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The Egyptian collection of Museu Nacional, Rio de Janeiro, Brazil, and the Conservation of Mummies in a Tropical Environment

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Abstract

A beautiful and representative Egyptian collection -the most ancient and perhaps the most important in South America- is at the Museu Nacional, in Rio de Janeiro. Most of this collection was brought in the 19th century to the Royal Museum by the first Brazilian emperor, D. Pedro I. Many of the objects represent different periods of ancient Egyptian history, including mummified bodies of humans and animals. It is likely that most of these materials are from Thebes as confirmed by recent studies. Some of the mummies are rare (for instance Roman woman #158, and one sarcophagus that is still closed). A research program with special analysis, non invasive investigations using X-rays and CT scanning, and other studies are being made. Correct age and sex of the embalmed bodies, signs of disease, and details of mummification techniques will be presented here, along with a general description of the collection and its present museum exhibition

Bonaparte's Egypt Campaign was not only a military success but also a victory of the human spirit: the world rediscovered the Ancient Egypt. One of the indirect results of his campaign was the discovery of The Rosetta Stone, that allowed Jean-François Champollion to find the key to the hieroglyphic written, another one was the publication of the first great book about the land of the pharaohs: *Description de l'Égypte*.

Such a great European interest for the Ancient Egypt comes to Brazil with Dom Pedro I, the portuguese that came to be the Emperor of Brazil in the XIX century, and also with José Bonifácio, his Minister and Counselor. They bought an Egyptian collection of antiquities to be part of the Museu Real. An Italian merchant named Nicolau Fiengo (1826) brought this collection. By this way it was created the most ancient and, probably, important Egyptian collection in South America.

The exact origin of this collection is unknown but it is generally accepted that Fiengo brought it from Marseille. Fiengo stated it was provenient from Giovanni Battista Belzoni's researches. Belzoni was a famous Italian man who dedicated himself to lucrative dealing of Egyptian objects, which provided great museums and collections. According to Belzoni the objects that came to Brazil had been found in his "excavations" in Karnak, the "Realm of Amun", and in the Teban necropolis. This provenance was confirmed because a great deal of the objects from the Emperor Pedro I collection were proved to belong to Teban priests and officers.

The interest in Ancient Egypt continued, but stronger, into the intellectual interests of his son and successor, Dom Pedro II. The passion for oriental languages and philosophies lead Dom Pedro II to visit Egypt twice. In his first voyage to Europe and Egypt (1871) Dom Pedro II met Emmanoel Rougé, Curator of the Egyptian Collection - Louvre Museum. In this opportunity, the Brazilian Emperor asked for Mr. Rougé´s publications.

In Egypt he met Auguste Mariette who had created a few years before the first Egyptian Antiquities Museum in Egypt (Bulaq Museum), as well as his assistant Émile Brugsh. The Emperor called him "my friend". Some time later, both Mariette and Brugsh received the Brazilian honor named Ordem da Rosa (1874). In this trip Dom Pedro II and Tereza Cristina, his Empress, visited São Pedro Church at Alexandria, a church that was built next the Consulate General of Brazil, replacing the Consular Chapel of the Empire of Brazil. Until 1957 this Chapel, consecrated by the Patriarch of Antióquia, Alexandria, Jerusalem and the whole East, still showed the Imperial coat of arms.

When Dom Pedro II went back to Egypt, in his second trip (1876), he returned to the Bulaq Museum, with Mariette,

visiting the place before the great flood of the Nile destroyed part of its collection in 1878. At the same trip the Emperor took the Feruz steamboat, traveling up the Nile. The result of that voyage was two books of notes with meticulous observations about the Egyptian monuments that demonstrate his knowledge of the history and language of Egypt (Taunay, 1912). At some moments, inspired by the ruins, his notes are intermixed by poetic observations. When leaving the Temple of Karnak, taken by the admiration caused by the ruins, he went to the pilono to admire the sunset at the other bank of the Nile, turning his thought to the *Creative God of Everything that is Beautiful* and thinking about his *two homelands*, the one of the heart and the one of the intellect: Brazil and France. His notes were written in French so that Mariette could examine them.

Dom Pedro II got ready for a third trip to Egypt, but it was his exile was impeditive. However, he never abandoned his interest for the East, mainly for Egypt. Few weeks before his death he had ordered to buy in Paris books to help him to translate The Holy Bible and The Thousand and One Nights, as well as books about Egyptology that maintained him updated in this subject.

Because of the Proclamation of the Republic in Brazil, the Museu Real became Museu Nacional (1892), and was sheltered in the Quinta da Boa Vista Palace, the former Palace of the Emperor. It stays there until today, now belonging to the Universidade Federal do Rio de Janeiro (UFRJ). The Egyptian Collection is under curatorial service of Department of Anthropology, Archaeology section.

The Museu Nacional Egyptian collection has more than five hundred objects, approximately half of them exposed. This collection have works of great artistic and archeological value as the beautiful III Intermediate Period and Late Period coffins of priests Hori, Pestjef and Harsiese. An important collection of stelae, most of them probably proceeding from Abidos, dating Middle and New Kingdoms. We can stand out the XIX Dynasty stelae of Raia and Haunefer that show titles of Semitic origin present in The Holy Bible and in cuneiform tablets from Mari, and the unfinished Roman Period stele attributed to Emperor Tibério. Equally interesting is a statuette in painted limestone that represents a young woman with an ointment cone over the head, one of rare examples known of this serie of sculpture, because these cones are almost known exclusively in paintings and relieves but not in sculptures.

Alberto Childe (Dimitri Petrowitch Vanitzin, 1870-1950) was nominated Curator of the Museu Nacional in 1912 and about twenty years he was in charge of the collection. He did the first studies about these Egyptian objects (Childe, 1919). Between 1922 and 1932 he published specific articles about some of the objects in *Publicações Avulsas do Museu Nacional*.

In a series of conferences in South America, Jean Capart, obtained some pictures of the collection and now they are at Fondation Égyptologique Reine Élisabeth. Hermann Ranke translated personal names from several stelae and published them in his *Die Ägyptischen Personennamen* (1935-52). Hermann Grapow translated the Middle Kingdon stele, and as collaborator of Adolf Erman published it in the great dictionary *Wöterbuch der Ägyptischen Sprache* (1926-31). Baudoin van de Walle published the stele of Sahi (XII-XIII Dynasties) in *Revue d'Égyptologie* (1963/3) and recently Alan R. Schulman published the fine low relief fragment of a votive chapel of Meriptah (XVIII Dynasty, Amenhotep III) in *Journal of the American Research Center in Egypt* (1963) as well as the stele of Bakenwer in *Biblioteca Orientalis* (1986/43). The only systematic study from Museu Nacional Egyptian collection was made by Kenneth A. Kitchen, that is the *Catálogo da Coleção do Egito Antigo Existente no Museu Nacional, Rio de Janeiro*.

In the collection there are also human and animal mummies. As other specimen of organic composition they are among the most fragile and perishable materials from Ancient Egypt. Still they are some of the most valuable specimens in Museu Nacional.

The mummies conservation in a tropical environment

To deal with the Egypt Collection mummies we have take in consideration some particularities. Togheter with the National Museum of Havana Egyptian Collection (Cuba), this is one of the only Egyptian Antiquities Collection in tropical climate, and require special attention. Only Brazil and Australia shelter significant Egyptian collections in South hemisphere (Brancaglion, 2002). It is well known that the hot and wet weather of tropical environments accelerates the decomposition of organic materials. In that way the degradation process of the most sensitive part of the Egyptian Collection began, actually, when it came to the tropics in the 19th century. In so hostile conditions the most vulnerable objects are the mummified bodies. Because of this fact its conservation was considered a great challenge to Museu Nacional.

Along the last four years we have introduced a new curatorial policy to the Archaeological Collections of the Museu Nacional, and the maintenance of these mommies in stable conditions was considered as demanding prompt action. The former idea was to keep the mommies in cases with temperature and humidity control, but this was impracticable. The costs would be very high because there are six complete mommies, four heads, three feet and other isolated pieces like fingers and mandibles. The solution was **t**he anoxia process developed by Dr. Shin Maekawa, from Getty Conservation Institute. Fundação Vitae gave a strong support to the project and have brought Dr. Maekawa to Museu Nacional. In a first visit, to set a diagnosis of the problem and after, in several visits, to establish the oxygen-free environments and training of the team to supervise the equipment.

Instead of rigid chambers, this process uses flexible enclosures with transparent oxygen-barrier film as container material that creates anoxia "bubbles". Thanks to this process the mommies are being conserved in an atmosphere with low concentrations of oxygen (around

0.1 / 0.15%), inhibiting the microorganisms proliferation and controlling insect pests.
This process included the following basic steps (Maekawa & Kerstin, 2003):

- Building of a protective sturdy acrylic frame to protect the body from being damaged by the plastic film. The frame is perforated because below it there are sliding acrylic trays to hold conditioned silica gel and activated charcoal.
- Building of acrylic strips to create an arch structure to support the plastic film over the body and protect him from contact with the plastic film.
- Cutting a piece of moisture-and oxygen-barrier film (transparent, resistant to distortion, and melt in a low temperature) large enough to an easy drape on all sides, with its heat-sellable side facing upward and placing the frame on it.
- Introducing the trays of silica gel and the activated charcoal under the frame, and the relative humidity indicator strips over the frame, without touching the mummy.
- Introducing inert gas entry and exit valves in small openings that were left in the film to insert nitrogen, substituting the air inside the bubble.
- Transporting and laying down the mummy on the frame.
- Folding the oxygen-barrier film over the body, sealing it with a heat sealer (except for the small part left opened to the later introduction of the oxygen indicators), and closing the remnant edge with clamps.
- Purging the bubble with humidified nearly pure nitrogen (99,7%), carefully monitoring the exit rate to equal the entry rate in order to avoid overinflating the bubble, or causing leaks, until the oxygen level in the atmosphere inside decreases below 0.3%.
- Removing clamps and introducing the oxygen indicator Ageless Eye to monitore the anoxic conditions.
- Sealing the remnant edge and continue to purge and to monitore the oxygen level until stabilization below 0.3% is achieved.

After being stored for some months at the Conservation Laboratory of the Museu Nacional, it was finally decided that the mummies inside these bubbles should be displayed to the public this way, and at this very moment they are in the Egyptian Exhibition Room. Validity of this procedure is around ten years. Until then Museu Nacional hopes to get resources to make acclimatized cases where the mummies will definitively be. If this can not be done, the bubbles will be renewed and the materials will be substituted to another period of anoxic treatment.

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