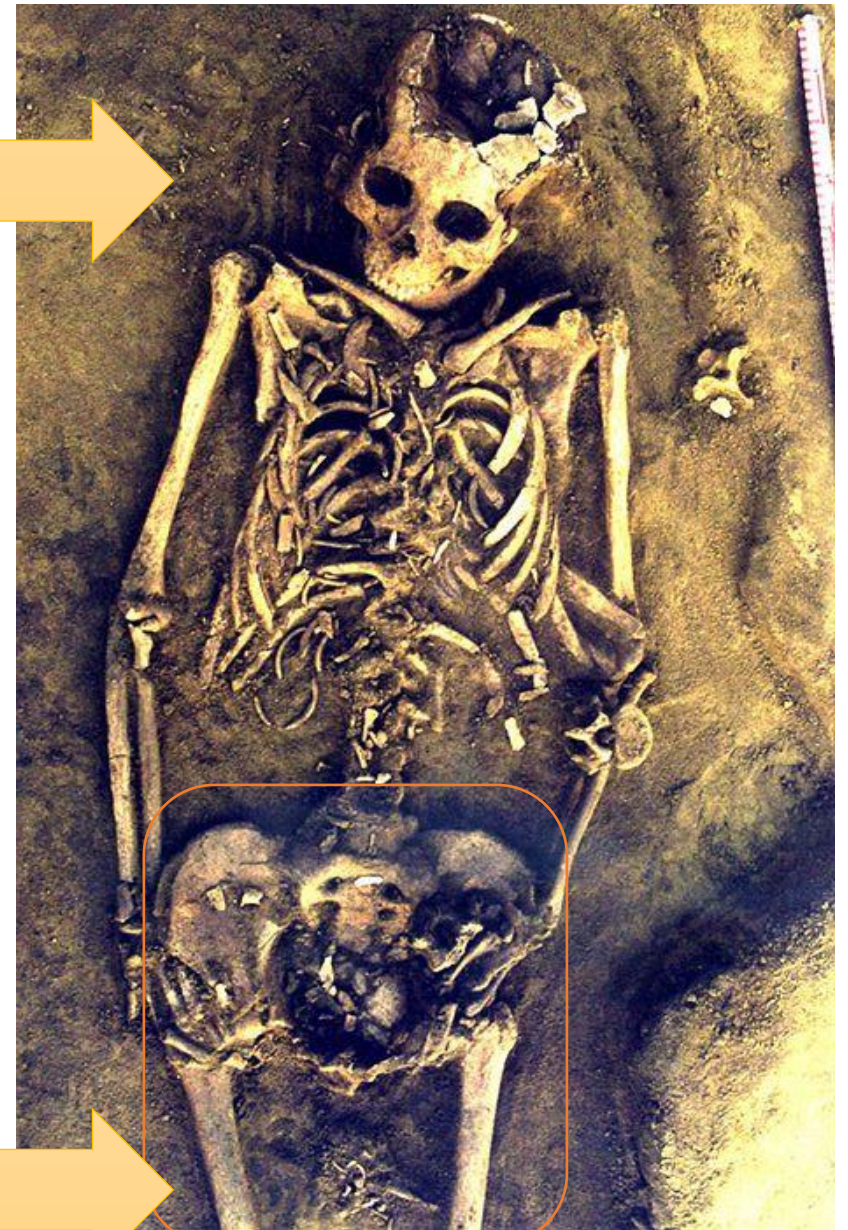
Ancient DNA analyses also for cases of twins

In the bioarchaeological literature: cases of twin fetuses in-utero & others in a post-birth context

Early Neolithic cemetery in Siberia
Remains of **twin** fetuses between pelvis & upper legs.

++ a recent increase in the interest in multiple fetuses
+ investigation social identity & mortuary treatment

first baby was breech
→ Obstructed labour
→ infection, bleeding or exhaustion of the mother
→ death



The skeleton of the mother in her grave pit. The small bones in her pelvic-abdominal area and between her thighs are the remains of the infants. (Angela Lieverse)

3. Multiple 'fetuses'

- ❑ Human twins are rare, with approximately one occurrence for every 100 births (Ball and Hill 1996)
- ❑ Appear in the literature more commonly than expected, compared with single fetuses burials
- ❑ Probably because they are seen as more significant



3. Multiple 'fetuses'

Upper Paleolithic site of Krems-Wachtberg, Austria

Identified as **twins** at full-term age at death

- identical dental age (as estimated from their dentition)
- identical skeletal age (same femora size)

Funerary practices: bodies lay under a mammoth scapula & a part of a tusk and associated with 30 ivory beads → high social status

Einwögerer et al. 2006



Two infants recovered as block in 2005 (ind1 on the left, ind2 on the right). Photograph: Natural History Museum Vienna; modified.

3. Multiple 'fetuses'

Mid 4th century site of Olèrdola in Barcelona, Spain

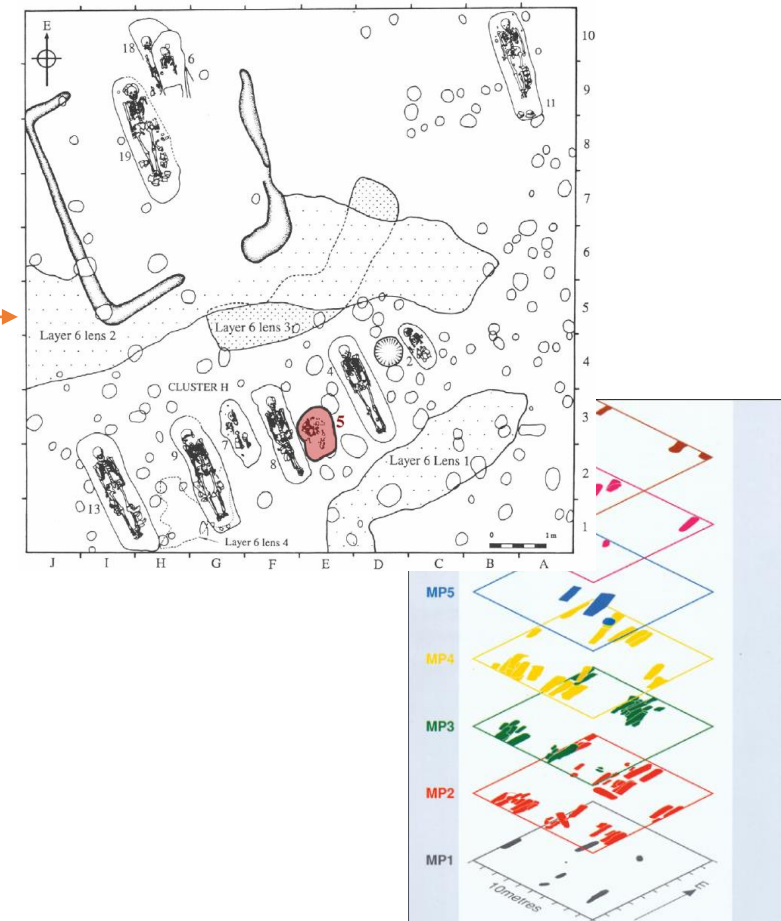
2 newborns at the same stratigraphic level with their lower limbs entwined → buried simultaneously.

Crespo et al. 2011

4,000-3,000 year old BP Southeast Thailand site

Extremely rare finding of possibly 4 twin burials offering a methodological approach for the identification of archaeological twin burials & a social theoretical framework to interpret these in the past

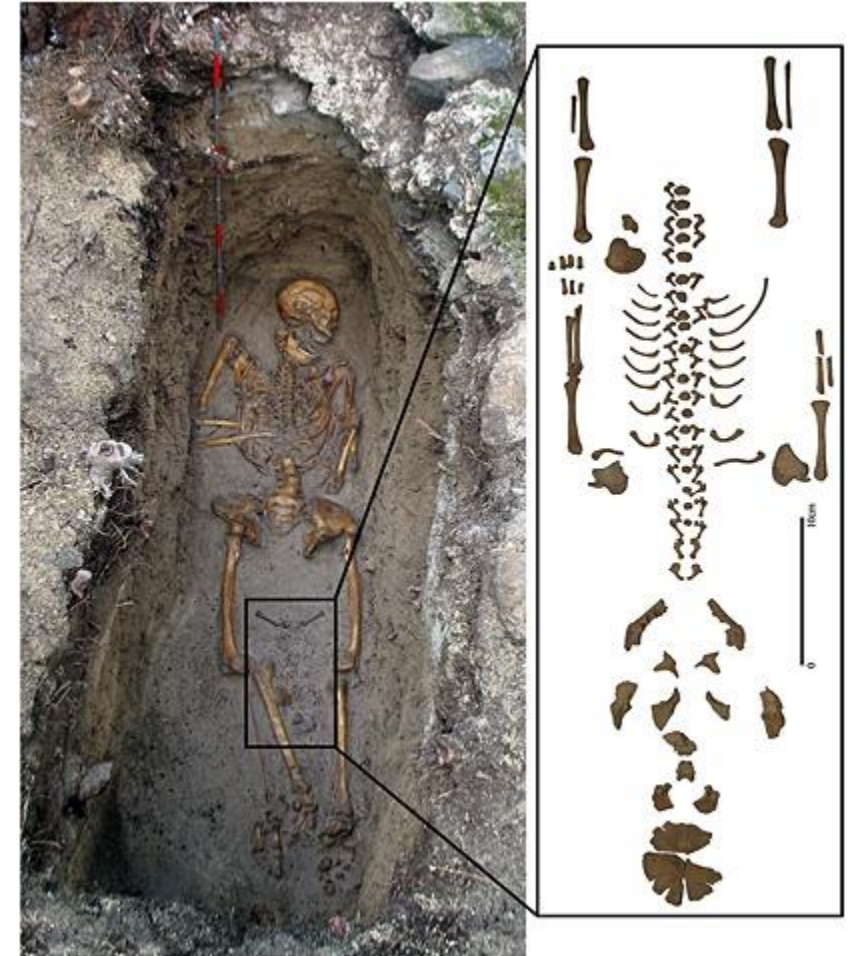
Halcrow et al. 2012



4. Post-mortem birth ('coffin-birth')

It refers to the occurrence of fetuses that were in-utero when the mother died and were expelled after burial (O'Donovan and Geber 2010).

Occurs when gases build up inside of the body of a deceased pregnant woman and force the fetus out of the birth canal



Potential coffin birth (from Appleby et al. 2014)

4. Coffin-birth

Documented in rare forensic cases from the build up of gas within the abdominal cavity resulting in the emission of the fetus

Lasso et al. 2009; Schultz et al. 2005

This gruesome phenomenon only rarely observed in the archaeological record



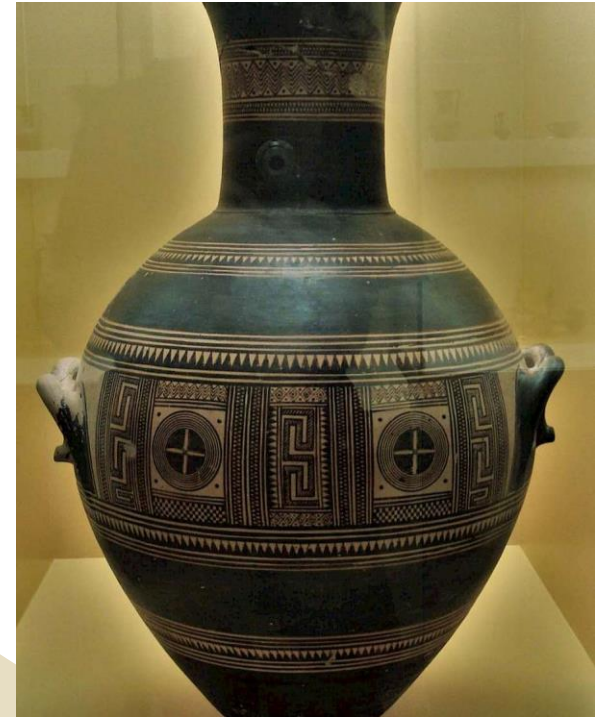
7th-8th century, medieval Italian Imola
A pregnant woman
Remains of her fetus 38th week of
gestation

4. Coffin-birth

- ❑ Lewis (2007: 34-37, 91) and O'Donovan et al. (2009) argue that if fetal remains are complete and in a position inferior to and in-line with the pelvis outlet, with the head oriented in the opposite direction to the mother, then there is the possibility of coffin birth.
- ❑ If they lie within the pelvic outlet, this means that there was partial extrusion during decomposition (Hawkes and Wells 1972). However, partial extrusion could also be the result of an obstructed labor of a baby in the breech position, but this would likely result in extrusion of the lower limbs.
- ❑ Sayer and Dickenson (2015) argue that postmortem fetal extrusion is unlikely under some burial conditions and with that decomposition of the baby in-utero would mean that it isn't likely to be birthed from an undilated cervical canal. This, however, assumes that there was no dilation at the time of death of the mother.

Social identity

- ❑ Investigating how pregnant women were treated in mortuaries can reveal social identity linked to childbirth & fetuses.
- ❑ A 34-36 week old fetus found cremated with an 850 B.C. "Rich Athenian Lady" suggested her grave wealth might be due to her death during pregnancy or childbirth, not just her social status.



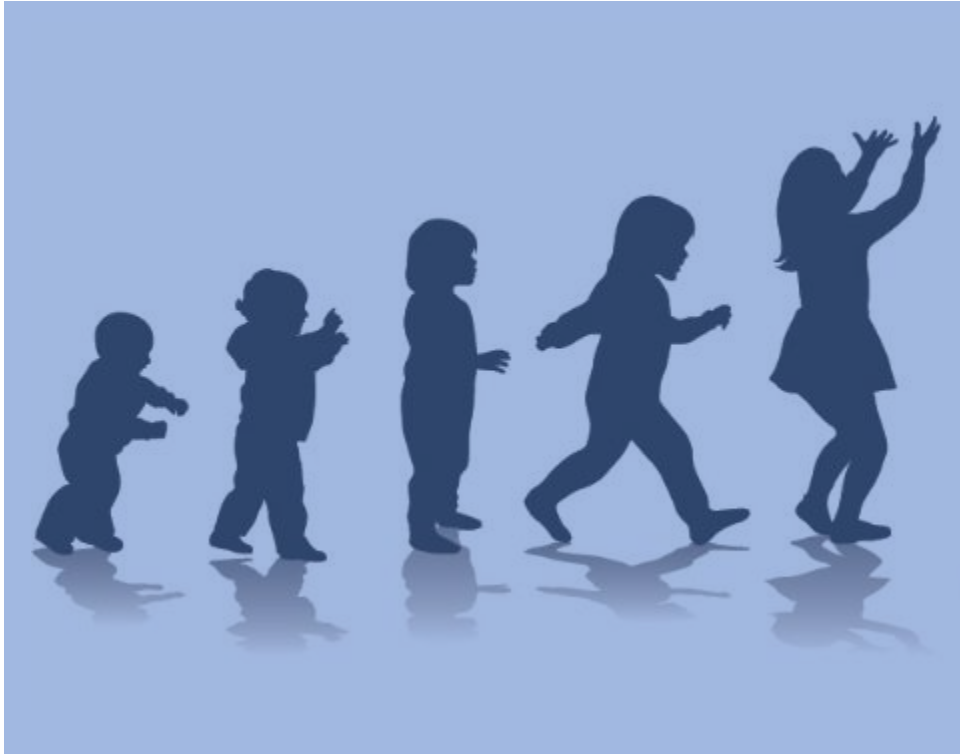
Liston and Papadopoulos, 2004



Social identity

- ❑ Research in the archaeology of grief is exploring community reactions to infant & fetal death.
- ❑ Some scholars have suggested that infants & fetuses were marginalized in archaeological records, implying little concern beyond immediate family.
- ❑ Literature on intense grief after miscarriage & infant death challenges the idea of their loss being insignificant.







Bioarchaeology of Children

- ❑ A subfield of bioarchaeology that focuses on the study of the remains of children in archaeological contexts.
- ❑ It involves the analysis of skeletal and dental remains, as well as other archaeological evidence, to understand the lives and experiences of children in the past.
- ❑ This field of study can provide valuable insights into various aspects of children's lives, including health, growth and development, diet, social status, cultural practices, and burial customs.

Bioarchaeology of Children

Growth & Development

Health & Diseases

Diet & Nutrition

Social status & Burial Practices

Demography

Ethical considerations

Growth & Development

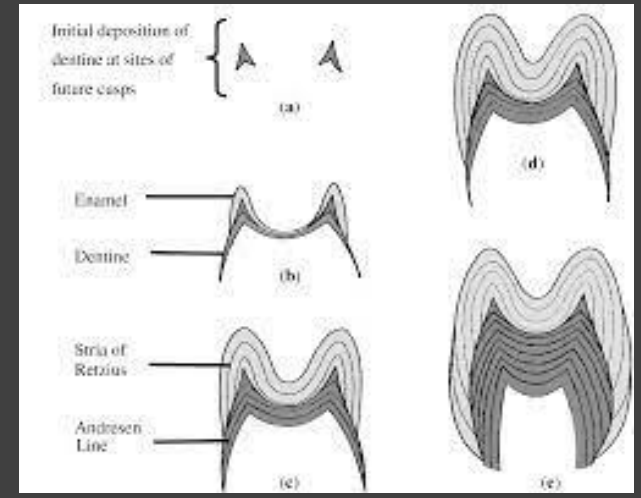
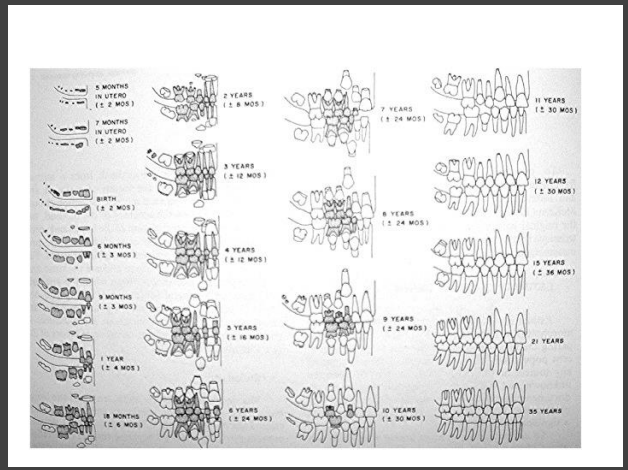
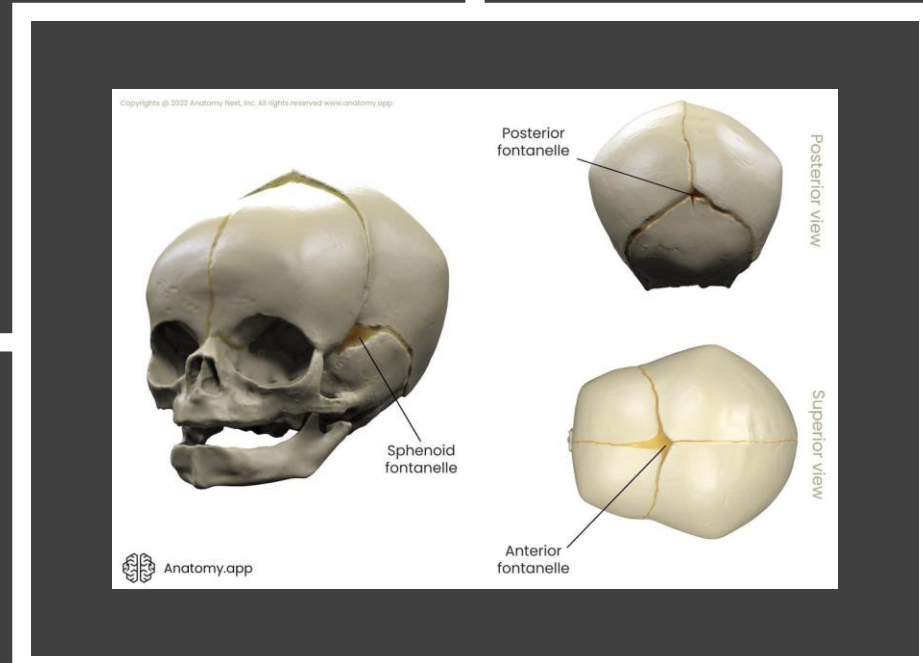
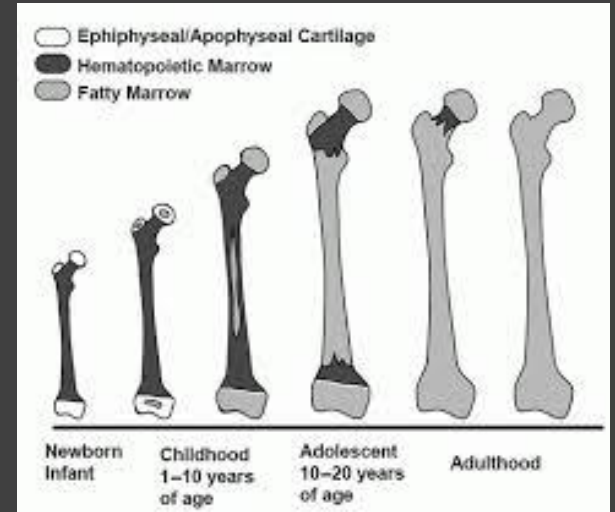
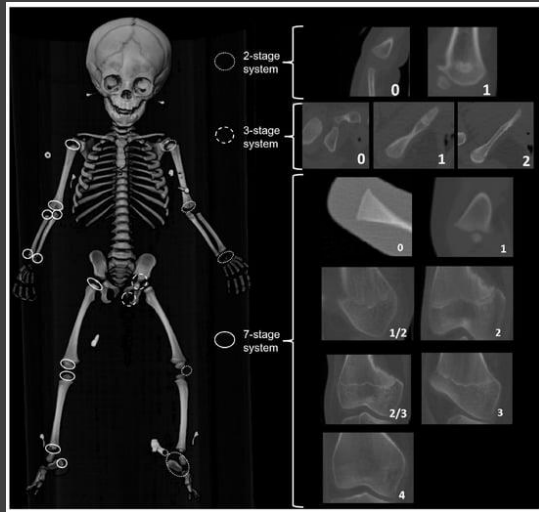
Researchers examine skeletal remains to study aspects of growth and development in children, including

1. estimating age at death,
2. assessing changes in stature,
3. identifying markers of stress & disease during childhood.



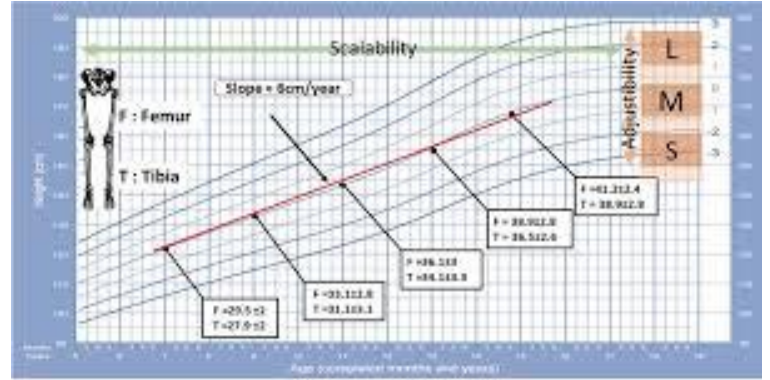
Growth & Development: Age estimation

1. **Dental Development:** Examining dental eruption and development, such as the emergence of primary and permanent teeth, can provide important age information.
2. **Epiphyseal Fusion:** Analyzing the fusion of epiphyses (growth plates) in long bones can indicate age since these fuse as an individual grows.
3. **Bone Length and Size:** Assessing the length and size of various skeletal elements, including long bones like the femur and tibia, can offer insights into age.
4. **Cranial Sutures:** Examining the closure of cranial sutures can be used to estimate age in subadults.
5. **Dental Microstructure:** Studying dental microstructure, like enamel histology and incremental lines, can be useful for age estimation.



Growth & Development: Age estimation

6. **Skeletal Maturation:** Evaluating the degree of skeletal maturation, often using standardized methods and atlases, can help estimate age.
7. **Radiographic Techniques:** X-rays and radiographs are frequently employed to examine skeletal development and fusion in subadults.
8. **Ossification Centers:** Monitoring the appearance and fusion of ossification centers in various bones can contribute to age estimation.
9. **Growth and Development Charts:** Comparing skeletal measurements and development to established growth charts and standards can aid in age determination.
10. **Multimodal Approaches:** Many bioanthropologists use a combination of these methods and consider multiple skeletal elements to improve accuracy in age estimation for subadults.



Growth & Development: Age estimation



Long Bones (Physiological Age):

1. It provides insights into the individual's physical development and maturation.
2. Physiological age focuses on the maturity of body structures, not specific chronological time.
3. Does not yield precise chronological age but rather assesses physical growth and development stages



Teeth (Chronological Age):

1. It offers estimates in terms of days, months, and years, providing a specific timeline.
2. Allows for a more precise determination of the individual's age in relation to a calendar.
3. Enables the study of growth rates and delays in growth in a cultural context with a clear chronological reference.



Growth & Development: Age estimation

Article | [Open access](#) | [Published: 16 September 2022](#)

Validity of age estimation methods and reproducibility of bone/dental maturity indices for chronological age estimation: a systematic review and meta-analysis of validation studies

[V. Marconi](#), [M. Iommi](#), [C. Monachesi](#), [A. Faragalli](#), [E. Skrami](#) , [R. Gesuita](#), [L. Ferrante](#) & [F. Carle](#)

[Scientific Reports](#) **12**, Article number: 15607 (2022) | [Cite this article](#)

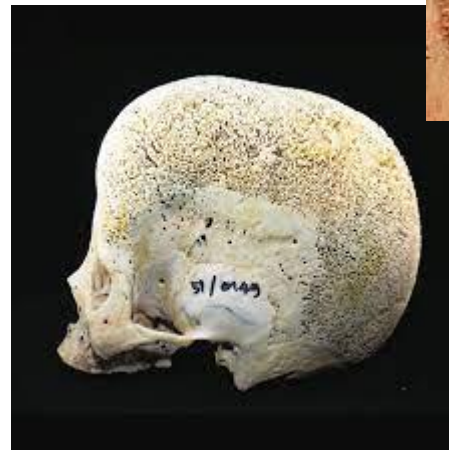
1845 Accesses | **4** Citations | **1** Altmetric | [Metrics](#)

1. A meta-analysis assessed the validity and reproducibility of age estimation methods in forensics and orthodontics.
2. 23 studies meeting specific criteria were included from 433 identified in the literature search.
3. Validity estimates showed small errors in age estimation for both males and females.
4. Different age estimation methods had varying levels of precision.
5. Intra- and inter-observer reproducibility was consistently high across the studies

Growth & Development: Age estimation

Dental and skeletal childhood stress markers used to predict adult mortality

- linear enamel hypoplasia (LEH)
- cribra orbitalia
- porotic hyperostosis



Studies indicate that individuals with more or earlier LEHs from childhood stress tend to have a shorter lifespan.

[Brain Sci.](#) 2020 Mar; 10(3): 169.

Published online 2020 Mar 14. doi: [10.3390/brainsci10030169](https://doi.org/10.3390/brainsci10030169)

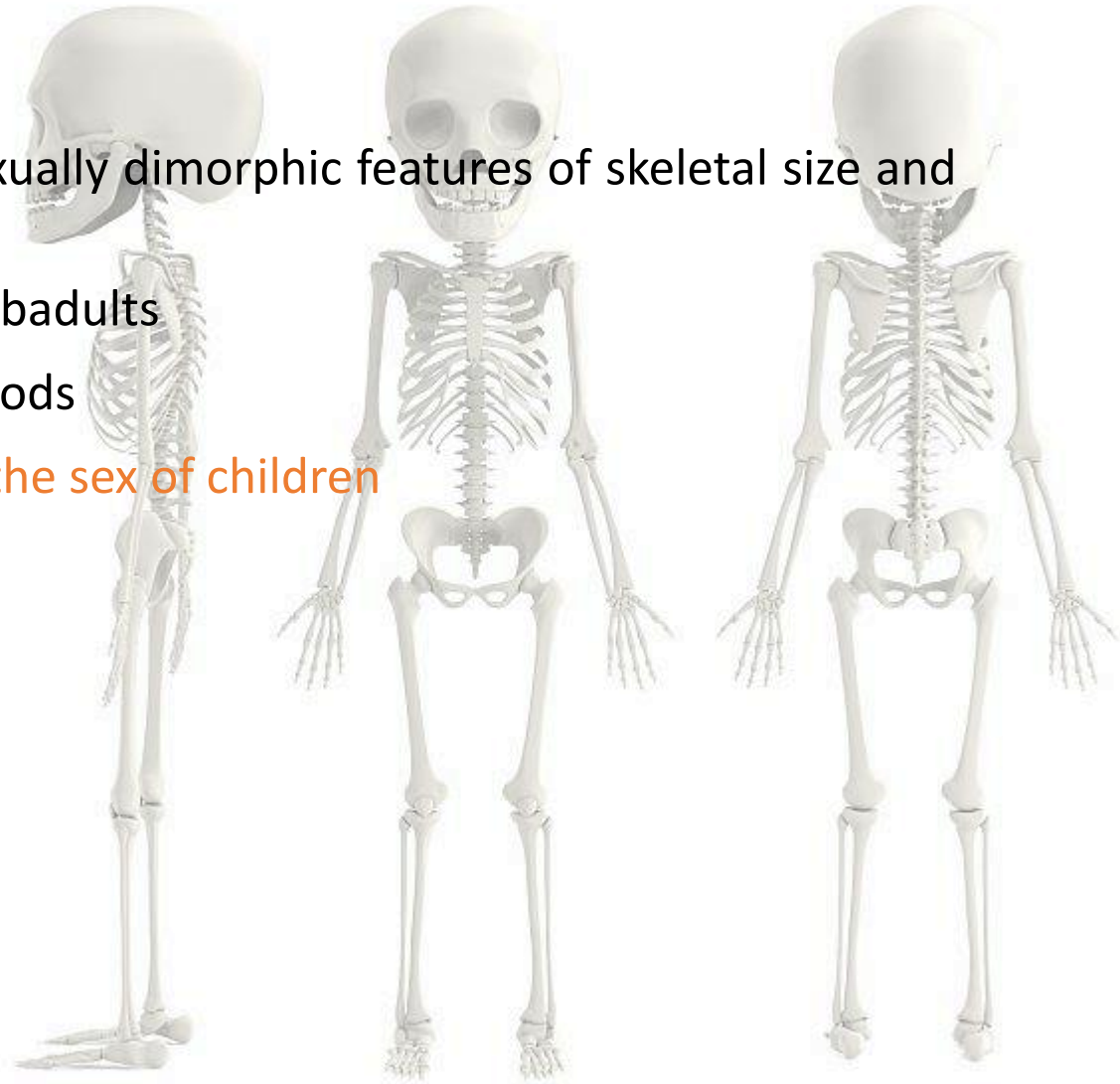
Early Life Stress and Pediatric Posttraumatic Stress Disorder

[Panagiota Pervanidou](#),^{1,*} [Gerasimos Makris](#),¹ [George Chrousos](#),¹ and [Agorastos Agorastos](#)²

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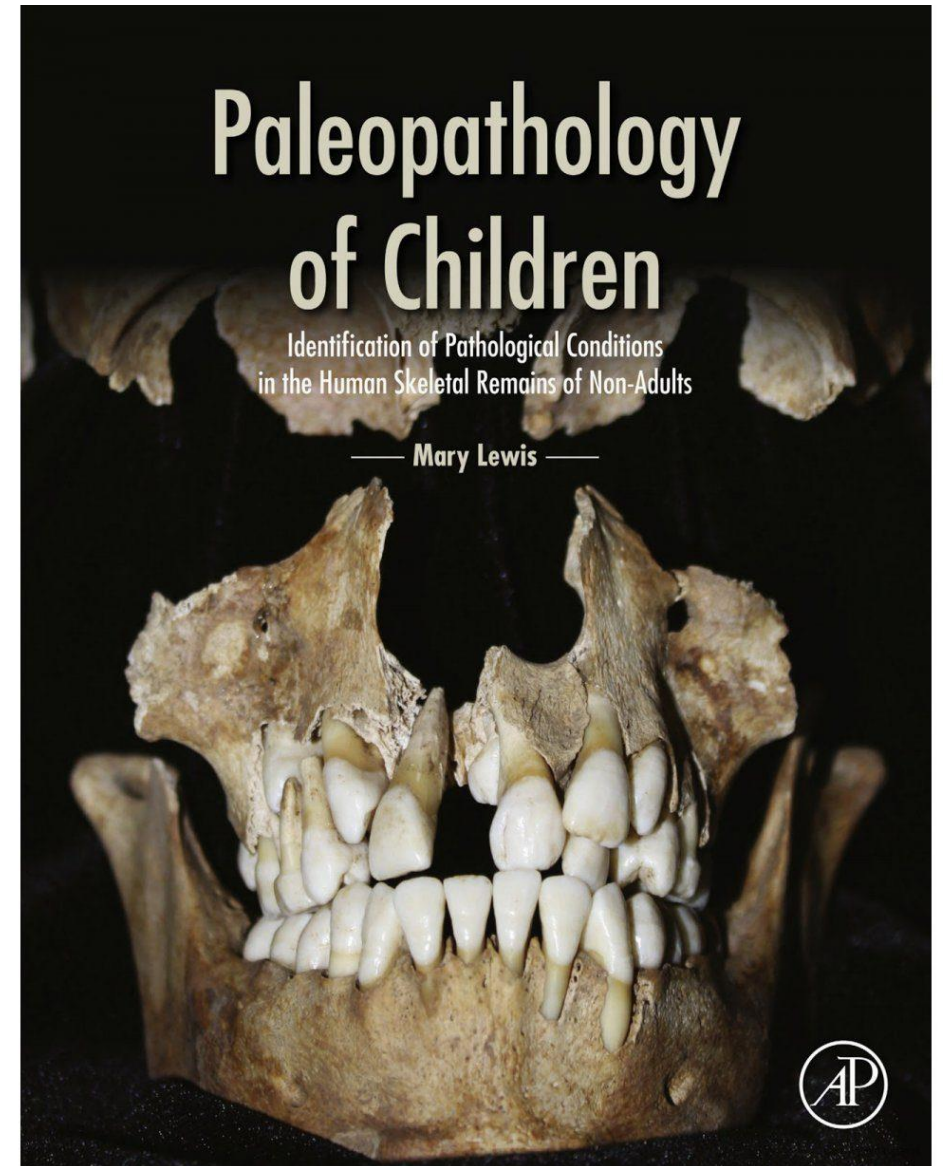
Growth & Development: Sex determination

- ❑ Sex is determined through an examination of the sexually dimorphic features of skeletal size and shape
- ❑ Absence of sexual dimorphism on the skeletons of subadults
- ❑ No sex determination via micro or macroscopic methods
- ❑ DNA and peptide analysis can be used to determine the sex of children



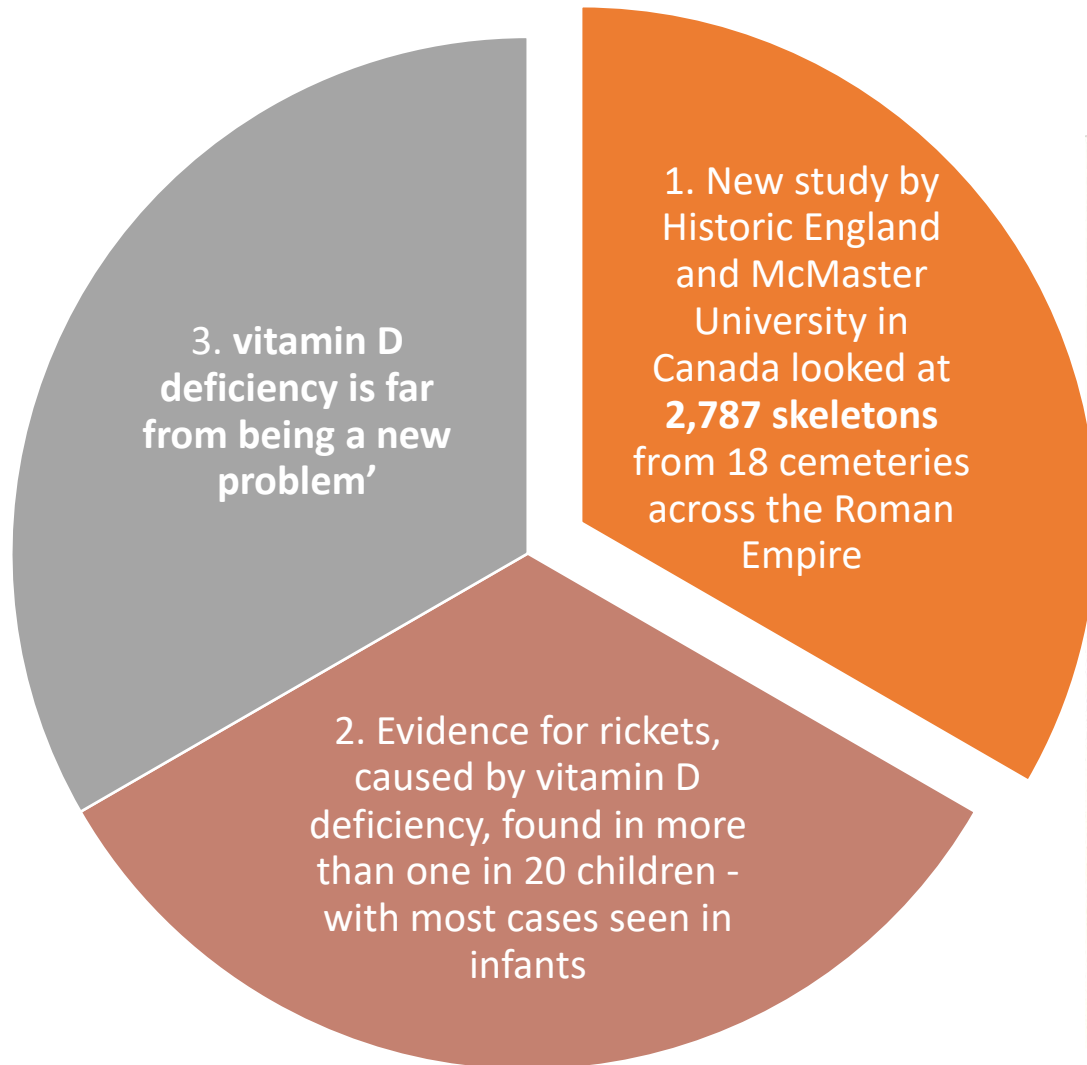
Analyze skeletal and dental evidence to understand the health and disease experiences of children in the past. This can include identifying evidence of:

1. nutritional deficiencies,
2. infectious diseases,
3. trauma,
4. other health-related issues.



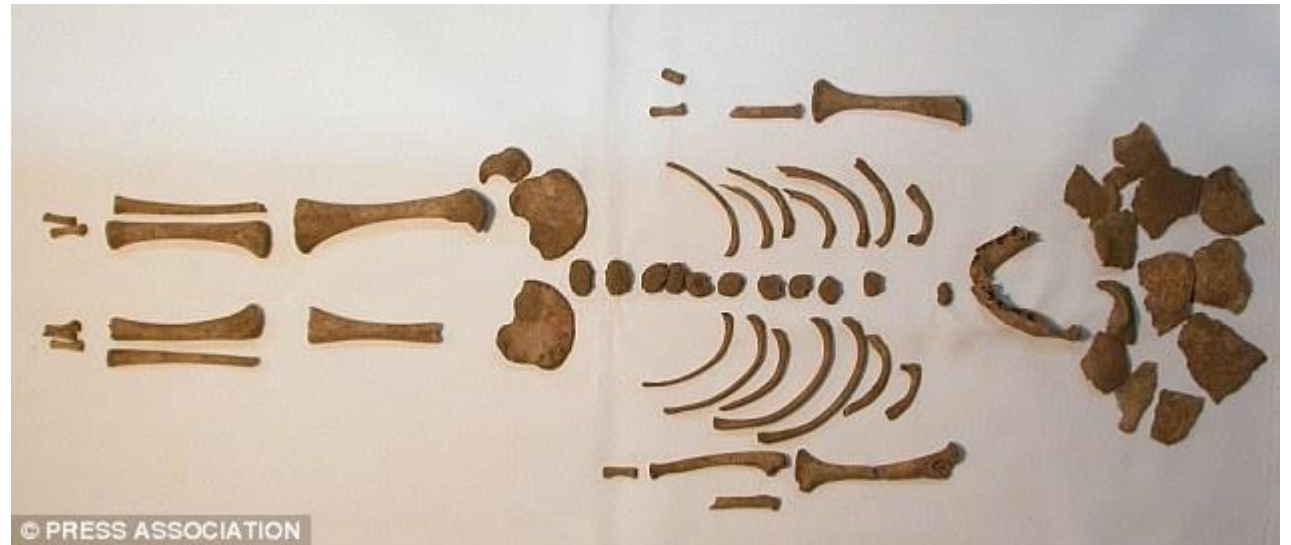
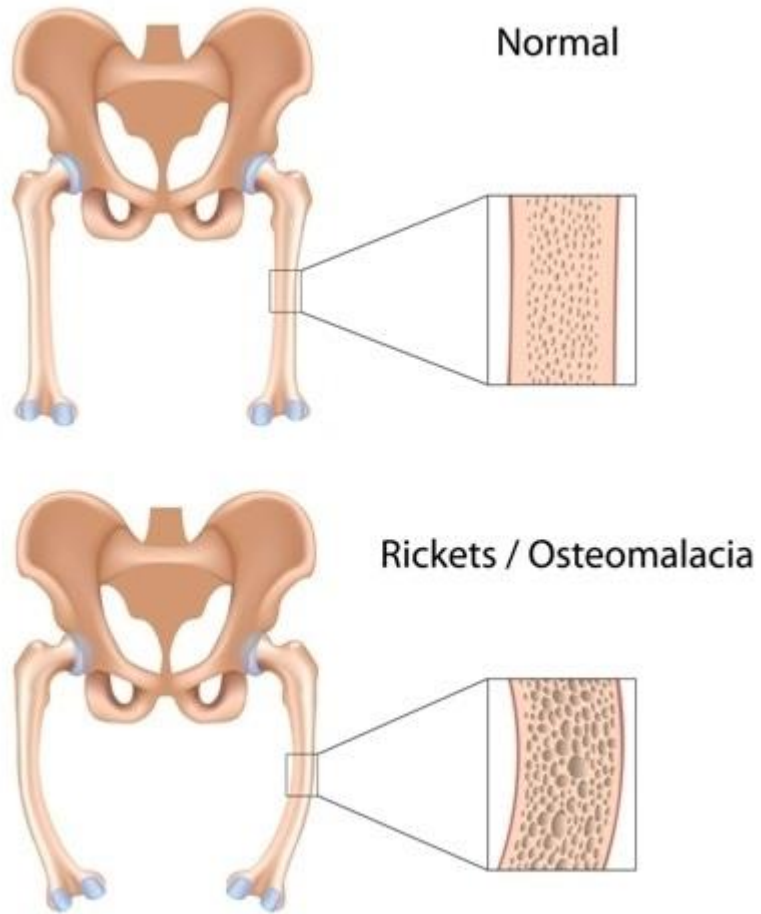
Health & Diseases : Case study

Roman Skeletons Show Vitamin D Deficiency in Children Was a Widespread Problem 2,000 Years Ago.



Health & Diseases: Case study

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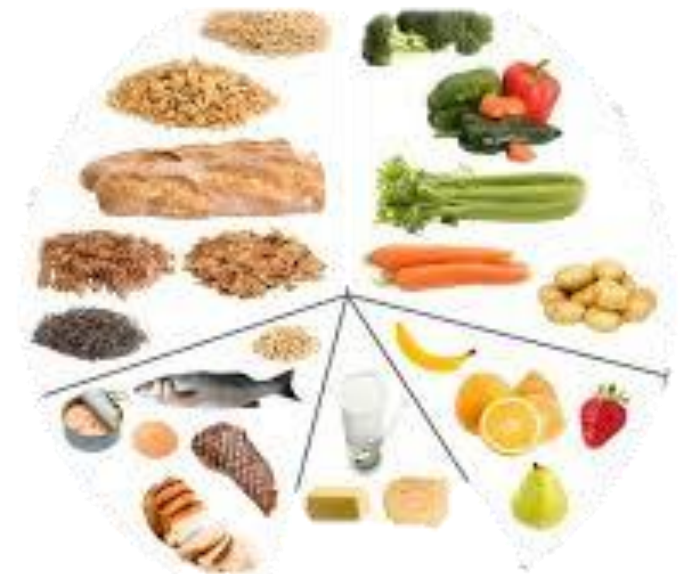


An infant skeleton from a Roman empire cemetery. Photograph: Historic England

Diet & Nutrition

The study of stable isotopes in the bones & teeth of children can provide information about their dietary patterns & sources of nutrition. This can reveal insights into:

1. weaning practices,
2. breastfeeding duration,
3. food availability.



Diet & Nutrition: Case study

Materials & Methods

- ($\delta^{15}\text{N}$), dietary reconstruction
- 5 Bronze Age sites Lebanon & Syria (ca. 2,800–1,200 BCE).
- Bayesian computational modeling was applied to cross-sectional stable isotope data of collagen samples ($n = 176$) from previous studies.
- The study aimed to assess the alignment between bioarchaeological evidence and **textual evidence** of breastfeeding and weaning practices in the region.
- Also compared estimated weaning times to global findings using the WARN (weaning age reconstruction with nitrogen isotope analysis) Bayesian model.



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Reconstructing breastfeeding and weaning practices in the Bronze Age Near East using stable nitrogen isotopes

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A Middle Bronze Age infant from the Lebanese site of Sidon buried in a large jar. Claude Doumet-Serhal, [CC BY-NC-ND](#)

Diet & Nutrition: Case study

Results

- Weaning was typically introduced at around 0.5 ± 0.2 years of age, with complete weaning occurring at approximately 2.6 ± 0.3 years of age when using the WARN computational model.
- These weaning patterns align with the timeframes indicated by historical texts, demonstrating a strong correspondence between archaeological and textual evidence.
- Notably, the estimated weaning age on the Mediterranean coast was found to be later than in inland sites, suggesting regional variations in weaning practices.

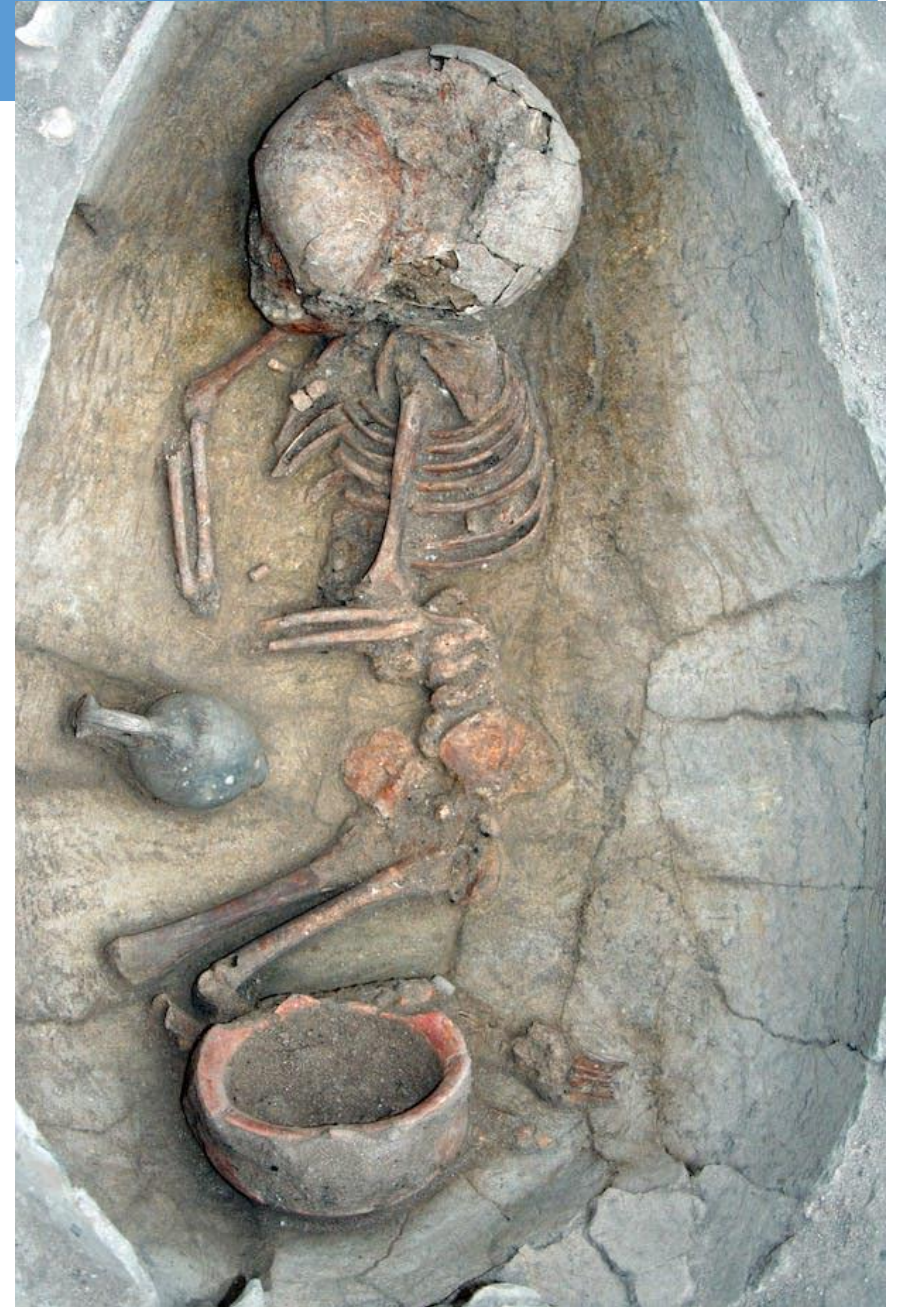


Relic from Mesopotamia (2000-1500 BCE) at The Sulaimaniya Museum, Iraq, shows a woman breastfeeding her child. [Osama Shukir Muhammed Amin](#), [CC BY](#)

Social status & Burial Practices

The way children are buried provides insights into their social status across different cultures and time periods, considering factors like:

1. burial treatment,
2. grave locations
3. grave items,
4. associated cultural rituals.
5. any distinctive practices linked to child burials.

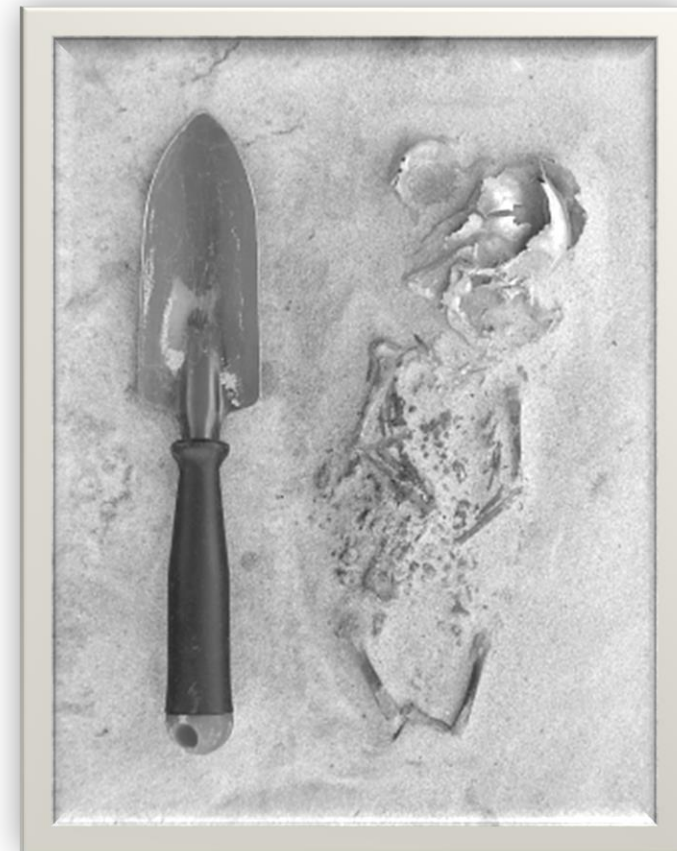
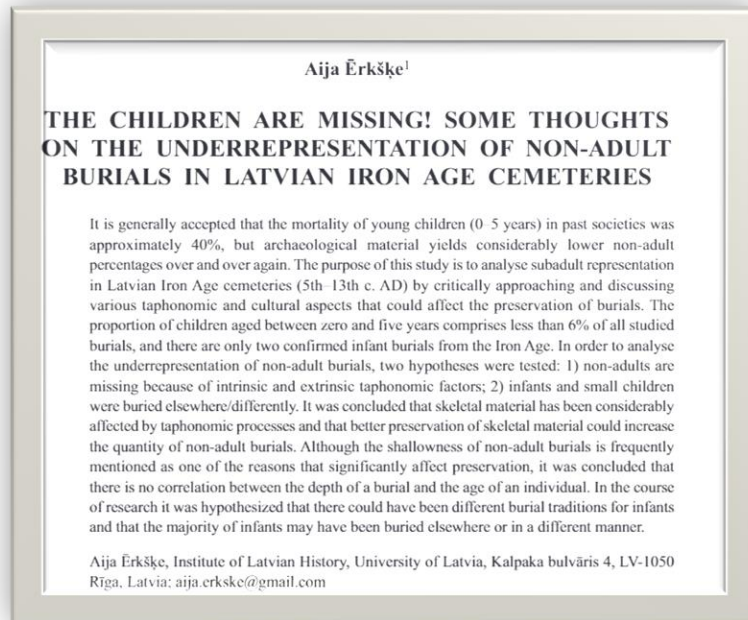


A Middle Bronze Age child from the Lebanese site of Sidon buried in a large jar. Smaller ceramics were placed with the dead as funerary objects. [Claude Doumet-Serhal, CC BY-NC-ND](#)

Social status & Burial Practices

*It is commonly held that, in general, infants and young children are **underrepresented** in communal cemeteries in prehistory*

- Intrinsic and extrinsic taphonomic factors: differential preservation
- Cultural, religious, and/or ritual factors: buried elsewhere/differently

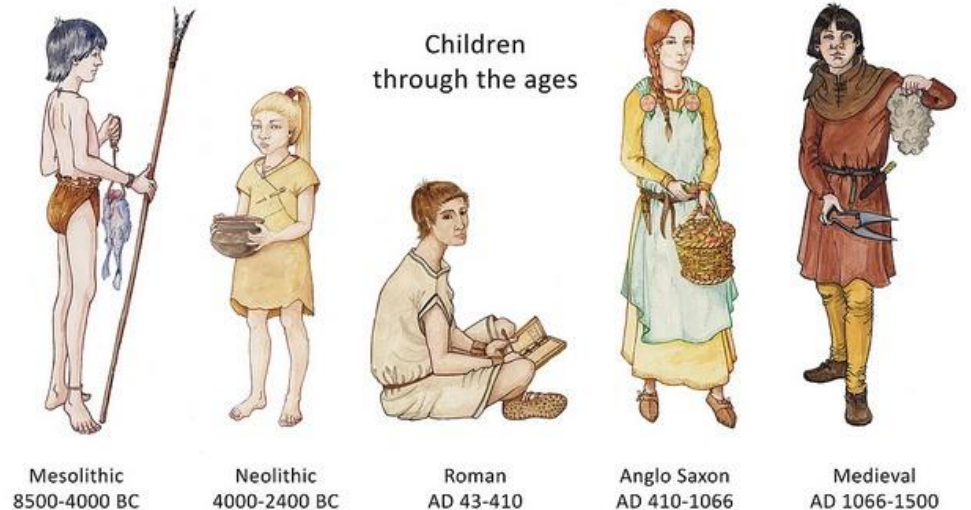


Scott 1999

An example of a fetal burial (~38 weeks) from the post-medieval Polish site, Drawsko

Where were the children?

1. infants are not considered ancestors or even fully human and, hence, they are excluded from family burial crypts;
2. differential treatment of male and female infants;
3. infants who were buried in pots were contaminated or deviant in some way—they died of disease, were suspected of being witches, demons, or changelings
4. mothers of these infants were of different statuses within the household;
5. expensive or difficult ceremonies were attached to burying the dead;
6. a lack of parental investment in infants exists because so many die young



- ❑ Lancy's research (2014) explores cross-cultural infant burial practices linked to the concept of "delayed personhood."
- ❑ Delayed personhood means that children are not considered fully human until they reach a certain age and are expected to survive into adolescence and adulthood.
- ❑ Lancy's studies cover various cultures, from the Mesolithic era to modern times, including hunter-gatherers and industrialized agriculturalists.
- ❑ He identifies factors shaping cultural models of infancy, such as high infant mortality, maternal vulnerability, economic considerations, and unwanted infants due to deformities or perceived weakness.
- ❑ Lancy outlines different cultural perceptions of infancy based on these factors.
- ❑ His work emphasizes rituals where funerary rites for infants are often brief or absent, highlighting the idea that infants are in a liminal state and not fully integrated into the community.

- ❑ Lancy suggests that evolutionarily, weak attachment bonds with infants may have prevailed until it was clear that the child was healthy and fully human, achieving "delayed personhood."
- ❑ There should be a clear distinction in the treatment and organization of infant burials as children mature. However, such a distinction is not evident in the archaeological evidence from Titriş Höyük.
- ❑ One possibility is that two culturally accepted options for infant burials existed: burial in a family cist tomb or in a cooking pot beneath the house floor, which may have been viewed as symbolically equivalent. The choice could have been influenced by convenience or family preference.
- ❑ Despite the absence of rank, status, gender, or kinship-based evidence, infant pot burials at Titriş Höyük may be considered as extensions of family cist tombs, conceptually within the realm of normal funerary practices, serving as a suggestion for further evaluation.

Social status & Burial Practices: Burial within a wall

The youngest children were most often interred in kitchen and household vessels, which were usually placed [under the floors of homes or courtyards](#).

A very old type of burial and occurs practically all over the Levant and [Mesopotamia](#).



A pot burial tucked into the corner of two walls within a room in a Lower Town house. The triangular lugs are common to burial pots and cooking ware vessels



Social status & Burial Practices: Jar burials

1. One large and lidded, sealed jar (domestic type or specially made)
2. Two jars joined at the mouth; question whether such individuals will have died together if they are buried in such a way



Over 120 Child Remains Found in Jars in Inner Mongolia



One of the 128 child urn burials discovered in Liangcheng County. (Institute of Cultural Relics and Archaeology of Inner Mongolia Autonomous Region/Xinhua News)

Social status & Burial Practices: Child sacrifice

- ❑ Human sacrifice *is a form of human sacrifice aimed at influencing the supernatural world, often involving children.*
- ❑ The reasons for child sacrifice are not always clear, but artistic and textual representations shed light on the **ritual's meanings / from averting natural disasters to ensuring the posterity of a particular ruler**
- ❑ Widely described in antiquity and likely occurred in prehistory
- ❑ Different geographic case studies, each area offers unique insights into the complex and evolving nature of child sacrifice :

Mesopotamia, Anatolia, North Africa and Punic Sites, south America....

Social status & Burial Practices: Child sacrifice

Ancient Peruvian Rituals

Eighty-two Peruvian skeletons found with signs of throats slit, chests opened.

During the sacrifices, sharp bronze knives were used to hack the children to death.

- One skeleton had more than 25 cut marks on it.
- A few had their hands & legs bound with rope.



The skull of a child sacrificed at around 9 years of age.
PHOTOGRAPH COURTESY HAAGEN KLAUS

Social status & Burial Practices: Child sacrifice

Ancient Tomb Found in Mexico Reveals Mass Child Sacrifice

The skeletons of two dozen children killed in an ancient mass sacrifice

All were between 5 to 15 years of age

Likely killed as an offering to the Toltec rain god Tlaloc, Gamboa said (Rutual Mesoamerica)

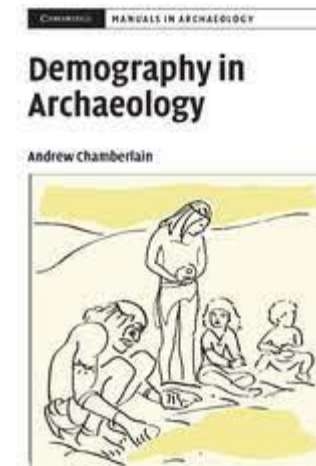
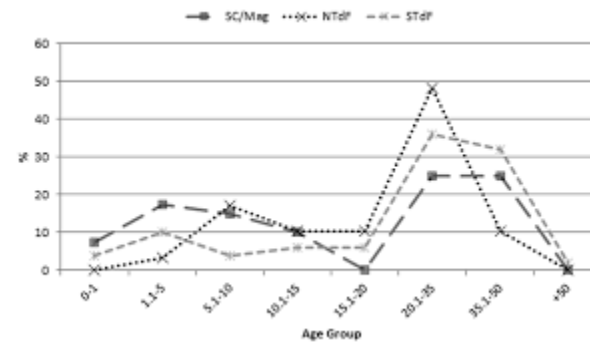


Remains of children found at the site. John Verano/Tulane University

Demography

Bioarchaeologists may use child remains to contribute to the reconstruction of past populations by studying:

1. birth rates
2. mortality rates
3. population structure



Prehistoric children as young as eight worked as brickmakers and miners

Bones and artefacts suggest that kids laboured at skilled tasks thousands of years ago.



Some Bronze Age children toiled away in salt mines in what is now Austria. Credit: NHM Vienna/Hans Reschreiter

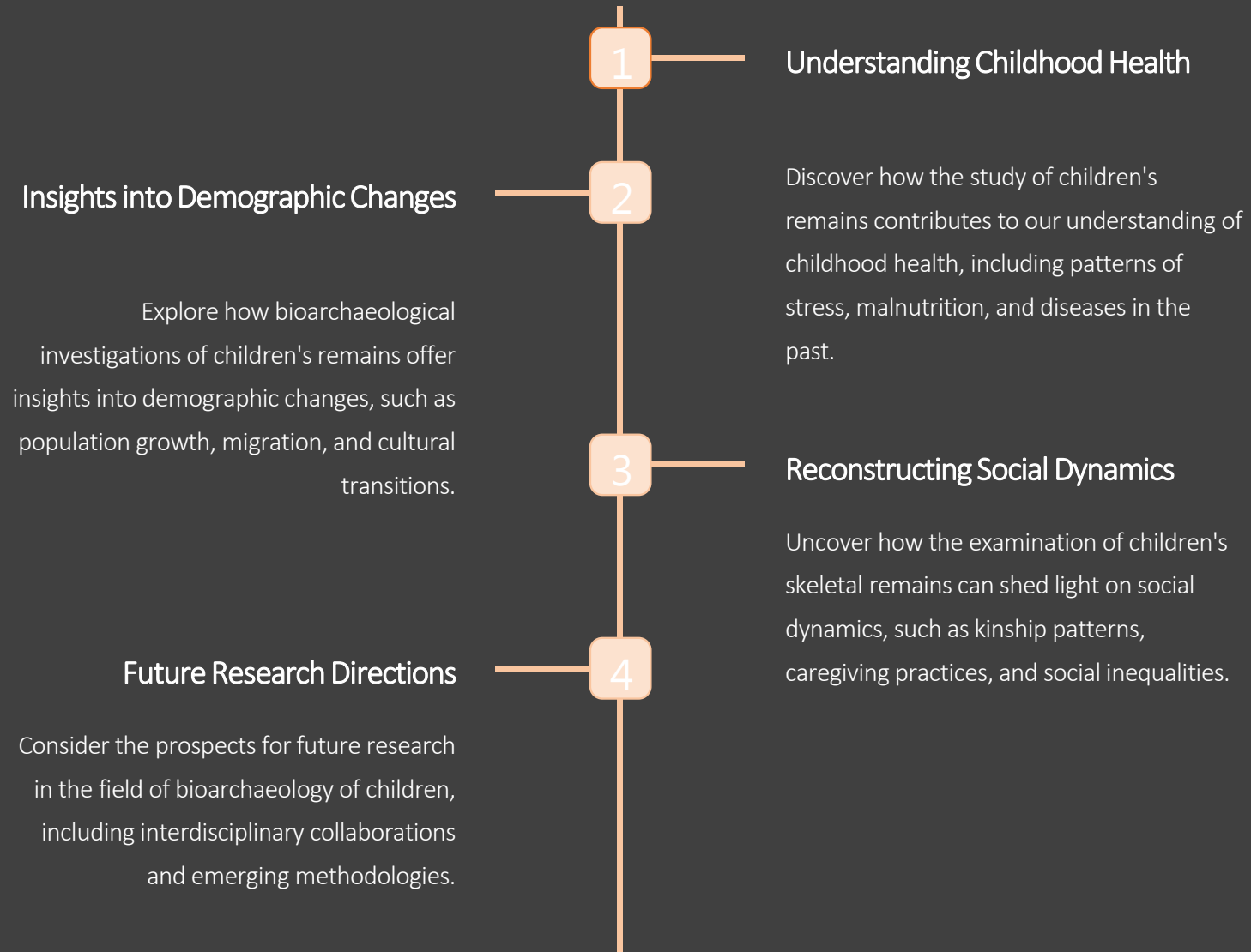
Ethical considerations

Ethical considerations are an important aspect of the bioarchaeology of children regarding:

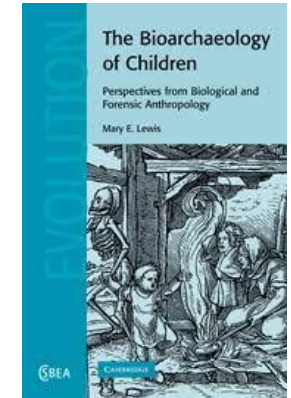
1. the treatment of their skeletons
2. the respect for their remains.



The bioarchaeology of children



Conclusions



1. Contributes to our understanding of how children's lives & experiences varied across different cultures & time periods
2. Helps in reconstructing the social & economic contexts in which children lived & died,
3. Offers a more comprehensive view of past societies

