

# DEFORMED STATUES OF RAMSES II: A STUDY OF DISRUPTIVE RESTORATIONS IN EGYPT IN THE 21<sup>ST</sup> CENTURY

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## 1. Introduction

In the light of the existence of tremendous technological progress in the 21<sup>st</sup> century, the world is looking to use technology to preserve antiquities, to help professional restorers in assembling the missing parts of statues correctly and to avoid the gross mistakes that could harm the antiquities themselves. However, Egypt still uses old techniques and methods that cause unsuccessful results when assembling the statues, in addition to destroying the artistic proportions of the statues that reflect the era in which they were created. Consequently, their restoration results in the loss of the artistic and historical value of the monuments. Recently, several restoration projects in Egypt have failed to follow the international standards of restoration for the protection of cultural heritage, and most of them concern restoration operations on the Ramses II statues at Luxor temple and Akhmim. The paper consists of a critical study of some statues whose artistic proportions have been distorted by recent incorrect restorations in Egypt.

The research deals with looking at the problem of the many distorted proportions in the body of Ramses II statues in 21<sup>st</sup> century Egypt which are the result of restoration work; it is undoubtedly a dangerous practice for ancient Egyptian antiquities, despite the presence of digital tools that could help the restorer avoid this problem. An additional issue is the limitation of restoration operations in Egypt, which are for archeologists and restorers only, and exclude art historians and artists, whose presence would probably help to avoid these specific artistic problems in the statues.

## 2. Materials and methods

It is clear that similar restoration principles apply to all types of monuments, one of the most important principles being that an antiquity should not be restored in a way that disguises the age of the monument or hides the original work of the artist [1].

The concept of restoration was previously approached in a different way in some countries, where the practice was to replace deteriorated sculptures with copies. Nowadays, the concept has changed completely and the philosophy of "conserve as found"

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has been adopted. There are many specialized people involved in the conservation process: the art historian, the archeologist, the architect, the scientist, the conservator and the owner [2].

Despite the establishment of specific rules for restoration operations many years ago, Egypt is still witnessing incorrect restoration in the twenty-first century. The most prominent of these was the inappropriate restoration of the golden mask of Tutankhamun, when an Egyptian restorer glued the beard to the face with epoxy, in the Egyptian Museum in August 2014. This angered the entire world until the Egyptian Ministry of Antiquities requested the help of conservators from the Roman-Germanic Central Museum, "RGZM". In April 2015, the committee developed a new restoration plan, which was carried out from October-December 2015 [3].

On the other hand, in 1935, the restoration of a Menkaure statue was completed with the help of Joseph Lindon Smith, the American painter who documented reliefs in the Giza tombs. He helped to complete the missing parts of the statue based on a related sculpture in Cairo and was assisted by graduates of the Museum School, an art school linked to the Museum of Fine Arts, Boston [4]. Unfortunately, this is in contrast to what we currently see happening in some restoration operations in Egypt. There have appeared in Egypt many wrong assemblies and restorations of some statues without any consideration for the ancient Egyptian canon of the body proportions for the period to which the statue belongs. This approach highlights the great danger that Egyptian antiquities face if they are subjected to the wrong restoration operations; if this unscientific and incorrect approach continues, the main features of the artistic style of each period will be obliterated.

The "International Charter for the Conservation and Restoration of Monuments and Sites" (The Venice Charter 1964) in Article 9 states: "The process of restoration is a highly specialized operation. Its aim is to preserve and reveal the aesthetic and historic value of a monument and is based on respect for original material and authentic documents. It must stop at the point where conjecture begins, and in this case, moreover, any extra work which is indispensable must be distinct from the architectural composition and must bear a contemporary stamp. The restoration in any case must be preceded and followed by archeological and historical study of the monument". Article 12 states: "Replacement of missing parts must integrate harmoniously with the whole, but at the same time must be distinguished from the original so that restoration does not falsify the artistic or historic evidence" [5]. The restoration rules have been very clear and straightforward for a long time. Articles 9 and 12 explain in depth the correct and comprehensive meaning of the word "restoration."

### **2.1. The canon of proportions of the body in ancient Egyptian art**

The basic structure of ancient Egyptian sculpture divides the shapes according to horizontal and vertical guidelines, depending on the canon of proportions.

Ancient Egyptian artists created this canon of proportions of the body that was often applied from the Fifth Dynasty until the Twenty-sixth Dynasty, except during the era of Akhenaten. The standing person was equal to 18 vertical squares starting from the foot and ending with the hairline; and the proportions of the body were linked to the hand's breadth or palm, which was used as a unit of measurement in ancient Egypt until the end of the Late Period (palm=4 digits, small cubit = 6 palms and Royal cubit = 7palms) [6, 7].

Gay Robins states that our knowledge of the units of measurement in ancient Egypt was mainly based on the work of Lepsius, although there are some points that are still obscure. However, the most important standard units known to us are the small cubit, its length equaling about 45 cm, which is divided into six units, with one unit equaling the width of the palm of the hand, and each palm width divided into four fingers. In addition to the small cubit there was the royal cubit, which is divided into seven units and equals about 52.5 cm [8].

By applying gridlines to some paintings and reliefs in the period of Ramses II (Figure 1), I found that the position of the knee exceeded the sixth square, as Robins mentioned that the knee is located in different squares in the Nineteenth Dynasty, but it should be noted that the ancient Egyptian gridline canon of body proportions was applied on reliefs or paintings, not on statues. One of the aims of the research is to apply it to 3D, not 2D, monuments and therefore the main purpose in the research is to compare the proportion of the body of the statues of the same king and period that were not restored, to discern if the restoration is based on the right scientific references.

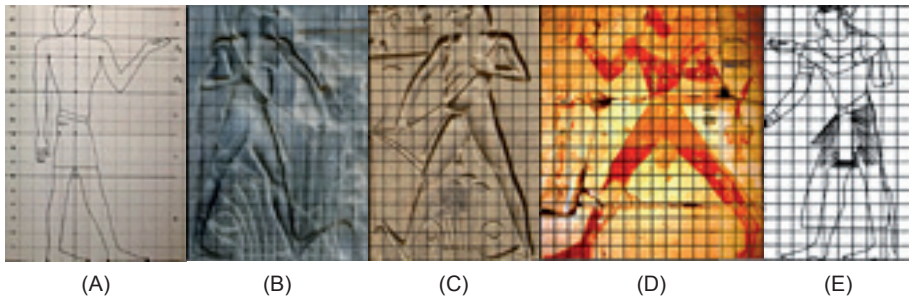


Figure 1. A) The knees are placed in squares 6 and 7. Seti I, Abydos temple [8];  
 B) The knees are placed in the 7th square. Ramses II temple, Abydos;  
 C) The knees are placed in squares 6 and 7. Relief from the plinth of a seated statue of Ramses II, the façade of Luxor temple;  
 D) The knees are placed in the 7th Square. Relief from the plinth of a seated statue of Ramses II, the façade of Luxor temple;  
 E) The knees are placed in squares 6 and 7 [9]. (B, C, D: photographed and edited by the author).

## 2.2. Restoration of the statues of Ramses II at the façade of Luxor Temple

There were only three statues of Ramses II in front of the façade of Luxor temple for a long time, two seated and the third standing, until the Ministry of Antiquities decided to start restoring three other statues of King Ramses II and erected them in front of the temple façade. The statues were inaugurated one by one, each year from 2017-2019, on World Heritage Day. Unfortunately, during this period some improper restoration was carried out in which the correct artistic proportions of the statues of Ramses II were destroyed. Not only was the restoration erroneous, but the last statue, which was an addition, has an Osirian position, and differs completely from the position of the other statues that were placed at the facade causing the loss of the characteristic symmetrical design. The symmetrical design is one of the basic elements of architectural design for the façades of ancient Egyptian temples, since even when the style

of the temple façade differed, such as in the Hatshepsut temple, the façade design was always symmetrical.

For this paper, two statues of Ramses II were chosen. The two statues retain the original upright body proportions which were in use during his reign (Figure 2. A, B) and

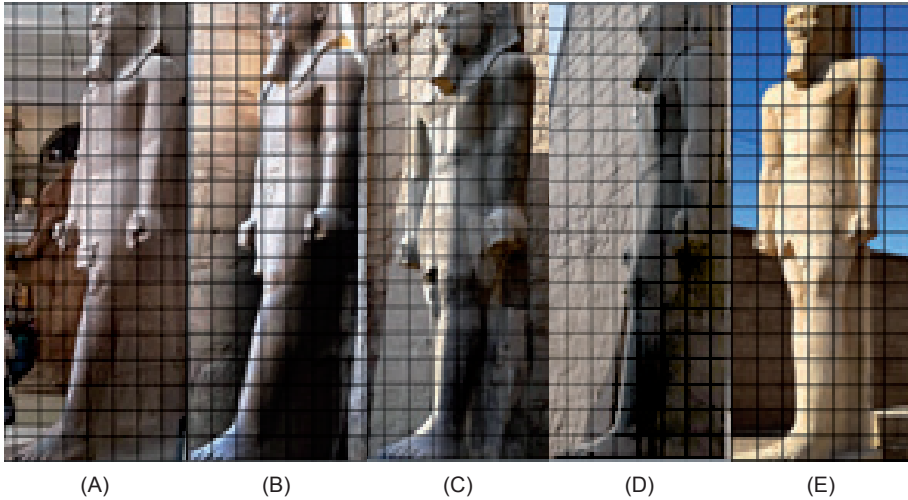


Figure 2. A) Ramses II statue, Egyptian Museum, Tahrir Square, Cairo;  
 B) Ramses II statue, Luxor temple, Luxor;  
 C) Ramses II statue, the façade of Luxor temple, Luxor;  
 D) Ramses II statue, the façade of Luxor temple, Luxor;  
 E) Ramses II statue, Akhmim, Sohag. (Photographed and edited by the Author).

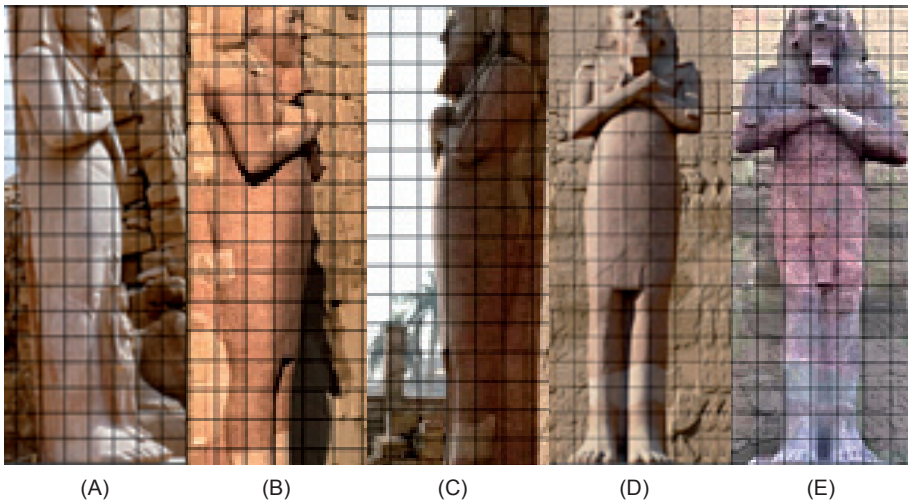


Figure 3. A) Osirian statue of Ramses II, Karnak temple, Luxor;  
 B), C), D), E) Osirian statue of Ramses II, façade of Luxor temple, Luxor.  
 A), B), C), D): photographed and edited by the Author, E [10] and edited by the Author).

have the same pose as two of the statues that were restored and placed, one on the façade of Luxor temple and the other in Akhmim (Figure 2.C, D, E). The chosen statues serve as a guide so as to compare them with the contemporary restoration of the Ramses II statues. Added to this is the Osirian statue of Rameses II from the Temple of Karnak (Figure 3. A) to compare it with his Osirian statue on the façade of the Temple of Luxor (Figure 3. B, C, D, E).

It was found that the level of the knee height in the restored statues, (Figure 2. C, D) is lower than the level of the knee height in Figure 2. A and B; the hand size takes two squares in Figure 2. C and D instead of the normal size of one square, as in Figure 2. A and B. The level of the knee height in the restored Osirian statue (Figure 3. B, C) is lower than the level of the knee height in the original statue (Figure 3. A).

### *2.2.1. Standing statue of Ramses II on the right side of the façade of Luxor Temple*

On April 18, 2017, the Ramses II statue was unveiled in front of the first pylon of Luxor temple, after the restoration and assembling of the more than 75 grey granite pieces that make up the statue. The existing parts of the statue are approximately 60% and the rest is missing. The statue weighs 75 tons and is 11 meters in height (Figure 2. C) [11, 12, 13].

It is evident that the knees of the statue are lower than the knees in statues 2. A and B, and gives the impression that the statue's body is compressed. In addition to that, the statue's hands occupy more than one square meaning that the main unit of measurement is completely wrong, according to the ancient Egyptian canon of proportions of the body.

### *2.2.2. Standing Ramses II Statue at the Left Side of the Façade of Luxor Temple*

On April 20, 2018, the statue of King Ramses II was unveiled in front of Luxor temple after its restoration; the assembled parts consisted of 14 pieces, representing 40% of the body of the statue. The largest of these pieces were the complete head of the statue, the pedestal, and the feet. The statue's height is 11.70 meters and weighs about 65 tons. The remains of the statue were excavated during the work of the Egyptian archaeological mission inside the temple from 1958 to 1960 (Figure 2. D) [14].

The damage to the statue due to its incorrect restoration is comparable to that of the previous statue; the knees of the statue are lower than the knees in statues 2. A and B and the statue's hands take up more than one square. In addition, the muscles of the king's body have been minimized, which is very clear in the areas of the shoulders and arms.

### *2.2.3. Osirian Statue of King Ramses II at the First Pylon at Luxor Temple*

On November 28, 2018, the Ministry of Antiquities announced on its official website that the Egyptian archaeological mission had begun work in collaboration with a group of Americans (Chicago House), to restore an Osirian statue of Ramses II. The statue is made of pink granite, and parts of it were found inside the temple in excavations during the period from 1958-1960, and on April 18, 2019. The restoration of the statue has been completed. It is about 12 meters in height and weighs nearly 60 tons (Figure 3. B, C, D, E) [15, 16].

After the unveiling of this statue, the specialists launched a sharp attack, and the restoration of the statue infuriated many because of its erroneous restoration and the doubts about the correctness of its location on the façade of the temple. However, the American side justified the location of the statue giving reasons that were unconvincing, such as its reliance on the existence of two different reliefs for the temple façade and ignoring the fact that both are symmetrical designs without any Osirian statues. It emphasized the 100% accuracy of the reconstruction, and the American Egyptologist, Johnson confirmed this by saying: “The reconstructions, and original position, are 100 percent correct.” Unfortunately, it was also supported by several archeologists [17, 18].

The Ministry of Antiquities covered the statue again to fix the errors made in the restoration (“3. E” before and “3. D” after) [19, 20]. However, by looking at the statue, even without careful consideration, the mistakes are still noticeable, even after re-restoration, when the statue was unveiled again. Indeed, it can be seen that the hands are in the same position, but they are not at the same height and one of the elbows is higher than the other; the neck appears to be coming out of the chest and is not at the same level as the shoulder line, which is quite evident when looking at the statue from the side. Comparing the body proportions of the statue with the body proportions of another Osirian statue of Ramses II in Karnak temple (Figure 3. A), it was found that the knees of the restored statue are lower than those of the statue in Karnak temple.

The walls of Luxor temple contain a relief portraying the design of the temple pylon, dating to the first jubilee of Ramses II. There were two obelisks and six colossal statues of Ramses II [21]. The relief indicates the position of the statues; two of them are sitting and the other four are standing with their left foot forward and their hands close to their bodies. In addition, the façades of the ancient Egyptian temples are characterized by a symmetrical design, which was a distinctive characteristic in ancient Egyptian architecture (Figure 4. A, B).



Figure 4. A) After adding the Osirian statue to the façade of Luxor temple, completely distorting the symmetrical design;  
B) A relief portraying the design of the temple pylon, dating to the first jubilee of Ramses II (Photographed by the Author).

### 2.3. Ramses II statue in Akhmim

In 1981, 70 pieces of a limestone statue of Ramses II were found in the temple in Akhmim, in the Sohag Governorate. The largest and most important pieces are the head without the crown, part of the neck, chest, and abdomen, the royal robe, part of one of the knees, some parts of the back pillar, and one hand, in addition to some other

various small parts and blocks. On February 7, 2019, the Ministry of Antiquities announced on its official website that the Ramses II statue in Akhmim had been restored in order to place it in its original location beside the Meritamun statue. On April 6, 2019, a presentation was given for the restoration of the statue, which was about 12 meters high and weighed about 45 tons (Figure 2. E) [22, 23].

In fact, the most noteworthy element in the statue's restoration is the disappearance of the muscles in the statue's body, especially in the chest, abdomen and arms, compared to the well-known Ramses II statues that reflect his physical strength and youth through his representation in an ideal body full of vigor and vitality. As a result of the restoration, the king's arm was transformed into something resembling a female arm, with no muscles. An unacceptable situation for the king, who was famous for his heroic warfare and was reflected accordingly in his statues and the arts of his time.

### 3. Results and Discussion

What is the solution to avoid incorrect restoration in Egypt in the future?

The concept of restoration is more than esthetic consideration; it also plays a role in protecting the monuments from vandalism. Any evident areas of restoration in the monuments could invite vandalism, as they stand out as being different; also, if the structure is not preserved well, vandalism will increase over time. On the other hand, if the monument is maintained in good condition, and restoration is carried out smoothly without being too evident, vandalism decreases [24].

While restorers are not knowledgeable about the correct proportions of these statues, recently in Egypt, the only solution has been to use technology that provides this type of information. Many restorers all over the world are using digital restoration, which includes technologies such as 3D scanning, 3D modeling (Computer Design programs) and 3D printing. There have been many successful cases using these digital tools to restore some statues.

Mattia Mercante, a professional restorer who has restored famous artworks by Renaissance sculptors, such as Leonardo da Vinci and Michelangelo, has said, "The only thing that can limit or block a restoration is if the intervention risks damage to the artwork and its material integrity" [25]. And that is the risk which is already happening today in some restoration operations in Egypt.

In one of his restoration projects in the Borromeo d'Adda Chapel in Arcore, near Milan (Italy), Mercante restored the fingers of a statue, respecting the proportions and artistic style. He says that digital scanning and modeling always ensure that the artistic style of the artifacts is respected [25]. And that is exactly what we need in Egypt: to not obscure the artistic features of the artifacts, especially if it helps to identify the time period when the artifacts were executed.

Another example is the restoration process employed for the earthquake-damaged terracotta statue of the Madonna of Pietranico kept in the main church of the village (Pietranico), in the region of Abruzzo in Italy, which depended totally on digital technologies. They created 3D digital models to study the possibility of its reassembly to avoid further damage, and the 3d digital models allowed them to create a supporting structure for the statue and to color and decorate it [26].

One of the most important examples is a statue of Zeus in the Archeological Museum of Palermo, Italy. It was one of the most successful conservation and assembling processes using 3D digital technologies to have been carried out. Using this technology

allowed the re-production of the missing parts and the creation of a digital or physical copy of the statue with the same original proportions, which would have been very difficult using the traditional casting techniques [27].

Thus, before deciding to restore any monument, etc., a virtual restoration should be made to study all the possible scenarios, in order to guarantee a successful restoration without damaging any part of the monument or artifact.

A traditional restoration may adversely affect the monuments and cost a lot, but digital modeling can be more successful in physically reconstructing the artifacts and help to visualize the missing parts [28]. In addition to the 3D printing of the missing parts, there is the advantage that they can easily be removed after integrating them into the original statue without any risk as well as guaranteeing the safety of the antiquities [27].

#### 4. Conclusion and recommendations

After applying the 19<sup>th</sup> Dynasty canon of body proportions on a number of Ramses II statues that were recently restored in Egypt and comparing them to other statues of the same king that have not been touched by restorers' mistakes, it has been confirmed that the statues have been disfigured. This is a clear indication of the distortion of Egyptian antiquities and the disregard for international restoration rules, in addition to proving the lack of sufficient scientific awareness that is necessary for the conservation and restoration operations of these ancient monuments.

The researcher recommends:

- Referring to a committee of specialists and avoiding making individual decisions; studying the conditions of the monuments and drawing up a professional plan for their correct restoration according to international restoration rules.

- Recording the entire restoration process, including the materials used, and publishing it in an international scientific research forum, as was done by foreign restorers when they repaired the improper restoration work on the Tutankhamun mask.

- Using available technologies, such as 3D scanning and 3D modeling, to perform a virtual restoration before starting the real restoration process. In addition, using 3D printing to complete any missing parts will be more accurate, cheaper and save time, as well as providing a scientific approach of the highest standard.

- Listening to those with experience, such as listening to those criticisms regarding the presence of the Osirian statue of Ramses II on the façade of Luxor temple because its position differs from that of the other standing statues. I fully support this scientific opinion, which is proven by the symmetrical design of all façades of ancient Egyptian temples. In addition, there are the two relief designs of the temple façade inside the temple, which confirm the ancient Egyptian insistence on the idea and philosophy of symmetrical design in the temple's façade.

- The need for an international committee of specialists in the fields of restoration and art history, as well as artists and archeologists, if possible, to avoid the occurrence of such restoration problems again in Egypt.

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### Summary

The research paper discusses the problem of distorting the body proportions in Ramses II statues during the inadequate restoration operations carried out in the 21<sup>st</sup> century in Egypt. It also discusses the correct artistic body proportions and formation of Ramses II, which must be followed when assembling and restoring statues depicting this figure, at the same time taking into consideration other, unrestored statues, reliefs

and paintings of the same subject. In addition, it looks at global restoration technologies that can help to solve the problem of improper restoration in Egypt.

### **Riassunto**

L'articolo tratta il problema della distorsione delle proporzioni del corpo nelle statue di Ramses II durante le inadeguate operazioni di restauro effettuate nel 21° secolo in Egitto. Si discute anche delle corrette proporzioni del corpo nell'arte e delle caratteristiche di Ramses II, che devono essere rispettate quando si assemblano e si restaurano le statue che lo raffigurano, tenendo allo stesso tempo in considerazione altre statue, rilievi e dipinti dello stesso soggetto non restaurati. Inoltre, si esaminano le tecnologie di restauro a livello mondiale che possono aiutare a risolvere il problema dei restauri non corretti effettuati in Egitto.