

## **Mechanical Engineering in Ancient Egypt, Part XXII: Women Clothing (Predynastic to Middle Kingdom)**

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**ABSTRACT:** The evolution of the women clothing industry in ancient Egypt during the Predynastic to Middle Kingdom Period is investigated. Examples are presented of women clothing referred to a specific period in terms of a specific culture or Dynasty. Known information are presented to define clearly the artifact and its location with analysis of each dress type. Women clothing for Queens, Nobles and Normal people is outlined for deep investigation of the subject under study.

**KEYWORDS:** Mechanical engineering history, ancient Egypt, women clothing, Predynastic to Middle Kingdom

### **I. INTRODUCTION**

Ancient Egyptians built a great civilization continued to thousands of years and left buildings and products could survive for thousands of years withstanding severe environments. Textile industry is one of the great industries in ancient Egypt indicating the glory of this marvelous civilization. This is the 22<sup>nd</sup> part of a series of research papers aiming at exploring the role of mechanical engineering in building the ancient Egypt civilization.

Smith (1954) wrote a book about country life in ancient Egypt presenting large number of illustrations such as tomb reliefs, statues, artifacts, coffins, jewellery, models of sailing boats, and stelas. His illustrations carried some information s about women clothing in ancient Egypt during different historical eras [1]. Smith (1960) in his book about ancient Egypt presented illustrations starting from the Predynastic Period to the New Kingdom. The illustrations he presented from the temple of the Great Pyramid, Statue of King Mycerinus and his Queen, Goddess Hathor, Pen-meru family, Ptah-khenuwty and his wife, stela from First Intermediate Period, procession model from Bersheh, lady statue from New Kingdom. Those illustrations carried useful information about women-dressing in ancient Egypt [2]. Newman (1997) in her research study for the Master of Arts presented some illustrations from ancient Egypt scenes for both men and women carrying information about women clothing during the New Kingdom of ancient Egypt [3].

Tassie (2008) performed research for her Ph.D. degree from University College London on the social and ritual contextualization of ancient Egyptian hair and hairstyles from Protodynastic to the end of the Old Kingdom. He presented illustrations on Hathor from Seti I tomb, dancers and musicians, Queen Kawit of the 11<sup>th</sup> Dynasty, statue of lady Meritites, Overseer of the House of Hairdressing in the 5<sup>th</sup> Dynasty, Queen Kawit sarcophagus, some Predynastic figurines from Naqada I and II Periods, woman statue from the 1<sup>st</sup> Dynasty, figurine from Abydos, reliefs from 3<sup>rd</sup> Dynasty. All the illustrations introduce data on female dressing during those periods [4]. Olivier (2008) studied the social status of elite women of the New Kingdom of ancient Egypt within the requirements of her Master of Arts. She presented illustrations for Queen Ahmose, Seneb and his family, a dancer, Great Harris papyrus, the bird lady, Neithhotep relief, Menkaure and his wife, Rahotep and Nofret, Queen Kemsit, Queen of Amenhotep III, Princess Kawit, Queen Khenemet-Nefer-Hedjet, Queen Nofret, Amenhotep III and Queen Tiye, Akhenaten and his family, Nefertiti statue, Nebamun and his family, banquet scene from Nebamun tomb, Hatshepsut statue, relief of Hatshepsut and Thutmose III in the Karnak, Priestess Hathor statue, scene of Sennefer and his wife, Nefertiti in her chariot, Queen Ahotep statue, Queen Ahmose-Nefertari statue, scene of Ahmose-Nefertari, Queen Ahmose relief, Thutmose IV and his mother statue, Queen Tiye statue, Akhenaten and Nefertiti statue, Tutankhamun and his wife scene, Tuya statue, Nefertari scene, stela of Ramses II and his second wife, Wife of Ramses III, Merytamun statue, scene of Tawosret, Ramses III and his wives. Her illustrations carried a lot of information about women clothing in the New Kingdom [5].

Bryan (2010) presented illustrations from Tomb of Pahery at Elkab, Hathor at Hatschepsut chapel, Horemhab and his wife, musicians in Horemhab Tomb and banqueting scene from Neferhotep Tomb [6]. Gomez (2015), in her Ph.D. research study, presented illustrations for Herihor's 3<sup>rd</sup> daughter Vignette from a funerary papyrus including an offering woman [7]. Hassaan (2016) studied the evolution of mechanical engineering in ancient Egypt through the presentation of men clothing in the ancient Egyptian society during a time span from Early Dynastic to Late Period. He investigated the different clothing styles used by normal people, Nobles and Pharaohs [8,9].

## **II. PREDYNASTIC PERIOD**

The predynastic era of ancient Egypt differs from Lower to Upper Egypt. In Upper Egypt, the important predynastic cultures are: Badarian (4400-400 BC), Naqada I (400-3500 BC), Naqada II (3500-3200 BC) and Naqada III (3200-3000 BC) [10]. The examples of women clothing during this 1400 years period are very limited. We are going to present three examples from Badari, Naqada I and Naqada II of Upper Egypt.

Fig.1 shows an ivory figure from Badari (about 4000 BC) displayed in the British Museum of UK [11]. It is for a woman wearing an underwear (panty). Her panty is decorated by horizontal fabric lines.

Fig.2 shows a second example of women clothing from Naqada I which is a bone figurine which is a Memorial Art Gallery Collection [12]. This woman is also wearing a panty of a style different than that of the Badarian woman. It is decorated by perforations and has much less height than the Badarian.



Fig.1 Badarian woman [11].



Fig.2 Naqada I woman [12].

The 3<sup>rd</sup> example of women clothing in the predynastic era of Egypt is from Naqada II. It is the first appearance of the Schenti dress worn by women in ancient Egypt. Fig.3 shows a woman figurine from Naqada II displayed in the Brooklyn Museum of NY [13]. She is wearing a long white Schenti down to her feet. As a characteristic of this Schenti design, it has a tight design around the body and profiled to suit the body with minimum diameter at the feet.

The last example from this era is again from Naqada II for a female figurine displayed also in Brooklyn Museum and shown in Fig.4 [14]. The design of this Schenti is different than that in Fig.3. It has a minimum diameter at the waist, then remains straight for about 60 % of its length, then increases near its end to a maximum at the feet.



Fig.3 Naqada II woman [13].



Fig.4 Naqada II woman [14].

### **III. EARLY DYNASTIC PERIOD**

The Early Dynastic Period covers both the 1<sup>st</sup> and 2<sup>nd</sup> Dynasties over the time span from 3100 to 2686 BC [15]. There no enough sources for women dress during this period of the ancient Egyptian history. However, I found one illustration in Tassie Ph.D. research work for a woman statue from the 1<sup>st</sup> Dynasty of ancient Egypt displayed in the British Museum and shown in Fig.5 [16]. The lady is wearing a long tunic dress with full sleeves and carries a child on her back. This is the fist time for a women full dress to appear after the panty and Schenti of the Predynastic Period.



Fig.5 Woman statue from the 1<sup>st</sup> Dynasty [16].

### **IV. OLD KINGDOM**

The Old Kingdom covers the Dynasties from 3<sup>rd</sup> to 6<sup>th</sup> over the time span from 2686 to 2181 BC [17]. .The evolution of women clothing in this period is studied by investigating the women clothing in each Dynasty as follows:

#### ***Dynasty 3:***

Fig.6 shows a scene from the chapel of Hathor-Neferhotepes wife of Kha-baw-Sokar, the high official in the 3<sup>rd</sup> Dynasty in his Saqqara Mastaba [18]. She is appearing in two sub-scenes

wearing different styles of the Calasiris dress. The model in the left is a standard tight-long Calasiris, while the other one in the right is a modified trouser-like-tight Calasiris.

**Dynasty 4:**

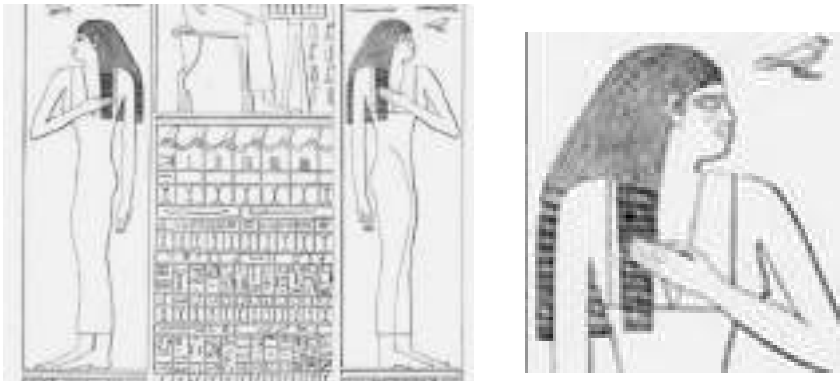


Fig.6 Scene from the chapel of Hathor-Neferhotepes [18].

This is the Dynasty of pyramids builders and we expect to have good examples of women clothing during this period as will be illustrated below:

Fig.7 shows a statue of King Menkaure, the 6<sup>th</sup> King of the 4<sup>th</sup> Dynasty and his wife standing in the Museum of Fine Arts of Boston [19]. The statue reflects the love and sympathy of the King and his wife. She is standing very close to him holding his waist by her right hand and his left arm by her left hand. The Queen is wearing a full tight dress down to near her feet. The artist did not give any details about the top part of the dress and its sleeves as clear from the zoomed top part of the Queen in Fig.6.



Fig.6 Statue of King Menkaure and his wife [19].

Fig.7 shows a wall relief for Queen Hetepheres II, the wife of King Djedefra the 3<sup>rd</sup> King of the 4<sup>th</sup> Dynasty in her daughter's Tomb [20]. The Queen is wearing a full-tight-white-full sleeves dress with V-design over the chest. The dress has a triangular shape over the two shoulders giving a unique design appearing for the first time in the ancient Egyptian history.



Fig.7 Scene of Queen Hetepheres II of the 4<sup>th</sup> Dynasty [20].

- Fig.8 shows a relief for Khufu-khaf, Prince and Vizier in the 4<sup>th</sup> Dynasty and his wife Nefret-khau [21]. Hes wife is wearing a modified-tight Kalasiris with two legs.



Fig.8 Khufu-khaf and his wife of the 4<sup>th</sup> Dynasty [21].

Fig.9 shows a relief in the mastaba of Khufu-khaf, Prince and Vizier in the 4<sup>th</sup> Dynasty for a woman (may be his wife) [20]. She is wearing a tight Corselet and putting a Sash on her left shoulder.



Fig.9 Woman in the Tomb of Khufu-khaf of the 4<sup>th</sup> Dynasty [20].

The last example from the 4<sup>th</sup> Dynasty is for a Noble lady through her wonderful statue shown in Fig.10 [22]. She is wearing a white-V-necked-sleeveless dress. The statue reflects the skill of the ancient Egyptian sculptor, the beauty of the ancient Egyptian woman and their fine relish.



Fig.10 Noble lady from the 4<sup>th</sup> Dynasty [22].

***Dynasty 5:***

- Fig.11 shows a statue for the wife of King Mekauhor, the 7<sup>th</sup> King of the 5<sup>th</sup> Dynasty [23]. Her dress is full, tight and long down to half her leg. The top part of her dress is not clear as illustrated in her zoomed bust in Fig.11.



Fig.11 Wife of King Mekauhor of the 5<sup>th</sup> Dynasty [23].

Fig.12 shows a pair statue for Ptahkhenuwty, the Assistant Inspector of the Palace Attendants in the 5<sup>th</sup> Dynasty and his beloved wife as displayed in the ..... [24]. His wife is wearing a tight-sleeveless-long dress down to near her feet with V-design at the neck.



Fig.12 Ptahkhenuwuy and his wife from the 5<sup>th</sup> Dynasty [24].

- Another women dress example is depicted from the pair statue of Rahenka, the Inspector of Scribes during the 5<sup>th</sup> Dynasty and his wife shown in Fig.13 [25]. His wife is wearing a tight dress similar to that of the Noble lady of Fig.10 and Ptahkhenuwuy wife of Fig.12.



Fig.13 Rahenka and his wife from the 5<sup>th</sup> Dynasty [25].

Fig.14 shows a statue of Penmeru, priest and director of the dining hall at the end of the 5<sup>th</sup> Dynasty and his family as displayed in the Museum of Fine Arts at Boston [26]. His wife is wearing a while-long dress down to near her feet.



Fig.14 Penmeru and his wife from the 5<sup>th</sup> Dynasty [26].

Fig.15 shows a pair statue of Bau and his wife Baru from the 5<sup>th</sup> Dynasty [27]. She is wearing a white-tight-sleeveless-V-necked dress



Fig.15 Bau and his wife Baru from the 5<sup>th</sup> Dynasty [27].

***Dynasty 6:***

Fig.16 shows a group statue for dwarf Seneb, head of the royal textile works under King Pepi II in the 6<sup>th</sup> Dynasty and his family as displayed in the Egyptian Museum at Cairo [28]. She is wearing a full-Tight-long dress. The top part of the dress has no clear details.



Fig.16 Seneb and his family from the 6<sup>th</sup> Dynasty [28].

- Fig.17 shows a part of a stela from Saqqara dated to 2200 BC (6<sup>th</sup> Dynasty) [29]. This part shows a working woman carrying a basket on her head and holding a goat through a rope around its neck. She is wearing a full-long dress down to her feet with small sleeves as clear in her zoomed bust.



Fig.17 Saqqara working woman from the 6<sup>th</sup> Dynasty [29].



## V. MIDDLE KINGDOM

The Middle Kingdom covers the Dynasties 11<sup>th</sup> and 12<sup>th</sup> over the time span from 2000 to 1700 BC [30]. The evolution of women clothing in this period is studied by investigating the women clothing in each Dynasty as follows:

### *Dynasty 11:*

The first example of women clothing in the 11<sup>th</sup> Dynasty belongs to Queen Kemsit, the minor wife of King Mentuhotep, the 5<sup>th</sup> King of the 11<sup>th</sup> Dynasty through a temple relief fragment cut by Egyptian artifacts robberies and transferred to the British Museum. The colored relief of Queen Kemsit is shown in Fig.18 [31]. The Queen is wearing a long-tight-white Calasiris.



Fig.18 Queen Kemsit of the 11<sup>th</sup> Dynasty [31].

The second example of women clothing in the 11<sup>th</sup> Dynasty belongs to Queen Kawit, another minor wife of King Mentuhotep, the 5<sup>th</sup> King of the 11<sup>th</sup> Dynasty through a scene on her sarcophagus as shown in Fig.19 [32]. The Queen in the scene is having her breakfast while setting for hair cutting. All of them are wearing long dress. Top details are not clear in the scene.



Fig.19 Queen Kawit of the 11<sup>th</sup> Dynasty [32].

### *Dynasty 12:*

We have three examples of women clothing in the 12<sup>th</sup> Dynasty depicted from Tomb scenes and statues as follows:

Fig.20 shows a 8-ladies dancing team from the Tomb of Antefoker, governor of Thebes and Visier of King Amenemhat I, the first King of the 12<sup>th</sup> Dynasty [33]. Four of the dancers are wearing a short Schenti (two from each side) and three beside each other wearing a long Schenti down to their knees.



Fig.20 Dancing team from the 12<sup>th</sup> Dynasty [33].

Fig.21 shows a wall scene for 3-ladies working in making bread from the Tomb of Antefoger, governor of Thebes. The lady in the left is preparing the dough and wearing a Corselet while the other two ladies are putting the dough in the mould and wearing either a long Schenti or a Corselet.



Fig.21 Working ladies from the 12<sup>th</sup> Dynasty [34].

The last example of women clothing in the 12<sup>th</sup> Dynasty is depicted from a wonderful wood statue for an offering bearer from Tomb of Meketra during the rein of King Amenemhat I displayed in the Metropolitan Museum of Art and shown in Fig.22 [35]. She is wearing a colored-tight-long Calasiris down to her feet. The zoomed upper part in Fig.22 shows a 2 thick straps of her dress.



Fig.22 Offering bearer from the 12<sup>th</sup> Dynasty [35].

## VI. CONCLUSION

- The women clothing during the Predynastic to Middle Kingdom periods of ancient Egypt was investigated.
- The ancient Egyptian women in Badari and Naqada I of the Predynastic Period wore a minimum clothing in the form of Panties.
- During Naqada II, they wore long Schenti of different designs.
- They wore long Tonics since the 1<sup>st</sup> Dynasty.
- Long women dresses continued to take place during the 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> Dynasties.
- Wearing a Calasiris appeared in the ancient Egyptian society in the 3<sup>rd</sup> Dynasty and continued up to the Middle Kingdom.
- Modified Calasiris with trouser-like design appeared in the 3<sup>rd</sup> Dynasty.
- Queens of the 4<sup>th</sup> Dynasty wore full dresses with long sleeves.
- Noble wives wore modified Calasiris in the 4<sup>th</sup> Dynasty.
- Some women put a sash on their left Shoulder in the 4<sup>th</sup> Dynasty.
- Some women wore V-necked-sleeveless dress in the 4<sup>th</sup> and 5<sup>th</sup> Dynasties.
- A Corselet was in use by working women during the 12<sup>th</sup> Dynasty.
- Long and short Schenti continued to appear in the 12<sup>th</sup> Dynasty by females working in some professions.

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