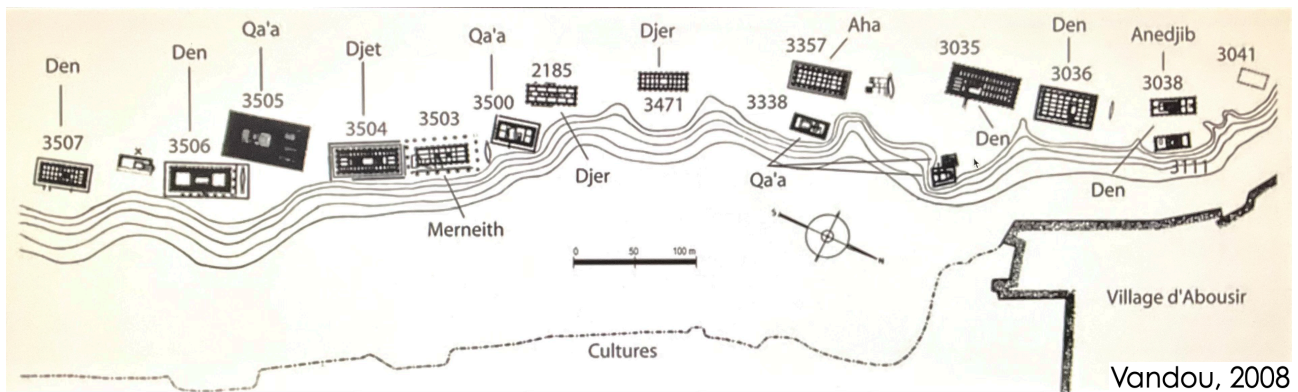


4 October 2026: **Revisiting North Saqqara - Sergio Alarcón Robledo.**

Sergio Alarcón Robledo studied architecture (MArch) at the Universidad Politécnica de Madrid; then a MPhil in Egyptology at the University of Cambridge in 2015. He also completed an MA in archaeology at the Cotsen Institute of Archaeology of UCLA in 2019, and received his PhD from Harvard University in 2025 which explores architectural practice and landscape development in Early Dynastic Saqqara. He is currently a postgraduate associate lecturer at Yale University.

In October, we welcomed back Sergio Alarcón Robledo to talk to us via Zoom about his work at the cemeteries of North Saqqara during the early Dynastic Period. The earliest excavations by Quibell in 1912-14 were continued by Firth in the early 1930s and Emery between 1935 and 1962. Sergio's work initially involved studying Emery's work, the later work of Geoffrey Martin and Vandou's 2008 map, then aimed to reconcile these with a digital survey using photogrammetry to produce an updated map of the necropolis.



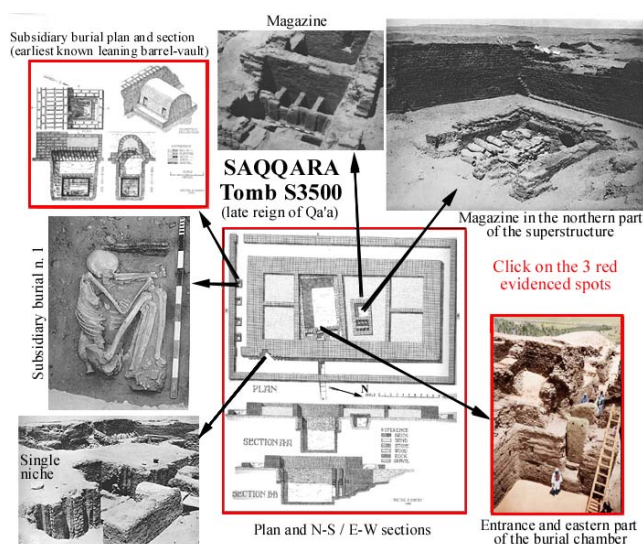
Working both in Cambridge and at the Egypt Exploration Society, Sergio searched the archives to find a general plan of the whole necropolis but without success. However, as Emery did not back-fill his excavations, they were only covered by wind-blown sand, so the depressions in the landscape were still visible to the discerning eye. The photogrammetry survey enabled an elevation model of the Emery landscape to be made with fieldwork photos taken from multiple directions to give enhanced clarity.

Close study of Geoffrey Martin's excavation photos enabled particular elements to be cross-referenced with the same shapes visible in the photogrammetry images. This led Sergio to draw a digital outline plan of the necropolis that positioned the historical drawings of individual tomb plans over the digital necropolis map. These matched up well with the old sketches of tombs to an accuracy of 50cm and has enabled an extended plan of North Saqqara to be produced, though as more tombs are included, the project will continue to develop.

Some hand-drawn plans of First Dynasty tombs show staircases, shafts & burial chambers but not mastaba superstructures. Emery numbered tombs sequentially as he found them. Mastaba 3035 has subsidiary burials alongside it. These have revealed bones, pots and human, canine and bird skeletons. These finds pose the question of their relevance in the Predynastic and early Dynastic periods.

A simple analysis of architecture views it as a construction process resulting in a usable end-product. The end-product with a tomb is the interment of the deceased in a burial chamber with a ritual afterlife by a post-mortem cult. But were the tomb spaces also used ritually pre-burial? Could the structures have enabled spaces for performance in earlier phases of their construction process? In Mastaba 3506, internal 'palace facade' niches suggest the site of excavated pre-mortem cult offerings. In a 1958 quote, Emery admitted that 'Evidence of earlier uses may have been missed'.

The First Dynasty mastabas were originally excavated as an open pit lined with a palace facade retaining wall. They were not subterranean structures, just filled in eventually. From the tomb of Den onwards, staircases are a feature found in tombs. The Second Dynasty mastabas involved a shaft then horizontal corridors & chambers being constructed underground. Tombs 3111 & 3503 (Emery 1958) show unbonded walls, added at a later time to block staircase entrances, and indicate sequential phases of construction and ritual use - pre-burial, burial and post-burial.



Tomb 3500 has areas that were originally open but later walled up (evidenced by different coloured stone/mud-brick) together with funerary equipment and offerings. Superstructures were built of solid mud-brick

In Khasekhemwy's structure 3046, Emery found a retaining wall to maintain subterranean access after the pit was filled, suggesting spaces were used ritually for post-burial purposes? Pots with inscriptions found at the core of 3046 are

currently being studied for possible ritual meaning.

Could the vast Shunet es Zebbib have had a similar subterranean structure of similar use? The Tomb of Netjeraperef has a famous mud-brick ramp which suggests a ritual function. Assuming the only ritual moment was the burial has been challenged: there may have also been set pre- and post-

burial ritual practices. Evidence for this is now being investigated in other early Dynastic tombs.

The talk concluded with Sergio's ongoing research which aims to digitally 'Measure the architectural agency of the spaces' in sensory terms. This involves some fascinating digital modelling of the possible sounds that may have been audible from both inside and outside a virtual mastaba, Asking questions such as would the speech be intelligible? (re distortion, echoing and reverberation issues); could people outside see inside?, and would enough air circulate to enable incense to permeate through the spaces? The acoustics tests involved placing sound sensors at different positions in a digital environment to model the tomb, then 'reverse engineering' the funeral as a loudness study. Niches seem to provide a more muted, less echoed sound for speech. The sound test was modelled not only in the virtual mastaba but also in its surrounding landscape.

.....Q&A.....

- *How are you going to do it with smell?*
Computational dynamics to detect the presence of food or incense and its spread through spaces.
- *Is the air breathable, and for how long?*
There would have been ventilation shafts which were later blocked.

Although it's not possible to recreate an authentic acoustic scenario but we can digitally model how architecture might affect sound in a tomb by modelling different sounds such as speech, singing, moaning, etc

- *Do you think you will ever be able to excavate there?*
Have repeatedly tried will continue to be hopeful that approval will be granted eventually.

Searching to locate and study objects found by Emery and Firth -
Excavating excavations!

For further information on North Saqqara:-

<https://www.ees.ac.uk/resource/north-saqqara.html>

<https://whitelevy.fas.harvard.edu/north-saqqara-elite-cemetery-memphis-time-state-formation>

<https://www.francescoraffaele.com/egypt/hesyra/Saqqara.htm>

Michael Tweddle, 5/10/26