Archaeothanatology as a discipline: management & treatment of the corpse

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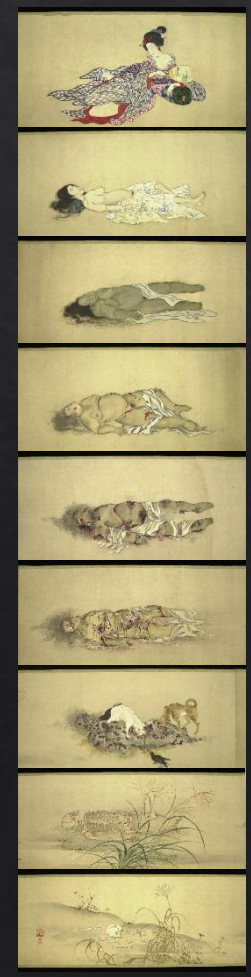
Archaeothanatology = Taphonomy

Introduction

- Early **1980s**, **France**
- Developed a **new multi-disciplinary approach** combining on anatomy, taphonomy, forensic science, with detailed archaeological observations in the field
- original name "***l'anthropologie du terrain***" = "field anthropology"
- different meanings of both "anthropology" and "fieldwork" in French, Anglo-Saxon and American literature
- **B. Boulestin & H. Duday** (2005-2006) → term "**archaeothanatology**"



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Introduction

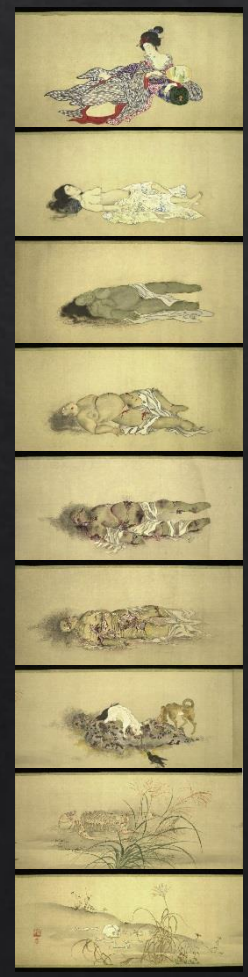
<u>This approach makes it possible to reconstruct in detail how people in the past handled their dead</u>

if they were buried in a coffin or in a filled in pit,

if they were buried clothed,

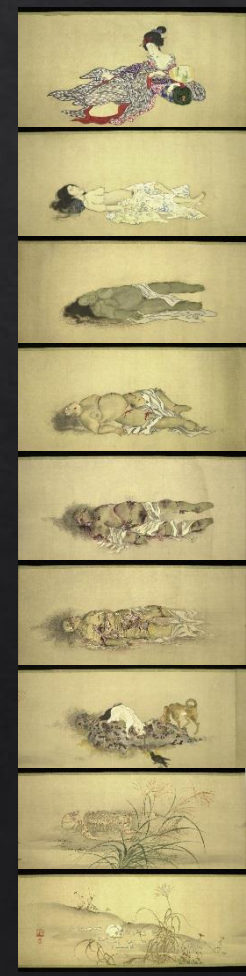
if they were wrapped or placed on cushions or platforms,

if they had decomposed somewhere else prior to the final deposition, or if people later opened the grave and interacted with the putrifying or skeletonized remains.



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Introduction



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Today new possibilities to test and further develop our knowledge in the field.

1. **Body farms:** testing foundational assumptions about decay processes through experimentation (human decomposition facilities)

2. **Digital reconstructions**: developing new tools for documentation & analysis of burial during excavation

Body Farms

Corpses decay at the body farms at the University of Tennessee © David Howells/Corbis via Getty Images

Body Farms

Before, scientists had to rely on research conducted largely on the carcasses of pigs (physiologically similar to humans):

Even now, many countries outside the U.S. still utilize pig carcasses for such research

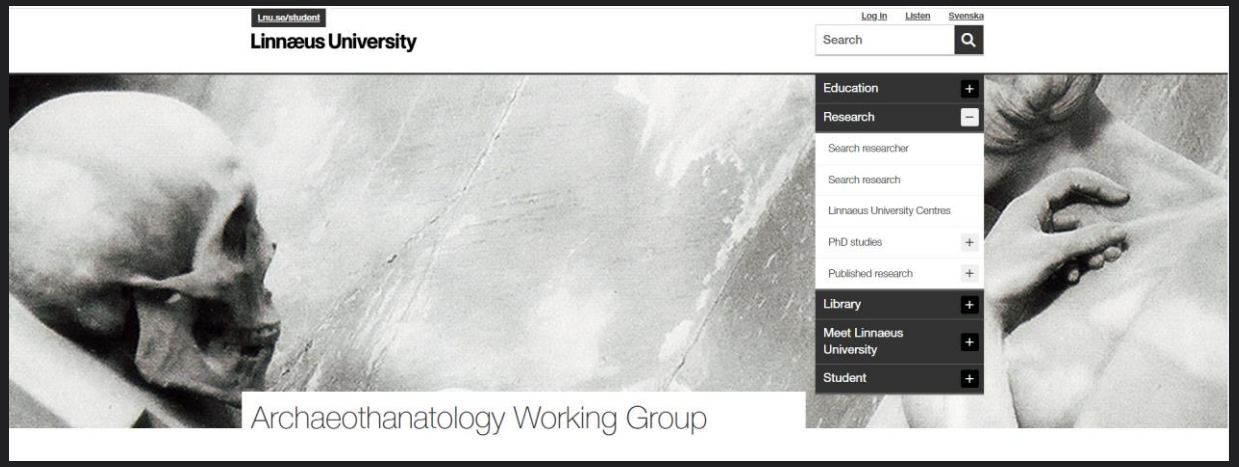
William Bass radically altered the field of forensics when he founded the very first body farm at the University of Tennessee in Knoxville

Body Farms

A body sits underneath a cage at the Texas State body farm © David Howells/Corbis via Getty Images

Body Farms

A body experiencing the bloat stage at the Texas State body farm © David Howells/Corbis via Getty Images



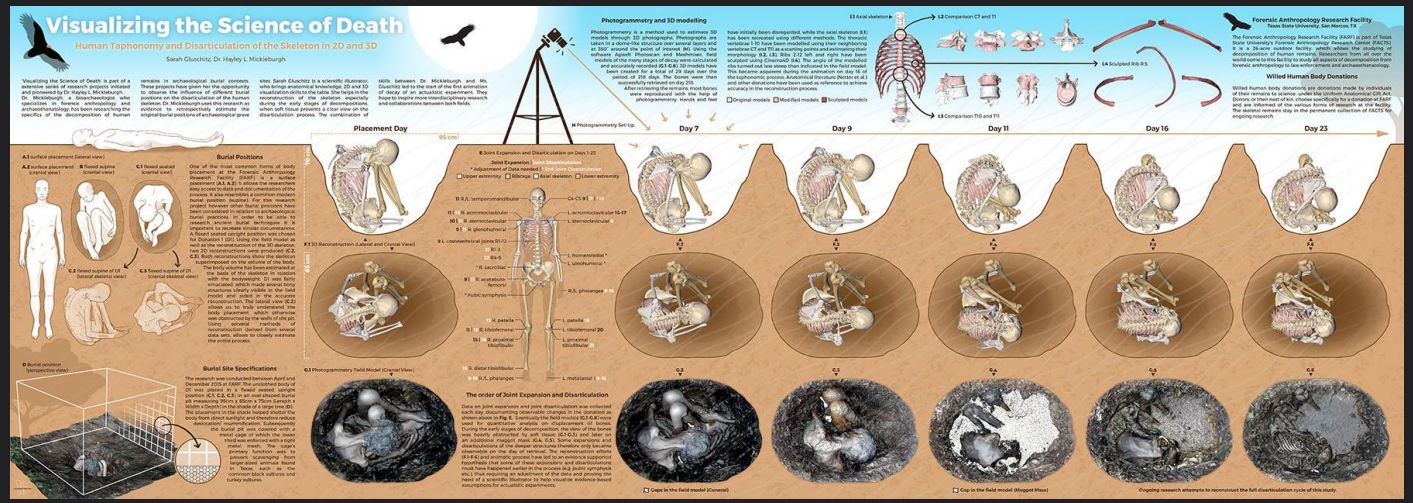


Fig. 1: *FARF, Caging of fresh body donation*, Dr. Hayley L. Mickleburgh, August 2017

Fig. 2: *FARF, Excavation of body donation*, Dr. Hayley L. Mickleburgh, August 2017

Fig. 4: *GEFARL, Photographing skeletal remains*, Dr. Daniel J.Wescott, 2018

Fig. 3: *ORPL, Cleaned skeleton*, Dr. Daniel J. Wescott, 2018

Archaeothanatology

"reconstruct the attitudes of ancient populations towards death, by focusing on the study of the human skeleton, and analysing the acts linked to the management and treatment of the corpse".

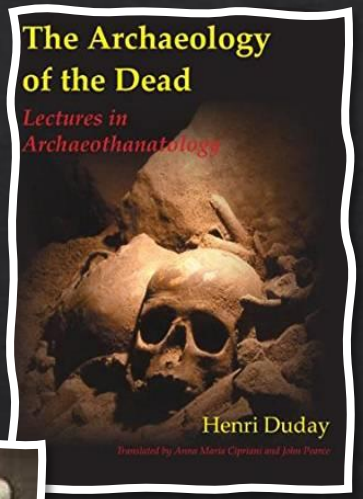
1
Decomposition of the corpse

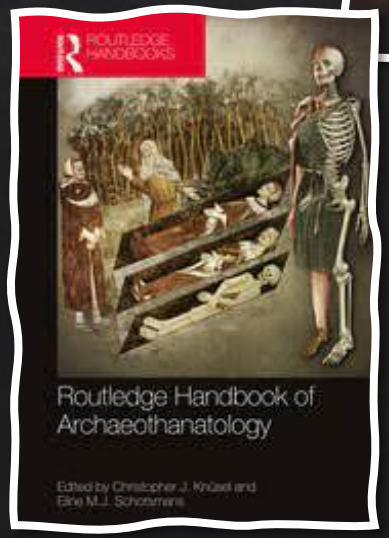
2
Skeleton taphonomy

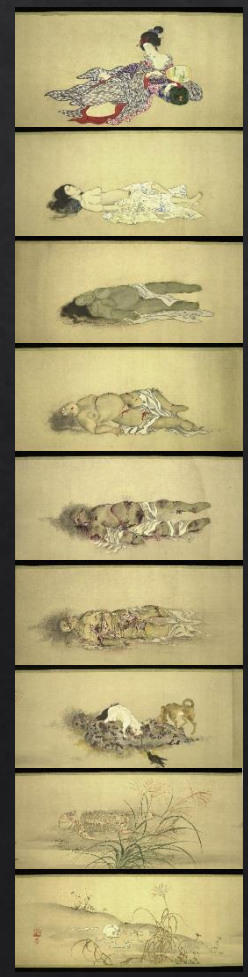
3
Marks on bones

4
Funerary deposits

5
Interpretation

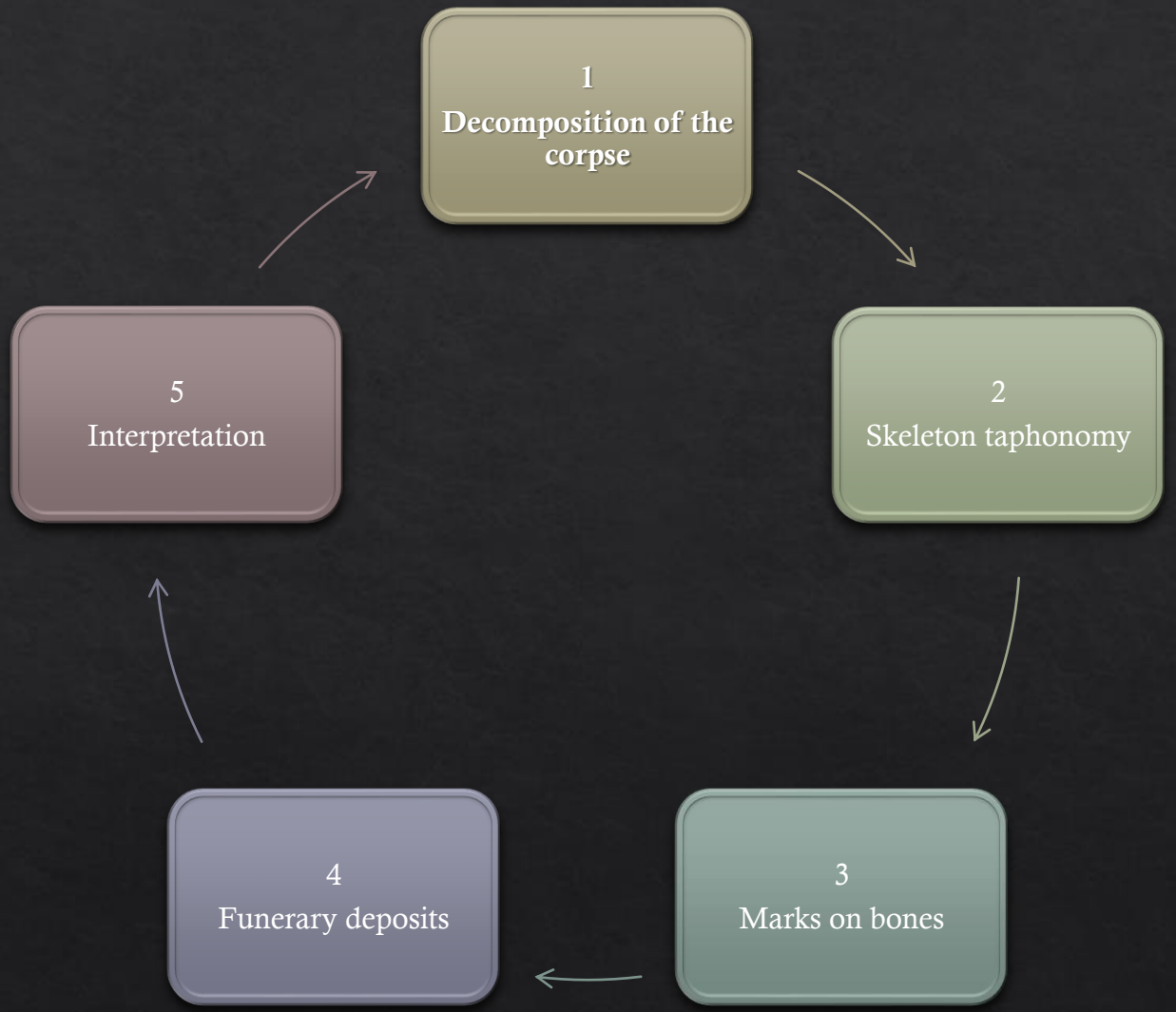






"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Archaeothanatology: 1. Decomposition of the corpse



"A human body starts to decompose four minutes after death"

Chemistry of Death, Simon Beckett, 2006

Fig. 6: From top left to bottom right: *Body of a courtesan in 9 stages*, Kobayashi Eitaku, 1871

1. Decomposition of the corpse

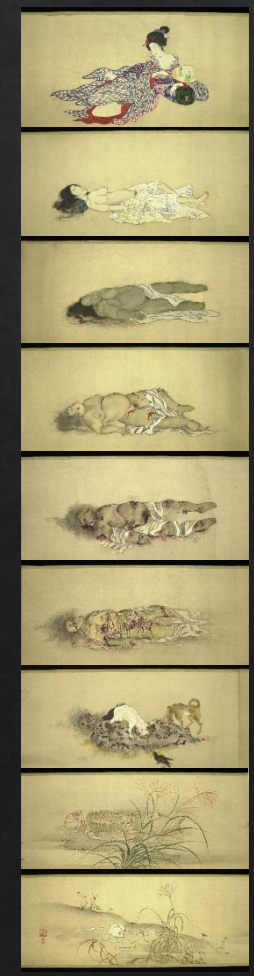
Physico-chemical changes	Rate of decomposition: the factors	Bone degradation

1. *Autolysis* = No longer transported O2 → no longer regulation of the proton gradient → acidity that will destroy the cell walls

2. *Lividity* = No more blood supply → any blood that remains within the corpse → settle in direct response to gravity a bluish green to black coloration

3. *Rigor mortis* = No longer circulation of various elements *i.e.* calcium → fixed on the muscles → tension → rigidities

4. *Putrefaction* = lack of regulation → proliferation & degradation from within the body → release of gases



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

1. Decomposition of the corpse

Physico-chemical changes	Rate of decomposition: the factors	Bone degradation

- ***Autolysis***
- ***Lividity***
- ***Rigor mortis*** *(btw 2-6 hours after death)*
- ***Putrefaction*** *(anaerobic degradation)*

On a macroscopic scale:

- Skin detachment, the fat layer being liquefied by autolysis (48h)
- Possible swelling of the abdomen (a few days)
- Degradation of all tissues

Fig. 9: *Body Farm*, Sally Mann, 2001

Fig. 10: *Rondleiding op een bodyfarm 4:58* , Focus, NTR, 2018

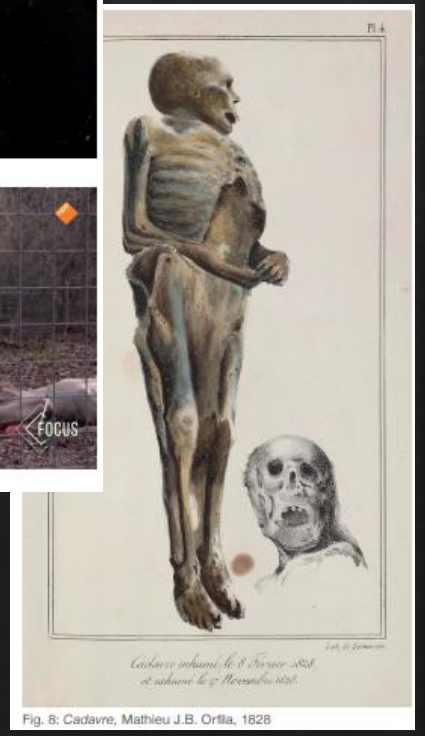
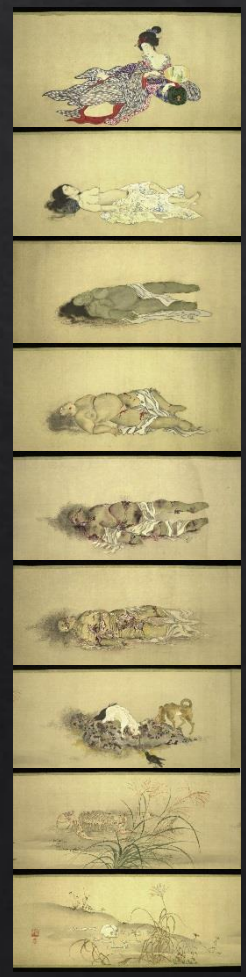


Fig. 8: *Cadavre*, Mathieu J.B. Ortila, 1828

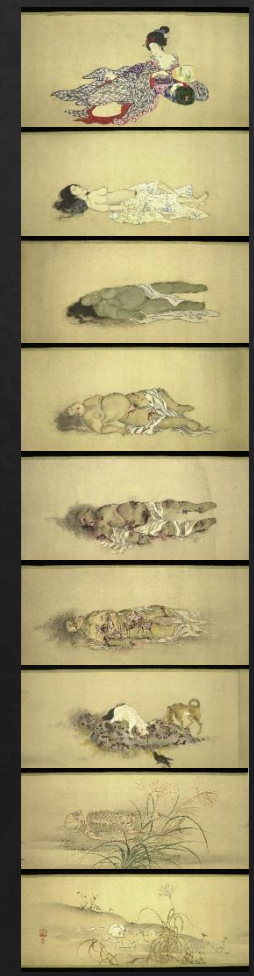


"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

1. Decomposition of the corpse

Physico-chemical changes	**Rate of decomposition: the factors**	Bone degradation

1. *Temperature* (governs the activity of insects: 2/4 weeks in summer, several months in winter)
2. *Water* (decomposition rate is different because there are fewer insects)
3. *Aridity* (Autolysis requires an aqueous medium. The water contained in the body drains through the skin, if the water drains faster than autolysis, decomposition will stop)
4. *The state of the body at the time of death* (an increase in autolysis when the individual is larger)
5. *Exposure of the body and the surrounding environment* (body protection, burial, outdoor exposure, type of sediment, depth, O2 concentration)



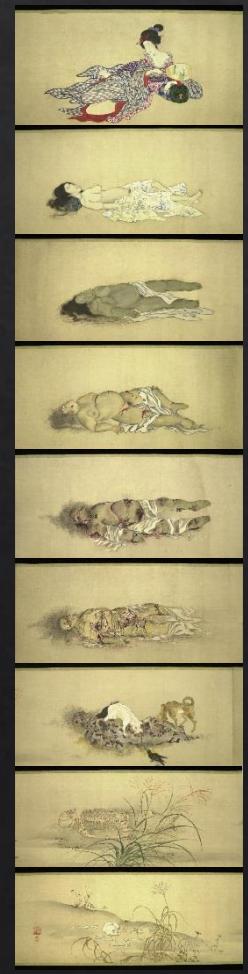
"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

1. Decomposition of the corpse

Physico-chemical changes	Rate of decomposition: the factors	**Bone degradation**

Changes in the skeletal microstructure are observed:

- after **5** yrs in the **soil**
- after **4** to 5 yrs at **sea**
- after **15** yrs of **exposure to the air**



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

1. Decomposition of the corpse

Physico-chemical changes	Rate of decomposition: the factors	**Bone degradation**

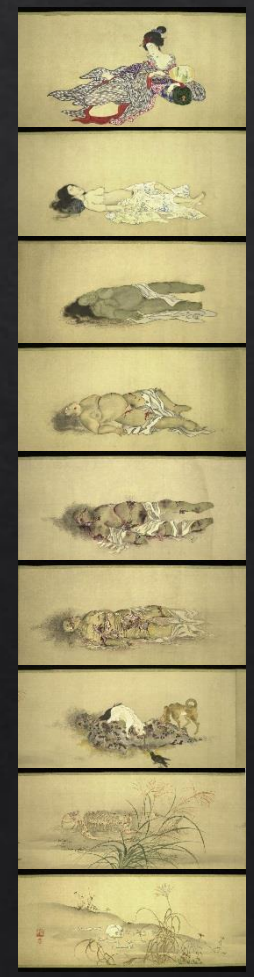
- Bone fairly stable under normal conditions:

* in soil, the microstructure of the teeth seems not to vary for at least 70 years. In immersion, there are changes as early as 13-17 days for the dentin.

Fungi are active as early as 15-20 days in soil

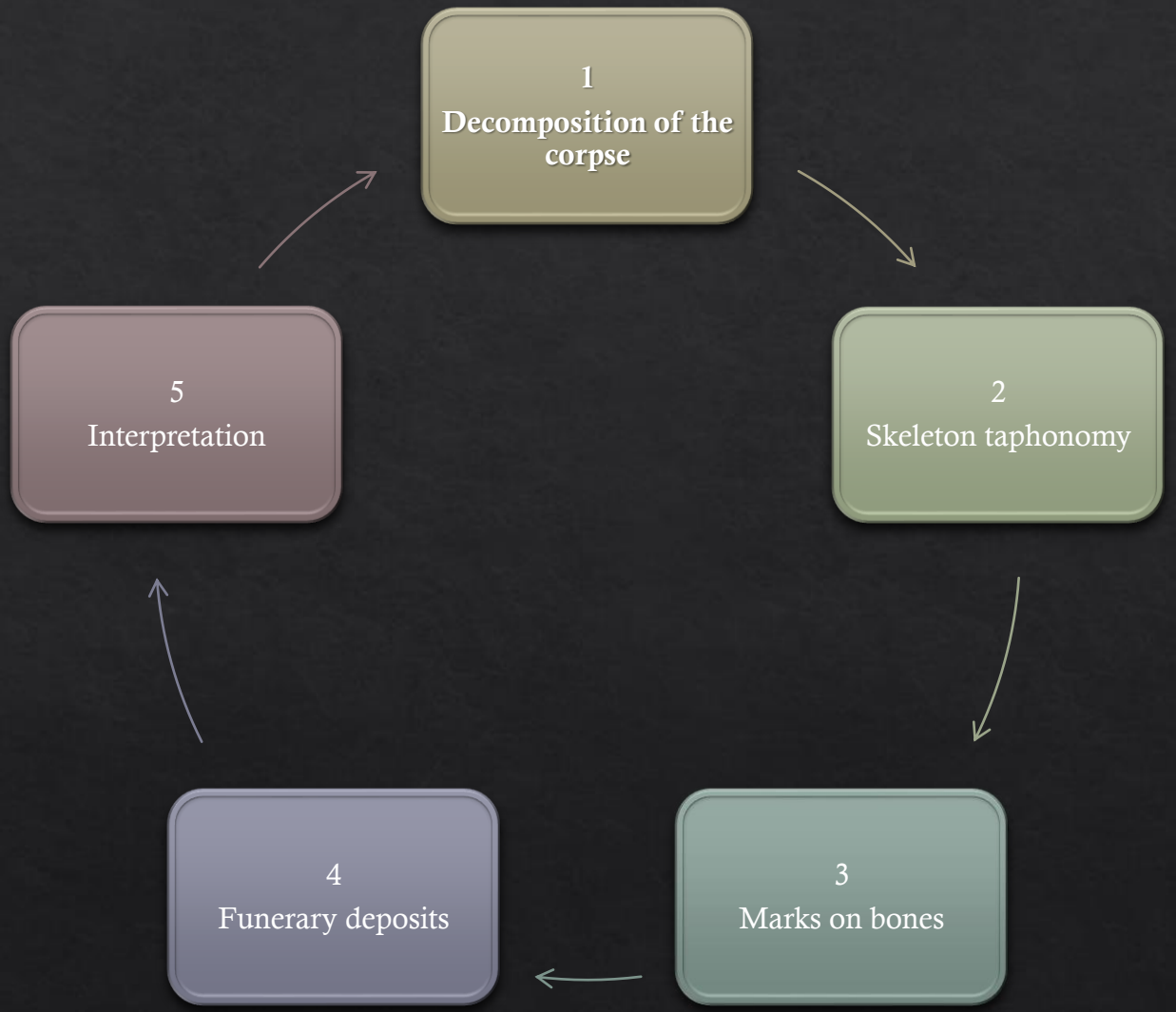
Bacteria leaves visible traces in less than a year → remineralization of the bone.

Soft tissue decomposition begins with endogenous microflora upon death.
The alteration of the skeleton begins with the exogenous microflora & the mechanisms of the environment.



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Archaeothanatology: 2. Skeleton Taphonomy



2. Skeleton Taphonomy

Initial observations of joint dislocation	Systematization of Observations	Grave submersion

- 1st observations were made on **animals** in conditions of **natural disaster** "special cases":

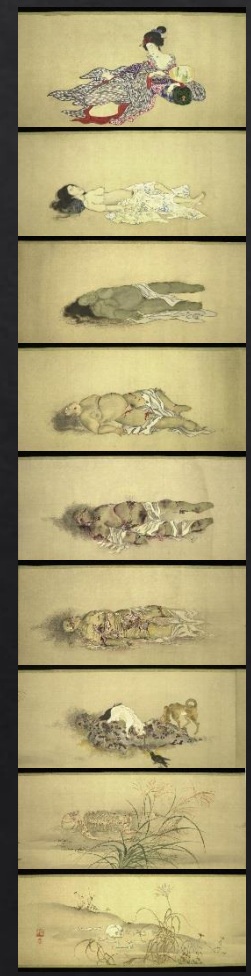
extremities of the limbs and then moving towards the trunk axis (ankle, elbow, shoulder…)

- (Hill, 1979) → **another order**:

scapula and trunk/caudal vertebrae/humeralus… ***Different biomechanical & observations made in a particular context of draught***

- Important biases in **forensic medicine** studies (cases reported with atypical conditions of death or discovery of the bodies).

The importance of external factors that can potentially partially reverse the order of dislocation **must be stressed.**



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2. Skeleton Taphonomy

Initial observations of joint dislocation	Systematization of Observations	Grave submersion

complex process of disarticulation, involving **multiple instances of displacement** of bones out of anatomical position prior to loss of the connective tissues, as well as cases of disarticulation followed by '**re-articulation**'.

Contents lists available at ScienceDirect

Journal of Archaeological Science: Reports

journal homepage: www.elsevier.com/locate/jasrep

Controlled experimental observations on joint disarticulation and bone displacement of a human body in an open pit: Implications for funerary archaeology

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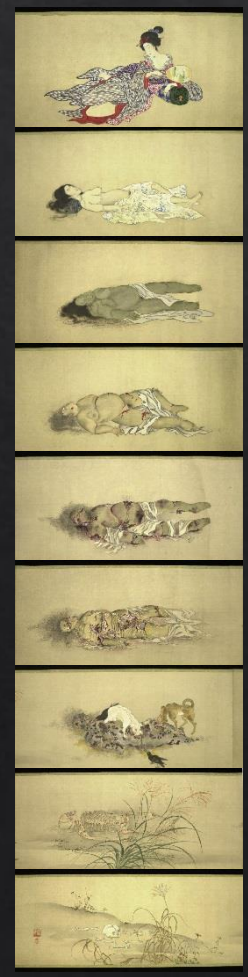
[b] Texas State University, Department of Anthropology, 601 University Drive, San Marcos, TX 78666, United States

Table 3
Sequence of decomposition (following gross decomposition categories outlined in Megyesi et al. (2005)). Day 1 is placement day, not date of death.

Time since deposition	Stage of decomposition		
Day	Torso	Head and neck	Limbs
1	Early	Early	Early
6	Early	Advanced	Early
8	Advanced	Advanced	Advanced
11	Advanced	Skeletonized	Advanced
15	Advanced	Skeletonized	Skeletonized
21	Skeletonized	Skeletonized	Skeletonized



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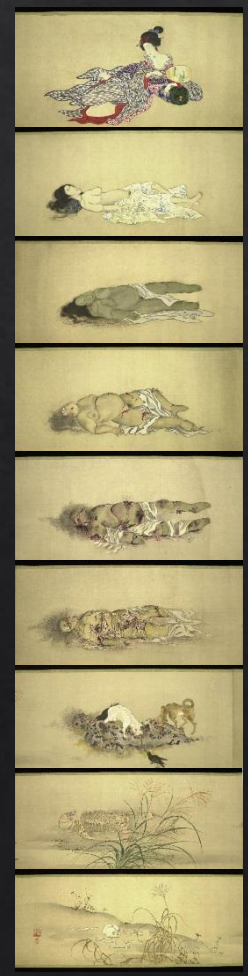
2. Skeleton Taphonomy

Initial observations of joint dislocation	**Systematization of Observations**	Grave submersion

A burial in the Neolithic cemetery of Gurgy (France).



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

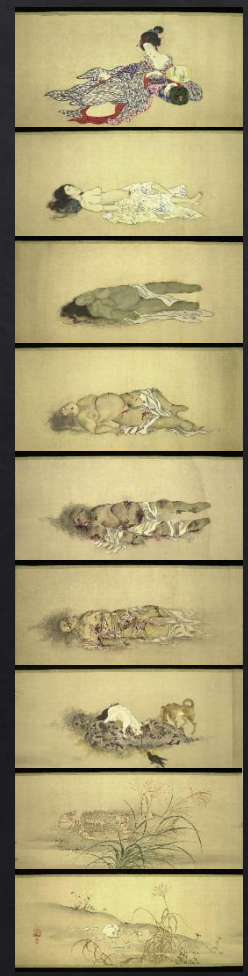
2. Skeleton Taphonomy

Initial observations of joint dislocation	**Systematization of Observations**	Grave submersion

Facial block / spine / 1st rib, clavicle, sternum / hand, the radius / ankle

1. Relationship between: **skull, mandible and cervical vertebrae**
2. The **position** of the head influences the mechanism of decomposition
3. **Temporo-mandibular joint** more labile than those of the **cervical spine**

Remains at a Bronze Age burial at Gegharot Armenia



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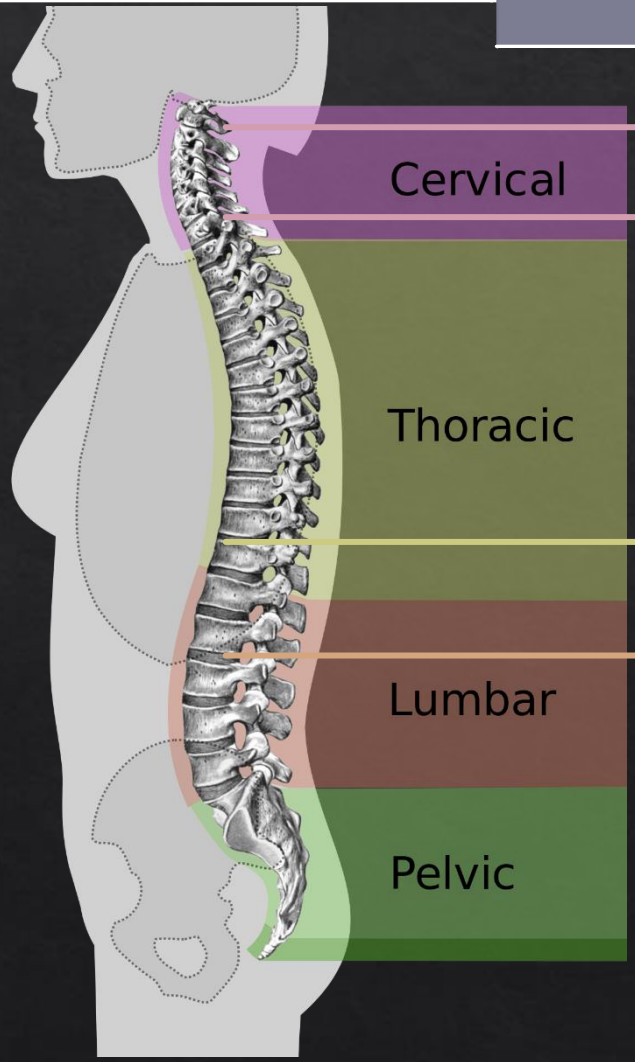
2. Skeleton Taphonomy

Initial observations of joint dislocation	**Systematization of Observations**	Grave submersion
	Facial block / **spine** / 1st rib, clavicle, sternum / hand, the radius / ankle	

rarely released one by one, rather in sections of 2 or even 3

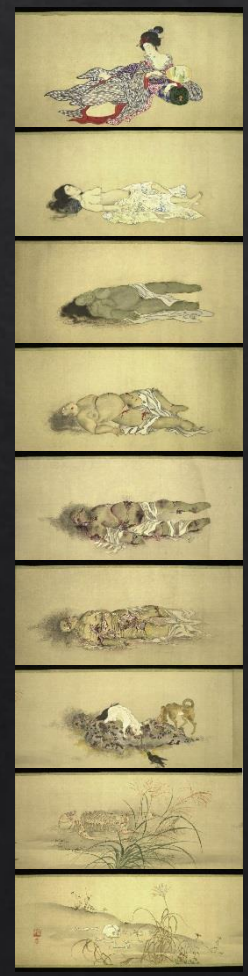


Rupture btw atlas/axis

Rupture btw C6/C7

Rupture btw T10/T11

Rupture btw L2/L3



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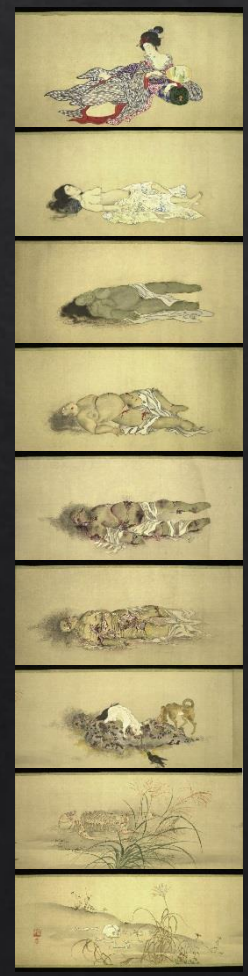
2. Skeleton Taphonomy

Initial observations of joint dislocation	**Systematization of Observations** Facial block / **spine** / 1st rib, clavicle, sternum / hand, the radius / ankle	Grave submersion

1. Joints between **cervicals more labile** than rest of the **spine**
2. A point of weakness **T10 or T11**
3. Displacement, tension & imbalance → spine **dislocates in sections**
4. Under **L3**, spine is highly persistent, especially **L4/L5** & **L5/sacrum**

Bronze Age burial near Russia's Lake Baikal



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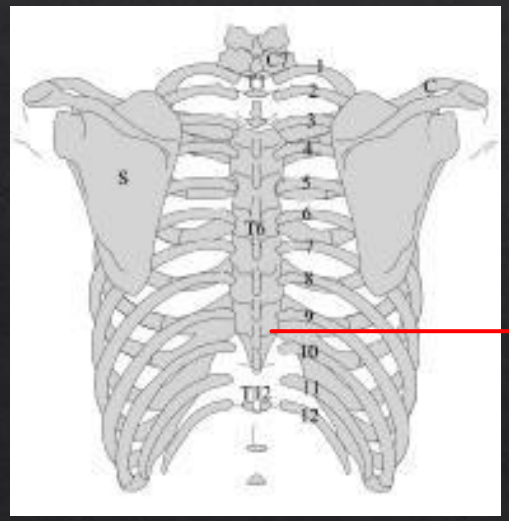
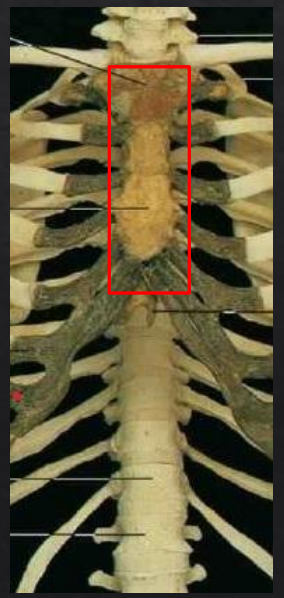
Initial observations of joint dislocation	**Systematization of Observations** Facial block / spine / **1st rib, clavicle, sternum** / hand, the radius / ankle	Grave submersion



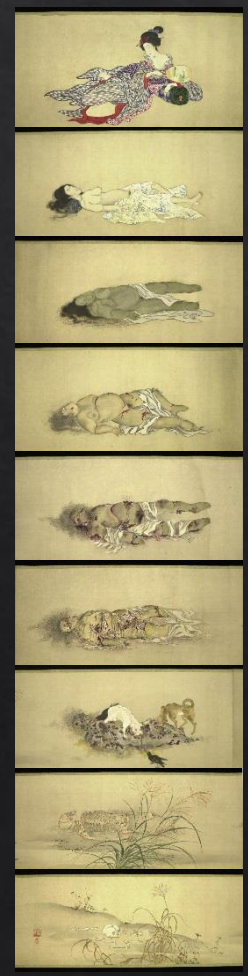
Rupture T10



Position influences the whole!

Skeleton in prone position

- Rupture T10
- Flattening of the ribs
- clavicle/manubrium persistent, more than manubrium/rest of the sternum



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2. Skeleton Taphonomy

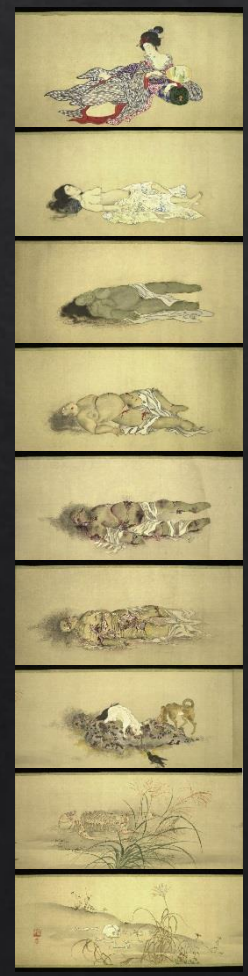
Initial observations of joint dislocation	**Systematization of Observations** Facial block / spine / **1st rib, clavicle, sternum** / hand, the radius / ankle	Grave submersion

1. **Junction between these 3 elements is maintained while** the sterno-costal and costo-vertebral junctions *failed*

2. **Questions around intercostal connections**, strong connections**?** difficult to systematize…..

3. **Questions around connection scapula & ribs**, but *no recurrent information* (forensic cases: rapid dislocation but no ligament tissue for this connection), the position also greatly influences this dislocation

2,000 yrs old burial at Remedello Sotto cemetery, Italy



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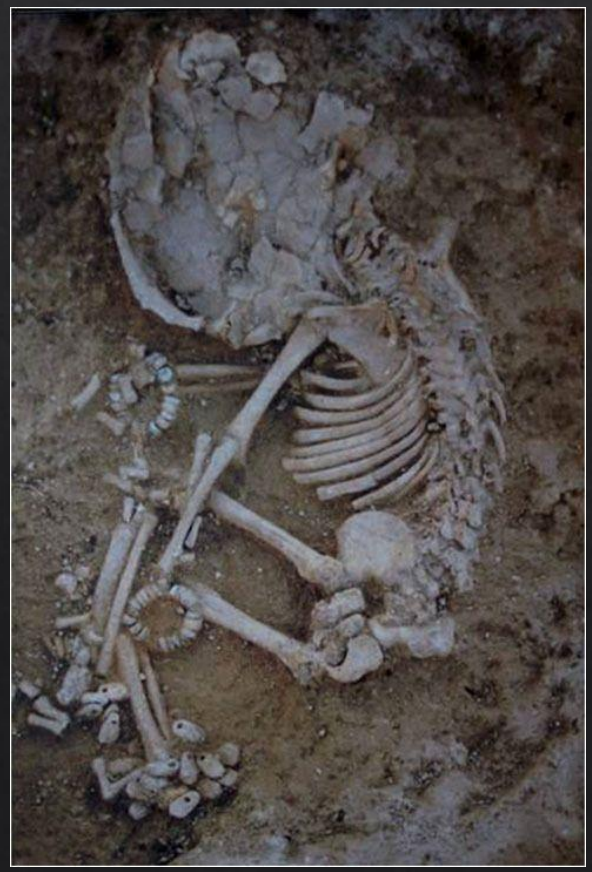
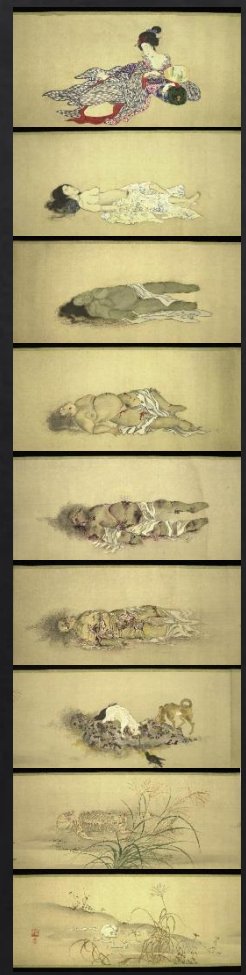
2. Skeleton Taphonomy

Initial observations of joint dislocation	**Systematization of Observations** Facial block / spine / 1st rib, clavicle, sternum / **hand, the radius** / ankle	Grave submersion

1. Radius/carp junction less labile than the distal end of the radius/ulna & ulna/carp.
2. Radius/ulna junction more labile at the distal end than at the proximal end.
3. Connections between TCM and distal row of carpal bones = the most persistent of this anatomical set



2,000 yrs old burial at Remedello Sotto cemetery, Italy



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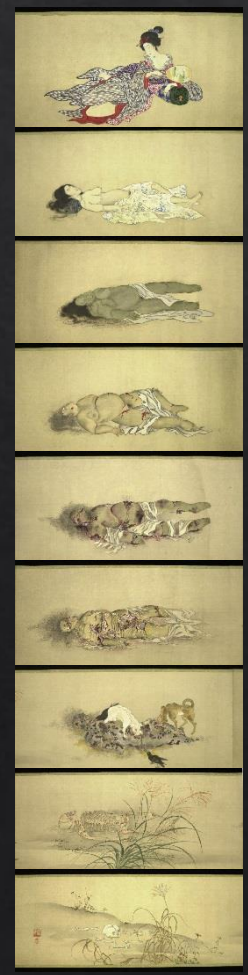
2. Skeleton Taphonomy

Initial observations of joint dislocation	**Systematization of Observations** Facial block / spine / 1st rib, clavicle, sternum / hand, the radius / **ankle**	Grave submersion

1. Preferential breaking zones: navicular/cuneiform, tibia/talus, navicular/talus.

2. A significant diversity

Middle Bronze age burial, Tell Mozan (Syria)



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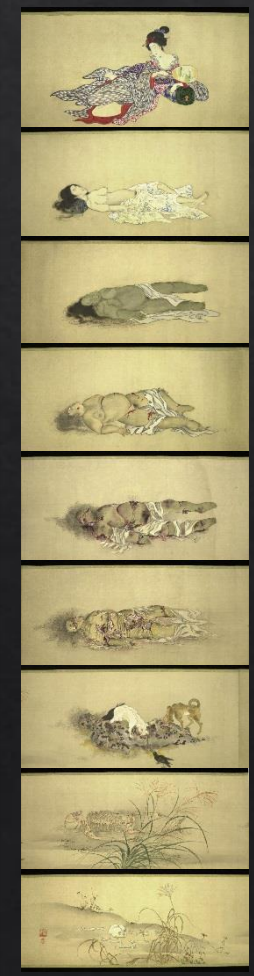
2. Skeleton Taphonomy

Initial observations of joint dislocation	Systematization of Observations	**Grave submersion**



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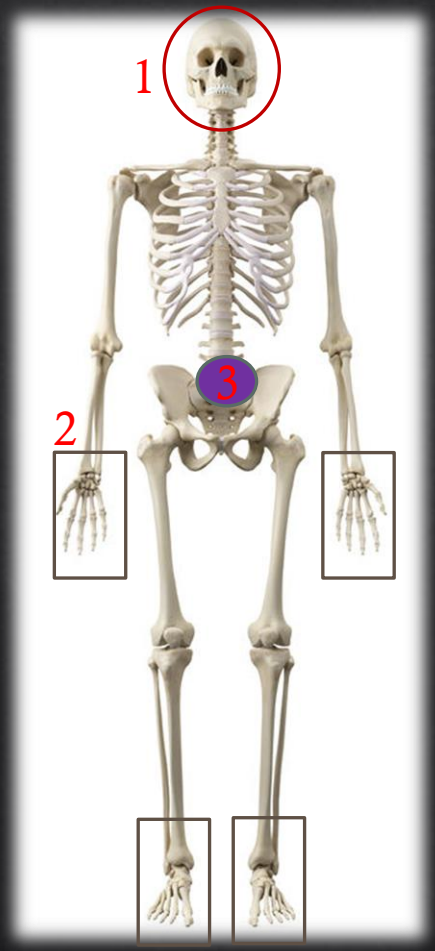
The dislocation sequence would be as follows:

1. facial block
2. extremities of the limbs
3. last lumbar vertebrae

This sequence corresponds to a particular environment

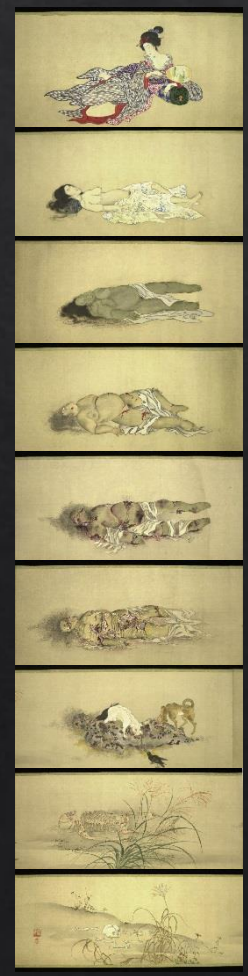


2. Skeleton Taphonomy

Initial observations of joint dislocation	Systematization of Observations	**Grave submersion**

decomposition in a void = disturbances in the thorax & large amplitude displacements of low-density bones

The rise and fall of water in collective graves observed in some cases, no displacement observed because these fluctuations take place after the grave is in operation (the bone is too dry to float).



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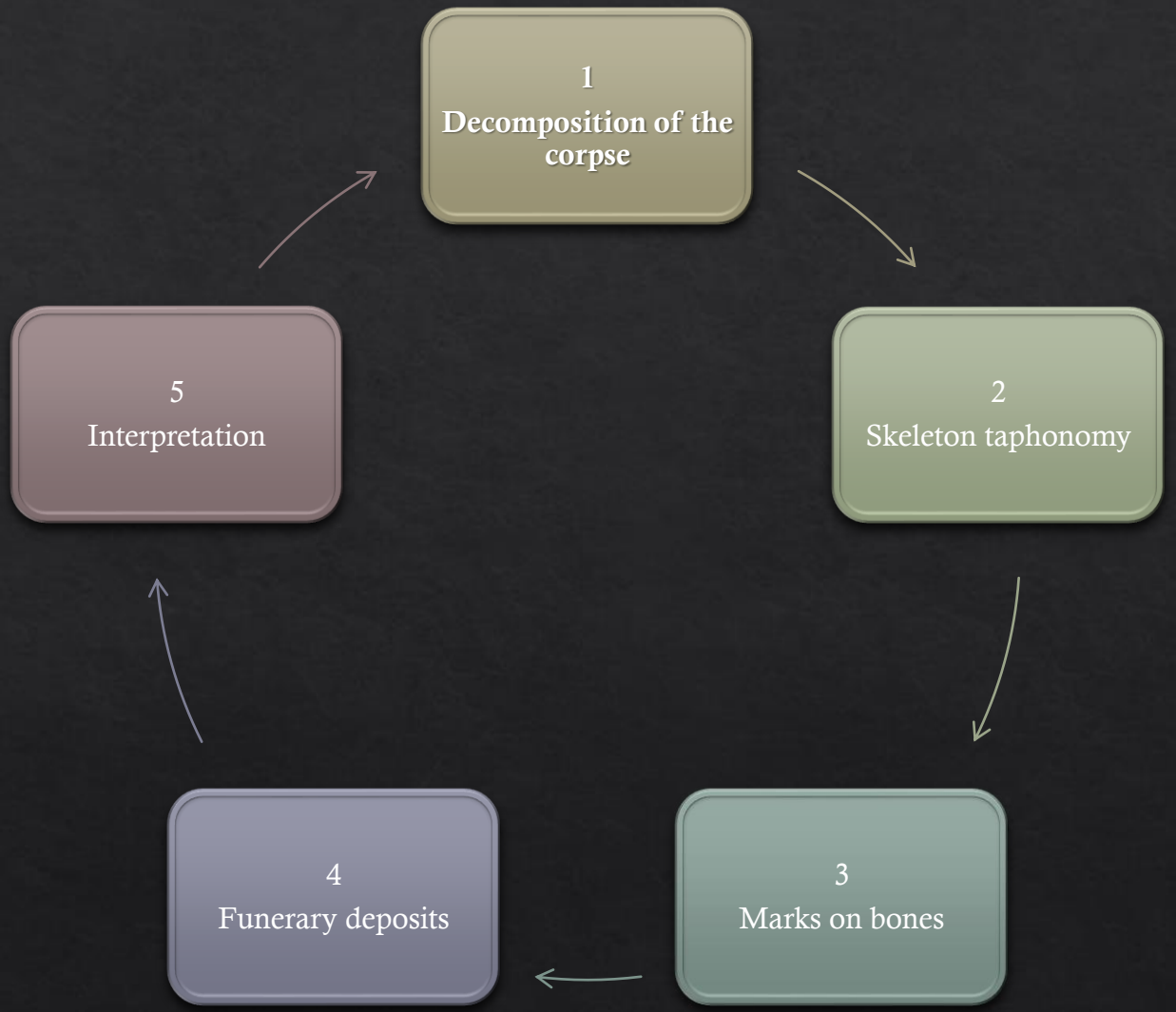
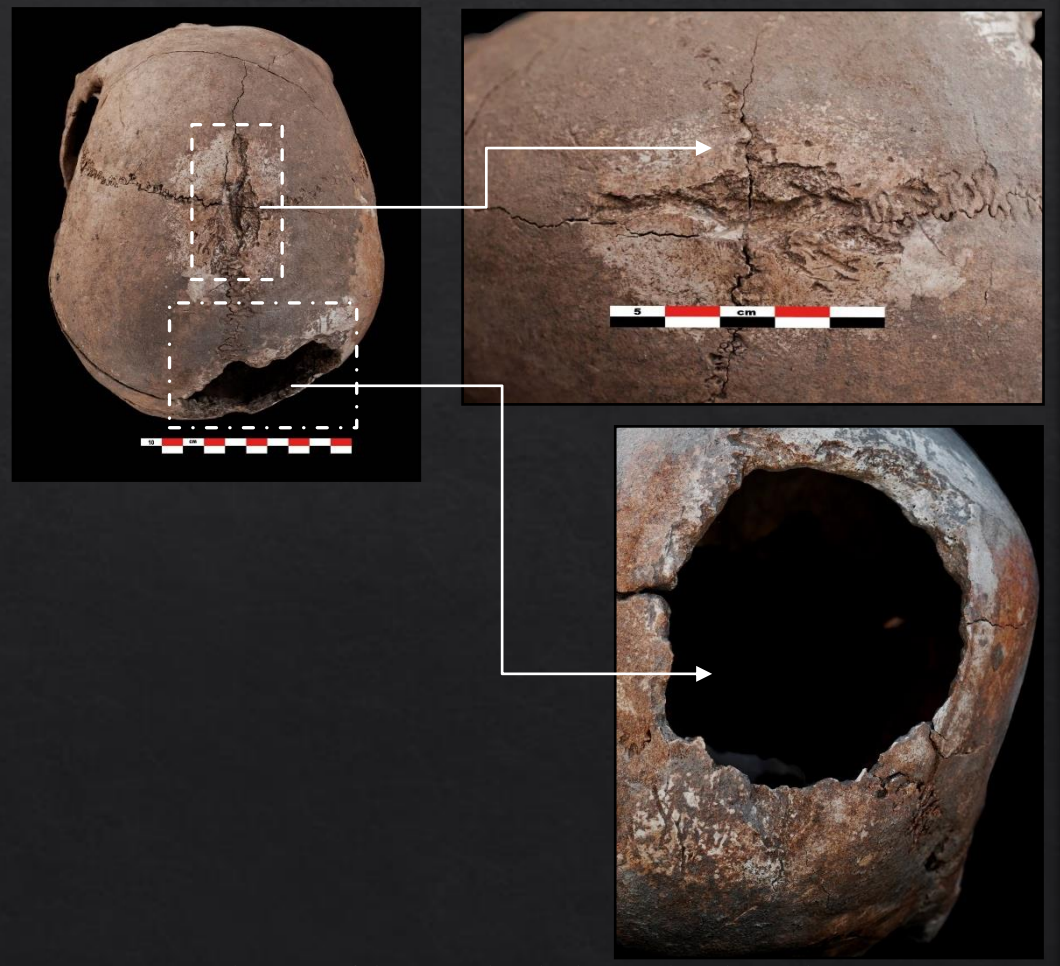
Archaeothanatology: 3. Marks on bones



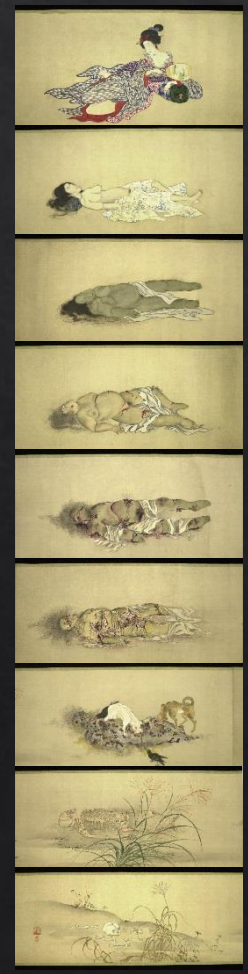
3. Marks on Bones

Natural Origins | Pathological origins | Anthropological origins

1. Roots, rodents, earthworms, bird beaks…
2. More or less uniform deterioration of the surface
3. Cracked appearance: drying may be due to prolonged contact with salt
4. Small regular & parallel striations rodent teeth
5. Possibility of polishing the surface deformed by rodents



A middle Bronze Age skeleton from Tell Mozan (Syria) showing an elongated grooving (21.61 x 6.8 mm) in terms of the coronal-sagittal suture junction and a large circular hole on the posterior side.



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

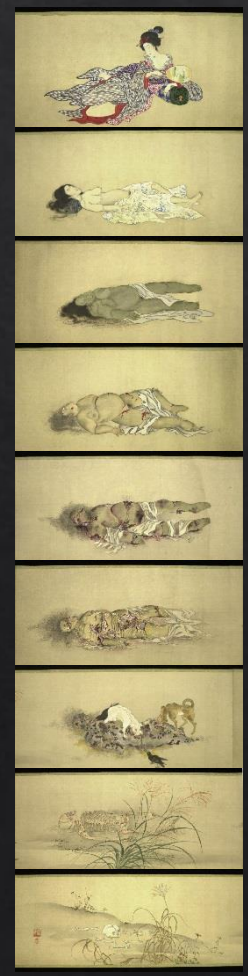
3. Marks on Bones

Natural Origins | **Pathological origins** | Anthropological origins

1. *Genetic origin*: numerous skeletal abnormalities
2. *Infection*: osteitis
3. *Disorders of bone metabolism*: osteoporosis/osteomalacia/hyperparathyroidism
4. *Tumours*: myeloma
5. *Microtrauma*: lumbar fracture
6. *Other*: paget's disease

Skull of a male with tertiary syphilis from Ludgate Hill cemetery

Right femur of an adult with excessive thickening of bone from Paget's disease



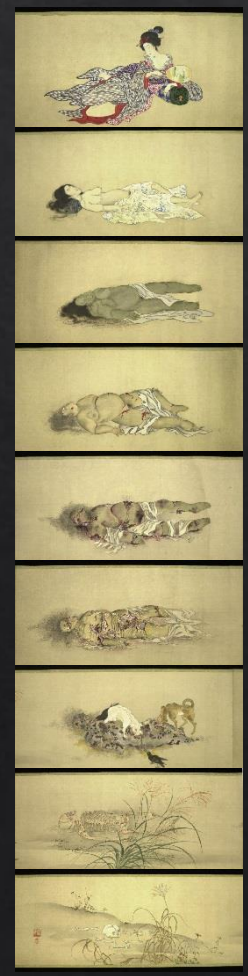
"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

3. Marks on Bones

Natural Origins | Pathological origins | **Anthropological origins**

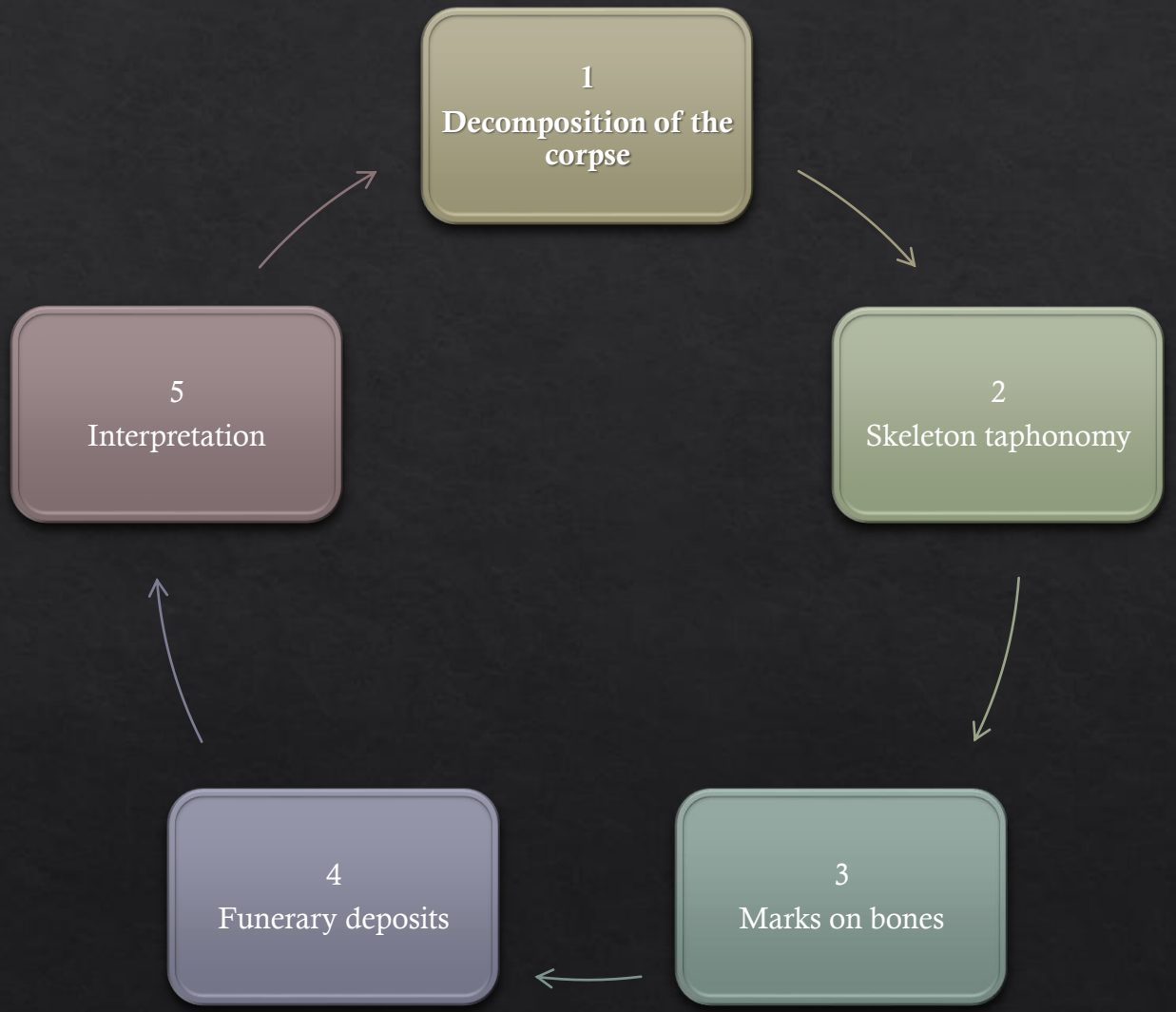
1. *Ritual*: intentional
2. *Medical*: trepanation
3. *Cut marks*
4. *Excavations:* (excavator, trowel)

Proto Nazca, 200-100 BC (Nazca, Peru), Museum de Toulouse (France)



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Archaeothanatology: 4. Funerary Deposits



4. Funereray Deposits

Architecture	Body position & orientation	Funerary goods

The space according to Leclerc 1997:

Sepulchral space = assigned to the deceased

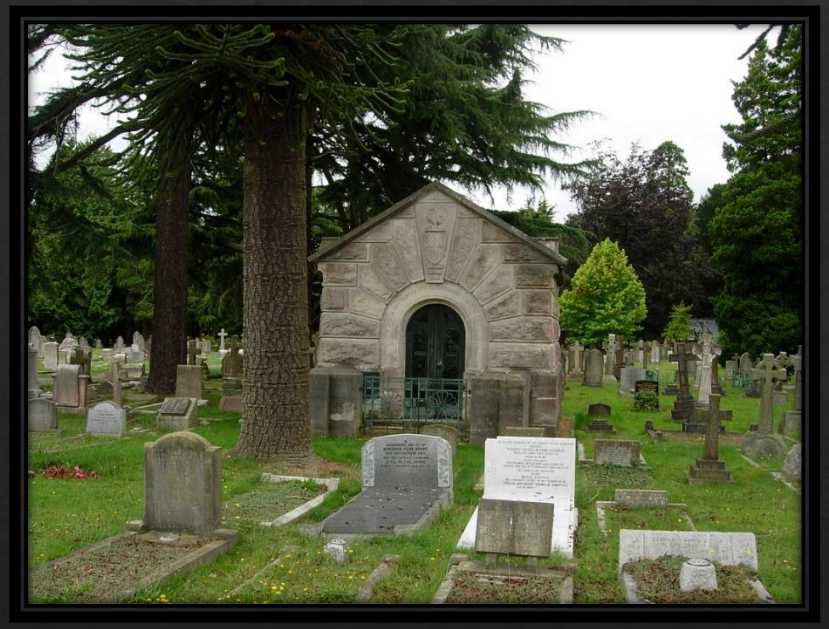
Ceremonial space = where the living stop

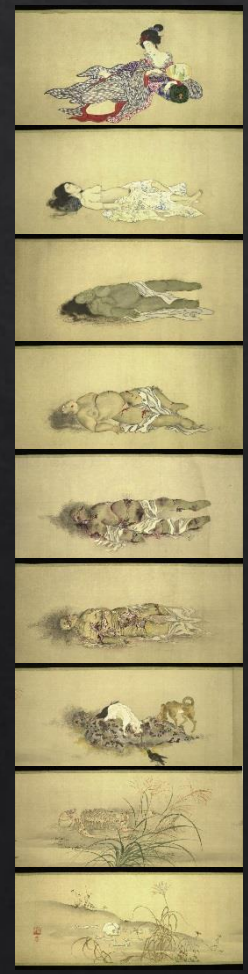
Reserved space = not belonging to anyone

- E.g. cemetery boundary walls delimit this space

Technical space = for the operation of the necropolis

- E.g. traffic lanes in a cemetery





"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

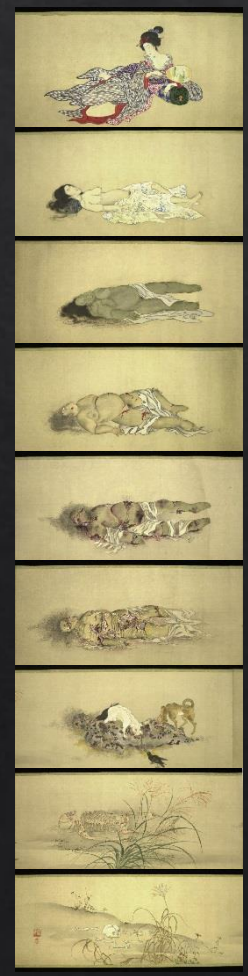
4. Funereray Deposits

Architecture | Body position & orientation | Funerary goods

Devices are identified by sediment or wall effects:

1. *Wooden box*: from the rigid angulations
2. Container made of *flexible material*
3. **Artificial elements** enveloping the body: E.g. alignments of objects

2,600 year old burial of an adult in a perfectly preserved wooden coffin, Phaliro (Athens)



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

4. Funereray Deposits

Architecture | **Body position & orientation** | Funerary goods

Body position

- Restitution of the position of the deceased & the architecture of the tomb

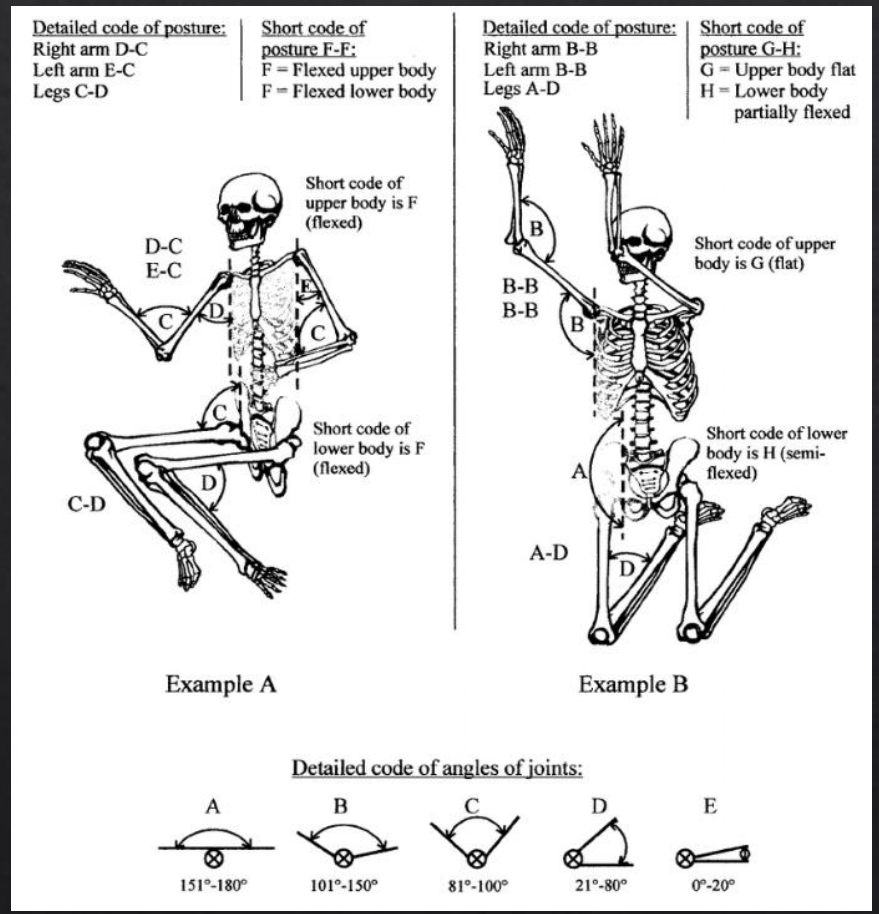
- Codify the individual's position for statistical treatment

E.g. codify position of upper and lower limbs extension/flexion:

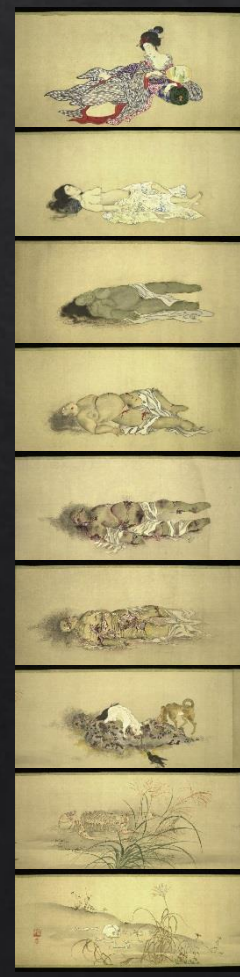
F = flexed - joints at angles C,D,E

G = flat - joints at angles A or B

H = partially flexed - at least one joint at angle C, the rest at angles A or B



Galili et al. 2005, Burial practices at the submerged PPNC site of Atlit-Yam, northern coast of Israel: What do they tell us about the final phase of the Pre-Pottery Neolithic culture



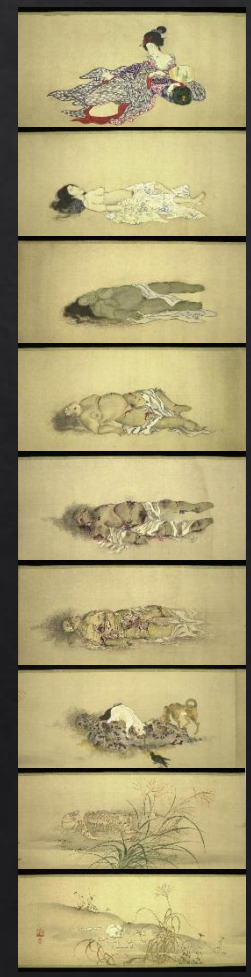
"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

4. Funereray Deposits

Architecture	**Body position & orientation**	Funerary goods

Body orientation

in relation to the body axis or the orientation of the face to the east, west, etc



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

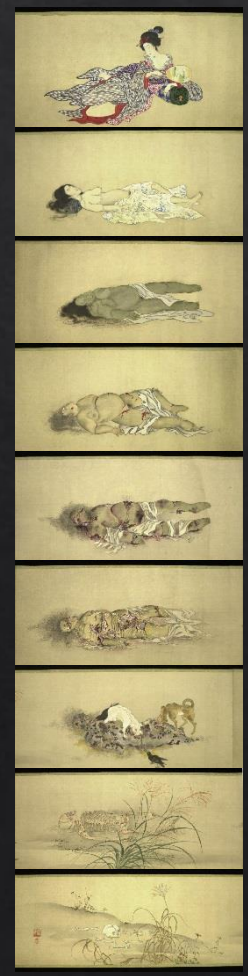
4. Funereray Deposits

Architecture	Body position & orientation	**Funerary goods**

Accompanying or worn items?

- accompanying = without direct relation to the body
- carried = in direct relation to the body

richest inhumation grave in Varna Necropolis (Bulgaria)



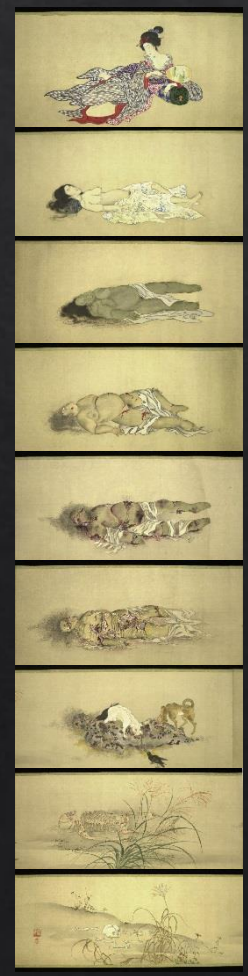
"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

4. Funereray Deposits

Architecture | Body position & orientation | **Funerary goods**

The position of the items

- set up a coding system for the position of the objects & to statistically process the positions in relation to the other data



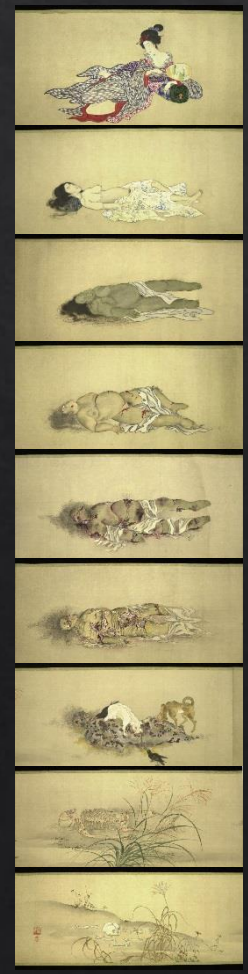
"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

4. Funereray Deposits

Architecture | Body position & orientation | **Funerary goods**

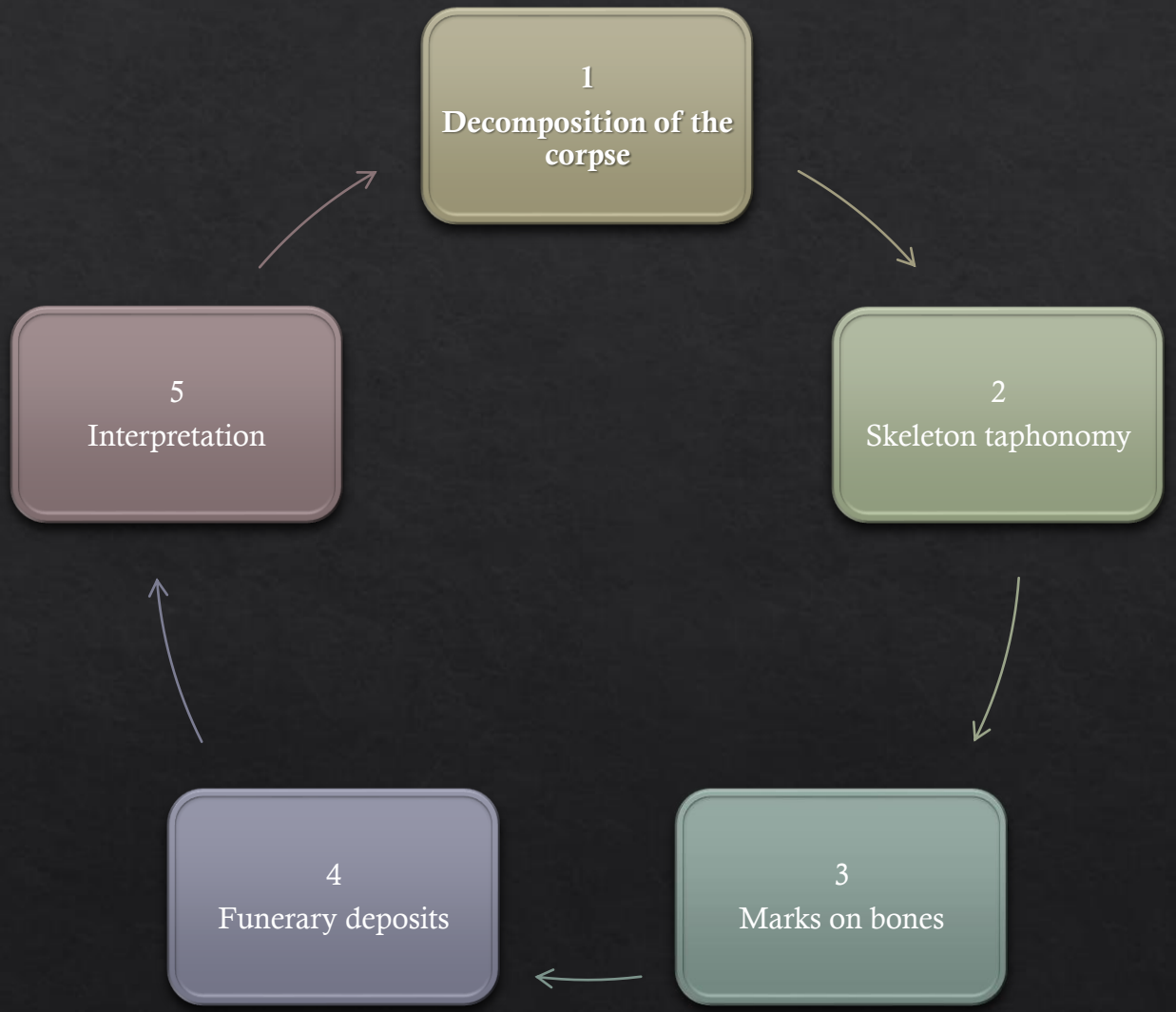
Anthropology: i.e., their meaning or even their symbolism in this society. - approach the social function of the object

Items as devices: e.g. vases as receptacles for the body



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Archaeothanatology: 5. Interpretations



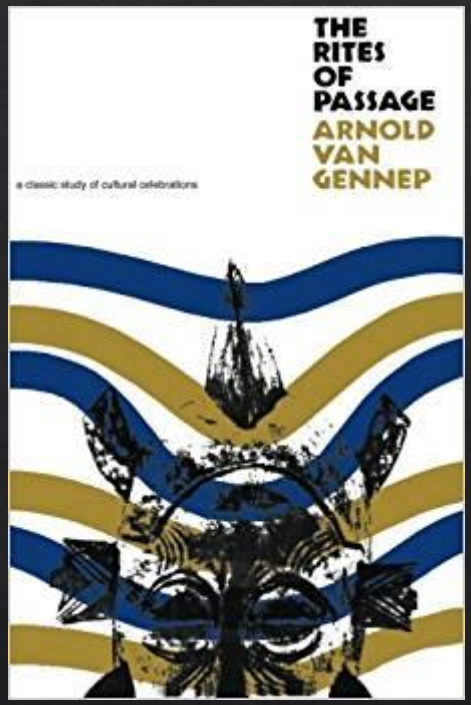
5. Interpretations

The ritual sequence | Biological identity/cultural identity

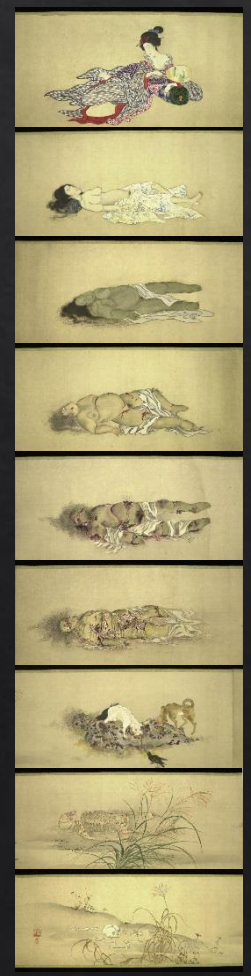
The link between the dead and the living

- compared ceremonies celebrating an individual's transition from one status to another within a given society

- found a tripartite sequence in ritual observance: separation, transition, and incorporation.



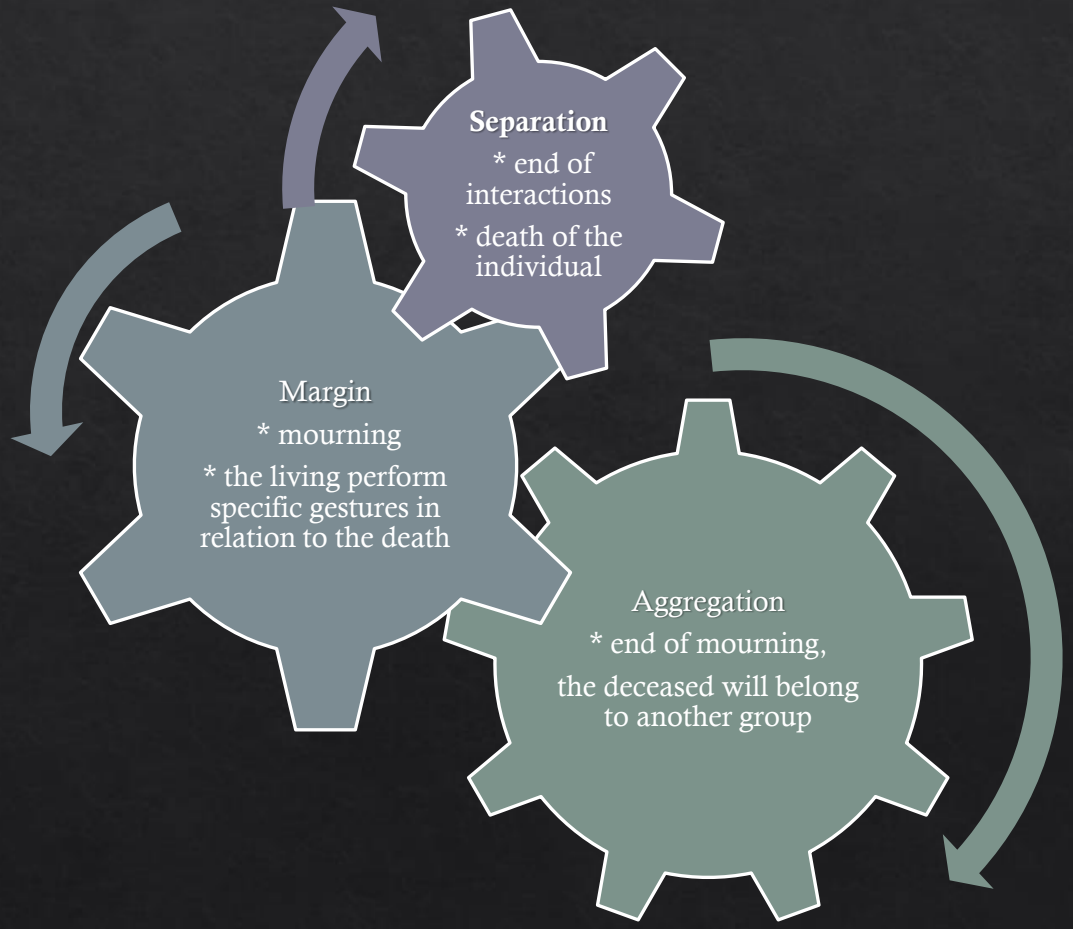
Gennep's major work was Les Rites de Passage (1909; The Rites of Passage)

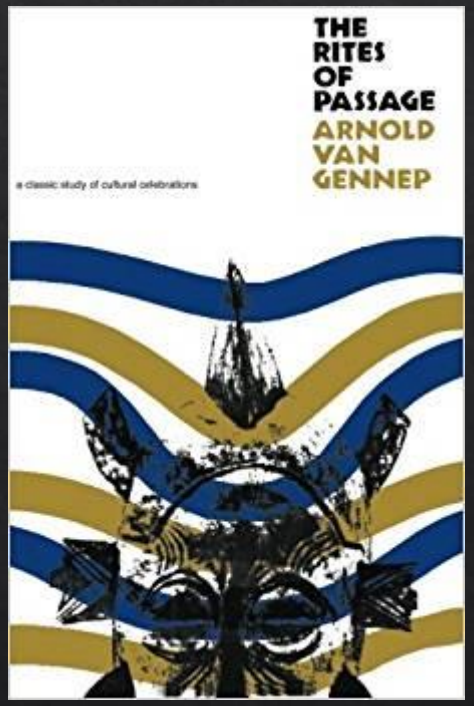


"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

5. Interpretations

The ritual sequence | Biological identity/cultural identity





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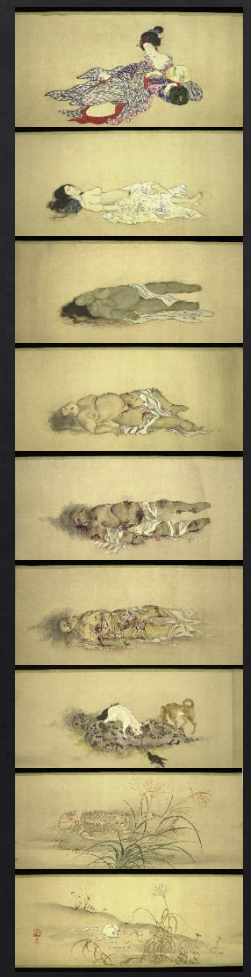


"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

5. Interpretations

The ritual sequence **Biological identity/cultural identity**

Study of remains (age, sex, stature, health status…) →

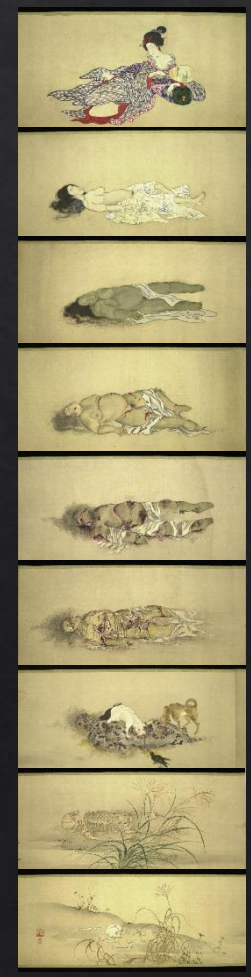
Biological identity

Comparing objects, burial types, spatial organization of the cemetery, rituals around the burials etc →

Cultural identity

We are interested in the cultural identity of a group rather than that of an isolated individual.

The aim is to identify groups that share common cultural identifiers.



"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

5. Interpretations

The ritual sequence — **Biological identity/cultural identity**

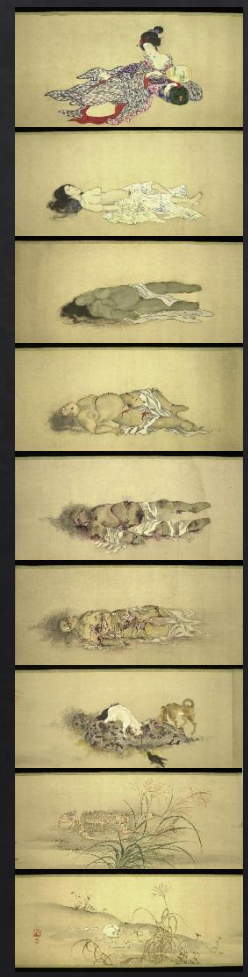
1. The social skin - anthropology of the objects

2. used by T. Turner in 1980,

3. privileged space where the social space of the individual begins and the internal, biological, domain finishes : the border between the person as «biological being » and the person as «social actor » .

4. In archaeological reasoning, objects that are worn, mostly considered as individual a personal and social identity?

- e.g. Kayapo Indians



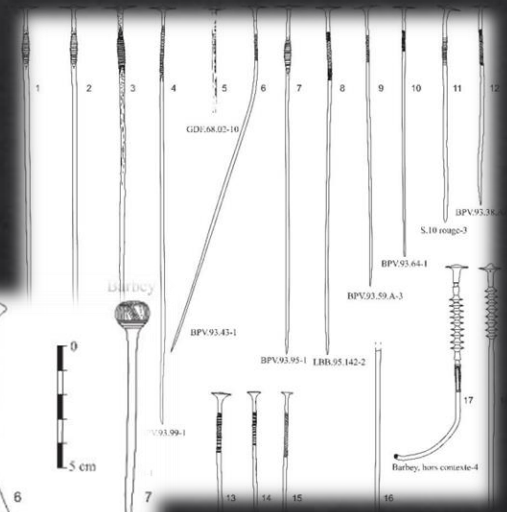
"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

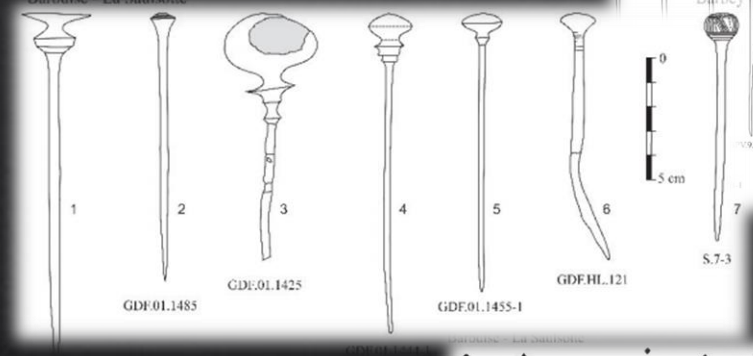
<u>This «social skin » = interface between the individual and its community</u>

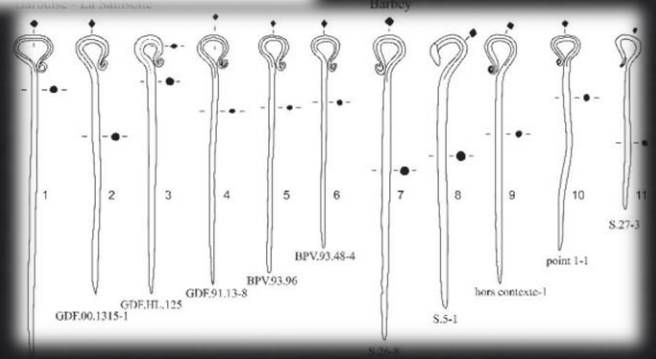
5. Interpretations

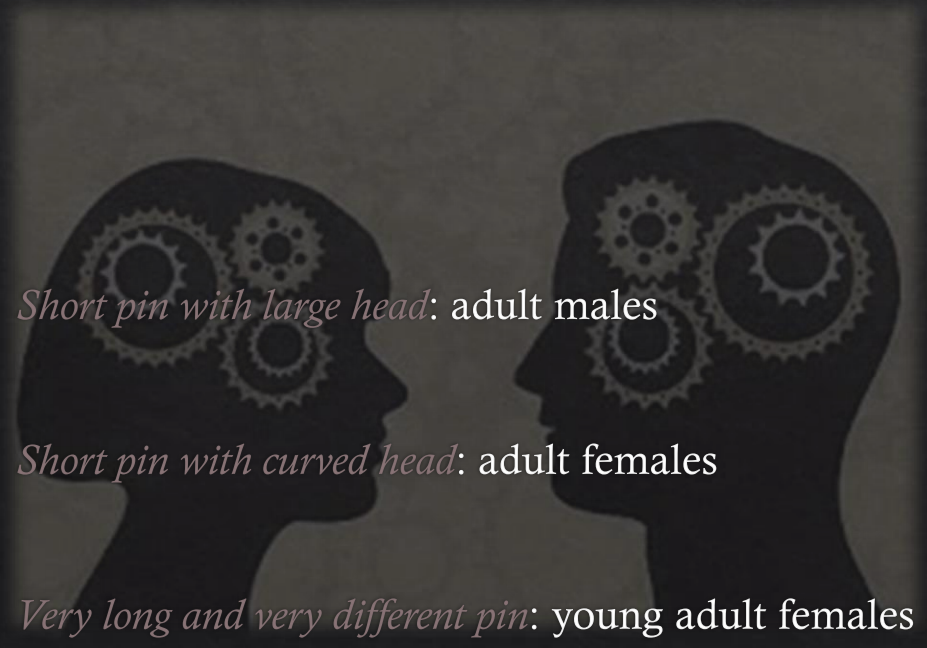
The ritual sequence **Biological identity/cultural identity**

E.g. of the pins in the Final Bronze in the SE of the Paris Basin





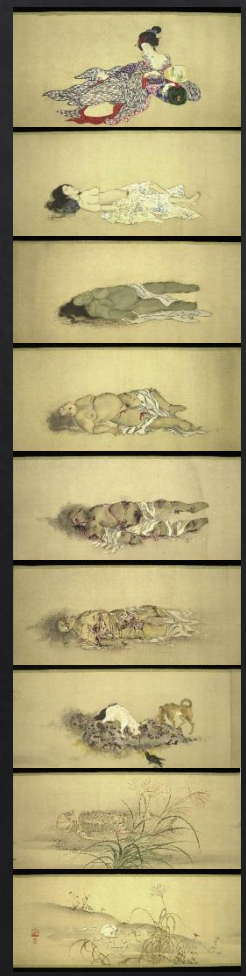




Short pin with large head: adult males

Short pin with curved head: adult females

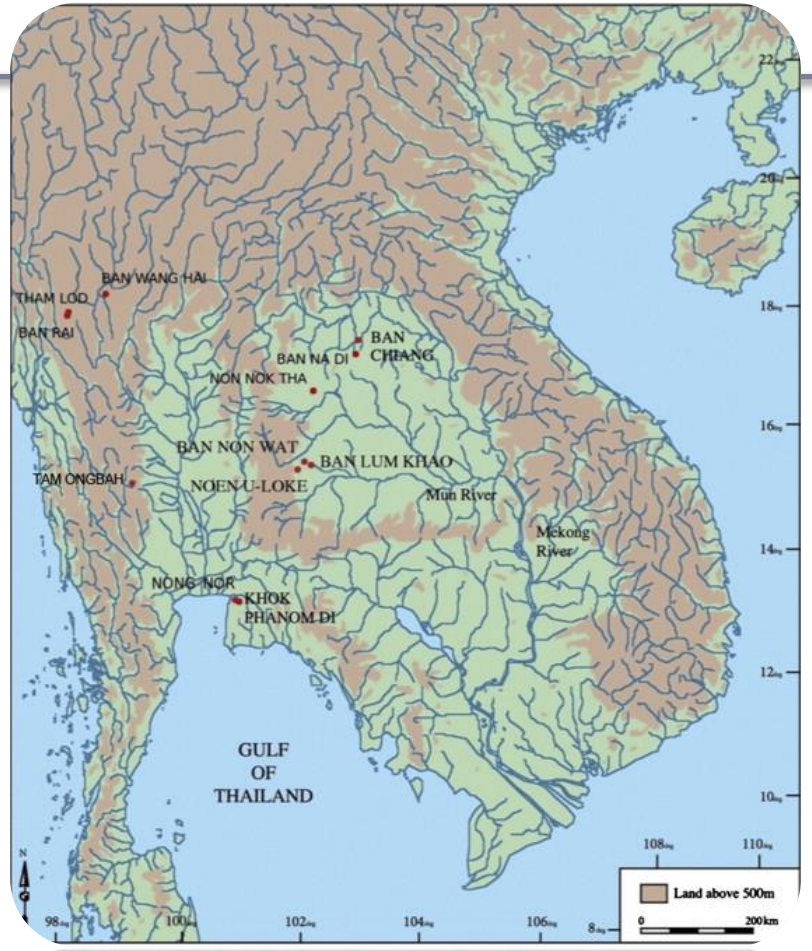
Very long and very different pin: young adult females

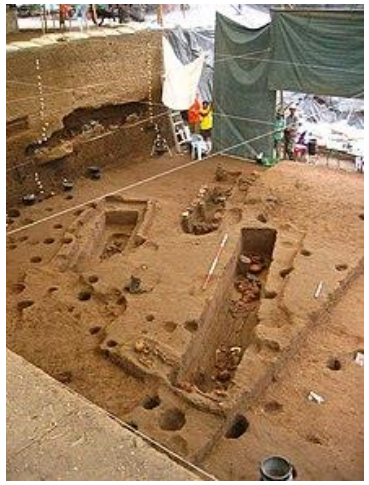


"Body of a Courtesan in Nine Stages," by Japanese artist Kobayashi Eitaku

Case Study

Burial practices (Thailand)





Ban Non Wat

- Northeast Thailand
- 1750 BCE - 500 CE, (Neolithic, Bronze Age, & Iron Age)
- Excavations 2002.
- Highman & Highman (2009) only basic observations due to poor preservation of the burial containers.

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Burial containers – A hidden aspect of mortuary practices: Archaeothanatology at Ban Non Wat, Thailand

N.J. Harris, N. Tayles

using archaeothanatology to infer burial containers

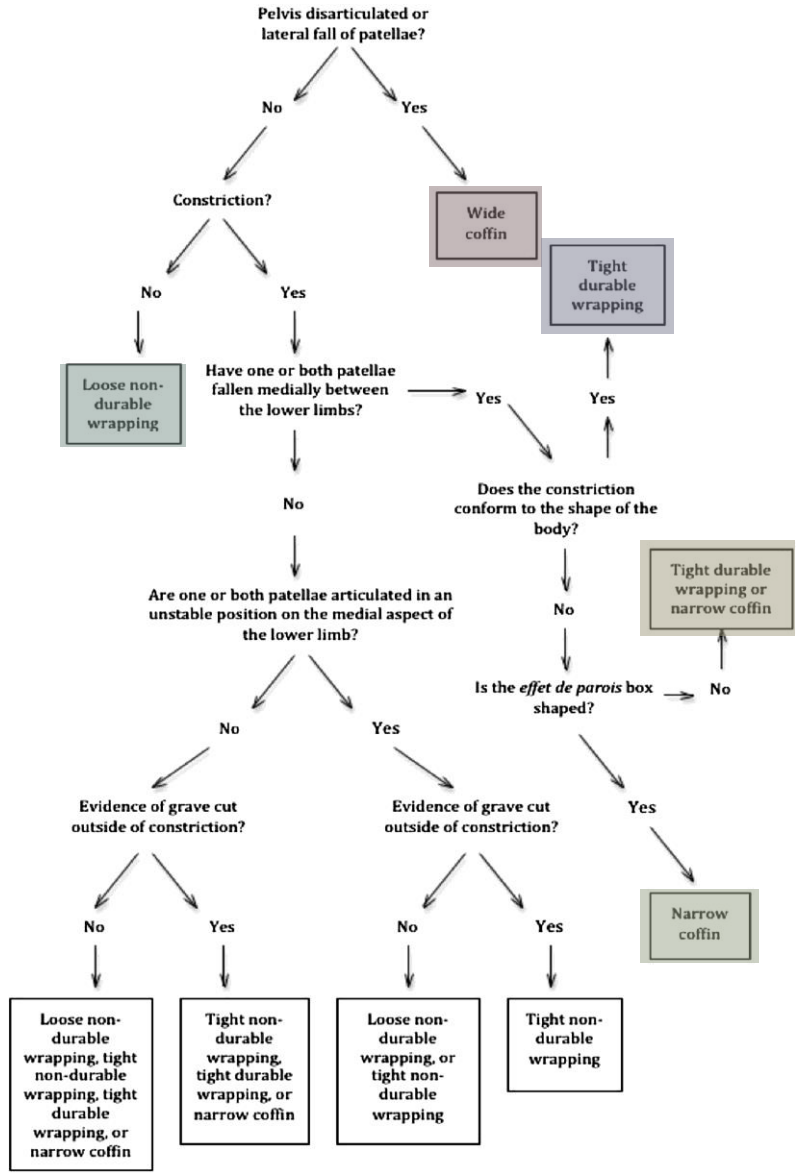
Harris & Tayles 2012

Aim: use burial context to identify & compare burial containers over time

Methods: Archaeothanatology (photographs + field drawings)

Ideal Case study: Large sample + 600 burials / long chronology 1750 BCE - 500 CE

Results: From 133 they have identified 5 different types of container/5 difference funerary practices

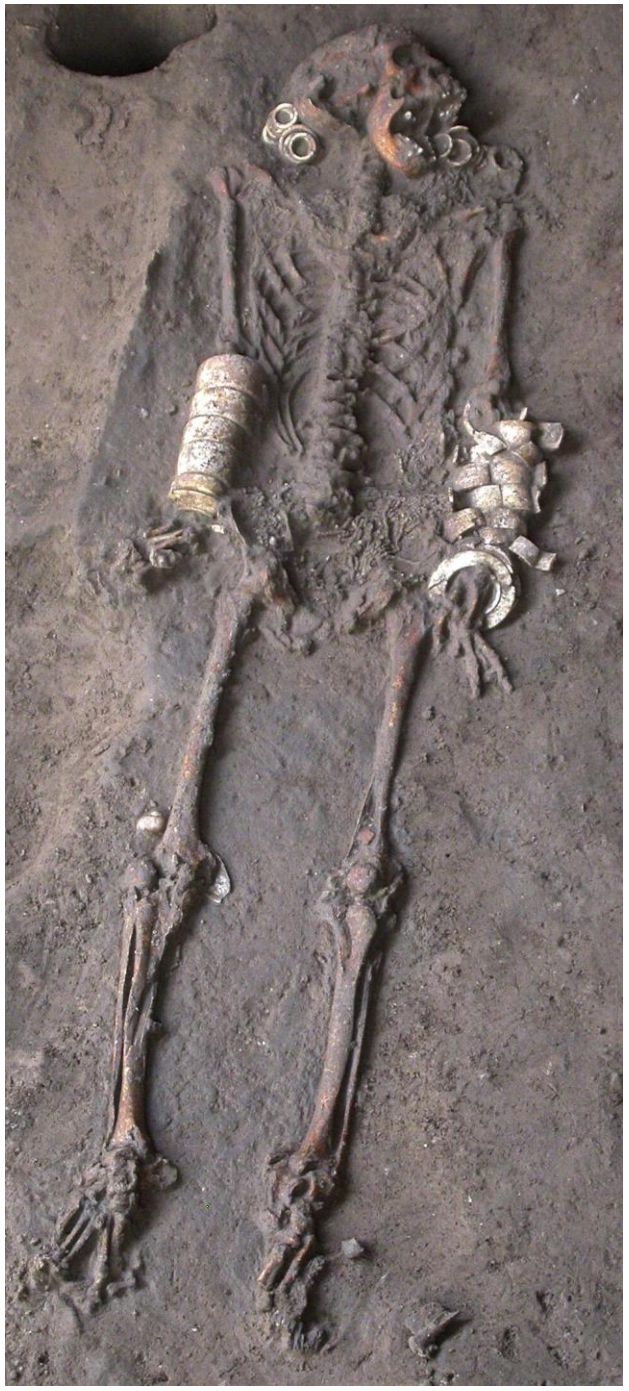

Pelvis disarticulated or lateral fall of patellae?
No
Yes
Constriction?
Wide coffin
Tight durable wrapping
No
Yes
Loose non-durable wrapping
Have one or both patellae fallen medially between the lower limbs?
Yes
Yes
Yes
Does the constriction conform to the shape of the body?
No
Tight durable wrapping or narrow coffin
Are one or both patellae articulated in an unstable position on the medial aspect of the lower limb?
Is the *effet de parois* box shaped?
No
No
Yes
Yes
Evidence of grave cut outside of constriction?
Evidence of grave cut outside of constriction?
Narrow coffin
No
Yes
No
Yes
Loose non-durable wrapping, tight non-durable wrapping, tight durable wrapping, or narrow coffin
Tight non-durable wrapping, tight durable wrapping, or narrow coffin
Loose non-durable wrapping, or tight non-durable wrapping
Tight non-durable wrapping

Burial context	Description (Body)
Loose non-durable wrapping/no wrapping	buried without a container or loosely wrapped in a material that decomposed quickly

1

Criteria

Internal or no space. No constriction, or constriction with no evidence that the grave cut was wider than the constriction (i.e. constriction possibly caused by narrow grave cut)



Burial context	Description (Body)
Tight non-durable wrapping	tightly wrapped in a material that decomposed quickly

2

Criteria

Internal space only, constriction. Only identifiable with evidence that grave cut was wider than constriction

Burial context	Description (Body)
Tight durable wrapping	tightly wrapped in a material that decomposed slowly, such as fibrous matting

3

Criteria

Limited external space present, or the possibility that container so tight that no external space present. Most commonly identified by constriction and the disarticulation of patellae medial to the knees combined with a wall effect that conforms to the shape of the body

Burial context	Description (Body)
Narrow coffin	placed in a hard narrow container that decomposed slowly

4

Criteria

Limited external space present, possibility that container so tight that no external space present. Uses the same criteria as tight durable wrapping combined with a ‘box’ shaped wall effect

Burial context	Description (Body)
Wide coffin	placed in a hard wide container that decomposed slowly.

5

Criteria

Internal and external space, no constriction. Most commonly identified by disarticulation of the pelvis, lateral rotation of the femora, and lateral fall of the patellae (Duday and Guillon, 2006)

Burial context	Description (Body)	Criteria
Loose non-durable wrapping/no wrapping	buried without a container or loosely wrapped in a material that decomposed quickly	Internal or no space. No constriction, or constriction with no evidence that the grave cut was wider than the constriction (i.e. constriction possibly caused by narrow grave cut)
Tight non-durable wrapping	tightly wrapped in a material that decomposed quickly	Internal space only, constriction. Only identifiable with evidence that grave cut was wider than constriction
Tight durable wrapping	tightly wrapped in a material that decomposed slowly, such as fibrous matting	Limited external space present, or the possibility that container so tight that no external space present. Most commonly identified by constriction and the disarticulation of patellae medial to the knees combined with a wall effect that conforms to the shape of the body
Narrow coffin	placed in a hard narrow container that decomposed slowly	Limited external space present, possibility that container so tight that no external space present. Uses the same criteria as tight durable wrapping combined with a 'box' shaped wall effect
Wide coffin	placed in a hard wide container that decomposed slowly.	Internal and external space, no constriction. Most commonly identified by disarticulation of the pelvis, lateral rotation of the femora, and lateral fall of the patellae (Duday and Guillon, 2006)

Archaeothanatology:

1. **Can** be applied post-excavation
2. **Make** a considerable contribution to understanding mortuary practices at a site
3. **Allowing** a regional overview of how burial containers changed over time
4. But not only!

"I think of death as some delightful journey that I shall take when all my tasks are done." Ella Wheeler Wilcox