

TEMPLE OF HATHOR, DENDERA:
 PERSPECTIVE AND OTHER CHARACTERISTICS
 INTRODUCTION

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Abstract: The Temple of Hathor at Dendera contains wall decorations containing scenes depicting characteristics not seen in other ancient Egyptian art. The scenes are analyzed using ray-trace techniques.

The Temple of Hathor at Dendera, Egypt contains crypts and chambers in three levels; a subterranean level, a ground floor and a second story.

In the subterranean level, and in the Iseum outside the main temple, there are five scenes depicting what are usually identified as lotus bulbs. The bulbs have attached stems that run along the floor and some of them attach to an object. Objects in the bulb scenes seem to be hieroglyphic characters - some non-standard. The bulbs may be Gardiner's O196 hieroglyph because, in the wall texts, that hieroglyph appears in several locations in pairs.



Auguste Mariette-Bey published drawings of the wall scenes. In a bulb scene that contains a pillar with a kneeling figure, a stem runs from the bulb across the floor and terminates in the pillar. Where there is no pillar the stem termination is not depicted. This is consistent in the scenes.

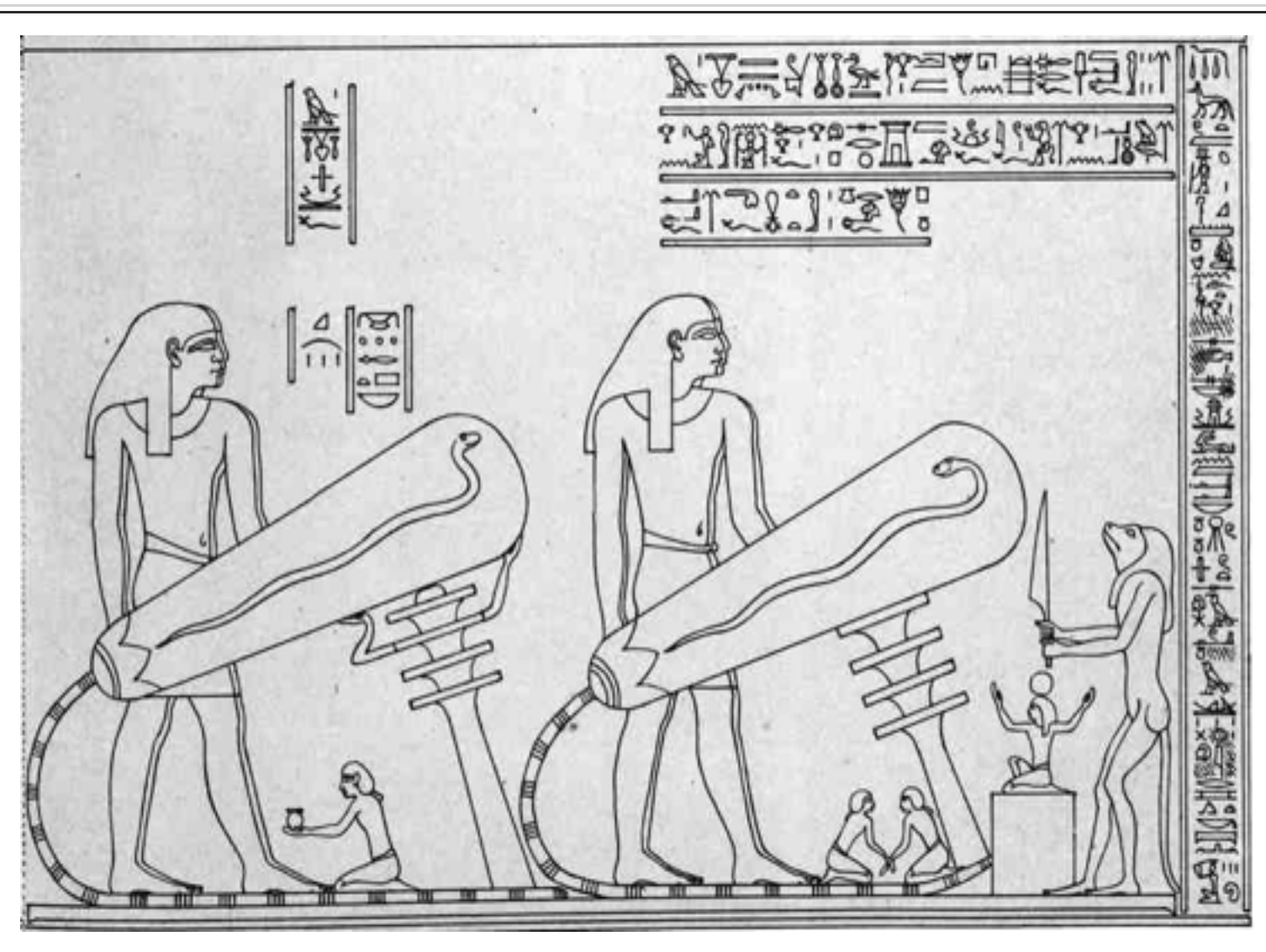
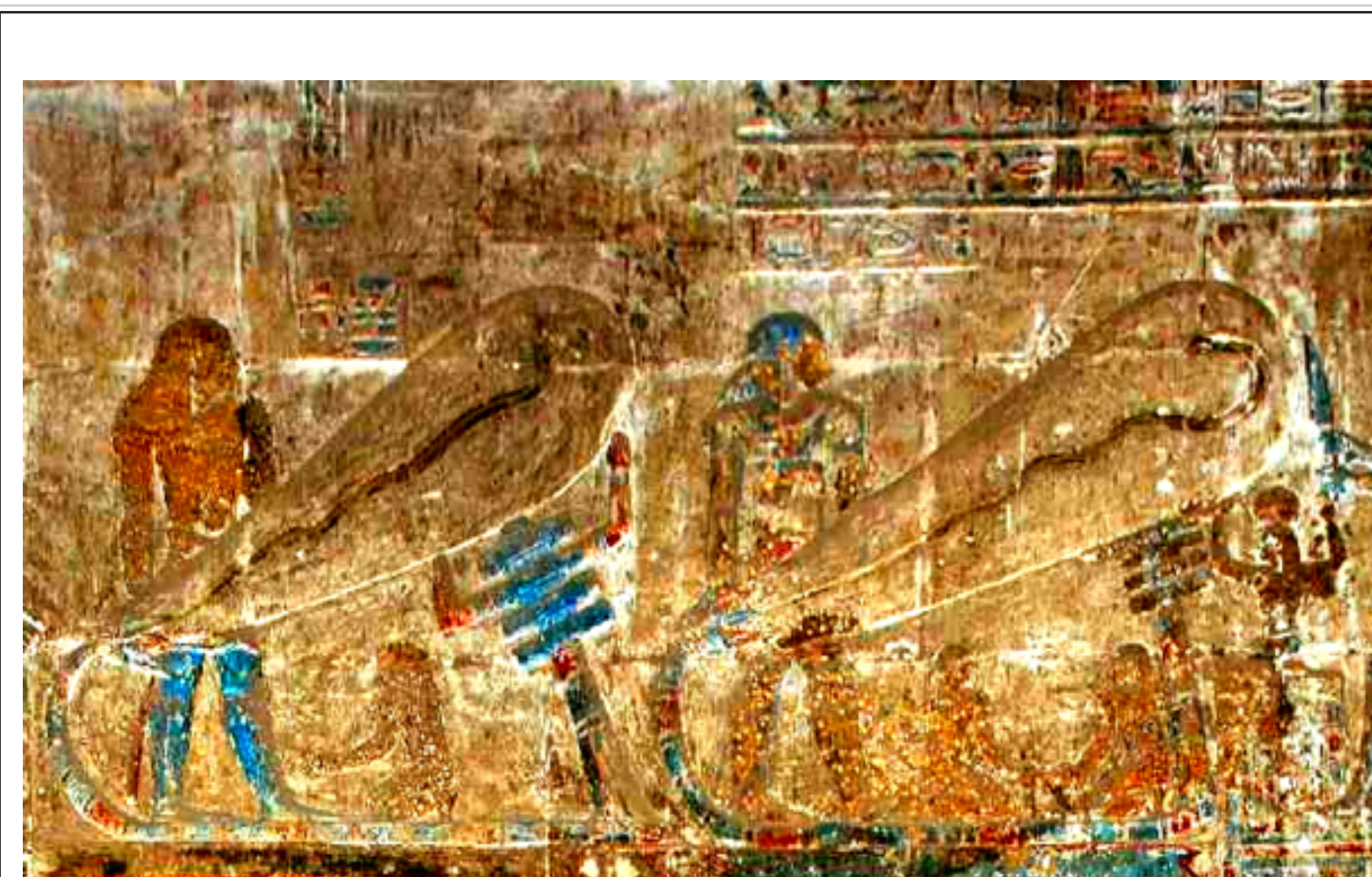
Mariette's drawings of the scenes courtesy of the New York Public Library Digital Collections.

Mariette's Chamber V, north side of the chamber. Subterranean level.

The stems run across the floor, past the right bulb and terminate in the pillar with the kneeling figure.

The scene is up high in the chamber and the artist who recorded the scene may have been hampered by the coloration of the scene and low light levels. There is no sharp S-curve at the head of the serpent on the left - just a slight upturn at the end.

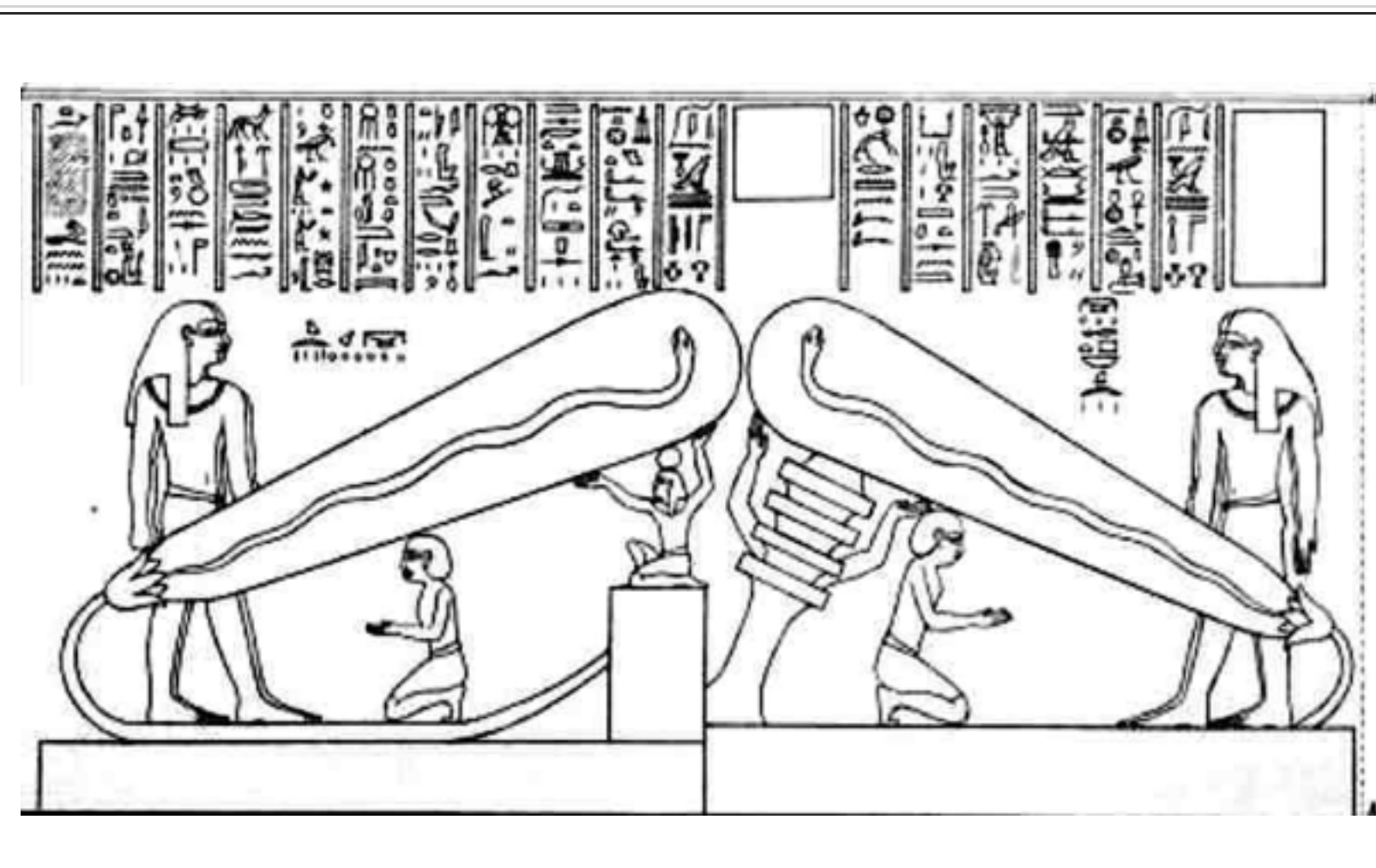
Original photo courtesy Frank Dörnenberg



Mariette's Crypt 4, west side of the crypt. Subterranean level.

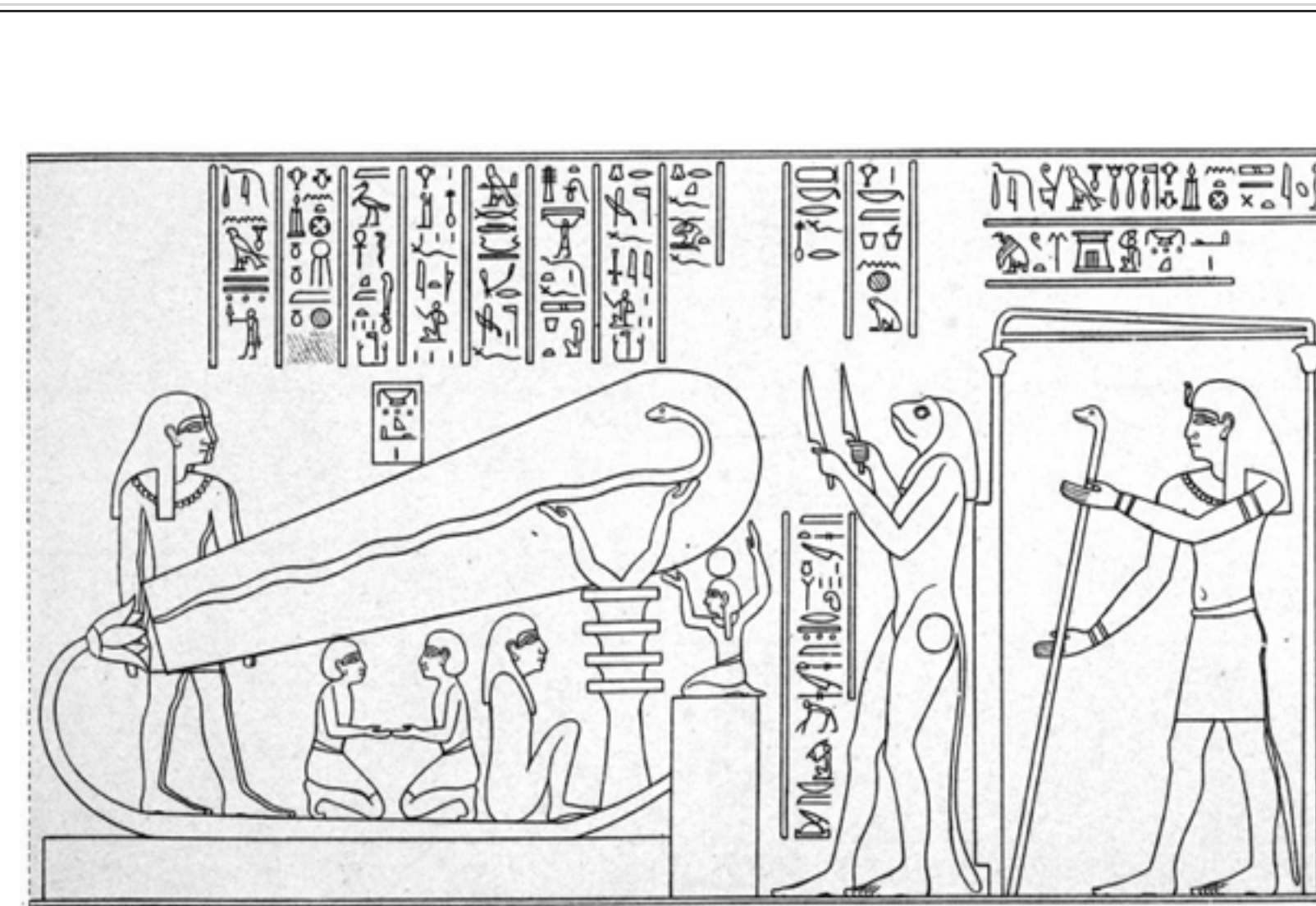
Termination of the right stem is not depicted in the original scene.

Original photo courtesy Frank Dörnenberg.



Mariette's Crypt 4 east side of the crypt. Subterranean level.

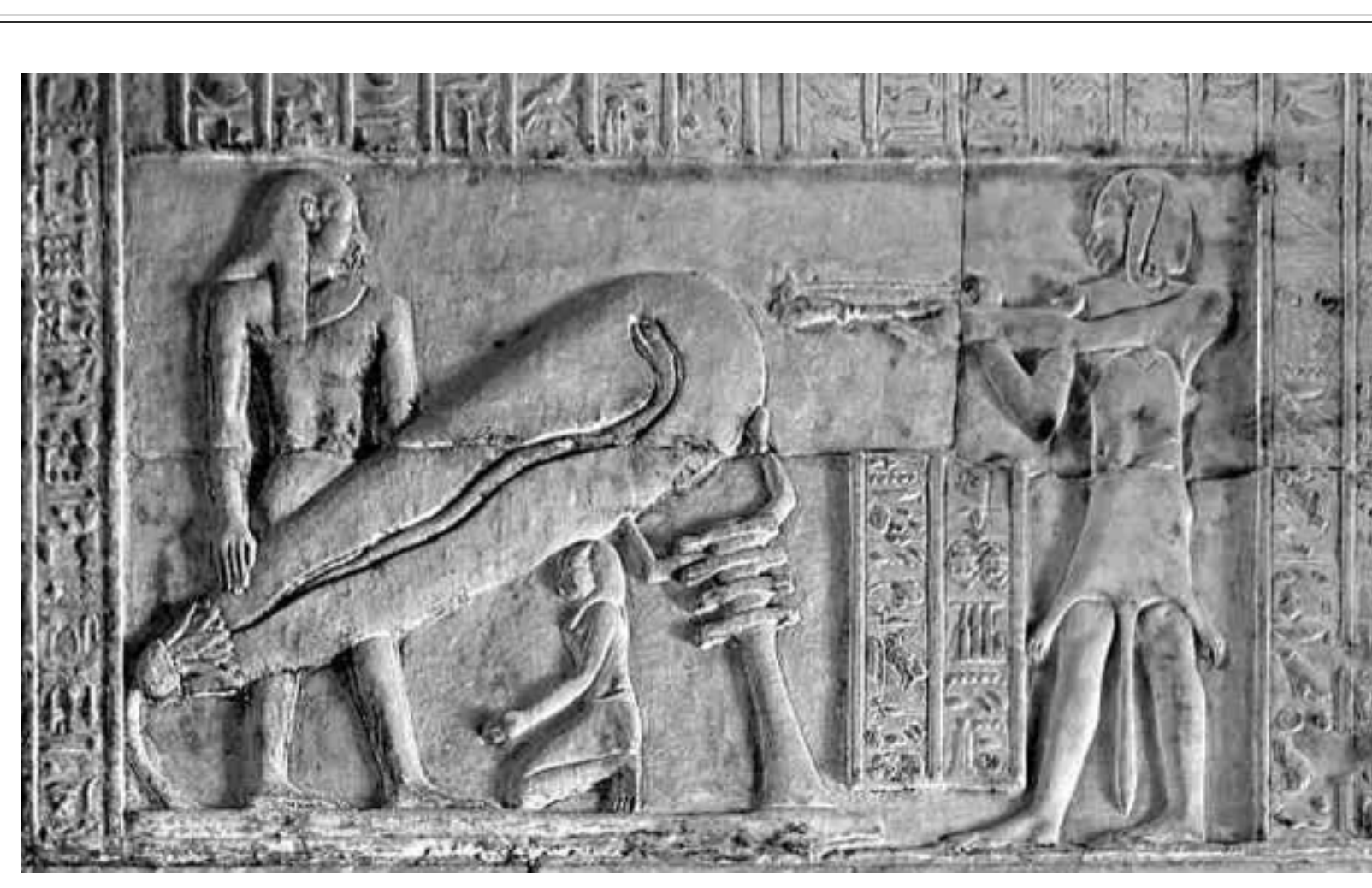
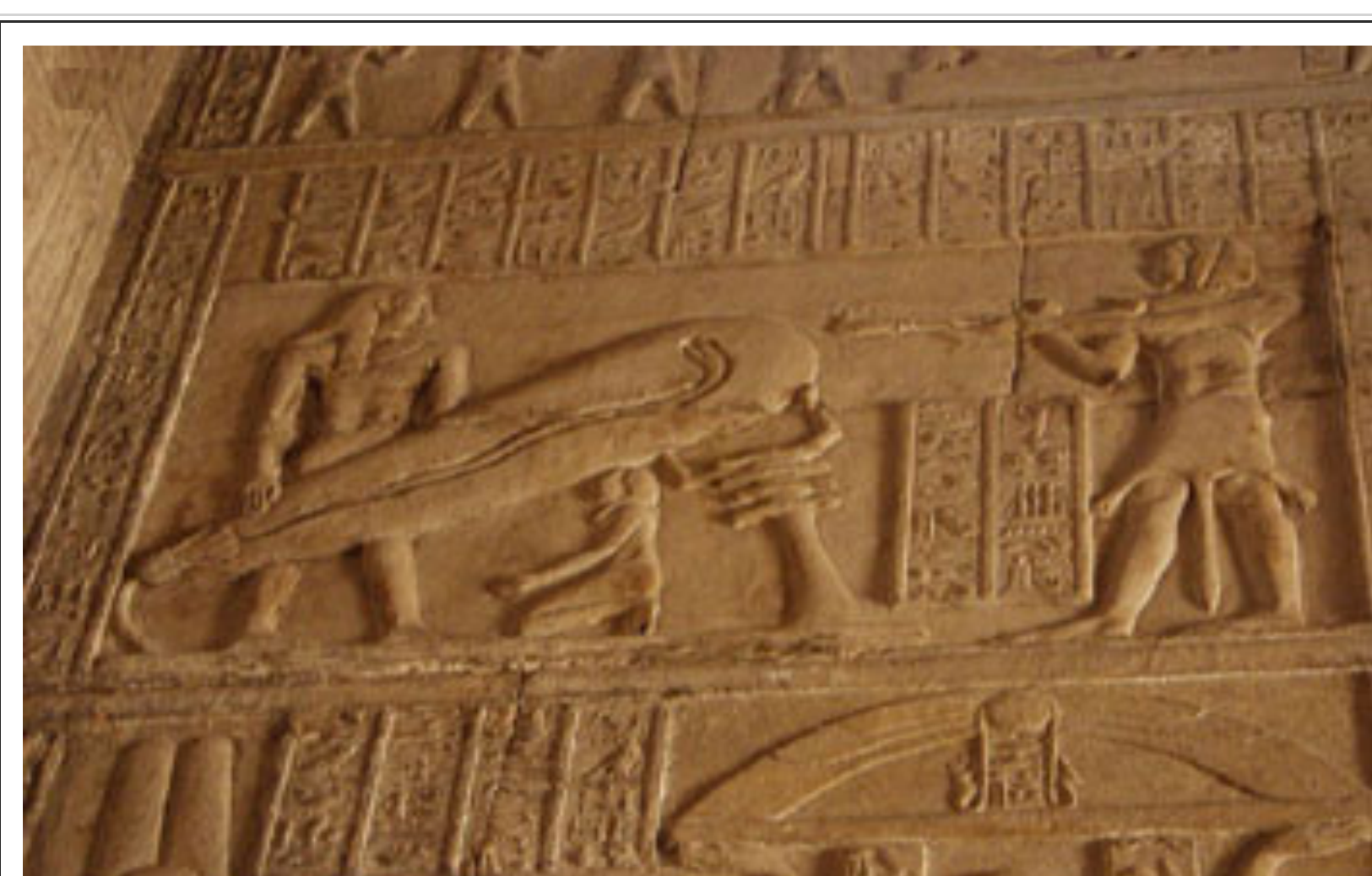
Original photo from Wikipedia



Wall carving in the Iseum, outside the temple of Hathor.

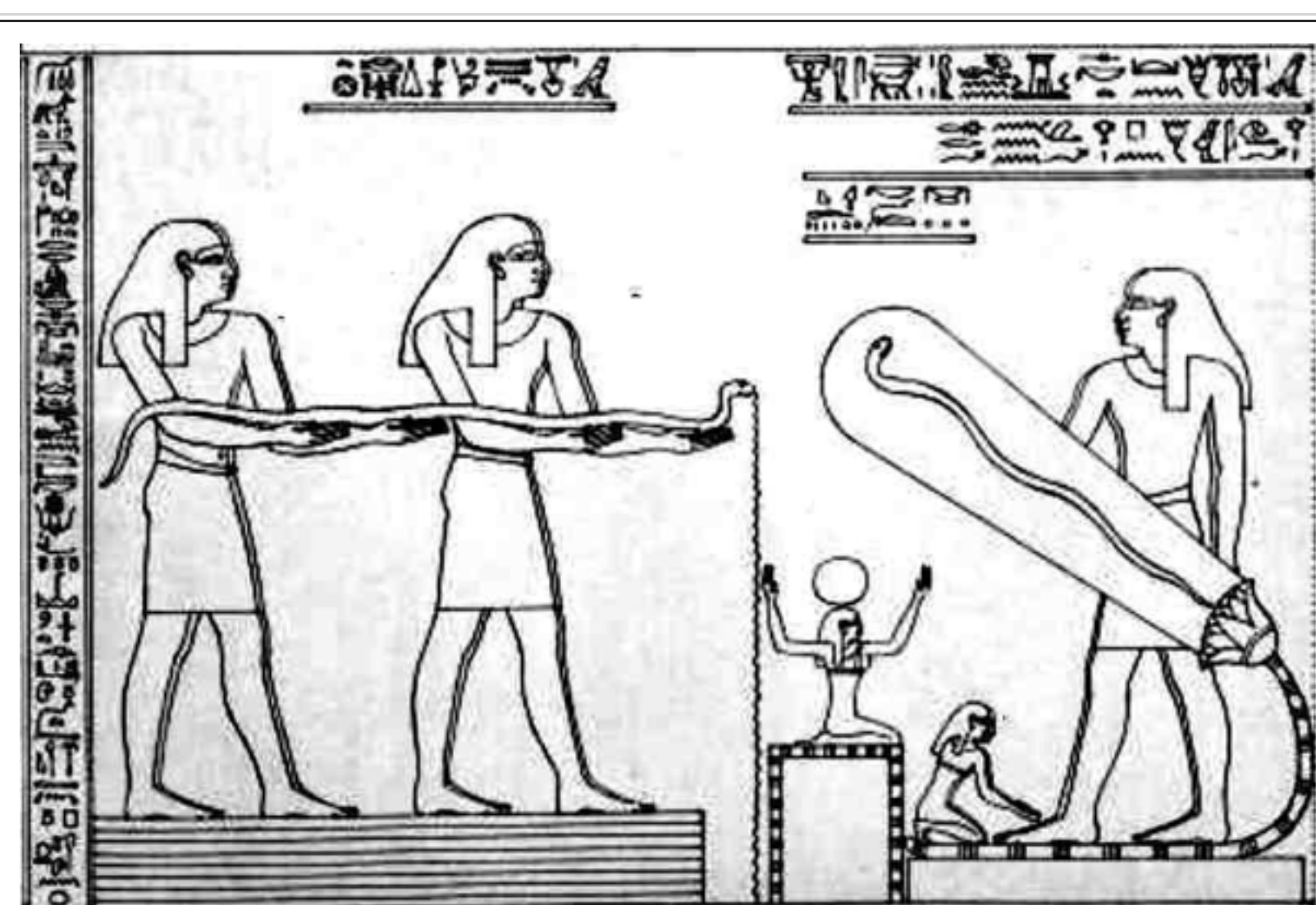
Termination of the stem is not depicted in the original scene.

Image courtesy The Lost Chord - Jon D. Jefferson.



Mariette's Chamber V, south side of the chamber.

Original photo courtesy Frank Dörnenberg.



CLUES TO PERSPECTIVE IN THE WALL DECORATIONS

Auguste Mariette-Bey published artist's drawings of the crypt scenes. In a scene that contains a pillar with a kneeling figure, a stem runs between the holder figures and the viewer and terminates in the pillar. Where there is no pillar the stem runs on the far side of the holder figures and termination is not depicted. This is consistent in the scenes.

In the scenes, a figure stands at the base of each bulb and, upon close inspection, it can be seen that the figures are "doubled". The forward facing edges of the figures are rimmed by a very thin line making it appear that a second man is standing beyond. This may be an indicator of perspective although it is somewhat different from the usual technique. However, since this web page is speculative, I am willing to assert that the artist deliberately used a slightly different depth indicator to let the viewer know that the bulb scenes are, themselves, representing depth in a non-standard manner.

Other features in the bulb scenes that seem to be indicators of perspective provide clues to the precise three-dimensional structure of the scenes. In each scene the holders are shown standing either on the floor or, seemingly, on the stem of a "lotus". The placement of the feet seems to indicate whether the holders are standing between the viewer and the stem or beyond the stem away from the viewer. In addition, the floors in the scenes are often on several levels. These features combined allow a three-dimensional rendering of the scenes.

Are these features unique in ancient Egyptian art? If what I have illustrated truly interprets the intent of the artists, have any professional egyptologists noted the same thing? These are questions that beg answers.

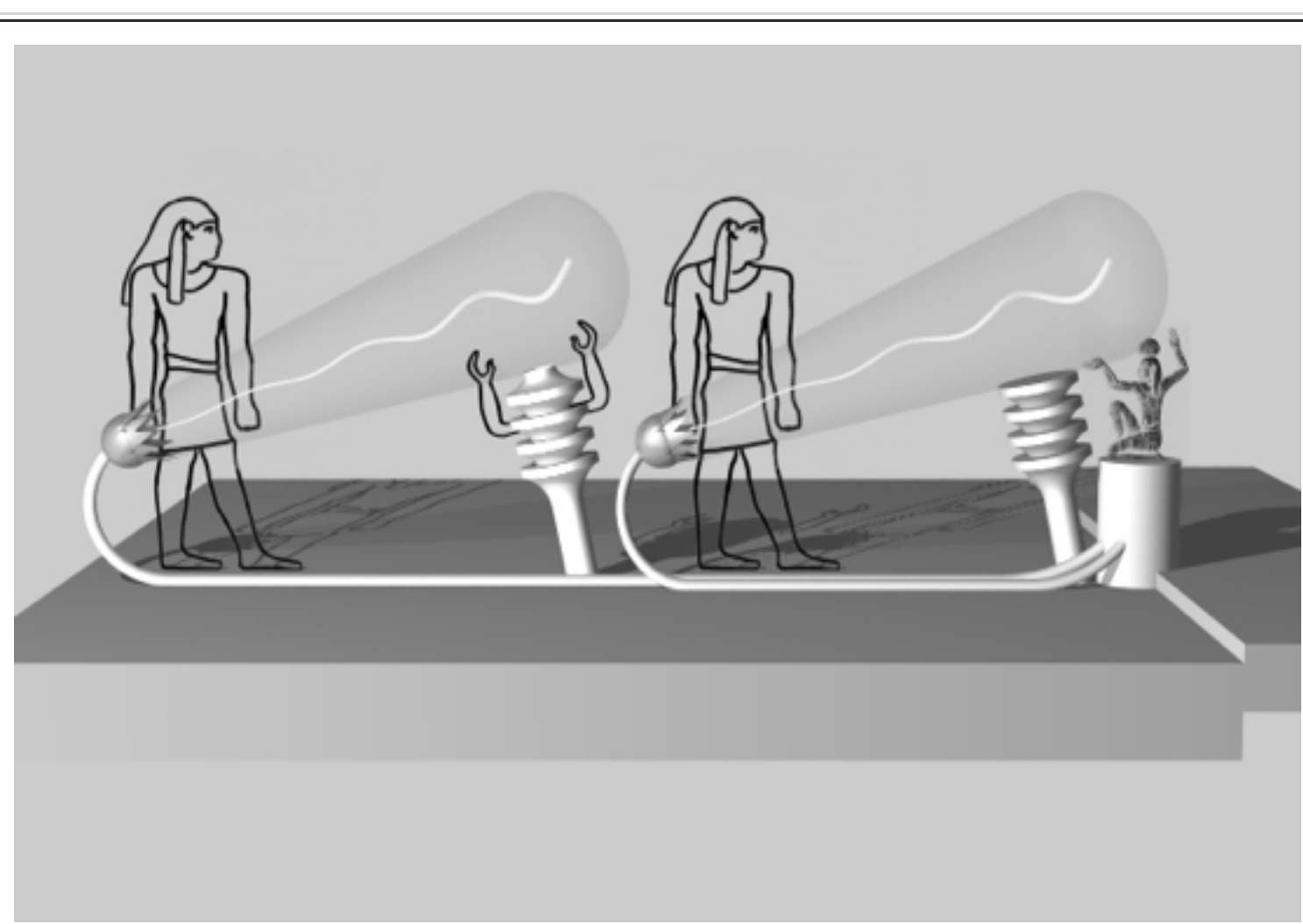
The following ray-trace images are perspective interpretations of the scenes.

Mariette's Chamber V, north side of the chamber. Subterranean level.

The stems run across the floor, past the right bulb and terminate in the pillar with the kneeling figure.

The scene is up high in the chamber and the artist who recorded the scene may have been hampered by the coloration of the scene and low light levels. There is no sharp S-curve at the head of the serpent on the left - just a slight upturn at the end.

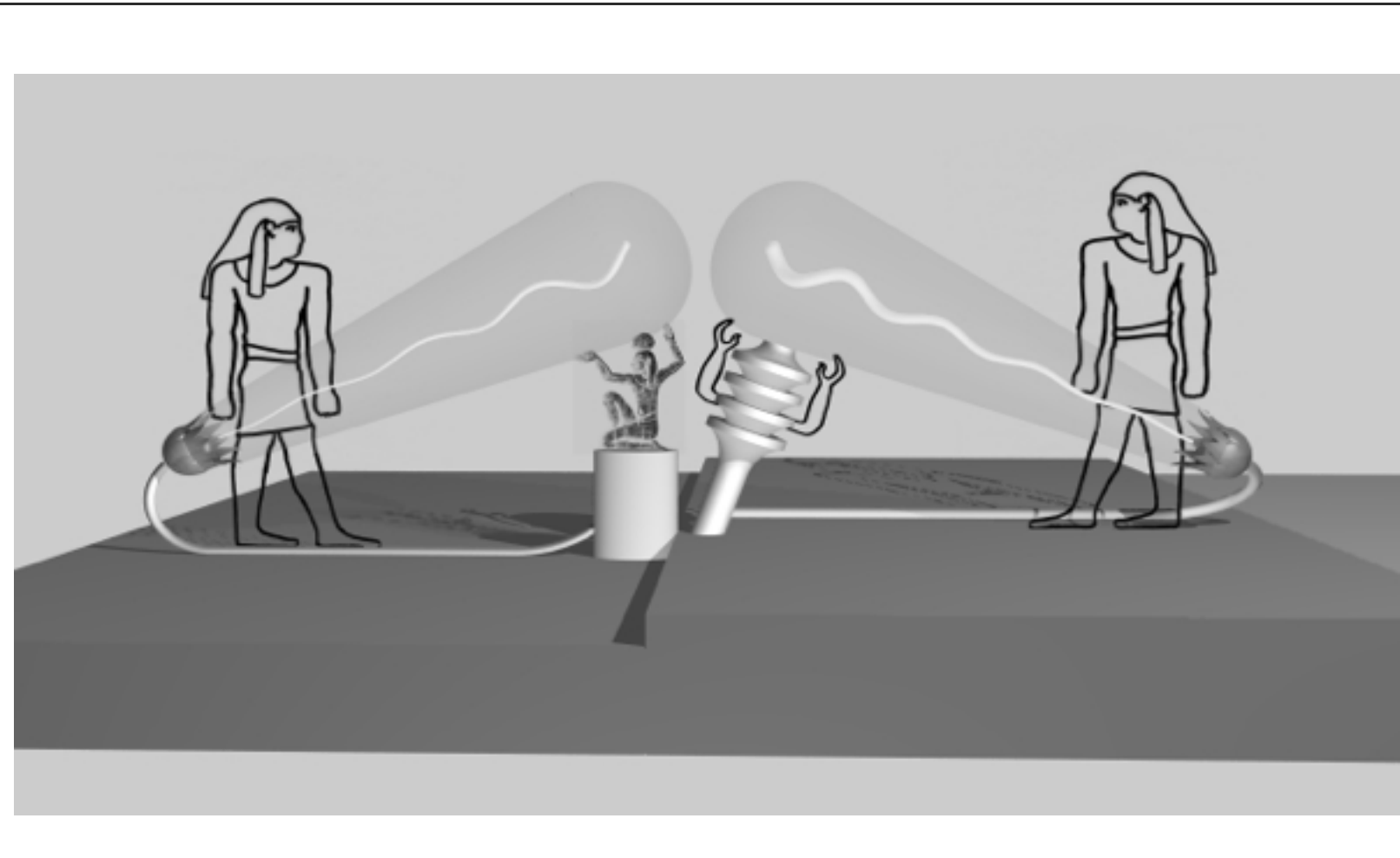
Original photo courtesy Frank Dörnenberg



Mariette's Crypt 4, west side of the crypt. Subterranean level.

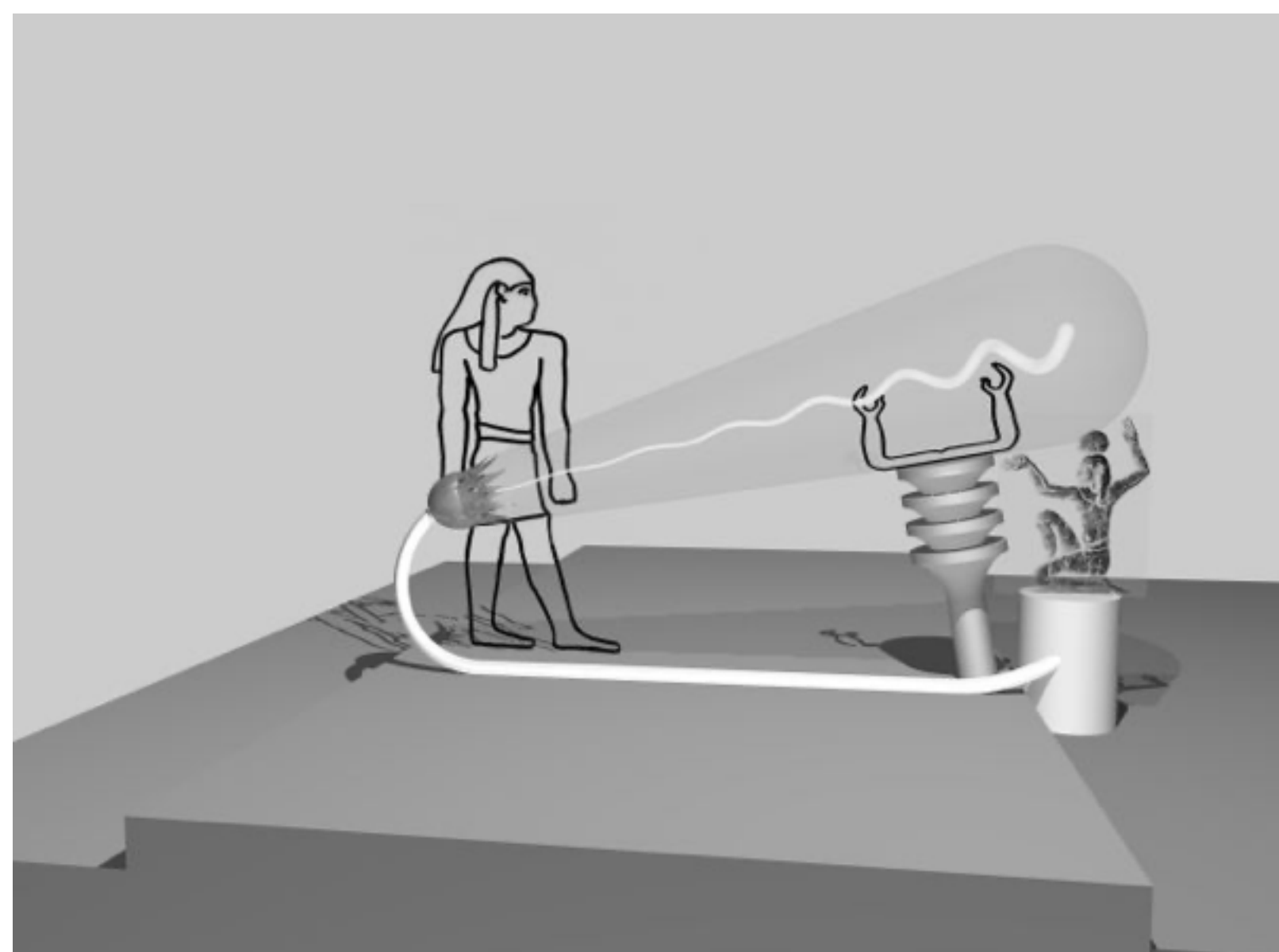
Termination of the right stem is not depicted in the original scene.

Original photo courtesy Frank Dörnenberg.



Mariette's Crypt 4 east side of the crypt. Subterranean level.

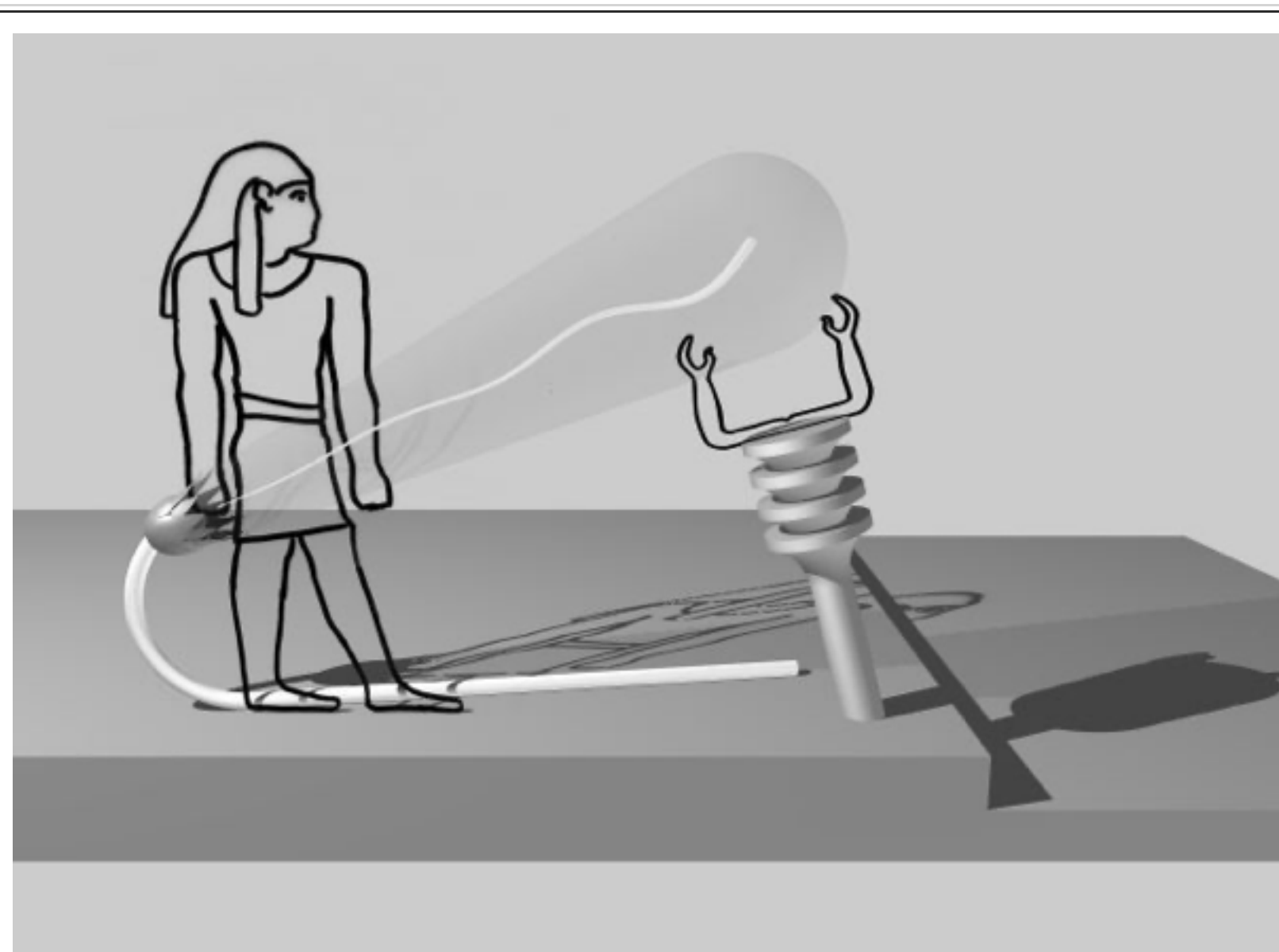
Original photo from Wikipedia



Wall carving in the Iseum, outside the temple of Hathor.

Termination of the stem is not depicted in the original scene.

Image courtesy The Lost Chord - Jon D. Jefferson.



Mariette's Chamber V, south side of the chamber.

Original photo courtesy Frank Dörnenberg.



Mariette's drawings of the scenes courtesy of the New York Public Library Digital Collections.

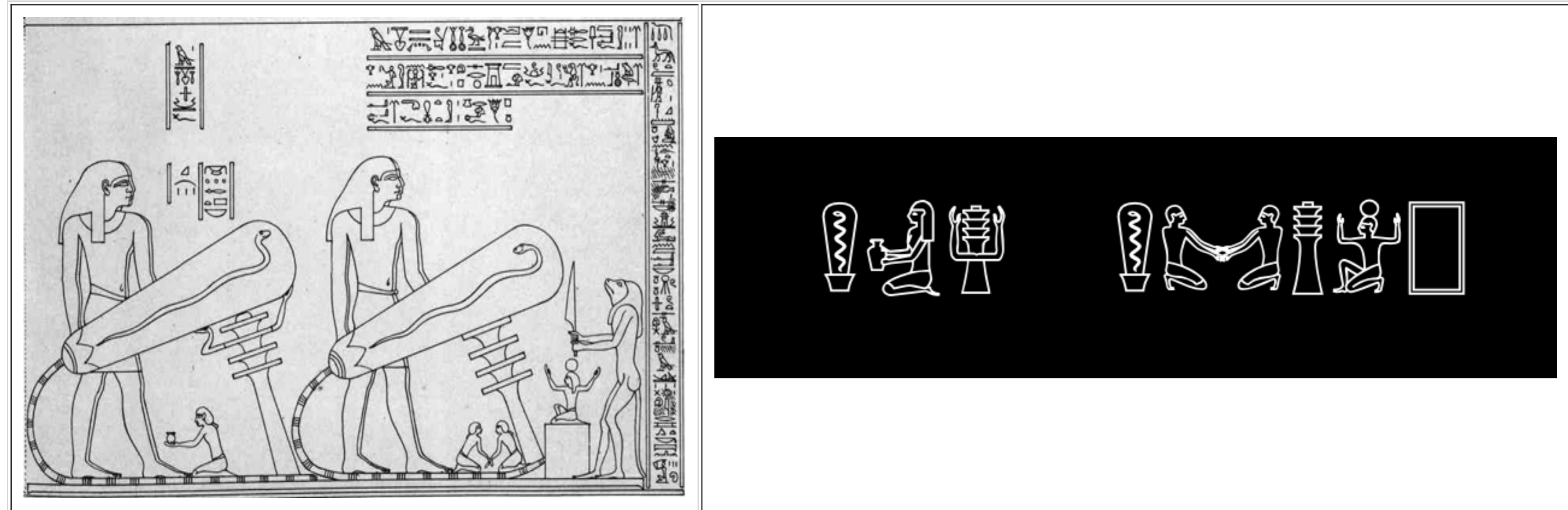
The objects making up the devices in the bulb scenes are hieroglyphs (except for the men at the bases of the bulbs) although some are variations on standard hieroglyphs. Hieroglyph characters from the Aegyptus font are used to illustrate the objects in the scenes.

Mariette's Chamber V, north side of the chamber. Subterranean level.

The stems run across the floor, past the right bulb and terminate in the pillar with the kneeling figure.

The scene is up high in the chamber and the artist who recorded the scene may have been hampered by the coloration of the scene and low light levels. There is no sharp S-curve at the head of the serpent on the left - just a slight upturn at the end.

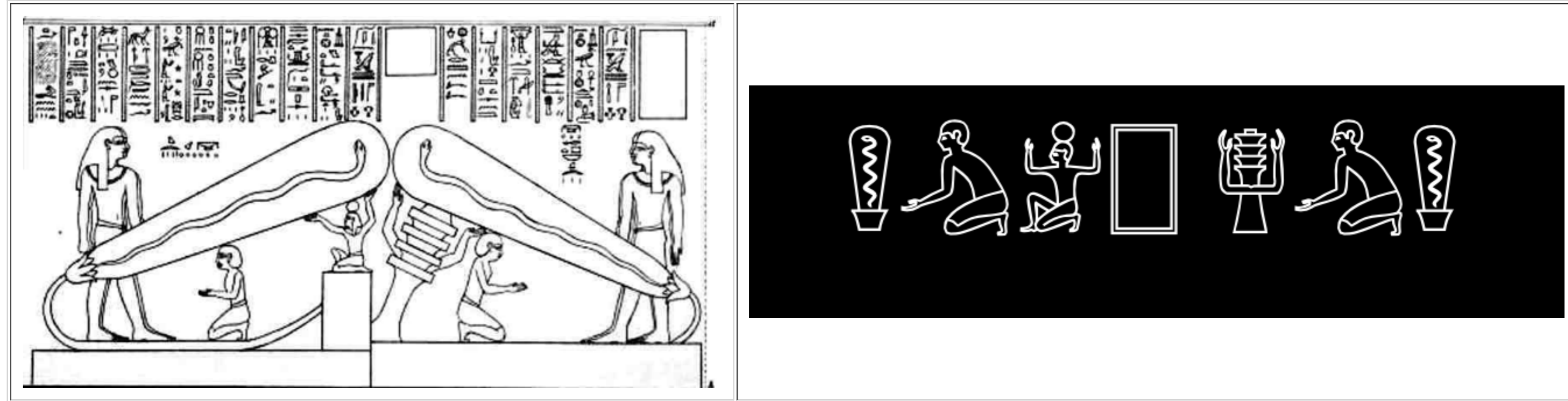
Original photo courtesy Frank Dörnenberg



Mariette's Crypt 4, west side of the crypt. Subterranean level.

Termination of the right stem is not depicted in the original scene.

Original photo courtesy Frank Dörnenberg.



Mariette's Crypt 4 east side of the crypt. Subterranean level.

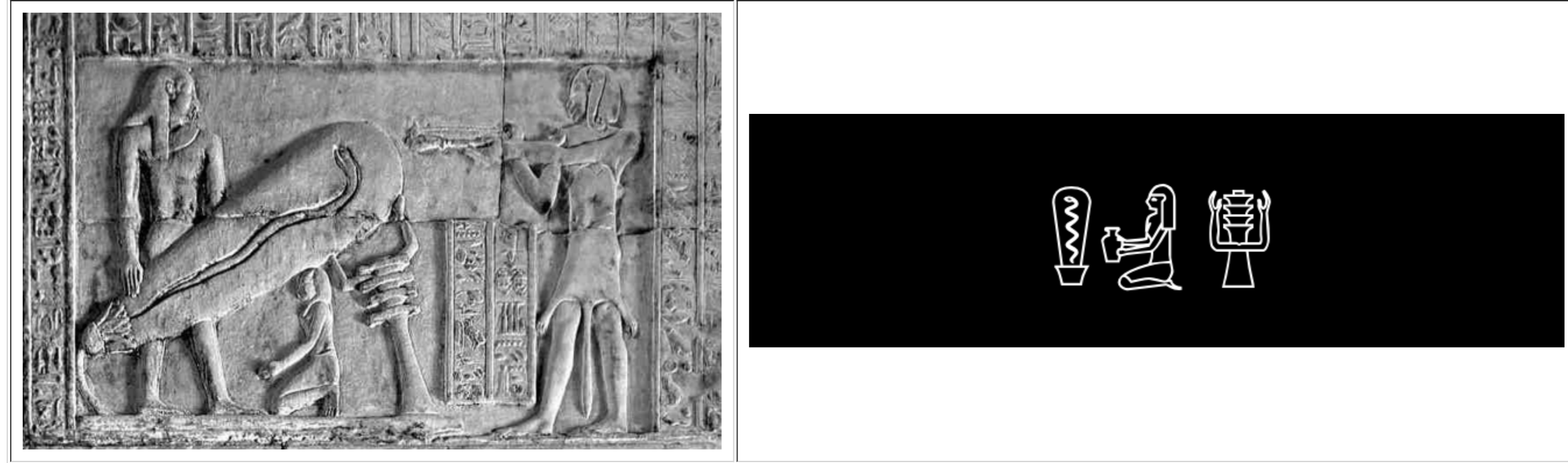
Original photo from Wikipedia



Wall carving in the Iseum, outside the temple of Hathor.

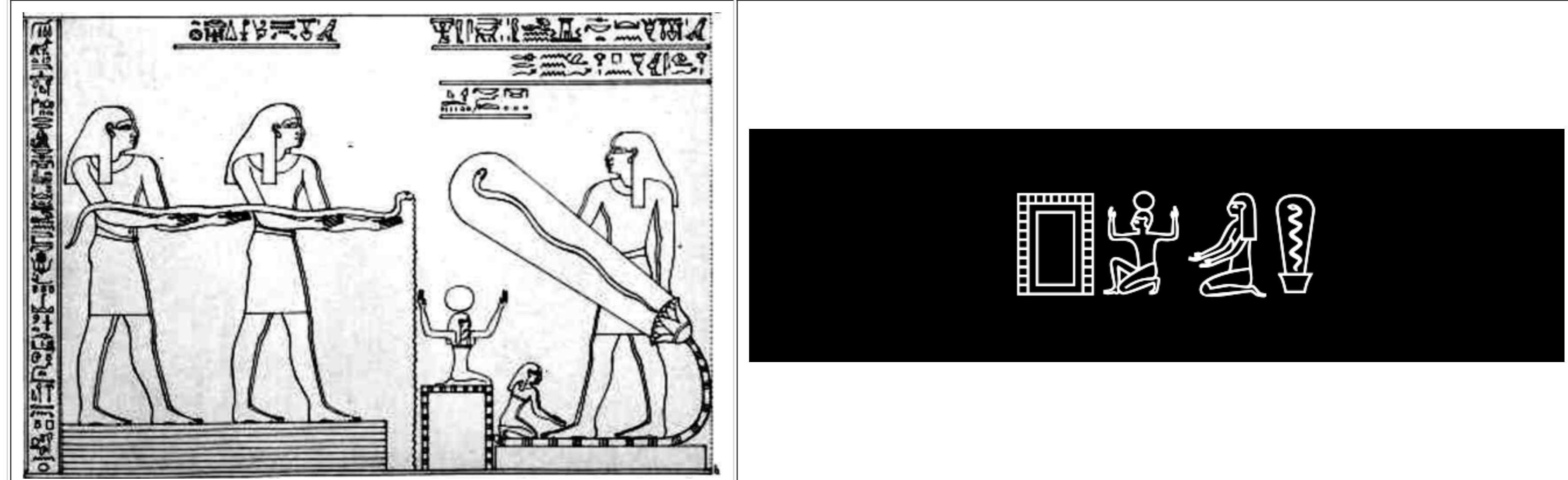
Termination of the stem is not depicted in the original scene.

Image courtesy The Lost Chord - Jon D. Jefferson.



Mariette's Chamber V, south side of the chamber.

Original photo courtesy Frank Dörnenberg.



Mariette's drawings of the scenes are used courtesy of the New York Public Library Digital Collections.

If the ancient Egyptians had electrical devices they would have had appropriate technical terms for electricity, electron beam, deflection, repulsion and perhaps other terms.

Would a modern Egyptologist-translator recognize those terms for what they are? Would a modern translator be influenced by his/her beliefs regarding the state of Egyptian technology? If consensus opinion denied the existence of practical electricity in ancient Egypt could a translator overcome that influence if the context of an inscription indicated the use of electricity?

If a translator accurately interpreted an inscription dealing with an electrical device, would the translation be accepted for publication?

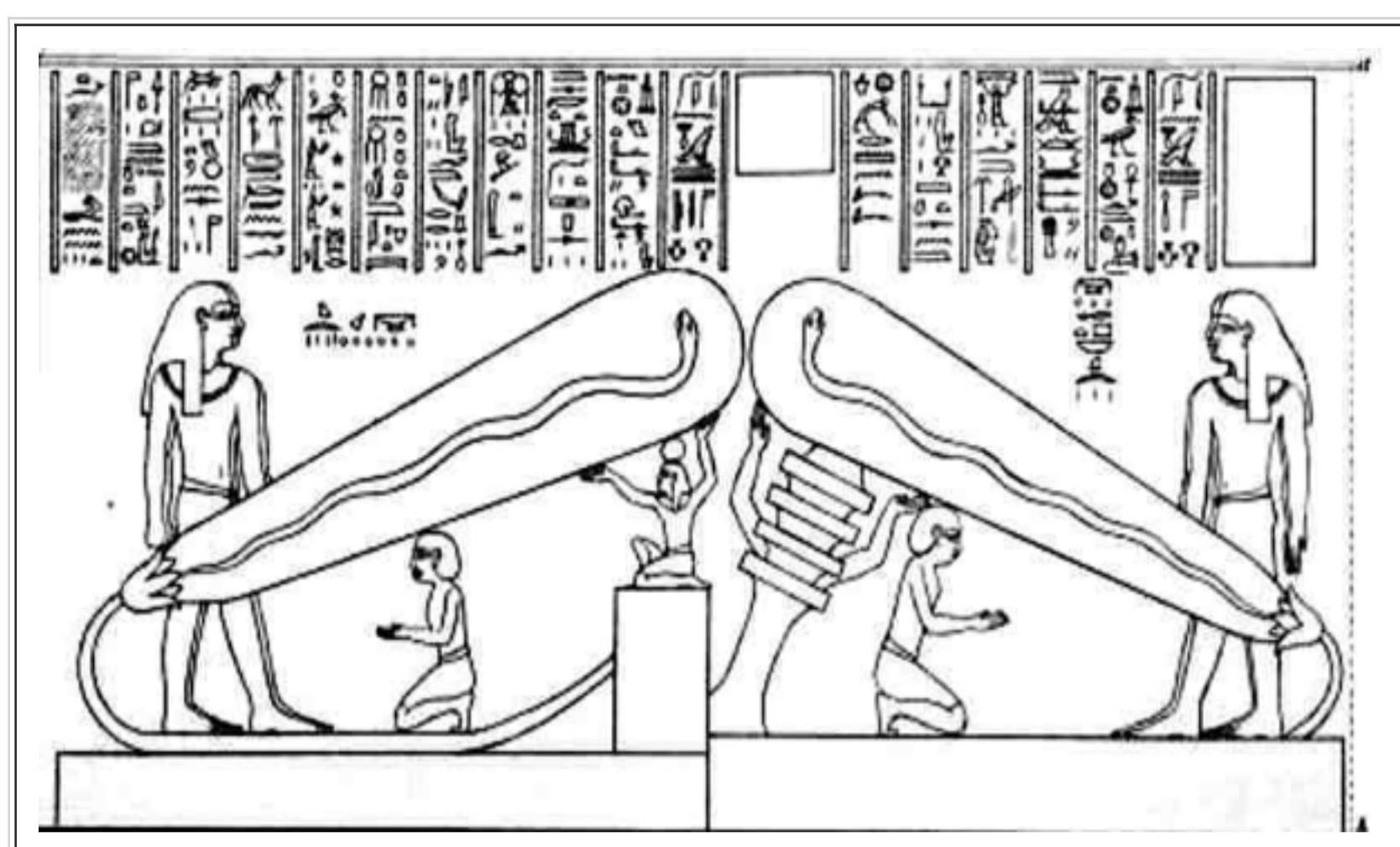
Or... would the technical terminology be so obscure to the modern mind that the translator would not even be alerted to the real meaning? Would the translation then be worded as standard formulaic phrases? Would there be any hint of the real meaning left in the translated text?

These concepts have been expressed elsewhere and received critical denial. Be that as it may, translations have often gone astray out of ignorance on the part of the translator. Witness, for example, the several unsuccessful attempts to decipher the Phaistos disk and Metoro's *transliteration* of Rongorongo texts into unintelligible sequences of polynesian words.

Claims have been made that the bulbs are evidence that electricity was used in ancient Egypt and that the bulbs are lights or Crookes tubes. These claims are presented in internet articles apparently based on perceived appearances but without an in-depth analysis of clues that may exist in the bulb scenes.

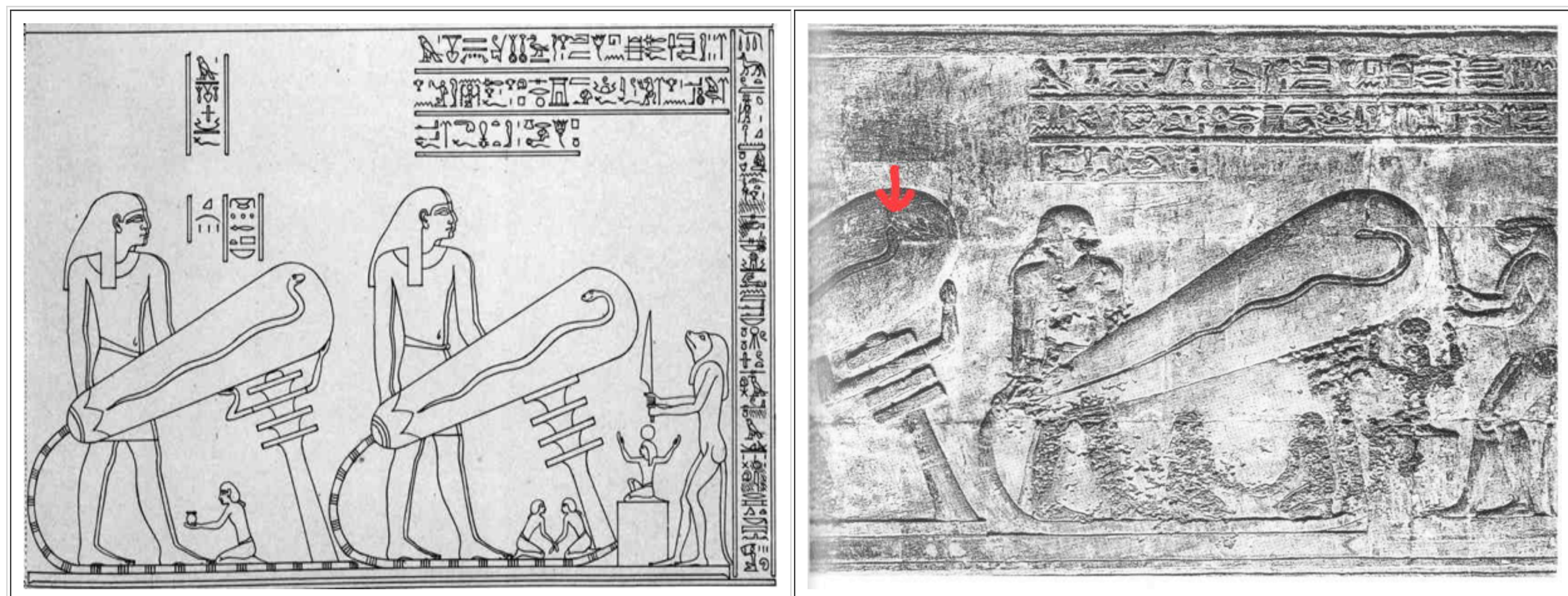
There are certain features in the scenes that can be interpreted as clues to the nature of the bulbs. The bulbs are obviously not lights nor do they have the characteristics of Crookes tubes. The nearest "modern" analog to the Dendera bulbs would be the Braun tube but the Dendera objects are even simpler. Braun tubes used electrostatic plates to deflect an electron beam. The Dendera bulbs show no indication of internal deflection plates. If they were electrical devices then they may have been "demonstration" devices like Heron's steam engine.

The first clue may be in the scene in Mariette's Crypt 4, west side of the crypt. The two bulbs are placed so that their large ends are nearly touching. The serpents are curled as though slightly deflected because of like charges at the end of the bulbs.



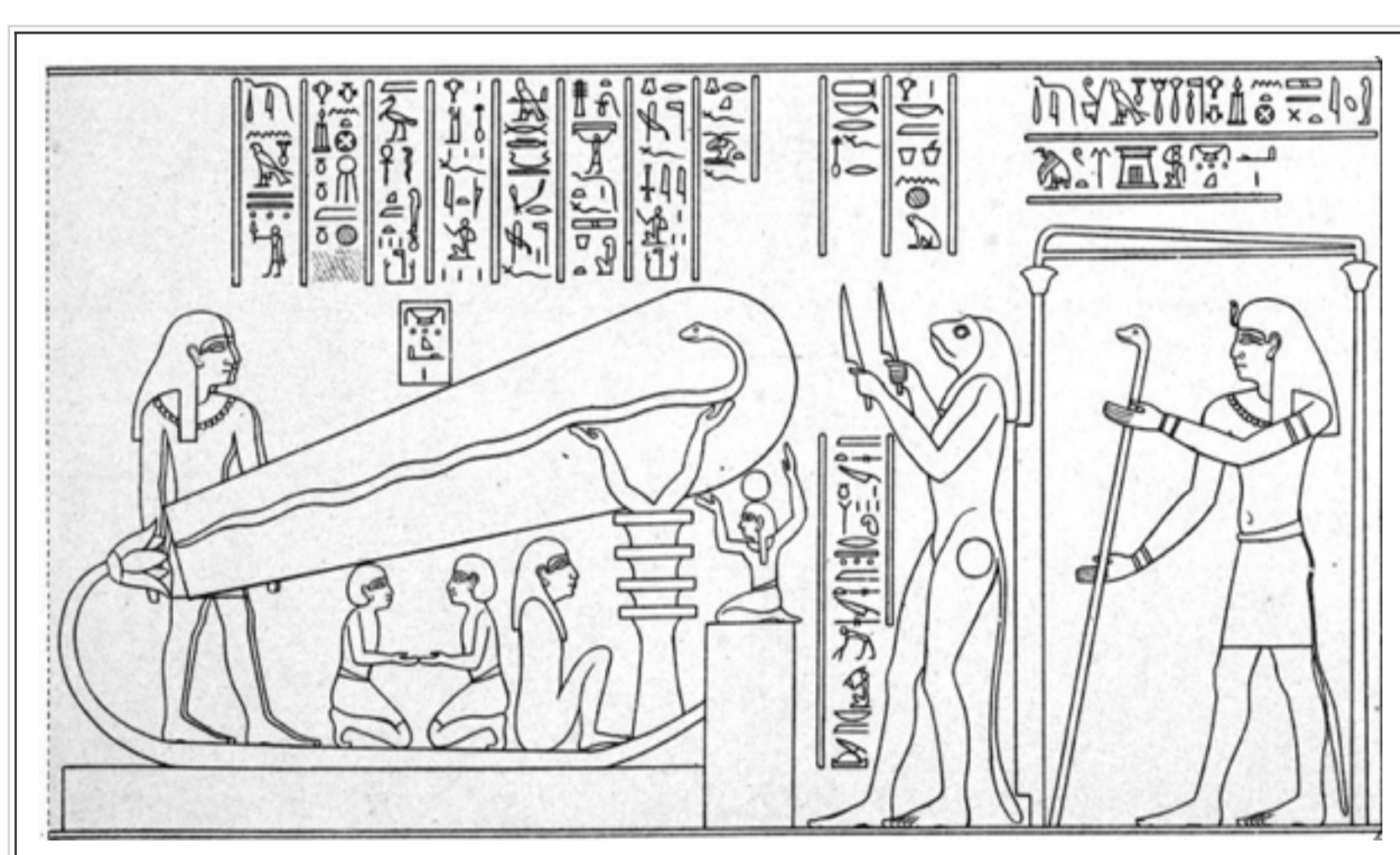
Mariette's Chamber V, north side of the chamber. Subterranean level.

In this scene the serpent on the left is not sharply deflected (Mariette's drawing incorrectly shows a sharp curl with a short forward turn at the head of the serpent) and the intent may be to indicate no deflection. The serpent on the right is sharply deflected, apparently by the knife held by the anthropomorphic figure. Given the clue in the previous scene it would appear that the figure holding the knife represents a negative electrostatic charge.



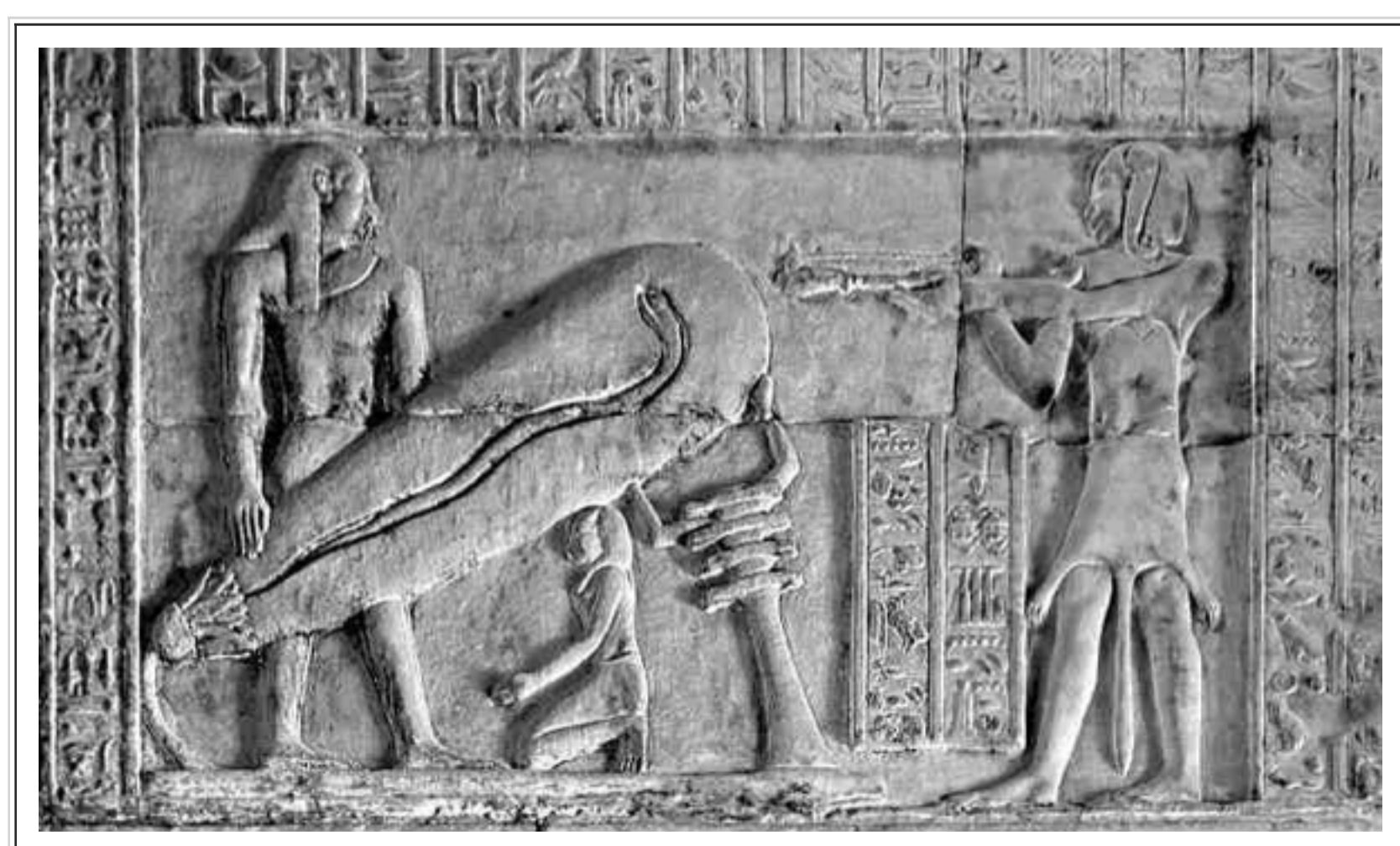
Mariette's Crypt 4 east side of the crypt. Subterranean level.

The serpent head is deflected by the knives held by the anthropomorphic figure.



Wall carving in the Iseum, outside the temple of Hathor.

The figure holding what has been called an offering must represent another source of negative electrostatic charge. The serpent's head is moderately deflected similar to the deflection of the two serpents in Mariette's Crypt 4, west side.



Mariette's Chamber V, south side of the chamber.

The serpent in the bulb is barely turned. This scene may indicate a mild electrostatic deflection.

