

The Utilization of the Bivalve Shells as Palettes in Ancient Egypt

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Abstract

In ancient Egypt, natural bivalve shells were utilized as ready-made palettes by the scribes. This utilization was depicted on the walls of the Old Kingdom's tombs and sculpted in the scribes' statues. These statues appeared in the Middle Kingdom, spread in the New Kingdom, especially the region of Amenemhat III, but they were rare in the Late Period. Some deities were represented with the bivalve shell palettes in the New Kingdom, such as Thoth and Seshat. This paper concentrates on the natural bivalve shells' function as palettes and the bivalve shells' species used as palettes through the hieroglyph texts, the tombs' scenes, and the scribes' statues.

Keywords: bivalve shells, mussels, clams, palettes, scribes.

Bivalves are the mollusks that living in two matching shells, such as mussels, clams, and oysters (Cleave 1996). Ancient Egyptians knew the bivalve shells from the Predynastic Period (Petrie 1914). Bivalve shells were versatile in ancient Egypt; they were utilized as cosmetics containers (Vandier D'Abbadie 1972), incense burners, offering plates (Reese 1988), and musical instruments (Mumford 2012). They were added to many medical recipes (Dawson 1932), and worn as jewelry by people (Aldred 1952) and animals (Wild 1953). As well as the pervious utilizations, natural bivalve shells were used as ready-made palettes (Ockinga 1997). Some bivalve shells were discovered with traces of various colors of pigments, such as red, black, and white (Murray, Nuttall 1963).

The bivalve shell palette was known as $w\bar{d}^{\bar{c}}yt$  (Wb., III, 407, 12; Hannig 2006), the word $w\bar{d}^{\bar{c}}yt$ was mentioned in the Pyramid Texts (Faulkner 1962; Pyr II., 2030):

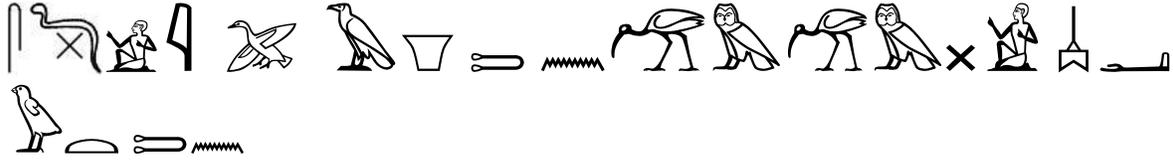


imi ḥsb ṛ.k gmgm.f wḏyt. k

lest break your pen, smash your ink-shell.

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The word *wḏwt* was mentioned in the Coffin Texts (spell 425) V 269f, V270a:



sd.i p3s. sn gmgm.i wḏwt.sn

I break your water-pots, smash your inkwells (Buck 1954).

It was also mentioned in the Coffin Texts (spell 688) VI 318f:



sw3 ʿr.k sd wḏwt.k

break your pen, smash your inkwells (Buck 1956).

The bivalve shell palettes were depicted on the walls of the Old Kingdom's tombs from the Fourth Dynasty and continued in the Fifth and Sixth Dynasties (Berman 1999). The first scene comes from queen Meresankh III' s tomb in Giza from the Fourth Dynasty. The east wall shows two craftsmen, one of them sculpts a seated statuette of the queen while the other one holds a brush with his right hand and a bivalve shell used as a palette in the other one to paint the queen's statuette (قنواتي 2009) (pl. 1). The south wall from the same tomb has another painter paints a standing statuette of the queen with a brush in his right hand and a bivalve shell palette held with his left hand (Duham, Simpson 1974) (pl. 2).

The Khafkhufu's tomb in Giza, which dated to the Fourth Dynasty has a scene on the west wall consisted of four seated scribes depicted in the classical position of the Egyptian scribe with their papyrus and brushes (Simpson 1978). Two scribes of them are holding the clam-shell inkwells with two dots of inks. The shell palettes are suspended by ribbons in the fingers of their left hands (Scott 1989:468) (pl. 3).

The Louver Museum in Paris has a limestone fragment "E 14321" from an unknown mastaba from the Fourth Dynasty. The fragment represents a scribe sitting on the ground on one bent leg and the other is raised in front of him. The scribe is writing on his papyrus with a brush. There are two spare brushes behind his left ear. His

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scribal instrument is resting before him, a bivalve shell palette "maybe a mussel shell" with two colored pots is placed on a small container with concave walls (Ziegler 1990) (pl. 4).

The depiction of the bivalve shell palettes spread in the Fifth Dynasty more than any dynasty in the Old Kingdom. Niankhkhnom's tomb in Saqqara has two scenes. The first one shows two painters applying the finishing touch to a wooden shrine. One of them is sitting on a high base with a raised left knee and the other one is standing. Both of them hold a brush in the right hand and a bivalve shell palette in the left one. (pl. 5) The second scene represents a painter with a brush in his right hand and a bivalve shell palette in the other one to paint a statue (Harpur, Scremin 2010). There are writing's instruments including a water bowl and vessels with paint, maybe these vessels represent bivalve shell palettes (pl. 6).

The tomb of the prince Ka-ni-niswt in Giza from the Fifth Dynasty has a scene on the north wall shows many clerks. Eight of them are busy with writing notes. Everyone has two spare brushes behind the ears and a brush in the right hand to write on the papyrus. Six clerks have clam-shell palettes with two dots of colors suspended by ribbons at their left hands' fingers. There is a small container with concave walls in the second row for the shell palette (Junker 1934) (pl. 7). Another scene from the same tomb at the west wall of the cult chamber shows three rows of clerks. The first row has four scribes. Three scribes were depicted with their clam-shell palettes knotted in their belts by ribbons (Smith 1946; Kayser 1964) (pl. 8).

The Egyptian Museum in Cairo has a false door "JE 51297" from the dwarf Seneb's tomb in Giza from the Fifth Dynasty. The false door has a scene that shows Seneb sitting on an armchair before three standing men, the first man is reading from papyrus, the second is writing, and the third is holding papyrus under his arm. The second and third men are holding bivalve shell palettes "maybe mussel shells" with two dots of inks knotted in their belts (Junker 1941:88) (pl. 9). Seneb's tomb has another scene represents him sitting before a standing clerk who holds papyrus and reads something. The clerk has a brush in his right hand and a bivalve shell palette "maybe a mussel shell" serving as a palette knotted in his belt (Junker 1941: 74) (pl. 10).

Nufer's tomb in Saqqara has a scene for a dwarf holding a bivalve shell with two dots of inks in his left hand by ribbons. Another bivalve shell is resting on a container with concave walls. A rectangular package that probably contains papyrus is forward of him (Dasen 1993) (pl. 11).

The tomb of Nefer and Ka-hay in Saqqara, which dated to the Fifth Dynasty has a colorful scene that shows the court official holding his papyrus and two scribes squatting behind him. The scribes have green pens for black ink in their hands and yellow pens for the red ink behind their ears. They are ready to write the report read to them by the court official from the papyrus. There is writing equipment in the scribes' front including a clam-shell palette with two dots of inks resting on a container with concave walls (Moussa, Altenmuller 1971; Andreu 1992; Lashin 2013) (pl. 12).

The representation of the shell palettes still depicted in the Sixth Dynasty. The tomb of Mereruka in Saqqara has a scene that shows the tomb owner himself seated before an easel with a brush in the right hand and a clam-shell as a palette in the other one. He is drawing the three seasons of the ancient Egyptian year, maybe he desires to receive the produce of each season (Blackman 1953; Kanawati 2007) (pl. 13).

Khentika's tomb in Saqqara, which dated to the Sixth Dynasty has a similar scene on the south wall that shows Khentika sitting before an easel and holding a brush in the right hand and a clam-shell as a palette in the other one to draw the three seasons. There is a container with concave walls before him. Many times, this container appeared under the shell palette; maybe it was made to carry the shell palette (James 1953; الطيب 2007) (pl. 14).

Ankhamhor's tomb, which is located in Saqqara and dated to the Sixth Dynasty has a scene on the south wall shows a craftsman holding a brush with the right hand and a bivalve shell serving as a palette in the left one to paint a statue. Another craftsman paints a statue with a bivalve shell in his left hand (Badawy 1978; Kanawati, Hassan 1997) (pl. 15).

With the beginning of the Twelfth Dynasty, the bivalve shell palettes were sculpted in the scribes' statues. These sculpted palettes spread in the Eighteenth Dynasty, especially the region of Amenemhat III and continued in the Late Period.

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The first statue belongs to Mentuhotep who was a vizier under Senusret I and Amenemhat II from the Egyptian Middle Kingdom. The statue "black granite, H. 76 cm, Luxor Museum, J. 37" represents Mentuhotep in the traditional attitude of the Egyptian scribe. He is squatting on a high base with cross-legged. His right hand was held poised over the papyrus as if in act of writing, and the other one holds the papyrus. There is a palette in the form of a mussel shell resting on his left knee. The shell palette measures 17 cm. It has two dots of inks and ribbons for suspension lying on the knee (Sauneron 1970-1972: 65; Scott 1989: 164) (pl. 16). A second similar statue of Mentuhotep the vizier "black granite, H. 61.5 cm, Karnak, Luxor Museum, J. 36" shows him as a scribe on a low base. As well as his writing equipment, he has a mussel shell-shaped inkwell on his left knee. The shell measures 16.5 cm. It has two cakes of writing pigments and ribbons (Sauneron 1970-1972: 65; Scott 1989: 159) (pl. 17). Another statue of the vizier Mentuhotep "gray granite, H. 61.5 cm, Karnak, Egyptian Museum, Cairo, JE 36584, CGC 42037" in the classical position of a scribe with his writing instruments. He has a sculpted mussel shell serving as a palette with two dots of inks and two ribbons resting on his left knee (Legrain 1906; Vandier 1958; Scott 1989:169; Sourouzian 1991; Kozloff, Brayan, Berman 1992: 251) (pl. 18).

The Eighteenth Dynasty witnessed the sculpted shell palettes' spread. Amenhotep, son of Hapu's statues are the best proof. Amenhotep, son of Hapu was one of the most important and respectable officials in the Eighteenth Dynasty, he was the renowned director of works and the royal scribe of Amenhotep III (Terrace, Fischer 1970: 117; Saleh, Sourouzian 1987; Tiradritti 1998). Amenhotep, son of Hapu has a statue "black granite, H. 128 cm, Karnak, Egyptian Museum, Cairo, JE 44861" represents him as a young scribe sitting cross-legged in the classical attitude of a scribe with his head bowed. He has papyrus unrolled on his lap and a palette in the form of a clam-shell with two dots of inks resting on his left knee. The palette has no ribbons (Mackay 1914; Aldred 1951:69; Varille 1968: 26; Scott 1989: 364) (pl. 19). Amenhotep, son of Hapu has a similar statue to the previous one "granite, H. 128 cm, Karnak, Luxor Museum, J. 4." He is also shown as a scribe with his equipment. A clam-shell palette with two dots of inks is resting on his left knee. The palette has no ribbons for suspension (Hornemann 1957 :431; Varille 1968: 18; Scott 1989: 370; El-Shahawy 2005) (pl. 20). There is a broken statue of Amenhotep, son of Hapu as a scribe "black granite, H. 34.3 cm, Karnak, British Museum, London, EA 103" on a low base with hieroglyphic texts. His broken right hand holds a pen as if he is writing while his left

hand holds the papyrus roll. On his left knee, a clam-shell-shaped palette is resting. The palette has two dots of inks and two ribbons (Glanville 1929; Varille 1968: 14; Scott 1989: 380; Parkinson 1999: 136) (pl. 21).

The vizier Amenhotep who lived in the region of Amenhotep III has a statue that shows him as a scribe "black granite, H. 92 cm, Tell Basta, Egyptian Museum, JE 28583, CGC 590." He is represented with his writing's equipment included a clam-shell-shaped palette with inks and ribbons on his left knee (Borchardt 1925: 145; Hornemann 1957: 392; Kozloff, Brayan, Berman 1992: 51) (pl. 22).

Another statue from the region of Amenhotep III belongs to Menkheperre-Senb who was the son of Rekhmara. This statue "gray granite, H. 82 cm, Karnak, Egyptian Museum, Cairo, JE 38371, CGC 42125" represents him as a classical scribe sitting cross-legged on a high base. He has the ordinary equipment of the scribe on his shoulder with two palettes, the first palette is slipped out of the belt that has a knot and the second one takes the shape of a clam-shell with two dots and two ribbons on his left knee (Legrain 1906: 75; Legrain 1914; Hornemann 1957: 432; Scott 1989: 346) (pl. 23).

A painted statue from the region of Amenhotep III belongs to Amenhotep, son of Neferet-iry represented him as a scribe "sandstone, H. 77 cm, Gurnah, Egyptian Museum, Cairo, JE 28827, CGC 592" sitting on a base and reading from his papyrus. He holds his papyrus with his left hand and the right one is stretched on his right knee. He has the scribe's instruments on his shoulder and a clam-shell-shaped palette on his left knee with its inks and ribbons (Borchardt 1925: 146; Hornemann 1957: 425; Ranke 1963; Scott 1989: 364) (pl. 24).

The sculpted bivalve shells continued in the region of Akhenaton. There is a small statue shows an unknown scribe "Serpentine, H. 14 cm, Tell el Amarna, Egyptian Museum, Cairo, JE 59291" sits before Thoth who sits on an altar. The scribe squats as a student before a teacher. He has papyrus scroll half unrolled on his right knee and a clam-shell-shaped palette with inks resting on the other knee. The palette has no ribbons (Pendlebury 1933; Aldred 1951: 86; Terrace, Fischer 1970: 129; Peck 1978; Eggebrecht 1984; Scott 1989: 402; Kozloff, Brayan, Berman 1992: 247; Kemp 2012) (pl. 25).

A similar statue of Techay as a scribe" Serpentine and wood, L. (base) 12.7 cm, Tell el Amarna, Staatliche Mussen Ägyptisches Museum, Berlin, 20001" squats in

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front of Thoth. The scribe has an open papyrus on his lap, and a clam-shell-shaped palette with inks on his left knee (Scott 1989: 410; Strouhal 1992) (pl. 26).

Tutankhamen's region has a statue of Horemheb who was a royal scribe and a general of the army under Tutankhamun. The statue "gray granite, H. 117 cm, Memphis, The Metropolitan Museum of Art, New York, 23.10.1" represents Horemheb sitting as a scribe with squatting cross-legged on a high base. Unrolled papyrus scroll rests on his knees, and a clam-shell-shaped inkwell with two cakes of writing pigments lies on his left knee (Winlock 1924; Hornemann 1957: 455; Hari 1964; Scott 1989: 443; Dodson 2009; Allon 2017) (pl. 27).

The last statue is dated to the Late Period and belonged to Pas-shuper who was a Theban high official in the Late Period. This statue "quartzite, H. 52.5, British Museum, EA1514" shows Pas-shuper as a scribe on a high plinth and a pillar incised with hieroglyphic texts. He has an open papyrus roll on his lap and two palettes, one on his left shoulder and a clam-shell-shaped palette with two dots of inks rests on his left knee (Leclant 1953; Graefe 1981; James, Davies 1983; James 1986: 6; Scott 1989: 520; Parkinson, Quirke 1995; Parkinson 1999: 131; Russmann, 2001; Taylor 2010) (pl. 28).

In the New Kingdom, some deities were represented with the bivalve shell palettes on temples and papyrus. The first scene belongs to Atum who was represented sitting and holding a brush with his right hand and a bivalve shell palette with the other one to write on the leaves of an ished-tree from the Ramesseum (Redford 2001) (pl. 29). Seshat appeared at Hapu temple sitting on a chair and holding a brush with her right hand and a bivalve shell serving as a palette in the other one to record the immortality for king Ramses III (Budde 2000) (pl. 30). Ani papyrus has a scene that shows Thoth sitting on a base and drawing the feather of Ma3t by his brush and a bivalve shell palette (Budge 1894) (pl. 31). Thoth appeared in another scene sitting with a raised right knee and holding a brush and a bivalve shell as a palette with two dots of inks "red and black" to draw the feather of Ma3t (Raven 2010) (pl. 32).

Table 1. List of "clam and mussel palettes" analyzed in this paper.

No.	Tomb	Statue	Provence	Period	Current location	Clam	Mussel
1	Meresankh III		Giza	Dynasty 4		+	
2	Meresankh III		Giza	Dynasty 4		+	
3	Khafkhufu		Giza	Dynasty 4		√	
4	Unknown tomb			Dynasty 4:5	Musée de Louver, E 14321.		+
5	Niankhkhnom		Saqqara	Dynasty 5			+
6	Niankhkhnom		Saqqara	Dynasty 5			+
7	Ka ni niswt		Giza	Dynasty 5		√	
8	Ka ni niswt		Giza	Dynasty 5		√	
9	Seneb		Giza	Dynasty 5	Egyptian Museum, Cairo, JE 51297.		+
10	Seneb		Giza	Dynasty 5			+
11	Nufer		Saqqara			+	
12	Nefer and Ka-hay		Saqqara	Dynasty 5		√	
13	Mereruka		Saqqara	Dynasty 6		√	
14	Khentika		Saqqara	Dynasty 6		√	
15	Ankhamhor		Saqqara	Dynasty 6		+	
16		Mentuhotep	Karnak	Dynasty 12	Luxor Museum, Egypt, J. 37.		√
17		Mentuhotep	Karnak	Dynasty 12	Luxor Museum, Egypt, J. 36.		√
18		Mentuhotep	Karnak	Dynasty 12	Egyptian Museum, Cairo, JE 36584, CG 42037.		√

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19		Amenhotep , son of Hapu	Karnak	Dynasty 18	Egyptian Museum, Cairo, JE 44861.	√	
20		Amenhotep , son of Hapu	Karnak	Dynasty 18	Luxor Museum, Egypt, J. 4.	√	
21		Amenhotep , son of Hapu	Karnak	Dynasty 18	British Museum, EA 103.	√	
22		Amenhotep	Tell Basta	Dynasty 18	Egyptian Museum, Cairo, JE 28583, CG 590.	√	
23		Menkheper re-Senb	Karnak	Dynasty 18	Egyptian Museum, Cairo, JE 38371, CG 42125.	√	
24		Amenhotep , son of Neferet-iry	Gurnah	Dynasty 18	Egyptian Museum, Cairo JE 28827, CGC 592.	√	
25		Unknown Statue	Tell el Amarna	Dynasty 18	Egyptian Museum, Cairo, JE. 59291 "stolen ."	√	
26		Techay	Tell el Amarna	Dynasty 18	Staatliche Mussen Ägyptisches Museum, 20001.	√	
27		Horemheb	Memphis	Dynasty 18	The Metropolitan Museum of Art, 23.10.1.	√	
28		Pas-shuper		Dynasty 25	British Museum, EA 1514.	√	
√=yes, +=probably yes.							

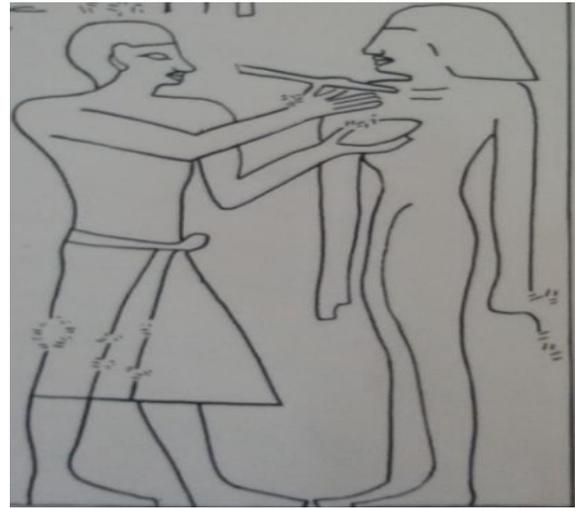
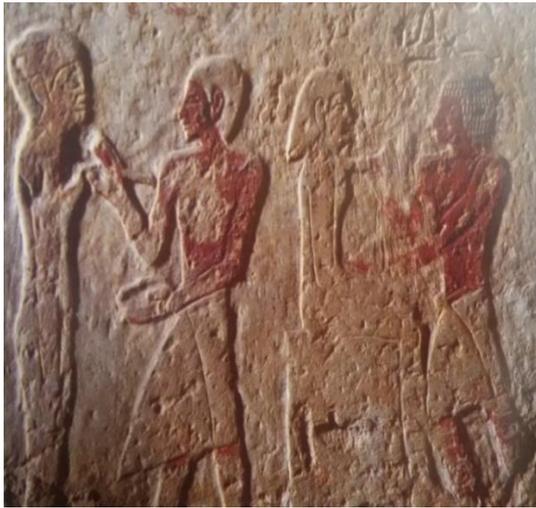
Conclusion

- The ancient Egyptians knew the bivalve shells from the Predynastic Period.
- The bivalve shells were utilized as cosmetics containers, incense burners, offering plates, musical instruments, and jewelry.
- Natural bivalve shells were used as ready-made palettes from the Old Kingdom to the Late Period.
- Some bivalve shells were discovered with traces of various colors of pigments, such as black, red, and white.
- The bivalve shell palette was known as *wḏꜣyt* in ancient Egypt. it was mentioned in the Pyramid and Coffin Texts.
- The bivalve shell-shaped palettes were depicted on the walls of the Old Kingdom's tombs from the Fourth Dynasty and continued in the Fifth and the Sixth Dynasties.
- The shell palettes were depicted in the tombs of princes, queens, high officials, and the individuals.
- The shell depicted palettes were the mussels and the clams, but the clams were the most depicted.
- Many shell palettes were depicted with two dots of inks "black and red" and ribbons for suspension in belts or the fingers.
- If the palette's user was a scribe, the shell palette would be represented with two dots of inks, but if he was a painter, it would have no dots of inks or ribbons.
- These depicted palettes were represented in three positions: carried in the left hands, knotted in the scribes' belts by two ribbons, or placed on small container with concave walls.
- This container appeared many times with the shell palettes, maybe it was made to carry the shell palette.
- The ancient Egyptian sculpted the bivalve shell palettes in the scribes' statues.
- These statues appeared in the Twelfth Dynasty from the Middle Kingdom and spread in the New Kingdom, especially the region of the king Amenhotep III from the Eighteenth Dynasty, but they were rare in the Late Period.
- The sculpted shell palettes of the scribes' statues were the mussels and the clams.
- The mussel shells were the most species sculpted in the Middle Kingdom's statues, but the clam-shells were the most species sculpted in the New Kingdom's statues.
- All the sculpted shell palettes have two dots of inks, but most of them have no ribbons.
- All the sculpted shell palettes were put on the left knee of the scribe.

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- In the New Kingdom, there were scenes represented some deities, such as Atum, Thoth, and Sechat drawing with their ink-shells and brushes. The most deity who was represented with the ink-shells is Thoth. The most utilized shell was the clam-shell. Sometimes it was represented with two dots of ink "black and red." All shells had no ribbons. It was held with the left hand of the deity.

Plates



Pls. 1,2 Craftsmen are painting Meresankh III 's statues with brushes and bivalve shell palettes (2009 قنواتي; Duham, Simpson 1974).



Pl. 3 Two scribes are holding ink-shells (Simpson 1978).

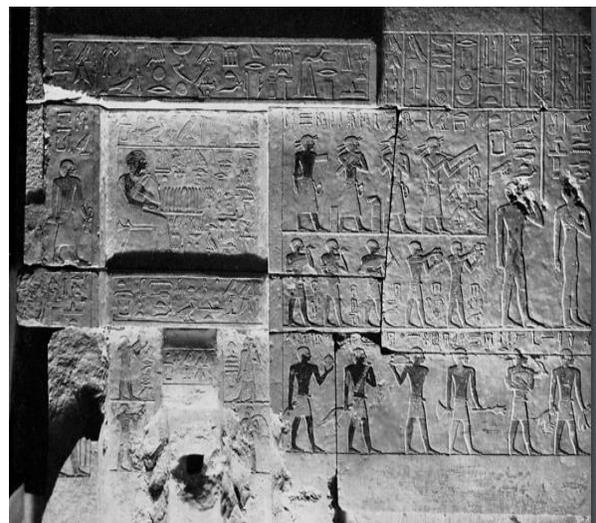
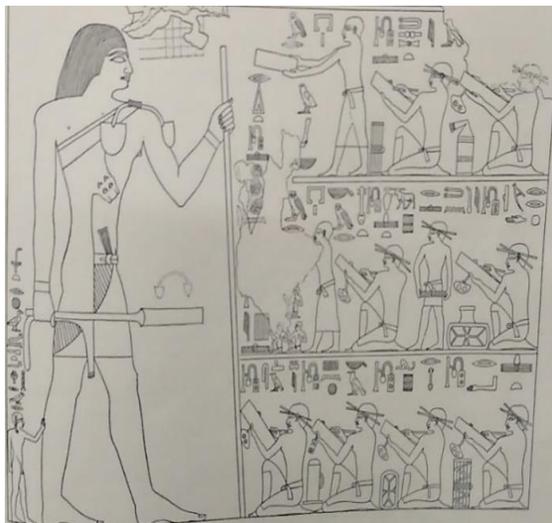


Pl. 4 A scribe with a bivalve shell palette forward him (Ziegler 1990).

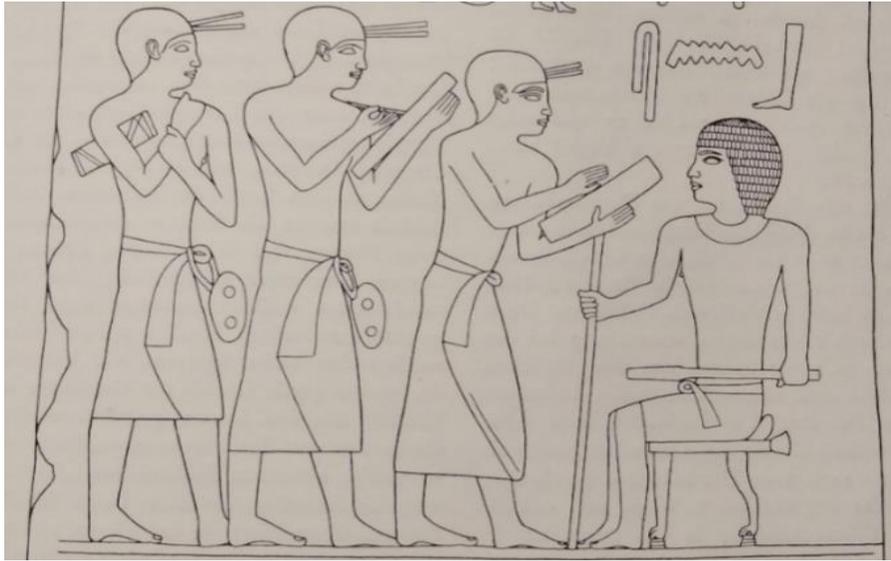
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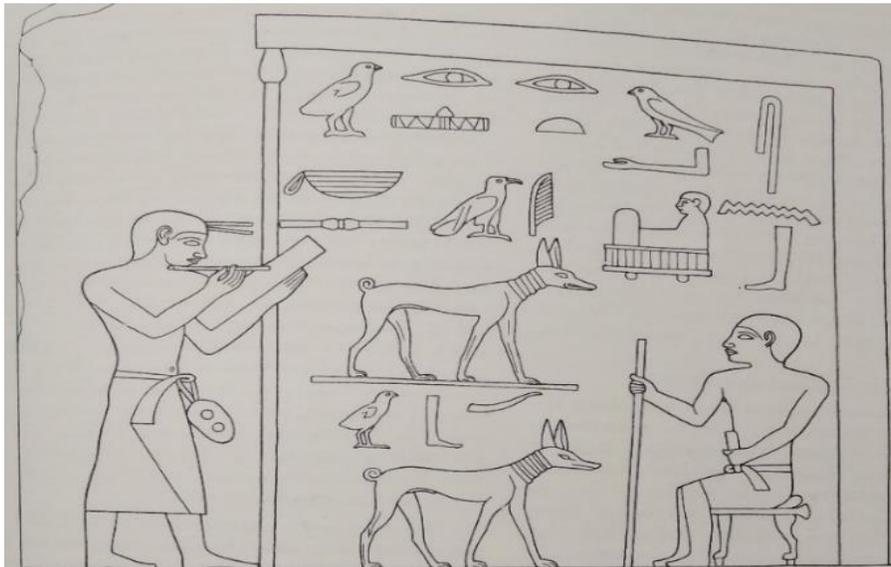
Pls. 5,6 Painters are painting a shrine and a statue with brushes and bivalve shell palettes (Harpur, Scremin 2010).



Pls. 7,8 Scribes with their clam-shell palettes from Ka ni niswt 's tomb
(Junker1934; Kayser 1964).



Pl. 9 Scribes with knotted shell palettes before the dwarf Seneb (Junker 1941: 88).

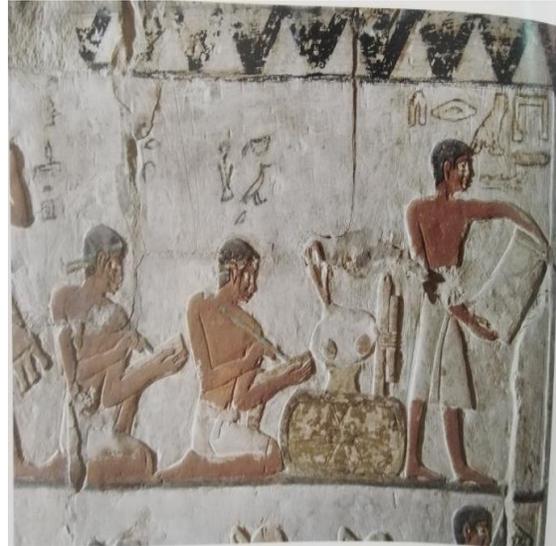


Pl.10 A scribe standing before the dwarf Seneb with a knotted shell palette
(Junker 1941: 74).

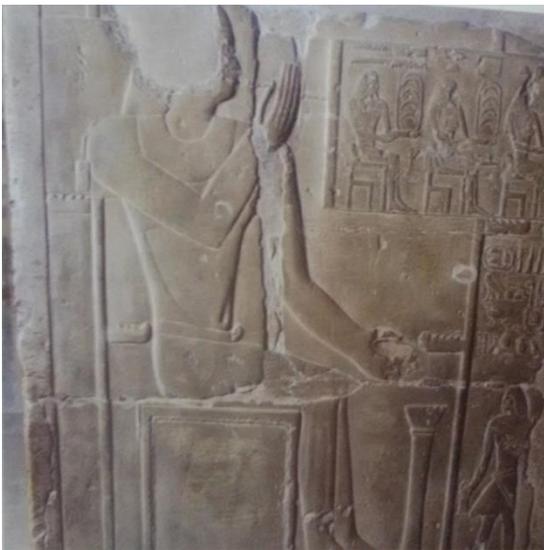
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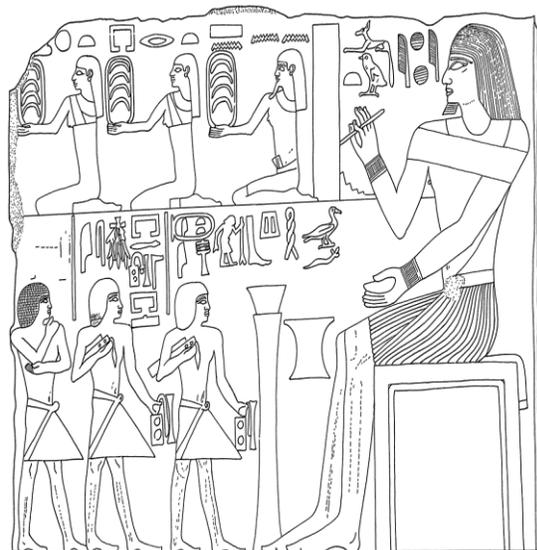
Pl. 11 A dwarf holds a shell palette
(Dasen 1993).



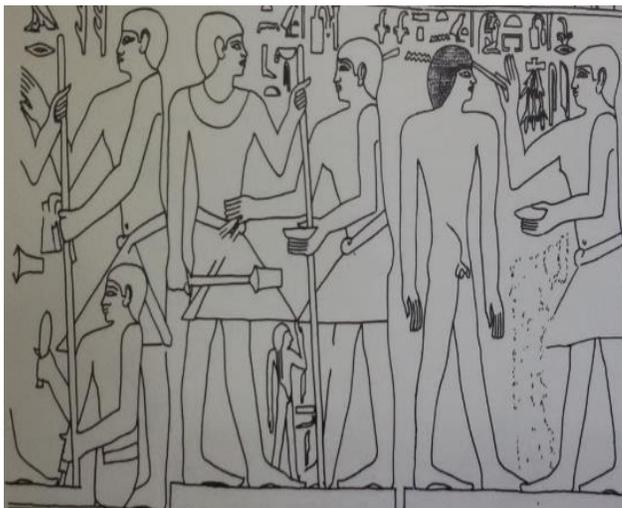
Pl. 12 A shell palette above a
Container (Moussa, Altenmuller 1971).



Pl. 13 Mereruka draws with
a clam palette (Kanawati 2007).



Pl. 14 Khentik draws
with a clam palette (James 1953).



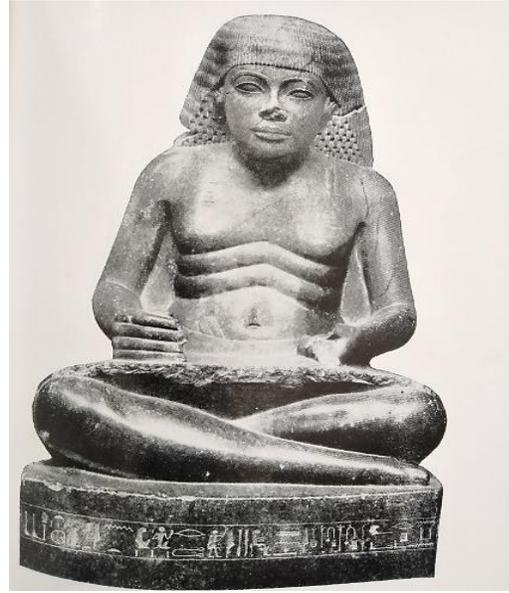
Pl. 15 Workers are painting with shell palettes (Badawy 1978).

Pl. 16 Mentuhotep with an ink-shell (Sauneron 1970-1972: 65).



Pls. 17,18 Mentuhotep with his mussel shell palette on his left knee (Scott 1989: 159; Vandier 1958).

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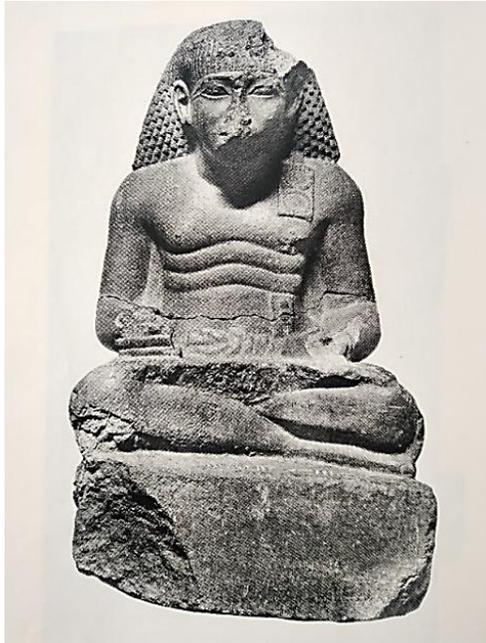
Pls. 19,20 Amenhotep, son of Hapu with his clam palette resting on the left knee (Saleh, Sourouzian 1987; Varille 1968: 26).



Pl. 21 Amenhotep, son of Hapu with a clam palette (Glanville 1929).



Pl. 22 Amenhotep the vizier with a clam palette (Borchardt 1925: 145).



Pl. 23 Men Kheper Ra

with a clam palette (Scott 1989: 346).



Pl. 24 Neferet-iry

with his ink-shell (Ranke 1963).



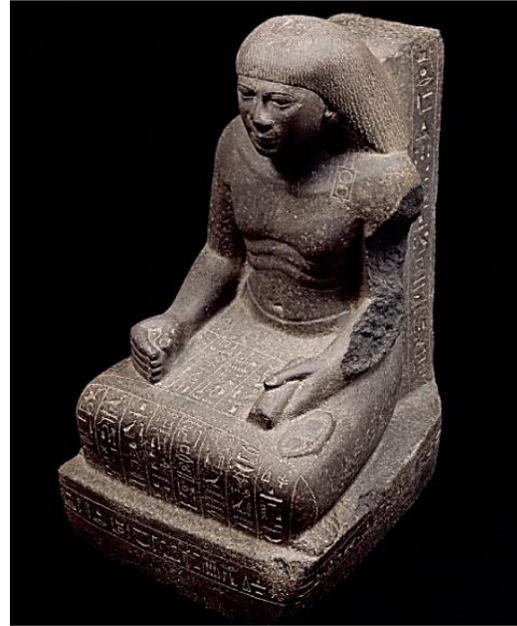
Pls. 25,26 Scribes holding clam-shell palettes on the left knees before Thoth

(Eggebrecht 1984; Strouhal 1992)

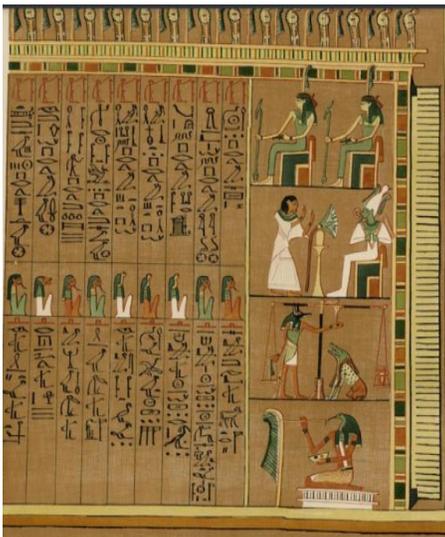
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Pl. 27 Hormoheb with a clam palette (Hari 1964).



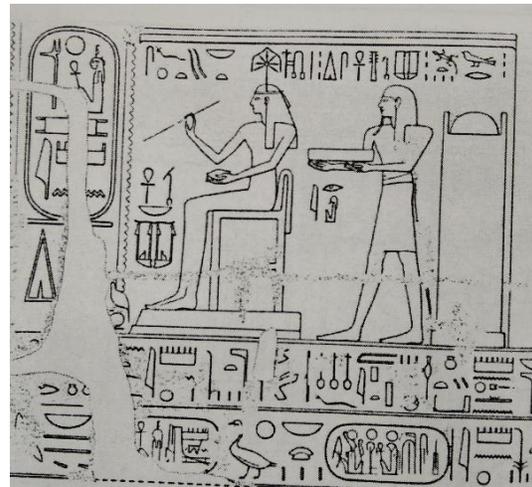
Pl. 28 Pesshuper with a clam palette (Leclant 1953)



Pl. 29 Atum draws with a shell pallet (Redford 2001).



Pl. 30 Sechat draws with a shell palette (Budde 2000).



Pls. 31,32 Thoth sits and draws the feather of Ma3t with a brush and a shell palette with two dots of inks (Budge1894; Raven 2010).

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