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Experimental archaeology in the TEXREX project

Trawsnewid Addysg; Trawsnewid Bywydau
Transforming Education; Transforming Lives



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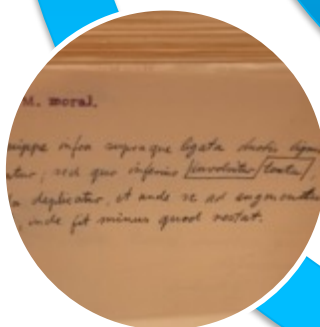
Experimental
archaeology:
spectrographic
analysis



Literary analysis:
making texts like
textiles?



Index of terms for
textile production in
Latin



Understanding the wider
context of literary
depictions of textile
making:

Tacit knowledge
Cultural ideals & Gender
Roman Soundscapes

Preparing an experiment

- Historical & archaeological relevance
 - Work processes and tools
 - Raw materials
 - Creating cloth with a good correspondence to archaeological textiles from the Roman period
- Following a responsible protocol for experimental archaeology
 - Experiments must be repeatable
 - Experiments must use experienced crafts people
 - Environment and tools must be stable
 - Experiments must be recorded and the output analysed
- + audio and video using basic recording devices (ie phones/iPads)

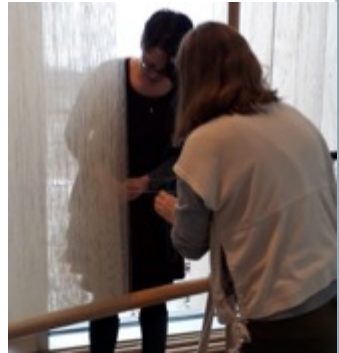


Fragment of a wool tabby from the Flavian period, Berenike (BE95 1815).

<https://books.openedition.org/cdf/5165>

TEXREX experiments

- Pre-2016: TEXREX' initial case studies were based on sound recordings from earlier weaving experiments at CTR and Lejre
- 2016/17: Expansion of expertise in ancient weaving technology
 - Trial weaving on the two-beam loom as part of the Experimental Workshops; multiple set-ups on the warp-weighted loom (Kültepe, CTR summer school, etc)
- **2018: Two dedicated experiments**
 - Two-beam loom (with Ulrikke Mokdad)
 - Warp-weighted loom with weights reconstructed after finds from Insula VI.i Pompeii (with Ida Demant)
 - Baxter, M. J., H. E. M. Cool & M. Anderson (2010) Statistical Analysis of Some Loom Weights from Pompeii: A Postscript, *Archeologia e Calcolatori* 21, 185-200.





Testing texts against experimental evidence

- Not recreating any one setting/site but drawing on period-appropriate reconstruction:
 - Work processes
 - Materials
- The set-up in this exhibition uses truncated pyramidal loom weights typical across the Roman world
- ...but specifically based on finds from Pompeii:
- Functional parameters:
 - 365 g, 4.0 cm wide
- Tabby using single spun Icelandic wool, 8 threads/cm in the warp
 - Likely slightly finer yarn would have been used...
 - ...but the fabric produced corresponds reasonably well to courser Roman textiles

Roman archaeological textiles



Fragment of a wool tabby from the Flavian period, Berenike (BE95 1815).

Fragment of a Roman tunic with clavi (BE00 2048). Typical warp/cm in tunic weaves: upwards from 20 pcm.

Both images from
<https://books.openedition.org/cdf/5165>

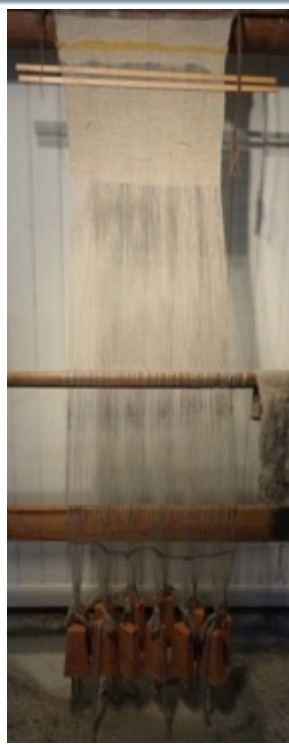




Loom types & setups used in experiments



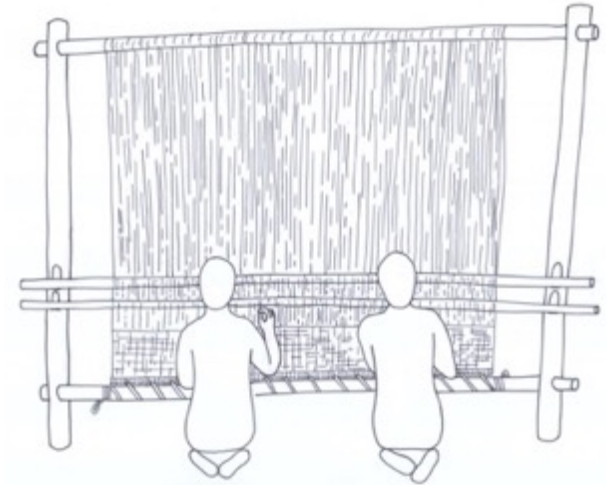
The warp-weighted loom: Set-up 1: tabby weave with reconstructed 1st C BCE/CE pyramidal loom weights of 700g from Rovigo by Dr Anna-Rosa Tricomi. Weaver: Ida Demant. Lejre Experimental Centre, Denmark



The warp-weighted loom: Set-up 2: tabby weave using same weights as in 1, but with different width and different angling of the weights.



The warp-weighted loom: Non-Roman comparison 2/2 twill weave with reconstructed doughnut shaped loom weights from Vorbasse. Weaver: Ida Demant. Herning, Denmark



The two-beam loom: sketch of twill weave on a wide two-beam loom as recordings were sound-only. Most Roman representations of two-beam looms are half the width of this model.

Two beam looms: iconography

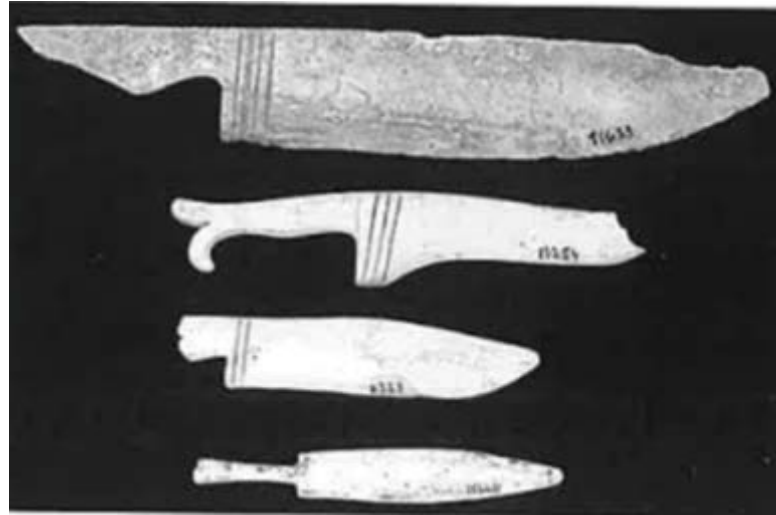


Left: Dido depicted weaving in full view outside the palace of Cartage (Verg. Cod. Vat. Lat. 3225: 3rd C CE). Right: Circe depicted weaving in full view outside her home, with Odysseus attending. (Ipogeo degli Aurelii, Rome: 3rd C CE)

Two-beam loom tools?



Example of a Late Roman comb from Egypt, sometimes identified as weaving combs. Petrie Museum (UCL) 63635.



Bone weaving swords from Pompeii, max length 20 cm.

Image after: C. Cheval, 'Le travail de l'os au service de l'artisanat textile: l'exemple de pompéi', *Textiles y tintes en la ciudad antiqua. Purpureae vestes III*, 2011, 145.

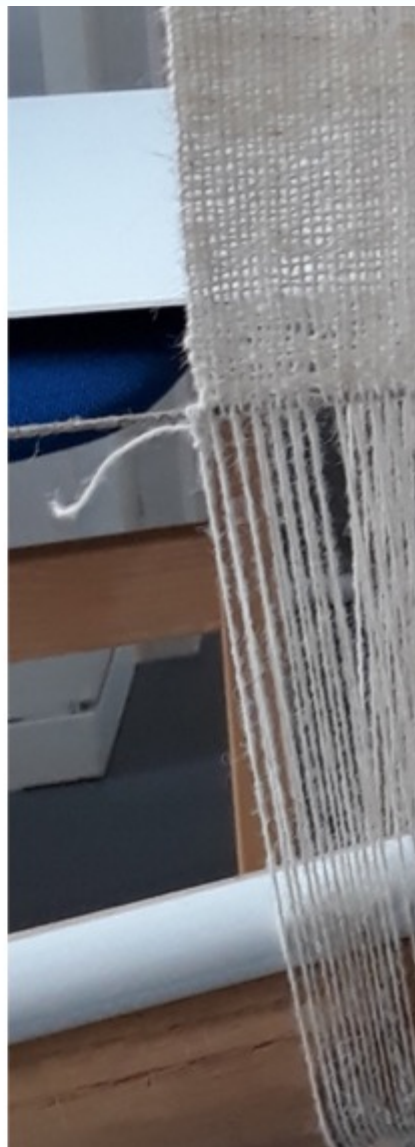


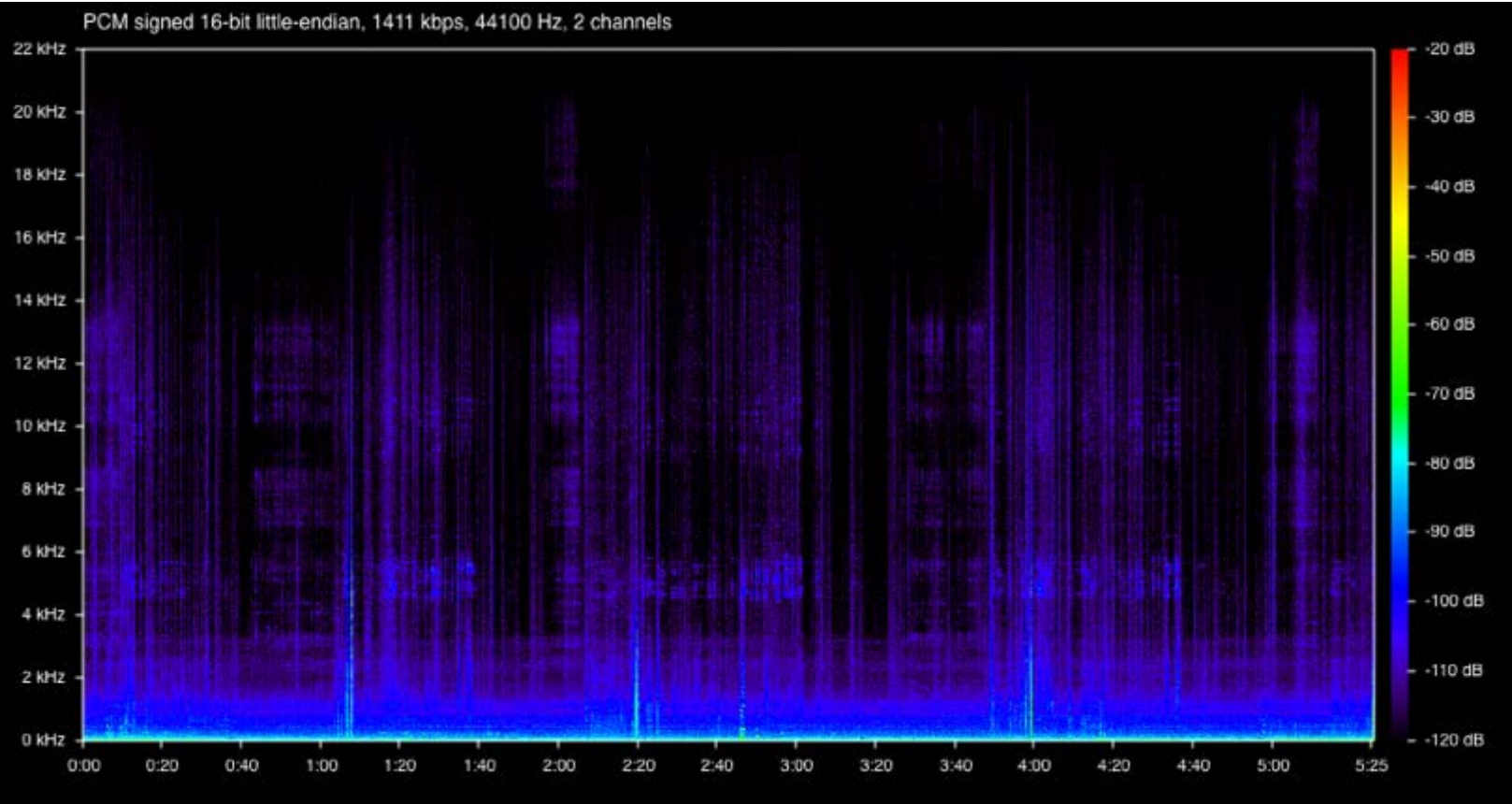
Reconstructed weaving sword from Ulpia Traiana used for weaving in the two-beam loom at LVR Archaeology Park, Xanten 2015. Weaver: Barbara Köstner.

Image after: B. Köstner, 'Auf Tuchfühlung' T. 2, *Experimentelle Archäologie in Europa, Jahrbuch 2016*, 179.

TEXREX experiments on the two-beam loom at CTR

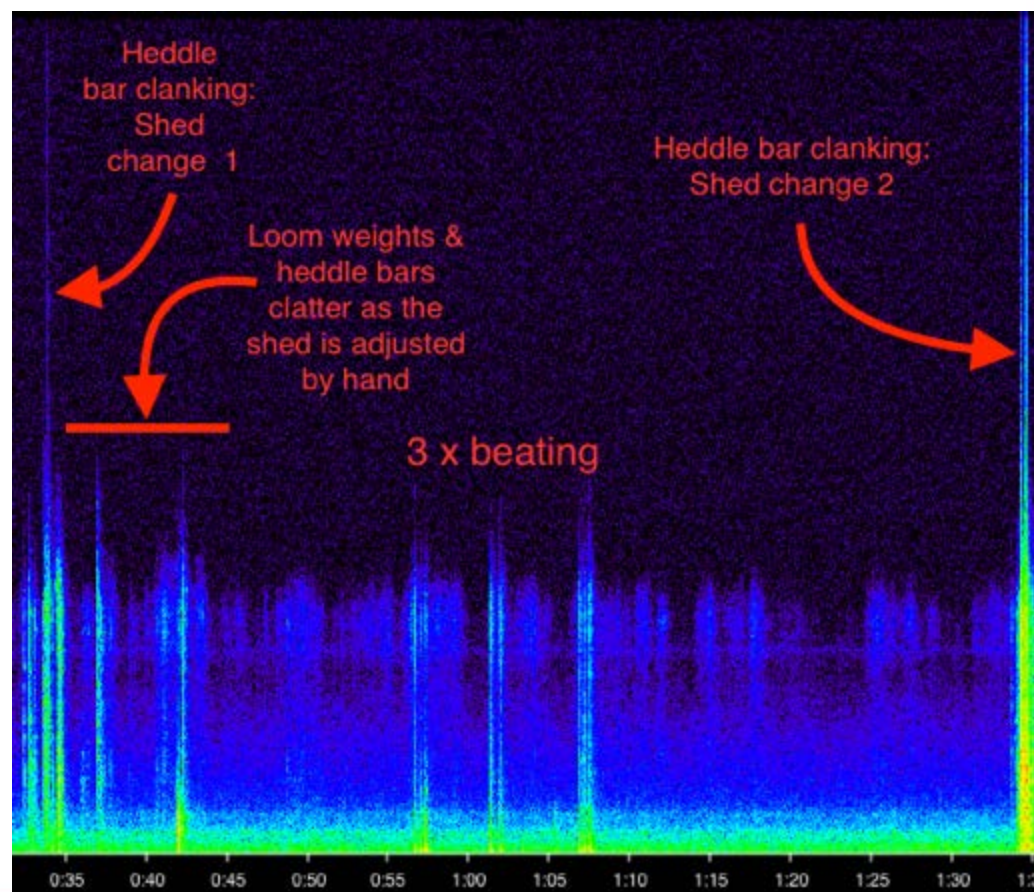






Establishing the ancient weaving soundscape: trends and variations

- **1. Beating:** weaving sword beating on the weft and newly arising weave
- **2. Weft packing:** snap-snap noises as the weft is packed with a weaving comb.
- **Warp noises:** unsnagging threads, clearing the shed with one's hands, etc.
- **Shed change:** wooden parts of the loom moving against each other
 - Depending on set-up: sounds of loom weights moving against each other



Texts like textiles: TEXREX results II

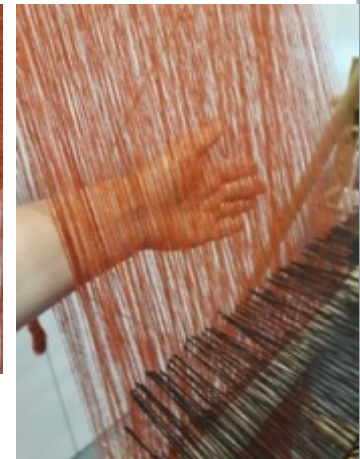
Many passages mimic the weaving soundscape and its sensory experience by foregrounding specific sounds...

- K, t, and p-sounds judiciously placed to allude to clanking heddle bars
- R, and s-sounds alluding to the feel of warp threads against the weaver's hands
 - Comparison: employment of *texo* ('weave') used of cloth production *vs.* basket weaving

Pauses in the verse rhythm *essential* in underlining such effects



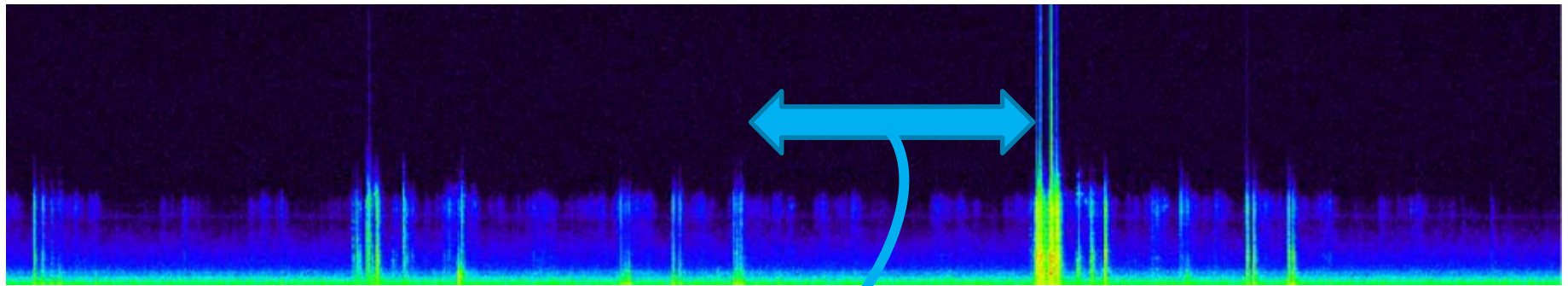
Weft fitting with pin beater: close vowels with plosives



Warp noises: sibilant and rhotic sounds (**r-** and **s-** sounds)

Sound of poetry, sound of work: *Aus. Epigr. 28.1*

*...whether you like woven cloth coloured with Tyrian purple...
siue probas Tyrio || textam subtemine uestem*



Pause in the verse
rhythm coincides with
pause/silence before
shed change

Emphasised t-, k-sounds
illustrating shed change

Acknowledgements

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