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# MECHANICAL ENGINEERING IN ANCIENT EGYPT, PART XX: MEN CLOTHING (EARLY DYNASTIES TO MIDDLE KINGDOM)

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#### **ABSTRACT**

This is the 20<sup>th</sup> research paper exploring the evolution of Mechanical Engineering in Ancient Egypt. The paper investigates men clothing in ancient Egypt during the Early Dynastic, Old Kingdom and Middle Kingdom. It explores the different types of men-dressing during those periods and establishing some of their characteristics. The use of dress among normal people, noblemen and Royal persons is investigated. The use of three types of men-dressing is traced during the studied

periods: the Schenti, the Corselet and the Robe.

**KEYWORDS:** History of mechanical engineering, ancient Egypt, men clothing, early Dynastic, Old Kingdom, Middle Kingdom.

#### INTRODUCTION

The ancient Egyptians built one of the greatest ancient civilizations and lived a simple daily life, but could establish a great empire based on knowledge and experience. This is the 20<sup>th</sup> research paper in a series aiming at exploring the evolution of mechanical engineering in ancient Egypt through the different activities of their wonderful civilization. In the previous part of this series, we discussed the linen industry and we have seen how they good produce high quality linen as better or even much better than the modern linen. This paper handles using linen in producing men clothing in the ancient Egyptian society.

Smith, 1954 presented a group of pictures to convey something of intimate human side of Egyptian country life as well as the artistic achievement of a great civilization. He presented

some figures from which the researcher can take an idea about men dressing in ancient Egypt.<sup>[1]</sup> Butner, 2007 studied the Egyptian conceptions of foreigners during the Middle Kingdom (2055-1650 BC). Through her study and presentation of some ancient Egyptian scenes, some information evolves about men and women dressing in this period. [2] Tassie. 2008 studied the social and ritual contextualisation of ancient Egypt hair and hairstyles from the Predynastic to the end of the Old Kingdom. The illustrations presented in his work carried a lot of information about the dressing in ancient Egypt during those periods. [3] Olivier, 2008 presented artefacts to investigate the role of elite women in events, practices and rituals. Her work provided information about dressing in ancient Egypt through the scenes and statues presented. [4] Turner, 2012 in his research work for his Ph.D. program presented a lot of artefact materials that one can extract useful information about men dressing in ancient Egypt. [5] Wilm, 2014 presented an explanation for some of the ancient Egyptian dress for both men and women. She presented also some of the modern Egyptian dress and trends. [6] Schuette, 2015 evaluated how ancient Egypt was represented in trade books. She reported misrepresentations that were found to be present within the data pool. Some data about dress in ancient Egypt can be extracted from some of the photos she presented.<sup>[7]</sup> Wikipedia, 2016 presented an article about King Mentuhotep II, the 5<sup>th</sup> King of the 11<sup>th</sup> Dynasty. The presented a scene for the King wearing the Corselet dress and wearing a skirt in another scene.[8]

# **Early Dynastic**

The Early Dynastic Period covers the 1<sup>st</sup> and 2<sup>th</sup> dynasties over the time period from 3100 to 2686 BC.<sup>[9]</sup> We have a number or men dressing examples from both 1<sup>st</sup> and 2<sup>nd</sup> Dynasties presented as follows.

- Fig.1 shows King Narmer of the 1<sup>st</sup> Dynasty from his Palette displayed in the Egyptian Museum of Cairo.<sup>[10]</sup> The king is wearing a short skirt (Schemti) while smiting the head of one of Egypt's enemies.



Fig 1: King Narmer in his Palette. [10]

- The second example is for a scene on an invory box belonging to King Narmer of the 1<sup>st</sup> Dynasty and shown in Fig.2.<sup>[11]</sup>



Fig 2: Invory box of King Narmer. $^{[11]}$ 

- The third men-dressing example is from the 2<sup>nd</sup> Dynasty where we see a statue for King Khasekhem, the last king of the 2<sup>nd</sup> dynasty as displayed in the Ashmolean Museum of and shown in Fig.3.<sup>[12]</sup> His dress is a robe wrapped around his body from his neck to near his feet as depicted in another photo presented in an article by Jimmy Dunn.<sup>[13]</sup>



Fig 3: Statue of King Khasekhem from the 2<sup>nd</sup> Dynasty.<sup>[12]</sup>

# **Summary**

During the Early Dynastic Period, the ancient Egyptians new the short, medium and long skirt (Schenti) and the robe.

# **Old Kingdom**

The Old Kingdom comprised the 3<sup>rd</sup> to 6<sup>th</sup> Dynasties over a time span from 2686 to 2181 BC.<sup>[14]</sup> The dress features of this period are explained through the recorded men-dresses as follows.

- The first example in this period is from The 3<sup>rd</sup> Dynasty through a standing statue for a non-royal person called Sepa from the rein of King Djoser as displayed in the Louvre Museum of Paris.<sup>[15]</sup> He is wearing a medium skirt with waste belt.



Fig 4: Statue of Sepa from the 3rd Dynasty. [15]

- Another example from Late 3<sup>rd</sup> Dynasty is a relief for a person called Aa-akhti displayed in the Louvre Museum and shown in Fig.5 (a).<sup>[15]a</sup> It seems that Aa-akhti is wearing a long skirt (Schenti) of length down to below the knee. The long Schenti was worn also by the great Architect Imhotep - chief vizier of King Djoser and Architect of the step pyramid at Saqqara. His statue is displayed in the Metropolitan Museum of Art of NY and shown in Fig.5 (b).<sup>[15]b</sup>



Fig.5(a) Aa-akhti of the 3<sup>rd</sup> Dynasty. [15]a



Fig.5(b) Imhotep of the 3<sup>rd</sup> Dynasty. [15]b

- Now, we move to the 4<sup>th</sup> Dynasty where we have an men-dress example for prince Kawab, the elder son of King Khufu, the builder of the Great pyramid at Giza while returning from a day's fowling and shown in Fig.6.<sup>[16]</sup> The prince is wearing a medium skirt with a belt around his waste to fix the skirt in position.



Fig 6: Prince Ka-wab from the 4<sup>th</sup> Dynasty.<sup>[16]</sup>

- Another model of men-dress in the 4<sup>th</sup> Dynasty is for King Mankaure through his statue in the Museum of Fine Arts at Boston which is shown in Fig.7.<sup>[17]</sup> The king is wearing a short Schenti with belt and tail from the front. The Schenti is lined by a slightly non-parallel lines while the tail has exactly horizontal lines.
- One more example of men-dressing is depicted from Prince Rahotep statue (son of King Senefru) displayed in the Egyptian Museum at Cairo and shown in Fig.8.<sup>[18]</sup> The Prince is wearing a plain medium Schenti without belt.





Fig 7: King Menkaure from the 4th Dynasty. [17] Fig 8: Rahotep statue from the 4th Dynasty. [18]

- Going to the 5<sup>th</sup> Dynasty we have three examples of men dressing: The first one belongs to Penmeru through his group statue displayed in the Museum of Fine Arts at Boston and shown in Fig.9.<sup>[19]</sup> He is wearing a medium-plain-white Schenti without belt. The second example is depicted from a colored scene of the high official Ti from his Mastaba at Sakkara and shown in Fig.10.<sup>[20]</sup> He is wearing a plain-white Schenti with belt and front trapezoid tail. The third example is for ship builders registered in the Ti Tomb as a large colored scene and shown in Fig.11.<sup>[21]</sup> The work is going on under complete supervision to maintain the usual high quality production of this historical era of the Egyptian history. All the workers and supervisors worn medium-plain Schenti, most probably without belt.



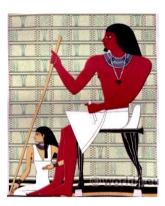


Fig 9: Penmeru statue from the 5<sup>th</sup> Dynasty.<sup>[19]</sup> Fig 10: Ti scene from the 5<sup>th</sup> Dynasty.<sup>[20]</sup>

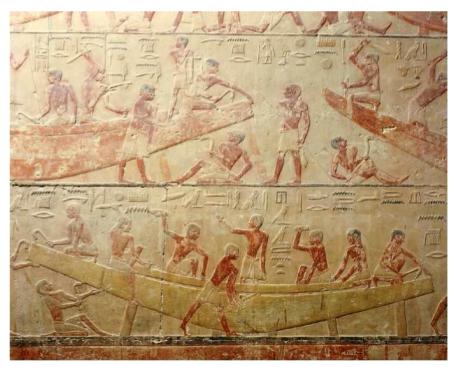


Fig 11: Ship builders in Ti Tomb of the 5<sup>th</sup> Dynasty.<sup>[21]</sup>

\_ Now, we go to the last dynasty of the Old Kingdom, the 6<sup>th</sup> Dynasty where we visit the Mastaba Tomb of Kagemni, the Chief Justice and Vizier in the first years of the reign of Teti, first King of the 6<sup>th</sup> Dynasty. Fig.12 shows a scene from Kagemni Mastaba for hippopotamus hunting using a boat.<sup>[22]</sup> The three men are wearing a very little linen since they are so busy in the hunting process using a number of their hunting devices.



Fig 12: A hunting scene from the Tomb of Kagemni. [22]

- Another example of men dressing in the  $6^{th}$  Dynasty is shown in Fig.13 through a statue for Tjeteti, an overseer during the rein of King Pepi II as displayed in the Metropolitan Museum of Art. He is wearing a long Schenti with large trapezoidal front tail.



Fig 13: Overseer Tjeteti of the 6<sup>th</sup> Dynasty.<sup>[23]</sup>

- One more example of men dressing in the 6<sup>th</sup> Dynasty is depicted from the Tomb of Vizier Mereruka. It is a colored wall scene about three fish men in operation and shown in Fig.14.<sup>[24]</sup> The three men are wearing a sleeveless upper-body dress with one asymmetric strand on the left shoulder called '*Corselet*'.<sup>[6]</sup>



Fig 14: Fish men in operation in the Tomb of Vizier Mereruka. [24]

# **Summary**

During the Old Kingdom, the ancient Egyptians continued to wear the short, medium and long skirt (Schenti) with and without belt and tail. Workmen wore medium size Schenti and Schenti's with very little linen. Fish men wore the Corselet.

# Middle Kingdom

The Middle Kingdom covers the 11<sup>th</sup> and 12<sup>th</sup> Dynasties of ancient Egypt over a time span from 2000 to 1700 BC.<sup>[25]</sup> The evolution of men clothing in the ancient Egypt societies is traced through the following illustrations from both dynasties of the Middle Kingdom.

- Fig.15 shows a wooden model for a bakery and brewery activity from early 11<sup>th</sup> Dynasty displayed in the Museum of Fine Arts of Boston.<sup>[26]</sup> The only man in the working team of the bakery is wearing a long Schenti without belt. Another wooden model from the 11<sup>th</sup> Dynasty is shown in Fig.16 and displayed in the Metropolitan Museum of Art of NY.<sup>[27]</sup> The workers are wearing a unified uniform of a medium Schenti and one man in the left patrician (my be the work superintendent) is wearing a Robe.





Fig 15: Bakery from early 11<sup>th</sup> Dynasty. [26]

Fig 16: Bakery from the 11<sup>th</sup> Dynasty. [27]

- Another example for men-dressing in the 11<sup>th</sup> Dynasty is for the King Mentuhotep II, the 5<sup>th</sup> King of the Dynasty which is displayed in the Egyptian Museum of Cairo and shown in Fig.17.<sup>[28]</sup> The King wears a Robe completely around his body.



Fig 17: Mentuhotep II of the 11<sup>th</sup> Dynasty.<sup>[28]</sup>

- The last example from the 11<sup>th</sup> Dynasty is a funerary statue displayed in the Gulbenkian Museum of Lisbon, Portugal and shown in Fig.18.<sup>[29]</sup> The man is wearing a medium Schenti with a triangular opening in the front and without belt.

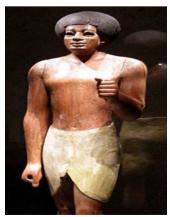


Fig 18: Funerary statue from the 11<sup>th</sup> Dynasty.<sup>[29]</sup>

Now, we move to the wealthy dynasty of the Middle Kingdom, the 12<sup>th</sup> Dynasty. The mendressing models during this dynasty are illustrated by the following artifacts.

- The first example is from a wooden model of two hunters from the 12<sup>th</sup> Dynasty displayed in the Metropolitan Museum of Art and shown in Fig.19.<sup>[30]</sup> One hunter is wearing a medium Corselet and the other (to the left) is wearing a long Coselet.



Fig 19: Hunters from the 12<sup>th</sup> Dynasty.<sup>[30]</sup>

- The second example is extracted from a boat model from the 12<sup>th</sup> Dynasty displayed in the Metropolitan Museum of Art and shown in Fig.20.<sup>[31]</sup> The whole crew is wearing long Schenti and one in the cabinet wearing a sleeveless shirt.



Fig 20: Boat model from the 12<sup>th</sup> Dynasty.<sup>[31]</sup>

- The third example is from a model for offering bearers from the 12<sup>th</sup> Dynasty displayed in the Metropolitan Museum of Art and shown in Fig.21.<sup>[32]</sup> The two men in the front of the model are wearing a Corselet and a Schenti respectively.



Fig 21: Offering bearers model from the 12<sup>th</sup> Dynasty.<sup>[32]</sup>

- The fourth example is from brick manufacturing in the 12<sup>th</sup> Dynasty. Fig.22 shows a wooden model for five brick makers cooperating in producing bricks.<sup>[33]</sup> The five men are wearing a unified dress which is a medium Schenti.



Fig 22: Brick makers model from the 12<sup>th</sup> Dynasty.<sup>[33]</sup>

- A fifth example is for a wooden statue of a guardian displayed in the Metropolitan Museum and shown in Fig.23.<sup>[34]</sup> The man is wearing a medium Schenti without belt or front tail.



Fig 23: Guardian statue from the 12<sup>th</sup> Dynasty.<sup>[34]</sup>

- The same style of the medium Schenti shown in Fig.23 was used not only by normal ancient Egyptians, but also by their kings. Fig.24 shows a statue for King Senwosret I, the 2<sup>nd</sup> King of the 12<sup>th</sup> Dynasty wearing the same dress as the guardian in Fig.23.<sup>[35]</sup> It seems that the King Schenti has a belt, but without front tail.



Fig. 24: King Senwosret I statue from the 12<sup>th</sup> Dynasty.<sup>[35]</sup>

- The Schenti continued to be used by Egyptian Kings of the 12<sup>th</sup> Dynasty. Fig.25 shows King Senusret III, the 5<sup>th</sup> King, wearing a long Schenti as displayed in the British Museum<sup>[36],[37]</sup> The King is wearing a long Schenti with parallel inclined lines around a central front tail. It is secured in position using a belt.



Fig 25: King Senwosret III statue from the 12<sup>th</sup> Dynasty.<sup>[36]</sup>

- We have another model for an extremely long Schenti from th 12th dynasty worn by King Amenemhet III, the 6th King
- displayed in the Neues Museum of Berlin and shown
- in Fig.25. [38] It has no belt nor a front tail or any decorations.



Fig 26: King Amenemhet III statue from the 12<sup>th</sup> Dynasty.<sup>[38]</sup>

- The last example from the 12<sup>th</sup> Dynasty is for its 7<sup>th</sup> King, Amenemhet IV through his statue shown in Fig.27.<sup>[39]</sup> The King is wearing a medium Schenti with belt and decorations with parallel lines inclined in reversing directions.



Fig 27: King Amenemhet IV statue from the 12<sup>th</sup> Dynasty.<sup>[39]</sup>

#### **SUMMARY**

During the Middle Kingdom, the ancient Egyptians continued to wear medium and long skirt (Schenti) with and without belt and tail. Workmen wore medium and long Schenti. Kings wore also medium and long Schenti with and without decorations.

#### **CONCLUSION**

- The paper investigated men clothing in ancient Egypt during the era from the Early Dynastic to the Middle Kingdom..
- During the Early Dynastic Period, the ancient Egyptians wore a short, medium and long Schenti beside the Robe.
- During the Old Kingdom they continued wearing the short, medium and long Schenti with and without belt and front tail. During this period, workmen wore medium Schenti and special Schenti with very little linen depending on the nature of their work.
- Some workmen wore the Corselet during the Old and Medium Kingdoms.
- During the Middle Kingdom, they continued wearing the medium and long Schenti with and without belt and front tail.
- Workmen of the Middle Kingdom wore medium and long Schenti.
- Kings of the Middle Kingdom wore also medium and long Schenti with and without decorations (linen patterns).
- They decorated the Schenti for Kings through using lined linen with parallel and non-parallel lines patterns.
- The front tail of one of the Kings of the 4<sup>th</sup> Dynasty was decorated by a pattern consisting of horizontal lines.

#### REFERENCES

- 1. Smith, W.(1954), "Country life in ancient Egypt", Museum of Fine Arts, Boston.
- 2. Butner, A.(2007), "The rhetoric and the reality: Egyptian conceptions of foreigners during the Middle Kingdom", College Scholars Thesis, University of Tennessee, Knoxville.
- 3. Tassie, G. (2008), "The social and ritual contextualization of ancient Egyptian hair and hairstyles from the Protodynastic to the end of the Old Kingdom", Ph.D. Thesis, Institution of Archaeology, University College London, January.
- 4. Olivier, A.(2008), "Social status of elite women of the New Kingdom of ancient Egypt: A comparison of artistic features", Master of Arts Thesis, University of South Africa, June.
- 5. Turner, P. (2012), "Seth- A misrepresented god in the ancient Egyptian pantheon", Ph.D. Thesis, University of Manchester, Faculty of Life Sciences.
- 6. Wilm, M. (2014), "Ancient Egypt, Module 1".
- 7. Schuette, L. (2015), "Researching the historical representations of ancient Egypt in trade books", M.Sc. Thesis, The Graduate School, Eastern Illinois University.
- 8. Wikipedia (2016), "Mentuhotep II", http://en.wikipedia.org/wiki/Mentuhotep\_II, May.

- 9. Wikipedia (2016), "Early Dynastic Period (Egypt)", http://en.wikipedia.org/wiki/Early\_Dynastic\_Period\_(Egypt)
- 10. Magruder, KV. (2008), "Ancient Egypt: Introduction", http://kvmagruder.net/hsci/03-Egypt-Aegean/Introduction
- 11. Tassie (2008), Fig.48.
- 12. Wikipedia (2016), "Khasekhemwy", www. http://en.wikipedia.org/wiki/Khasekhemwy
- 13. Dunn, J. "Khasekhem of Egypt, 2<sup>nd</sup> Dynasty", www.touregypt.net/featurestories/khasekhem.htm
- 14. Wikipedia (2016), "Old Kingdom of Egypt", http://en.wikipedia.org/wiki/Old\_Kingdom\_of\_Egypt
- 15. a Almendron, "Catalogue: Third Dynasty", www.almandron.com/arthistoria/arte/culturas/egyptian-art-in-age-of-thepyramids/catalogue-third-dynasty/ b Memari, H. "Imhotep", www.pinterest.com/pin/3377768447236515/
- 16. Smith (1954), Plate 11.
- 17. Museum of Fine Arts, "King Menkaure", www.mfa.org/collections/object/king-menkaure-the-goodness-hathor-and-the-deified-hare-nome-138424.
- 18. Global Egyptian Museum, "Seated statue of Rahotep and Nofret", www.globalegyptianmuseum.org/detail.aspx?id=14847
- 19. Museum of Fine Arts, "Psudo-group statue of Penmeru", www.mfa.org/collection/object/pseudo-group-statue-of-penmeru-140414
- 20. World 4, "Ancient Egyptian costumes", http://world4.eu/ancient-egyptian-costume/
- 21. World History, "Private tombs in the 5<sup>th</sup> and 6<sup>th</sup> Dynasties", www.worldhistory.biz/ancient-history/54985-6-11-an-expanding-bureaucracy-private-tombs-in-the-5th-and-6th-dynasties.html
- 22. Osirisnet, "The mastaba tomb of Kagemni", www.orsirisnet.net/mastabas/kagemni/e\_kagemni\_02.htm
- 23. Suarez, M., "Statue of Tjeteti", www.pinterest.com/pin/477311260485671394/
- 24. Wikipedia (2016), "Mereruka", http://en.wikipedia.org/wiki/Mereruka
- 25. Wikipedia (2016), "Middle Kingdom of Egypt", http://en.wikipedia.org/wiki/Middle\_Kingdom\_of\_Egypt
- 26. Museum of Fine Arts, "Model of a bakery and brewery", www.mfa.org/collections/object/model-of-a-bakery-and-brewery-143960
- 27. Buzard, K., "A funerary model of a bakery and brewery",

- www.pinterest.com/pin/501729214711354160/
- 28. Wayne, D., "Statue of Methutep II", www.pinterest.com/pin/40358648097090/
- 29. Wikipedia, Common (2006), "Funerary statue of a man", http://commons.wikipedia.org/wiki/File:11th\_Dynasty\_Egyptian\_funerary\_statue\_(Gulbe n.pinterest.com/pin/480477853975484160/
- 30. Josephina, "Hunters", www.pinterest.com/pin/49314422929578629/
- 31. Gallasch, R. "Travelling boat rowing dynasty 12", , www.pinterest.com/pin/3025924726245481/
- 32. Metropolitan Museum of Art, "Model for procession of offering bearers", www.mitmuseum.org/art/collection/search/544125
- 33. Smith (1954), plate 38.
- 34. Metropolitan Museum of Art, "Guardian figure", www.mitmuseum.org/art/collection/search/543864
- 35. Zwan, K. "Wooden statue of Senwosret I", www.pinterest.com/pin/28281205157521378/
- 36. Dunn, J., "Senusret III, the 5<sup>th</sup> King of the 12<sup>th</sup> Dynasty", www.touregypt.net/featurestories/senusret3.htm
- 37. Wikipedia, (2016), "Senusret", http://en.wikipedia.org/wiki/Senusret\_III
- 38. Funky Stock, "12 Dynasty Egyptian statue of King Amenemhet III www.funkystock.photoseller.com/image/10000iwwmlH0oto1c
- 39. Grepol Free, "Amenemhat IV", http://greoal.free.fr/english/img\_sesostris/amenemhat4.jpg

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