

News from the Palermo Stone. New investigation and discoveries on the Ancient Egyptian Royal Annals.

A talk given by Massimiliano Nuzzolo, Assistant Professor of Egyptology at the Institute for Mediterranean and Oriental Cultures of the Polish Academy of Sciences in Warsaw

The Palermo Stone gives the names of the kings of Egypt from the pre-dynastic times through to the beginning of the Fifth Dynasty along with important events in their reigns such as cattle counts and the level of the risen Nile. It is small (40x25 CMS) and, uniquely for such stelae, it is carved on both sides. The recto lists pre-dynastic kings and those of dynasties 1 to 4 while the verso deals with the first three kings of the Fifth Dynasty. Such king lists can be found in other civilisations such as the neo-Assyrian and neo-Sumerian but the Palermo stone is the oldest annal found in the ancient world. The Palermo Stone provides important information about the earliest part of Egyptian history but no photograph had been taken of it since 1900 and work on it since then has relied on photographs rather than direct study.

Wear to the stone makes it difficult to read and its 'arrival' in the modern world is also full of mystery. It came to light in the 1860s in the ownership of the Gaudio family though its provenance was unknown. They gave it to the museum in Palermo. In 1865 a lithograph of the stone was sent to France for valuation which alerted the scientific community to its importance and various scholars visited Palermo to view it. Later in the nineteenth century the French collector, Emile Guimet suggested exchanging the stone for various antiquities from the museum on Cairo but this deal was never concluded. Later Ernesto Schiaparelli asked for the stone to be housed in the museum in Turin as he wanted to gather items from small Italian museums into his museum in Turin but the stone remains in Palermo to this day.

Six other fragments have long been thought to be part of the Palermo stone based on similarities in the inscriptions and stone and part of Massimiliano Nuzzolo's current research is testing the truth of this assumption. There are five fragments in the Cairo museum and one in the Petrie museum in London. Three of the Cairo fragments arrived there in 1910 with no provenance. The only one found in an archaeological context was found at Mit Rahina in 1912 and the last Cairo fragment was bought on the antiquities market in 1963. Petrie purchased the London fragment in Cairo in 1916 having been told that it had come from Minya.

The first scientific article on the Palermo Stone, by Astorre Pellegrini, written in 1896, claimed that the stone had been acquired from the captain of a ship

who had used it as an anchor. The Gaudiano family owned a navigation company based in Alexandria which had been active in the middle of the nineteenth century so the idea of the stone having been used as an anchor or ballast gained credibility. This would certainly account for the wear and tear on the stone. Edouard Naville and Heinrich Schaefer both wrote about the stone in the early 1900s with Schaefer producing the first complete analysis along with detailed reproductions of the hieroglyphic text. The last publication before the current research was in 2000 but this did not include pictures or any palaeographic or epigraphic study or a chemical analysis of the stone as the museum did not allow it to be removed from its glass case.

Dr Nuzzolo's primary research objective is the reading, transliteration and translation of text, especially the less well-preserved verso, in order to answer the following questions: is the stone authentic? is it a reliable historical source? do all the fragments come from the same piece? can it be dated? what is its provenance?

His research uses new methods of photographic documentation:

- Photogrammetry
- Macro-photography
- Reflectance Transformation Imaging (RTI)
- Dino-Lite USB microscope Analysis

Reflectance Transformation Imaging involved taking several photos each with a slightly different light source direction. Switching between differently lit sections of the stone's surface gives variable clarity of its text. This coupled with magnification enables the better identification of otherwise illegible glyphs. The light creates shadows which show marks on stone more clearly, giving better legibility than the unaided naked eye. Microscopes are also used to see hieroglyphs more clearly. The composition of the stone can be studied through the use of non-invasive geo-chemical analyses such as spectrometry and x-ray fluorescence.

Dr Nuzzolo's aim is to verify, correct and enhance the existing transliterations and translations of the stone and its associated fragments. Contrasting the style of the glyphs on the stone with other contemporary sources will also help with authenticating the age of the stone.

The detailed results of this study will be published at a later date but Dr Nuzzolo shared with us some of the clarification which has been possible. For example, it has now been possible to read the name of a fifth dynasty sun temple as well as the names of nomes and references to the mining of different minerals.

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