

Diachrony of Polychrome Hieroglyphs

It would be illusory to think that a system as sophisticated as the polychrome hieroglyphic canon could remain unchanged throughout the three millennia of pharaonic civilisation. Changes in style, technique, material, symbolism and meaning all contributed to the differences that we encounter in the canon from one period to another.

This section examines these changes from a diachronic perspective. In addition to the current database corpus, some Early Dynastic data taken from Kahl (1997) have been included, as they provide a convenient starting point for the comparison. In the same manner, comments on some Ptolemaic and Roman era examples have been added as a conclusion. It should be noted that, as no monuments from the First and Second Intermediate Periods have so far been included in the corpus, they have also been omitted from this study.

Early Dynastic (3200 - 2686)

The iconic pose of the seated man A1 can be found in what is probably the earliest example of Egyptian wall painting: tomb 100 at Hierakonpolis (Nekhen) which dates from the Late Gerzean period *c.*3500 BC (Tiradritti 2008, 90-91). In this work, three squatting men with red skin and white kilts can be seen in an identical pose to that of the A1 hieroglyph. It is remarkable that the basic colour scheme of this hieroglyph remained constant throughout the pharaonic period only with the addition of fine detail in the form of black hair.

Kahl has made a study of the colours used in some Early Dynastic texts (1997). The first coloured hieroglyphs date from Dynasty 0 to Dynasty 1 and are, *stricto sensu*, at the most bichrome. Kahl's corpus contains 27 inscriptions, of which 25 adopt the colour scheme of either red, black or red and black. The two remaining inscriptions use green or blue as substitutes for black. All the inscriptions come from tombs located at Saqqara except for the three earliest examples that come from the Abydos cemetery of Umm el-Qa'ab.

The palette of these early inscriptions was limited, in part due to material considerations (the easy availability of red ochre and carbon black) and in part due to the first choice of black and red as basic colour terms (and focal colours) according to the theories of Berlin and Kay (1969). In these early attempts at categorisation through the use of colour, we can see some of the same choices that remained in use for three millennia. Here, a comparison is made between the colours used for these early hieroglyphs (Kahl 1997, 48-54) and the colours used for the same signs in the later, pharaonic canon. Kahl's observations are marked by the bullets, whereas the indented lines highlight the later, canonical colours found here in the database.

- Men are red with black hair.

This is the same canonical colour scheme found throughout the dynastic period.

- Parts of the human body are red.

Most of the signs for body parts are also red in the canon.

- Birds are all black except for the quail chick G43 and the vulture G14 which are red.

Bird hieroglyphs are somewhat varied in the canon, but G43 is nearly always yellow.

- Wood M3 is red, as are most plants.

Wood as a substance in the canon is red or yellow. Plants are blue or green.

- Earth is black.

Black or blue are the canonical colours used to represent the fertile silt of the Nile valley.

- Water is black.

Water in the canon is black (the Nile bearing silt) or blue (reflecting the sky).

- Mud brick buildings are black.

Brick buildings in the canon are black or blue, as is the Nile silt from which they are made.

- Cloth (most notably S29) is red.

Surprisingly, this cloth sign in all periods is red instead of the expected white.

- The ankh S34 is black.

This enigmatic sign is black or blue in the canon.

- The sickle U1 is black.

This sign is normally green in the canon, symbolising the connection between the tool and the vegetation which is harvested.

- The hoe U6 is red.

This agricultural implement is red in the canon because it is made of wood.

- Rope and basketry are red.

These materials are normally green in the canon, representing plant fibre.

- Pottery is red, black or red and black.

In the canon, pottery is red or blue or a combination of red and blue or red and black.

- The loaf of bread X1 is black.

Intriguingly, this form of bread is also blue or black in the canon.

Most of these choices appear to be the result of an attempt at materialistic or naturalistic colours. It is understandable, with such a limited palette, that some categories do not really correspond to the natural shades. However, red for flesh and for pottery is close enough to reality. The black seen on some hieroglyphs of pots is also a reflection of Early Dynastic black-top ware and this scheme can still be seen in Late Period pottery hieroglyphs, even though the fashion of black-top ware had long since disappeared. Mathieu (2009, 30) sees this style of pottery as the opposition between the black Nile floodplain and the red desert. The symbol therefore remained in polychrome hieroglyphs even though the style had changed. However, this explanation might be questioned as to why this symbolism only applies to pottery. Red is also found as the colour of wood, both for the substance and for objects manufactured from it, such as the hoe.

Two signs that are coloured black in Kahl's corpus and blue or black in the database are the ankh sign S34 and the rounded loaf X1. Both of these signs are somewhat obscure, but the early use of black confirms the canonical black or blue found in the corpus as being meaningful and may help in their identification.

Old Kingdom (2686-2160)

Dynasty III saw the arrival of true polychromy, with a palette of white, black, red, yellow, green and blue. Some of the authors of descriptive lists without accompanying colour photos have used the terms “ochre”, “brown”, “grey” and “orange”. I believe that no such subtle shades were chosen intentionally, but are rather the result of fading and other temporal changes. After comparing some contemporary texts, we can presume that “ochre” is dark yellow, “brown” is faded dark red, “grey” is faded black or blue and “orange” is red or yellow.

In the three early Old Kingdom texts studied by Kahl (1997, 48-54), some red signs show a shift towards yellow: D21, D38, D46, F9, G43 and M3. F9 and G43 retain this yellow in later periods, but the flesh colour of group D signs reverts to red, as does the wooden branch M3.

The sign for a piece of folded cloth S29 is consistently coloured red throughout the pharaonic period. This at first seems surprising, given that Egyptians clothed themselves for the most part in white linen.

Another Dynasty III sign which Kahl describes as yellow, but which did not appear in the Early Dynastic texts studied, is the placenta (?) Aa1. This sign later becomes green, from Dynasty V onwards, but this early use of yellow may provide some clue to its correct identification. As yellow in the inscription studied by Kahl is also used as a symbol for wood, the sign may represent some kind of cane-work or wooden sieve, later made from plant fibre (green). This evolution of Aa1 can be seen in most Old Kingdom monuments. From Dynasty III to Dynasty V, yellow with red horizontal lines is the norm, but from Dynasty V onwards, green (often with black lines) becomes increasingly prevalent. Two Dynasty V inscriptions from the mastabas of Ka-Hay and Wer-bauw use both colour schemes. Thereafter, green (sometimes with dark horizontal lines and dark outer ring) becomes the norm, except for one occurrence of yellow with red lines from the Dynasty XII tomb of Sarenput I at Elephantine (Mon.28) which may be an example of provincial archaism.

In the following table, the evolution throughout the Old Kingdom of Aa1 from yellow to green is compared to the same evolution for the two baskets V30 and V31 and also for the hank of twisted flax V28. It is clear from this table that the evolution of Aa1 is closely linked to that of signs

showing rope and basket-work. It therefore appears evident that Aa1 must have been (at least originally) an object made from this material. Two possibilities are a sieve or a basket seen from above.

	Monument	Aa1 Yellow	Aa1 Green	V30 / V31 Yellow	V30 / V31 Green	V28 Yellow	V28 Green
Dynasty III	Nefermaat	X		X		X	
	Atet	X		X			
	Rahotep	X					
Dynasty IV	Wepemnefret	X		X		X	
	Nefret-iabet	X				X	
	Iunu	X				X	
	Meresankh		X	X	X		X
Dynasty V	IryenkaPtah		X				
	Ka-hay	X	X		X		
	Nefer						
	Wer-bauw	X	X		X		
	Akhet-hetep				X		X
	Ptah-hotep		X		X		X
	Fetekty		X		X		X
Sekhentiya				X		X	
Dynasty VI	Idout		X		X		X
	Mehu	X			X		X
	Ankhmerire		X		X		X
Dynasty XII	Sarenput I	X		X		X	
	Sarenput II		X		X		X

Fig. 1. A comparison between the evolving colour scheme of signs Aa1, V30, V31 and V28.

Middle Kingdom (2055-1650)

The Middle Kingdom is at present poorly represented in the corpus, but it is to be hoped that the tombs of Beni Hasan will provide some good examples in the near future. For the moment, a fragment from the funerary temple of Montuhotep II (Mon.55) and the tombs of the Elephantine nomarchs Sarenput I (Mon.28) and Sarenput II (Mon.27) are the only monuments from this period that have been studied here.

The Dynasty XII tomb of Sarenput I (Mon.28) presents an interesting case of archaism. This may be due to the provincial location of the monument at Aswan at a great distance from the new centre of power at Iti-Tawy, or else due to a conscious effort to reproduce the forms and style of the Old Kingdom (Shaw 2000, 147). As can be seen from Fig. 1, the markers of Old Kingdom “plant fibre” signs V28, V30/V31, and Aa1 are all yellow rather than green. The same is true of Q3, a reed stool normally coloured green that follows the same evolutionary trend. Whether this was a conscious desire for archaism or a consequence of provincial conservatism is open to debate.

The tomb of Sarenput II (the grandson of Sarenput I) (Mon.27) shows a return to the canon in use during the later Old Kingdom. The hieroglyphs show a tendency towards great detail (e.g. A12, E11, F1, G43 etc.). The full palette of white, black, red, yellow, green and blue is utilised, with white often used as a symbol of transparency or empty space in signs such as D21, S34, T28 and X8.

Müller records the elephant E26 as being grey (1940, 109), but when compared to other signs from the same inscription (e.g. N29, T28, X1 etc.), it appears simply to be faded black or dark blue. Grey is never clearly distinguished in the database corpus. The few occurrences recorded could quite feasibly be faded blue or black, as here.

Dynasty XVIII (1550-1295)

Dynasty XVIII marks a rise in the frequency of use of polychrome hieroglyphs. No longer are these inscriptions confined to royalty, nomarchs or very high-status administrators. The tomb of Haremheb (TT.78 - Mon.5) is an example of a decorated tomb with polychrome inscriptions, whose owner was merely a royal scribe. Benia, whose tomb (TT.343 - Mon.12) also contains polychrome texts, was an overseer of works. Yet polychrome inscriptions were still prestigious, in that these tombs did not only contain coloured texts but also monochrome ones. Even the tomb of a high-ranking official such as Rekhmire (TT.100 - Mon.39), vizier under Thutmose III and Amenhotep II, is decorated with a mixture of monochrome texts, often painted in green-blue on a pale background, and full polychrome texts. There appears to be no logic in the distribution of monochromy and polychromy in this tomb. Contrary to what one would expect, some profane texts are coloured, whereas some religious ones are monochrome. Perhaps the only reason for this was economic, as painted polychrome hieroglyphs must have entailed a considerable additional cost in man-hours.

This period also shows the first examples of the regular use of coloured backgrounds. The tomb of Userhat (TT.56 - Mon.48) which dates from the reign of Amenhotep II, has an unusual feature. Most of the texts are classic polychrome but the door jambs leading from the outer room to the inner are decorated in polychrome high relief on a deep yellow background. This colour probably represents gold and is a solar symbol, indicative of the high status given to these texts, which contain *ḥtp di nsw* offering formulae dedicated to the gods Amon-Rê, Rê-Horakhty, Osiris, Anubis and Hathor. Although the background colour is strong, no attempt has been made to alter the canonical colours in order to increase the contrast and thus the legibility. This alteration of colour when texts have a yellow background only becomes prevalent during Dynasty XIX.

Another background colour that occurs in Dynasty XVIII is the blue-grey found most notably in the royal tombs of Amenhotep III (KV.22 - Mon.53) and Horemheb (KV.57 - Mon.25). This colour represents the darkness of the underworld - the "*kkwy*" that characterises the nighttime journey of the solar bark, where the deceased pharaoh joins the sun-god Rê on his travels. This nocturnal voyage is the subject of the Book of Gates, whose polychrome texts can be found on the walls of KV.57 as well as on those of the later Dynasty XIX tomb of Ramses I (KV.16 - Mon.35). Again, this blue-grey background tint does not influence the basic canonical colours. However, we do see

an increased use of white as a fill colour which contrasts well with the background. Examples from KV.57 include D54, M18, O1 and S29.

Dynasty XVIII is notable for the increased distinction between the polychrome hieroglyphs found in royal tombs and those found in the private tombs of Abd el-Gurna. Background colours remained neutral in the Gurna tombs (with the exception of the above-mentioned tomb of Userhat), whereas those of the Valley of the Kings were sometimes either blue-grey, as noted above, or gold as in the tombs of Thutmose IV (KV.43)¹, Tutankhamun (KV.62)² and Ay (KV.23 - Mon.58). Gold is a solar symbol, thus associating the deceased king with the sun-god Rê.

The golden yellow background used in the tomb of Ay gives rise to the first signs of problems encountered by the scribe-painters when applying yellow paint to some hieroglyphs. Without high relief to help them, as in the tomb of Userhat, they were forced to change yellow to off-white, to provide sufficient contrast with the background. This can be seen clearly in signs such as the cobra I10 and the viper I9 which would normally be yellow, but which in this case white. The scribe-painters also made much use of a white fill in the usual signs such as O1, S34 and S29. However, they also applied an unusual white fill to signs such as F31. Also uncommon is the use of white in place of yellow in the sign D2. On the other hand, D19 is coloured red with white features, again avoiding the more common use of yellow. One sign that appears to have retained its yellow colouring is the star N14 which is barely discernible against the yellow background. This use of white on a coloured background gives a particular, high-contrast impression that would be applied to the later tombs of Horemheb (KV.57) and Ramses I (KV.16) and would lead on to yet more experiments in contrast that will be discussed in the following section.

¹ NB. No polychrome texts are to be found in this tomb.

² Idem.

Ramesside Period (1295-1069)

Dynasties XIX and XX are particularly rich in polychrome experimentation. This period saw a divergence of styles between royal tombs, private tombs and temples. I will examine each of these separately.

ROYAL TOMBS.

At the beginning of the period, in the tomb of Ramses I (KV.16 - Mon.35), we can observe the same colour scheme, including the grey-blue background, as that used in the Dynasty XVIII tomb of Horemheb (KV.57 - Mon.25). The hieroglyphs are carefully drawn and the colouring is rich and detailed. There is much use of a contrasting white fill, especially in between the legs in human and bird signs such as D54, G39, G43 and M18, as well as in the usual O1, S29 and S34. There are no significant changes in the canonical colour scheme.

It would seem that a change in the *content* of royal tomb inscriptions was responsible for some important changes to the polychrome canon. The religious texts found in the Dynasty XX royal tombs took precedence over the classical imagery of gods and goddesses with their attendant captions. The walls of the tombs now became almost like papyrus rolls with great quantities of texts. This led to a simplification of the hieroglyphic forms and also of the colour schemes. Signs that had once been drawn in great detail were now reduced to the most basic of forms. This is quite understandable, as the cost in skilled man-hours of inscribing and colouring so many signs must have been considerable.

The most noticeable change in the canon during the early Dynasty XX is in the use of a yellow fill instead of white. This may have been as a result of the clear white plaster base on which the signs are drawn. It seems that the use of a fill had become essential, even though it added little to the comprehension or the symbolism of the signs. The earlier white fill worked well on the grey-blue or yellow backgrounds used until then, but another contrast with pure white was needed and yellow most closely matched white, both colours being represented by the word *ḥd* “bright” (FCD 181).

PRIVATE TOMBS.

The two Ramesside private tombs in the database both date from the reign of Ramses II and thus provide a convenient comparison with the temples of Sety I and Ramses II at Abydos. The tomb of Neferonpet (TT.178 - Mon.42) has no coloured images in the database, but the recording of the colours was made *in situ* by myself. The second tomb, that of Nefersekheru (TT.296 - Mon.43), does have accompanying photos of the occurrences.

The striking feature of these tombs is the deep golden yellow background on which the texts are inscribed. This background prevents easy identification of yellow signs, which have consequently been changed to green. All of the typically yellow signs such as D2, G43, I9 etc. are coloured bright green, as are the normally white linen garments worn by the men in Group A. The common green signs such as M17, V30, Aa1 etc. remain green. Blue, always used for Q1, is barely distinguishable. The fill used in signs such as D21, O1 and S29 is white and, along with red, provides the only contrast. The overall impression is therefore one of ubiquitous gold, a colour having enormous symbolic importance in solar imagery. This colour scheme reflects the decoration of the burial chambers of Tutankhamun and Ay and led to its use on non-royal coffins of the later Dynasties XXI and XXII.

TEMPLES.

The two Ramesside temples at present represented in the database are those of Sety I (Mon.59) and his son and successor Ramses II (Mon.51) at Abydos. They were chosen because of the remarkable state of conservation of their polychrome hieroglyphs and for the absence of restrictions on photography.

The first observation is that little has changed in the canon from the polychromy of Dynasty XVIII. Background colours are neutral off-white (Sety I) or natural yellow sandstone (Ramses II). Even where the background is a full golden yellow, yellow signs remain so, despite the lack of contrast and the subsequent difficulty in reading the sign. A good example is the occurrence of the shrine

O18 from Ramses II. The major difference between these Ramesside temples and the royal tombs of Dynasties XVIII and XIX is the total absence of fill colours, either white or yellow. This can be seen clearly in signs normally filled such as D21, O1 and S29.

Third Intermediate Period (1069-664)

THE “YELLOW PERIOD”.

Dynasty XXI is represented in the database by the coffin of Unnefer (Mon.36) from the collections of the Musées royaux d'Art et d'Histoire, Bruxelles (E.5883). This is one of several in the collection (PM I,2, 636), all of which display the same colour scheme. They all come from the cache of coffins of priests and priestesses of Amon, found at Bab el-Gasus in 1891 (PM I,2, 630-641; Daressy 1900). In 1894, some 152 objects were divided into 16 lots comprising four or five coffins as well as mummies and other funerary equipment and were distributed to the major museums of the time (“*des Puissances étrangères*”) (Daressy 1907). All of these coffins date from the end of Dynasty XXI and virtually all display the same gold-based colour scheme (Niwinsky 1988). Not only is the background coloured a rich, golden yellow, but the surface was also protected by a thick varnish which has darkened with age and subsequently heightens the impression³.

Some coffins, such as the one studied here (Unnefer), have an extended palette, with purple featuring strongly in the decoration of the inside of the coffin, but never in the polychrome texts on the outside. The coffin of Unnefer, and most of the others from Bab el-Gasus, display major divergences from the polychrome hieroglyph canon:

- Green is the normal substitute for yellow.
- Green can also be a substitute for white in men's clothing.
- Black, always used for the scarab L1 in the canon, is replaced by dark blue.
- Some signs, such as I10, or complex multi-coloured signs such as R11, are sometimes simply left as red outline drawings instead of (in the case of I10) yellow or its substitute green.
- No fill colour is used.

The palette of these polychrome inscriptions, therefore, for Dynasty XXI yellow coffins, is reduced to red, green and blue.

³ For a fine example with multiple photographic details, see the coffin of Khonsu-hotep, now in the Carlsberg Glyptotek, in Jørgensen (2001, 92-153).

THE REVIVAL OF THE CANON.

Dynasty XXII saw a radical change. The fashion for yellow coffins disappeared during the reign of Osorkon I (922-887). There was a revival of the canon, with some minor changes. The inscription in the database from this period is a mummy board from the collections of the Musées royaux d'Art et d'Histoire, Bruxelles (E.6309) (Penmaât - Mon.52). There is some doubt about the date (Nunn 2015a), as the use of the hieroglyph S57 as an alternative writing of the 2MS suffix pronoun =*k*, may indicate a later period, as does the unique portrayal of men's clothing : one shoulder covered by a shawl⁴. However, the personal name of the father of the dedicator, Nes-pa-her-enty-hat, is typical of the Third Intermediate period (*PN* I, 175, 12). The gods worshipped, Ptah-Sokar-Osiris and Re-Horakhty-Atum, together with their attendant epithets⁵, are also found frequently during this period (*LGG* III, 176-177, 25; *LGG* IV, 633-634). These observations, together with the presence of a white background, provide us with a *terminus post quem* of the reign of Osorkon I.

Some of the changes include gods' robes in for instance A40, until then largely white (apart from yellow and blue used at Ramses II's temple at Abydos), which now become red with a green collar. The same change from a white robe to red can be seen in the sign for a seated woman B1. Another change can be seen in the colouring of many birds, especially G17, until then with yellow wings that now has blue ones. This is probably a metaphor for the bird's association with the sky and becomes a feature of all subsequent inscriptions in the database.

⁴ I have not, as yet, found another example of this feature in any inscription.

⁵ Ptah-Sokar-Osiris is designated *nb štyt* - lord of the sanctuary of Sokar (= the Memphite necropolis). Re-Horakhty-Atum is described as *hnty Iwnw* - paramount in Iunu (= Heliopolis).

Late Period (664-332)

The Late Period in the database is represented by two coffins. One, that of Pefjauneith from the Rijksmuseum, Leiden (AMM-5e) (Mon.33), dates from Dynasty XXVI and is typical of the “Saite revival”, with carefully executed and detailed polychrome hieroglyphs. The full palette of white, black, red, yellow, green and blue is exploited and the traditional canon is almost totally respected.

The other coffin in the corpus is that of Khonsou-Tefnakht from the Musées royaux d’Art et d’Histoire, Bruxelles (E.586) (Mon.31). The *Topographical Bibliography* assigns this work to Dynasty XXVI (PM IV, 125). Speleers, for the Musées, gives Dynasty XXVII (Speleers 1923, 89). The university of Berkeley, the current excavators of the site of el-Hibeh, the provenance of this coffin, dates it to the Ptolemaic period⁶, a choice which I believe is not justified by the style of the hieroglyphs. I have therefore preferred the date proposed by Speleers. This coffin provides some of the most beautifully executed signs in the entire database collection.

These two coffins are amongst the last and finest examples of canonical polychrome inscriptions.

Within just three centuries, scribal knowledge of the canon and the importance of its symbolism began to be lost (or at least modified). This can be seen most clearly in an artefact now in the Cairo museum : the coffin of Petosiris (JE.46592) which probably dates from the end of the Late Period or the beginning of the Ptolemaic Period (PM IV, 169; 174). The artist who inlaid the hieroglyphs with coloured glass paste was obviously more concerned with the aesthetics of his work than by any considerations of canonical “correctness”. Green is substituted for yellow in several signs such as G43 and I9, despite yellow being used elsewhere in the inscription. Green is also used for O34 which is always red in the canon. The inside of D21 is sometimes filled with green whereas the canonical fill colours are white or sometimes yellow. S34, normally dark blue in the canon, is also green. X1, canonical dark blue or black, is found here in green, blue and white versions. Yet many other signs do respect the canon and show that the knowledge was still alive, at least partially, despite the aesthetic preferences of the artist.

⁶ <http://neareastern.berkeley.edu/hibeh/references.htm> last accessed 26/9/2016.

Ptolemaic Period (332-30)

Although the Ptolemaic period does not feature in the database and therefore falls outside the scope of this study, it is interesting to examine some of the canonical modifications that can be observed. For this purpose, Drs. Michèle Broze and René Preys have kindly granted me access to some data that they gathered during a study of the gateway of the second pylon at Karnak⁷. The inscriptions date from the reigns of Ptolemies IV, VI and VIII (c.221-116) and have conserved some of their polychromy.

The first observation is that the canon is largely respected, even though black and white have been lost from the palette. The scarab L1, always black in the canon, is now blue : the closest colour in the Egyptian spectrum and the one most often substituted for black in signs such as water N35 and land N16. There is a total absence of fill, a role normally devolved to white.

Although most signs adopt the canonical colours, there are some notable exceptions:

- D2, yellow in the canon, is found here as red.
- I10, mostly yellow in the canon, is blue or green/blue.
- M17 is found here with a red edge to the leaf, something never seen in the canon.
- O1, canonical dark blue, is here red, yellow or green.
- O29, red in the canon, is here both red and blue.
- Q1, nearly always blue in the canon, is here coloured red.
- Q3, can here be red. instead of canonical yellow and green.

⁷ Awaiting publication.

- V30, so stable throughout the previous two millennia in green/blue, is found here in red, yellow, blue and green versions.

It is difficult to find an appropriate explanation for these changes, apart from a partial loss of scribal knowledge of the canon. It is unlikely that these variations reflect the formulation of a revised canon, as some signs, such as O1 or V30, present multiple variants which do not appear to represent a meaningful signified.

The final blow to the classic polychrome canon can be seen in the temple of Dendera. The astronomical ceiling of the outer hypostyle hall (PM VI, 49), which dates from the reign of the Roman Emperor Tiberius (14-37 AD), demonstrates a major departure from the canon and its symbolism. Light blue predominates, with other colours used indiscriminately, sometimes for the same sign. In fact, blue was so prestigious at this time, that even the white and red crowns could take that colour (Baines 2007, 252 and note 23). The importance of a more or less fixed canon has obviously diminished. Individual signs may reflect a new semiotic, but the significance of certain choices remains outside the scope of this study. What is certain is that the scribal knowledge of the classic polychrome canon must have been lost sometime around the Roman conquest.