

Essex Egyptology Group – March 2024

Dr Kathryn E. Piquette:

## From the Narmer Palette to the Palermo Stone: Digital documentation of ancient stone



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For our first in-person meeting at Witham this year we welcomed Dr Kathryn Piquette from the UCL Centre for Digital Humanities. Having spoken to us in 2015 and 2022 about her work on the Narmer Palette she was able to update us on this and tell us about her examination of the Palermo stone. Her work on the Narmer Palette uses Reflectance Transformation Imaging and Multispectral Imaging

to reveal aspects which are not visible to the naked eye in order to learn more about the methods of manufacture and the life history of the artefact. She is also studying how to analyse and interpret her findings. This work is taking a long time because of funding and access issues as well as the problems created by covid.

Kathryn reminded us of debates about the palette: does it refer to actual events or is it a symbolic representation of royal power? What can it tell us about the socio-historical development of its time, artistic conventions, the writing system, the formation of the state and ideas about kingship? Work by the American Research Centre in Egypt (ARCE) has focussed on the way graywacke palettes were made in the late 4<sup>th</sup> millennium and how their materiality informed their use, consumption and social meanings.

The palette went through many stages of manufacture from the quarrying of the stone in Wadi Hammamat: the shaping and surface preparation of the slab, transport to the Nile valley, filing it into shape, creating the design, marking this in some way (ink? Scratches?), blocking out the contours, modelling the features, adjusting the details, smoothing and polishing. Was it repaired during use? What happened to broken objects? Were they repaired, discarded or re-used. Finally, we arrive at the excavation of the artefact followed by study and research.

The conditions under which we observe artefacts can vary so much and different observers can receive very different impressions. Reflectance Transformation Imaging creates multiple photographs of an object using light from different locations and angles. This can reveal 'invisible' marks, and corrections. The technique allows the user to access all the different images of the object which were created using the different locations and angles.

Kathryn then showed details of the bird standing before Narmer. Marks show that the bird's foot had been adjusted and the positioning of the arm had also been moved. There is an extra trace line at the top of the leg – was this intentional or unintentional? The beak has changed position as well as shape and there appears to be a channel down the back of the bird which suddenly stops. Might this have been in connection with a change in the size of the tool being used?

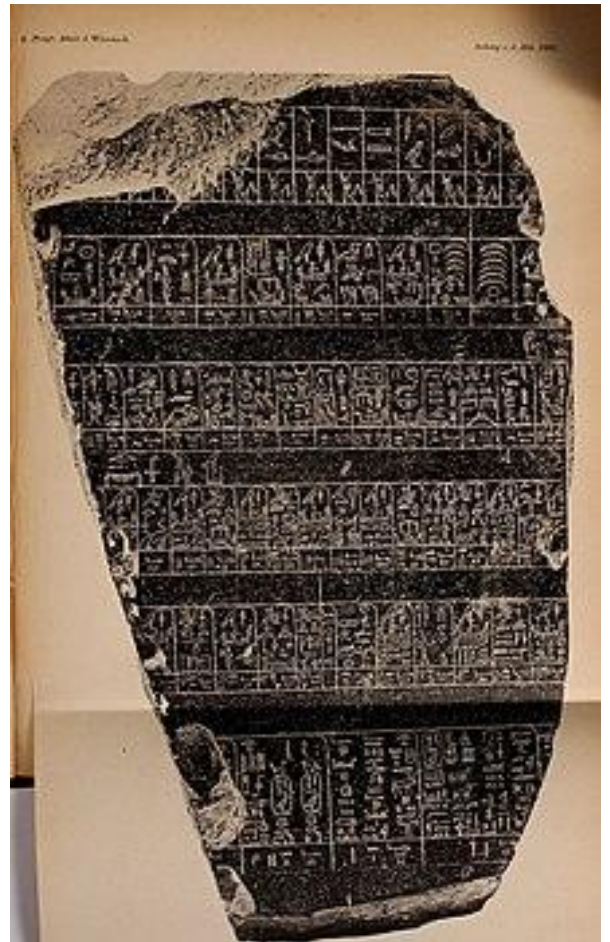


The ears of the bovine head at the top of the palette also prompt questions about the tools and their use. At the end of each stroke which creates the markings of the ears there is a 'nick' – was this standard practice or does it indicate a less skilled worker? The marks on the two ears are different: one is much rougher. Were the tools used becoming blunter? There is also the question of whether

the carver was right or left-handed. Did the workers only stand in one place when working on the stone or did they move around it?

There are so many possibilities, so many questions to ask. Kathryn commented on the difficulties of interpreting discoveries as well as those of conveying the information in publications. One way in which Kathryn has been exploring the creation of the palette is using Adobe Illustrator to draw on an image and use different colours to indicate where similar features occur such as adjustments, the effect of a rasp being used, evidence of the tool tip and traces of a figure being erased. Being aware of the overall pattern of these features is helping her to answer questions about whether the palette was fully planned before work started or whether it changed during the process of its creation.

We then moved on to the Palermo Stone. Kathryn has been working on this with Dr Massimiliano Nuzzolo who spoke to us in February last year about the stone and its fragments. They are working to assess previous readings of the stone and create a new epigraphic record as well as studying the techniques of production and the wider life of the fragments. Some of the questions they are seeking to answer concern its authenticity and legibility. What was the context of its production and use? Was it inscribed in one episode or over time? Was it inscribed in an upright position or was it lying down when the inscriptions were made? The use of a Dino-Lite digital microscope enables a more accurate reading and reveals surface features such as tool traces, polishing and the wear to the edges of the stone. There are also the marks caused by the geology of the basalt: olivine phenocrysts have created tiny cavities.



All this data is helping to answer questions about the source of the stone, how it was prepared and how the inscription was planned. Comparing the geology of the stone and its fragments suggests that they do all belong to the same piece of stone. The wear to the edges of the stone raises questions about how this occurred. Was it used later for something else such as scraping hides?

This close examination has also revealed differences in the appearance of the same sign on different parts of the stone. For example, the bird sign on the Cairo 2 fragment is different from the same sign elsewhere. Was this created by a different sculptor or can the difference be accounted for by the fact that the sculptor was sitting down for one of the signs but standing for the other? Again, the use of Adobe Illustrator to mark factors such as the direction of tool strokes is adding layers of understanding of the way the incisions were made.

Kathryn concluded her presentation by summing up the differences between the Narmer Palette and the Palermo Stone. The palette uses low relief, ultra fine greywacke and has minimal surface wear whereas the stone uses incision, naturally pitted basalt and has been altered over time by actions such as Petrie using white paste infill to highlight the incisions.

Alison Woollard