Color terms in ancient Egyptian and Coptic

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The examination of the ancient Egyptian-Coptic color terms, their grammatical identi-
fication, their range of usage, and their etymologies permit the following conclusions:
There are four BCTs, all verbs, 'black,' 'white,' 'red' and 'green,' as traditionally translated.
The focus of 'red' is in the red range and not in the middle of the red-with-yellow range.
The focus of 'green' lies in the green range and not in the middle of the green-with-blue
range nor in the pale green range. In the final, Coptic, stage, the partition of the red range
into 'deep red' and 'light-red' must be assumed. The traditional written language allowed
additional place for further verbal color terms, but these never entered the colloquial
language as BCTs. Among these alternatives, the use of 'lapis lazuli-colored, blue' is strik-
ingly common; that of 'charcoal-like, black' and 'golden' is less common. Egyptian did not
develop a BCT for either blue or yellow. Basically Egyptian-Coptic remained at B&K Stage
IIIa.

1. The ancient Egyptian and Coptic color terms in Egyptological discussion

In a discussion published well before the fundamental work of Berlin and Kay (1969), I
concluded that ancient Egyptian and Coptic had four widely used *abstract* color terms
(Schenkel 1963): 'black' (*kmm*), 'white' (*ḥč*), 'red-with-yellow' (*tšr*), and 'green-with-
blue' (*w3č*), all of which were verbs ('to be black,' etc.). Based on morphological features,
a word for 'yellow' was also postulated, but only in Coptic; etymological research has
since revealed that this was actually another word for 'red' (Coptic *mroš* etc. < Egyptian
mrš/mlš/*mnš). All of the other color terms used in the comprehensive dictionary of the
ancient Egyptian language (Erman & Grapow 1926–1963) are concrete in the sense that
they only refer to specific categories of objects, as blond is generally used for hair, beer
and tobacco in some European languages, or they link the color with an object, as with the
Egyptian word for the semi-precious stone lapis lazuli (*ḥsbč*) (noun), from which *ḥsbč(.î?)*
(adjective) 'lapis lazuli-like, blue' is derived.

A decisive impetus for my original project was *content-related linguistics* as represented
by Leo Weisgerber, who had an influential role in Germany, far beyond the University
of Bonn, where he was one of my teachers. Weisgerber stressed semantics – in contrast
to the then-dominant structural linguistics, which stood in opposition to semantics (al-
though the marginal Sapir–Whorf hypothesis enjoyed some support in the US). Strands

of structural linguistics were, however, also included. One of the objectives was to orga-
nize the meanings of words through systems of opposition (semantic field theory), one of
the principal examples of which were the *color words*, one of the few areas of vocabulary
where the efforts were clearly successful, and my efforts must be understood in terms of
this structural approach.

Content-related linguistics perceived the world as linguistically divided. Colors were
not natural, but rather determined by language, and this, in turn, steers the behav-
ior of humanity with regard to reality. The original essay also delved into the striking
color substitutions in ancient Egyptian painting, which were documented but assumed
to be without purpose. The specific cases were those where one and the same object was
painted alternatively, sometimes red/sometimes yellow, or sometimes green/sometimes
blue (Smith 1949; Williams 1932). The logical conclusion seemed to be that red & yellow
and green & blue were not distinguished in language and thus that, although the Egyp-
tians could distinguish the hues visually, the objects could be painted with different hues
where the depiction did not depend upon the hue. In reality, of course, the link between
the language-based denomination of the color to be depicted and the choice of a color
cannot possibly be so simple. In any case, the choice of colors depended upon the mate-
rials available, which depended upon nature and technology. I would doubt the opposite
contention, namely that the choice of colors depends exclusively upon the colors available
(Blom-Böer 1994). The Egyptian artist would always have viewed the conceptual image
as decisive, whereas the visual impression would have been less important. This can be
illustrated by another example, neglect of the laws of perspective. An object in an ancient
Egyptian image can be *unfolded* so that it can be simultaneously viewed from different
angles, defying the principles of time and space. In the same fashion, the conception of
a color was decisive in selection, meaning that the categorical classification must have
matched a color term, which was mentally present. The issue of color substitutions merits
a new study. I would advocate that my own statistical estimates of color substitutions in
ancient Egyptian paintings should be replaced with more reliable data, but this must be
left to our colleagues who are more competent in the study of painting. This is not the
issue here, however, as we are concerned with color terms.

The Egyptological literature did not immediately seize upon my suggestion that a dis-
tinction be made between abstract and concrete color terms. Hermann (1969: 362–373)
even suggested that the idea of the Egyptians having only four abstract color terms was
itself mistaken. He was unable to accept that 'red' could also be 'yellow' or that 'green'
could also be 'blue,' or even that 'black' could also be 'gray.' He did, however, point out (as
I did) that the Egyptian language permitted one to refer to yellow or blue by referring to
an object or substance of the relevant color. He did not accept the concept of a categor-
ical distinction between the abstract color words and other forms of color specification.
Hermann also suggested that there was a significant problem in the discrepancy between
the limited number of abstract color terms identified as opposed to the number of col-
ors visible in Egyptian art. No less conciliatory was the response of Brunner-Traut (1977)
who (like Hermann) composed a list of color terms (and substances) which was based on
German, and not Egyptian, so that the equivalents are the German abstract terms, sup-

plemented by references to substances (e.g. 'ochre colored' or 'lapis lazuli colored'). The linguistic approach thus met with no understanding.

The question of the meaning of the color terms was again taken up by Baines (1985), who was able to build on the theoretical structure established by Berlin and Kay (which would also have been possible for Brunner-Traut, had she not excluded theory from the outset). Baines concluded that Egyptian had four basic color terms (BCTs), 'black' (*kmm*), 'white' (*ḥč*), 'red' (*ṭšr*), and 'grue' (*wȝč*), which are clearly the same as those abstract color words (based on the terminology of an earlier school) presented in my 1963 paper. Baines was able to place this into a more universal linguistic system and thus to classify the ancient Egyptian language at Berlin and Kay Stage IIIa.

Unfortunately, the confusion between linguistics and pigments in the world of color was not eliminated from the Egyptological literature by Baines's use of Berlin and Kay. It remains a fact that the linguistic insights of Blom-Böer's (1994) work are not at the same level as her knowledge of pigments.

In his explanation of the Egyptian color terms, Warburton (2007) stresses the relationship with the real world, but also including Berlin and Kay and the subsequent discussion, including Baines. According to his version, the ancient Egyptian terms are really related to the colors of specific materials, namely precious stones, from which the terms would be etymologically derived. There would thus be at least initially no abstract color terms, but only concrete terms, so that, say, 'grue' (*wȝč*) would thus originally at least mean 'malachite-like' or 'malachite-colored.' Clearly this explanation does not contradict Berlin and Kay: it is entirely reasonable to assume that in prehistoric times Egyptian stood at a lower level of development than the historical Stage IIIa. It is conceivable that the terms must have been derived from something, and minerals are thus a reasonable suggestion. It is, however, an entirely different matter when suggesting that the relationship between the color words and the colors of minerals continued into historical times. The extent to which the connection can be etymologically assumed remains to be discussed in the following paragraphs and in Section 4.

We will divide the matter into three issues:

1. The issue of color terms in general and particular usage. The discussion will be based upon the range of use dependent upon their roles as parts of speech, as a criterion for distinguishing BCTs and nonBCTs (Section 2);
2. The issue of the general meaning of the color terms and the determination of their specific focus (extension vs. intension) (Section 3);
3. The question of the etymologies, in Afroasiatic (Section 4).

Note that in the following discussion of ancient Egyptian matters, references to ancient Egyptian texts (requiring a knowledge of ancient Egyptian and familiarity with text editions) will be cited in a fashion familiar to Egyptologists. These Egyptological references are marked → and are not listed in the References (most of them can be found in Erman & Grapow 1926–1963; Helck & Westendorf 1992).

2.   The basics: Parts of speech of the ancient Egyptian color terms

2.1   General notes on the parts of speech

Color terms in Egyptian and Coptic are either verbs or adjectives. For example, *ṯšr* is a verb 'to be red,' while *ḥsbč(.ỉ?)* is an adjective, 'relating to lapis lazuli, lapis lazuli-like, blue.' Verbs form participles, and thus adjectival verb forms. For example, *ṯšr* 'to be red' forms an active participle *ṯšr* 'being red,' and, simplified, an adjective, 'red.' Verbal color terms can thus appear in any syntactical context where nonparticipial adjectival color terms can be used. Nonparticipial adjectival color terms, however, can only be used in adjectival roles.

In Egyptian, all adjectives can be used attributively, and also generally as predicates. One can form the nominal phrases *ỉr.t ṯšr.t* 'red eye' and *ỉr.t ḥsbč.t* 'lapis lazuli-like/blue eye' from the verb *ṯšr* 'to be red' and the adjective *ḥsbč(.ỉ?)* 'lapis lazuli-like, blue' (where the 't'-suffix is merely the feminine ending required to render the adjectives congruent with the *ỉr.t* 'eye,' which is feminine). Adjectives can also be used as predicates, e.g., *ṯšr ỉr.t* 'the eye is red' or *ḥsbč(.ỉ) ỉr.t* 'the eye is lapis lazuli-like, blue.' The Egyptians particularly favored constructions linking an adjective and a defining substance, whereby grammarians are not in agreement as to whether the usage is adjectival or predicative: *Ḥr.w ṯšr ỉr.tỉ* 'Horus with the two red eyes,' *Ḥr.w ḥsbč(.ỉ?) ỉr.tỉ* 'Horus with the two lapis lazuli-like/blue eyes.' These can thus be understood as 'he who is red (blue) with respect to the eyes' (adjectival) or 'he whose eyes are red (blue)' (predicative). Verbal color terms can serve as adjectival predicates using adjectival participles, but they can also be used as verbal predicates, and thus in syntactic roles available only to verbs. Even if it is rare, verbal color terms can also be used in different tenses, which is impossible for adjectives. Summarizing, we can say that verbal color terms can be used more flexibly than nonparticipial adjectives, and thus it can hardly be accidental that the ancient Egyptian BCTs were verbs: *kmm, ḥč, ṯšr, w3č,* 'to be' 'black,' 'white,' 'red' and 'green,' respectively. Additional verbal color terms will follow, Subsection 2.3.

The parts of speech are also important for color terms since Egyptian-Coptic gradually lost the derived adjectival forms while retaining the category of the verb. In Coptic, the final stage, the adjectives are only preserved as relics. The paradigmatic link between the verbal color terms and the original derived participles and the possibility of using nonverbal color terms in predicative function was lost. Verbal color terms could no longer be used attributively (although adjectival relative clauses with verbal predicates could). The BCTs were thus all available as verbs (whereby individual words were replaced and a fifth BCT was added), but not the original adjectives. The verbal color terms were thus more stable in terms of the history of language.

The digitalized slip archive (→ DZA) of the Egyptian-German Dictionary (Erman & Grapow 1926–1963) of the Berlin-Brandenburg Academy of Sciences and Humanities [http.//aaew.bbaw.de/tla/] provides most of the important information beyond that of the dictionary (Erman & Grapow 1926–1963).

2.2   Explicit statements about the colors of objects

The abstract color terms appear as verbs in statements about the color of objects. Other indications of color, particularly with reference to minerals, are nonverbal. The situation is particularly clear in the schematic formulae of the so-called laboratory of the Ptolemaic temple at Edfu. From the prescriptions we shall – in the sense of the points discussed below Section 3 – seek those statements describing the colors of objects in the real world (→ Edfou II, 205ff.). The rules will be confirmed by additional references supplementing those from Edfu.

The following verbal BCTs are found:

> *kmm* 'to be black';
> *ḥč* 'to be white';
> *t̠šr* 'to be red';
> *mrš* 'to be (light-?)red' (for the meaning, see Section 3).

The word *wꜣč* 'to be green' is not found here, which can be explained as accidental, but perhaps also because the colors in the green–blue range are more precisely distinguished with references to minerals.

As minerals and other objects can be found:

> *nb(.w)* 'gold';
> *sꜣ(.wi)* 'two-thirds gold' (an alloy);
> *nb.w n(.i) sp-3* 'gold of the third quality';
> *nb(.w) nfr n(.i) ḥꜣs.t* 'fine Desert Gold';
> *ḥrs.t* 'carnelian' (which thus had a different color than the *t̠šr* 'red' found in the same textual context, possibly a yellow variety);
> *nšm(.t)* 'green feldspar' (casual reference, → Turin Cat. 1966 [love songs], rto. 2, 4, probably for green);
> *ḥsbč* 'lapis lazuli';
> *čnḥ n(.i) sft* 'the color of the wings of the *sft*-bird' (species undetermined).

In detail, the situation is as follows:

1. BCTs (verbs):
a. Clause with verbal predicate (Old Perfective):

iwn=f 'its color':

> *km(.w)* 'is black' (→ Edfou II, 208, 1), *km(.w) nḥt* 'is dark black' (→ Edfou II, 207, 12–13; 207, 14–208, 1);
> *ḥč(.w) nḥt* 'is bright-white' (→ Edfou II, 207, 1);
> *t̠šr(.w)* 'is red' (→ Edfou II, 205, 16; 206, 6; 206, 16; 207, 12–13; 207, 13), alongside
> *iwn=f pw: t̠šr* 'that is its color: red (or: being red?)' (→ Edfou II, 205, 14);
> *mrš(.w)* 'is (light-?) red' (→ Edfou II 206, 1).

b. Attributive participle/adjective:

ḥr(.t)(?)=w m 'their character consists of':

iwn tšr 'red color' (of mountains where gold is found) (→ Turin gold mine map [ASAE 49:340]).

2. Concrete color terms (colors of minerals):

a. Clause with nonverbal (adverbial) predicate; identification with mineral:

iwn=f m 'its color consists of':

> *nb(.w)* 'gold' (→ Edfou II, 205, 13; 205, 14; 206, 5; 206, 9);
> *ḥrs.t* 'carnelian' (→ Edfou II, 206, 3);

iwn=sn m 'its color consists of':

> *s3(.wi)* 'two-thirds gold' (an alloy) (→ Edfou II, 217, 4, not in the context of a prescription);

also nonminerals as comparative material:

iwn=f mi 'its color is like that of':

> *iwn ⟨n(.i)⟩ čnḥ ⟨n(.i) sft* 'the color of the wings of the *sft*-bird' (→ Edfou II 207, 7, corrected after 207, 11).

b. Indication of minerals in noun phrase:

'something is' *mi* 'like':

> *iwn n(.i) nb(.w)* 'the color of gold' (→ Edfou II, 207, 8; 207, 10; presumably also 207, 8;
> *iwn ⟨n(.i)⟩ nb(.w) ḥnᶜ ḳᶜ* 'color of gold and ḳᶜ -mineral';
> *iwn n(.i) nšm(.t)* 'the color of green feldspar' (→ Turin Cat. 1966 [love songs], rto. 2, 4);
> *iwn n(.i) ḥsbč* 'the color of lapis lazuli' (of a lake) (→ Nauri-Decree [JEA 13, Pl. XL], 11);

'something is' *m* 'consisting of':

> *iwn n(.i) nb.w n(.i) sp-3* 'the color of gold of the third quality' (of copper) (→ pHarris I, 78, 4–5);
> *iwn ⟨n(.i)?⟩ nb(.w) nfr n(.i) ḫ3s.t* 'the color ⟨of⟩ fine Desert Gold' (of copper) (→ pHarris I, 47, 4);
> *iwn ⟨n(.i)?⟩ nb(.w)* 'the color ⟨of⟩ gold' (of copper) (→ pHarris I, 6, 9);

here also a comparison with nonmineral:

> *iwn ⟨n(.i)⟩ čnḥ n(.i) sft* 'the color of the wings of the *sft*-bird' (→ Edfou II, 207, 11).

2.3 Color statements about objects

In statements about the colors of objects, the BCTs generally appear as participles or adjectives, but occasionally in nonadjectival verbal forms, confirming their verbal character. Concrete color words and nonbasic color terms are also used as adjectives, as may be expected. There are, however, some cases opposing the basic rules. The usage was not consistent throughout the history of the ancient Egyptian language. For etymological reasons (more in Section 4) verbal usage cannot be assumed for the early period; the usage

cannot be precisely defined. It must also be excluded for Coptic, the latest phase of the development of the language. The issue of those textual contexts where verbal forms appear is thus even more interesting: These are neologisms in the traditional written language, not the colloquial.

The following can be deduced from the statements about the color of objects:

1. BCTs (verbs, participles):

a. *kmm* 'to be black':

The word is generally used as a participle or adjective, even as a predicate. There are, however, also references in which the word is used in a nonadjectival inflection at an epoch when the adjectival category was still existent:

> "Keep (imperative form, meaning Aton) him (i.e., the king) here (i.e., among us) until the swan (?) turns black (*r km*), until the crow (?) turns white (*r ḥč* or *r ḥč.t*), until the mountains stand up to go, and until the flood flows backwards, ..." (→ Amarna III, III, 6; XXIX, 10–13 (Synopsis: → Sandman, Texts from the Time of Akhenaten I, 9, 6–9));
> 'so as to cause thee to be black (*wn=t km.tỉ*) like Horus, and red (*tšr[.tỉ]*) (like Seth).' (→ pChester Beatty VII, rto. 8, 4);
> 'he is red(brown?) (*wn=f tšr(.w)*), but not (entirely?) black (*n km=f*)' (→ Edfou II, 208, 4);
> 'his color is red(brown?) (*ỉw=f tšr(.w)*), and he is very black (dark?) (*wn=f km(.w) nḫt*)' (→ Edfou II, 207, 12–13).

Additional references are in Subsection 2.2 above.

In Coptic the verb was still used, being fully inflected (infinitive and qualitative, *kmom* etc.). The participle is preserved as a relic (*kam* etc.).

b. *ḥč* 'to be white,' later *wbḫ* 'to be white':

The verbal character of the color word *ḥč* 'to be white' cannot be shown with equal clarity or even the same abundance as earlier. Aside from the specific meaning of a color word is the more general meaning 'to become bright' (meaning 'dawn'), and in later texts the meaning even appears as 'to shine' as the activity of the light of the sun. The verbal use is common in this general meaning, and can be seen in the reference just cited for black, and in Subsection 2.2 above.

Only the adjectival form of the word is preserved in Coptic (*hat* etc.). The verb is replaced by another, which only appeared in the course of the historical development of the language:

wbḫ 'to be light, to shine'.

This only appears in the latest form of Egyptian using the original script (Demotic) as a color word for white and is then used in Coptic in place of *ḥč* 'to be white' (*oubaš*). The Coptic also used the adjectival relic of this verb (*ouōbš*).

As an adjective, and exclusively as an adjective, for white Coptic uses another neologism, **cnw* 'beautiful' (?) > Coptic *alaou* 'white' which has not been discovered in any pre-Coptic stage of the language; even the origin of the word remains doubtful.

c. *tšr* 'to be red':

The word is generally used as a participle/adjective, even as a predicate. There are, however, also references where the word is used in a nonadjectival inflection at an epoch where the adjectival category was still in use:

> 'But as for any future king who shall overthrow any of my plans, and just says: 'The lands are under my authority (anyway), and they are mine as they were his,' – (this will be) a bad thing in the opinion of the gods. See, he will be accused (*mk tw=tw r wšb=f*) in Heliopolis – they (i.e., those of Heliopolis) are the Divine Tribunal ... they will defend (*ỉr=sn wšb*) their property. They will become red (*tšr=sn*) as firebrands, so that they may burn up (*snwẖ=sn*) the bodies of those who fail to heed me; and they will consume (*st r sswn*) whoever upsets my plans, to cast him (down) on the slaughtering-block of the Netherworld.' (→ KRI I, 69, 2–6, after → KRI Translations I, p. 59; although one could structure the text differently, it is a future verbal form: 'they will become red' or 'they will be red' of the suffix conjugation and not an adjective *'they are red.');

> 'his body is red (*ẖ .t=f tšr*) like the color of gold' (→ Edfou II, 207, 8.).

Additional references have already been cited under *kmm* 'to be black':

> 'he is red(brown?) (*wnn=f tšr[.w]*), (but) not (entirely?) black (*n km=f*)' (→ Edfou II, 208, 4);

> 'his color is red(brown?) (*ỉwn=f tšr[.w]*), and he is very black (*wn=f km[.w] nẖt*)' (→ Edfou II, 207, 12–13).

Although partially restored, a reference cited above ('black like Horus,' 'red like Seth,' → pChester Beatty VII rto. 8, 4) is also highly indicative.

The verbal usage was also demonstrated in Subsection 2.2.

In Coptic the verb was in use, fully inflected (infinitive and qualitative *tōrš, torš* etc.), the participle surviving as a relic (*tōrš* etc.) (Crum 1939: 432). In addition, a reduplicating verb (*trošr(e)š*) is more frequent in Coptic (Crum 1939: 432), although unknown from Egyptian:

tšršr, Coptic *trošr(e)š* 'to be very (?) red' (for more detail, cf. Section 3 below).

An additional Coptic neologism is:

mrš/mlš/*mnš, Coptic *mroš* etc., and the like, Coptic 'to be (light-?)red' (for details, cf. Section 3 below).

This is already known occasionally from Roman Egyptian (Demotic) as an adjective, but it became a verbal color term (*mroš*); the adjective also survives in Coptic (*mērš* etc.).

d.   *wȝč* 'to be green':

Although doubt may be thrown onto the verbal character of the color term, the word also means 'to be fresh, to prosper,' where the verbal character cannot be doubted. It is therefore difficult to isolate cases where the use of the color term as a verb can be claimed with certainty. On the other hand, logic would suggest that the verbal character of the color term can be assumed, based on the verbal character of the alternative meaning.

The word is preserved in Coptic with the same range of meanings as in Egyptian (*ouōt* etc.).

2. Concrete/Nonbasic color terms unknown in colloquial Egyptian and in Coptic, which was closer to the colloquial:.

a. *č⸢b* (factitive) 'to render like charcoal, to blacken':

A verb *č⸢b* can be found in the literary language of the New Kingdom (Erman & Grapow 1926–1963: V, 536, 4), but the verb is unknown in Coptic:

> (label of a god) 'he who makes the body black (charcoal-like) with charcoal' (participle *č⸢b* with verbal actants) (magic spells in medical texts: → pHearst 11, 13; → med. pLondon 16, 8)

b. *ḥrs* 'carnelian-like,' 'to be red':

The word, *ḥrs* 'carnelian-like,' 'to be red,' is found in Ptolemaic-Roman literary Egyptian. It is also used with respect to the eyes, metaphorically in the sense of 'being angry or furious' (like *ṯšr* 'to be red'), or 'gleaming, glittering.' It is not found in Coptic. Examples (Erman & Grapow 1926–1963: III, 151,1–2; more references → DZA 27266750 ff.):

> (caption above Horus of Edfu) 'whose two eyes are carnelian-like/red' (→ Edfou I 31, 8, participle *ḥrs* in a verbal relative construction);

with factitive meaning:

> 'I make my two eyes carnelian-like/red (*ḥrs(.ỉ)=ỉ*), I make my two eyes red like *ỉns.ỉ* textile (*ỉns=ỉ*)' (→ Edfou VI, 75,7–8; also 178, 3).

This quote also includes an example of the word *ỉns.ỉ* 'red,' known from Ptolemaic-Roman literary Egyptian (Erman & Grapow 1926–1963: I, 100, 5), but not from Coptic.

c. *mfk…* 'turquoise-like,' 'to be green' (?):

The verb *mfk* is known from the Ptolemaic-Roman literary language with the meaning 'to be glad, joyous,' strictly speaking, 'to shine' (Erman & Grapow 1926–1963: II, 58, 3–5, but cf. also II, 58, 2), the meaning of which3 is derived from the glitter of faience, *mfk3.t(ỉ?)* 'turquoise-like.' References where *mfk* can be understood as a verb include the participle in most cases, and thus the adjectival usage, but this could easily be a nonparticipial adjective. It would thus follow that no specifically verbal color term *mfk* can be identified (Erman & Grapow 1926–1963: II, 57, 9–58, 1, and more detailed → DZA 23998820ff.). This does not, however, definitively exclude a verbal color word *mfk* 'to be green.' In any case, such a word is not found in Coptic.

d. *ḥsbč* 'lapis lazuli-like, blue':

A verb *ḥsbṭ* (< *ḥsbč*) 'lapis lazuli-like, blue' is found in literary Egyptian from the New Kingdom and the Ptolemaic-Roman period, but not in Coptic.

References from the New Kingdom (Erman & Grapow 1926–1963: III, 334, 20):

> 'Nut (i.e., the personified heaven) is behind you (i.e., the sun-god, the sun), lapis lazuli-like/blue (*ḥsbt.tỉ*).' (→ BD Naville, 15A, II 8);
> 'Nut enters lapis lazuli-like/blue (*ḥsbt.t(ỉ?)*) behind you.' (→ TT 65);
> 'Your (i.e., the deceased to whom the text was directed) head is lapis lazuli-like (*ḥsbt.y*),

your hair is blacker than the doors of any star when eclipsed. Your hair places (?, *šᶜm.w*) lapis lazuli over your face' (→ BD Naville, 172, 12).

References of Ptolemaic-Roman date with factitive meaning (only verb and object):

> (of the sun) 'who renders the fields lapis lazuli-like/blue (!) with his rays' (→ Edfou I, 106, 2–3, participle *ḥsbṯ*);
> (of the sun) 'who renders his fields lapis lazuli-like/blue (!)' (→ Edfou I, 71, 11, participle *ḥsbṯ*).

e.   *čfrr* 'to be lapis lazuli-like, blue':

A verb *čfrr* 'to be lapis lazuli-like, blue' is known from the literary Egyptian of the Ptolemaic-Roman period (Erman & Grapow 1926–1963: V, 300, 4), but not in Coptic:

> '(fields) being lapis lazuli-like/blue (*tfrr.{w}(?)t(ἰ?)*) with (the plant) color-of-heaven (i.e., blue blossoming flax)' (→ Edfou IV, 31, 109,10–11; → Dümichen, Geogr. Inschr. IV, 118), on 'flax' (cf. Meeks 1972:116).

2.4   Summary

Examining parts of speech that constitute color terms yields:

1. In all periods of the Egyptian language, four verbal color terms were in use, viz., 'to be' 'black' (*kmm*), 'white' (*ḥč*, later replaced by *wbḫ*, Coptic *oubaš* etc.), 'red' (*ṯšr*), and 'green' (*w3č*);

2. Beginning in the latest stages of the Egyptian language, the red range is partitioned into two verbal color terms (to be specified below, Section 3): red (*ṯšr*), more precisely '(deep-?) red' (**ṯšršr*, Coptic *trošr[e]š*), and '(light-?) red' (*mrš/mlš/*mnš*, Coptic *mroš* etc.);

3. At various times, the traditional literary language also formed verbal color terms based upon materials, including '(dark-?) green,' and above all in the blue range. These latter are strikingly common. On the other hand, there are no terms which separate a yellow range from the red range.

3.   The identification of the meanings of the ancient Egyptian-Coptic color terms

3.1   Prolegomena

The philologist studying the texts of a dead language approaches the meaning of a word initially through its use and its extension. Philology can establish the objects to which a color term is applied. The philologist's ability to reach the goal depends upon the sources. The absence of a native speaker means that further confirmation cannot be marshaled. One additional restriction under which the Egyptologist must work is that he can only turn to real objects for orientation whereas the texts deal largely with nonreal objects whose colors cannot be examined. It does not help him to know that the eye of the god Horus can be white under certain circumstances, but also green, nor that there is a Horus

with red eyes and a Horus with lapis lazuli-like or blue eyes. With white and green it is not even possible to be certain that the colors are meant, rather than that the expressions perhaps refer to shining and flourishing. Nor is it possible to be certain about the color of real objects because it is not certain that a color aspect is the primary issue, and in the case of, say, textiles, we may have a recognizable color reference, but not the actual original color of the object, quite aside from the constant danger of an ancient error, where objects will have had different colors in reality.

In the earlier work (Schenkel 1963), the decisive criterion of the distinction for the purely abstract color words, the BCTs, was range of usage, the number of objects distinguished by a color word. It made no difference whether the color of an article could be empirically determined or not. The range of abstract color words was reached by two steps, establishing the translation equivalents in the German-Egyptian dictionary (extension) was followed by the projection of the semantic field of the abstract color terms onto the real world of color (the Ostwald Color Cone) in such a way that the abstract color terms thus covered the real world (intention).

Having recourse to the German Egyptian-German dictionary was legitimate because the definitions were inferred from the references, with the Egyptian usage in describing the world being given the primary role. This dictionary had the further advantage that discrepancies between the scope of the definition of a word and its translation equivalent were given a central role. Although certain dangers remained, the German Egyptian-German dictionary clearly established that the focus of the term for the warm (red-with-yellow) range lay in red, and the focus of the cool term in green. Since the main volumes of the German Egyptian-German dictionary were completed in 1931, there was no possibility of influence from Berlin and Kay. At the same time, projection onto the color cone distorts linguistic reality as far as it does not take into account the focus of the color words, but rather is a regression with respect to the earlier philological work.

Up to present, the discussion of the identification of color terms has neglected the distinction of whether (1) an object is designated with a color word or a derivative, or (2) is characterized using the color word. It is a designation when desert is described as the red (tšr.t). Such – presumably prehistoric – designations cannot be pursued, but they do not necessarily reveal the actual meaning which the color term has in the textual traditions of the historical period. It can be possible that the focus of the color word has shifted (see Section 4), and thus the desert differs from the focus of the color word known in the historical period (red). The real pertinent meaning of a color word is certain where an object is assigned a color, whether in the form of a predication or as an attribute.

3.2   Extension of the Egyptian color words

Note that only the specific references are cited here. References to the German Egyptian-German Dictionary (Erman & Grapow 1926–1931) can be found in Schenkel (1963: 140–143) and Brunner-Traut (1977: 118ff.).

3.2.1   Basic color terms

1. kmm 'to be black/dark gray/brown':

Characterisation of real world objects:

> Dark gray granite described as ỉnr km 'black stone' (Erman & Grapow 1926–1931: V, 123, 4; more references in → DZA 30595160 ff.; on granite, cf. Harris [1961: 72–74]);
> Flint;
> The lizard (→ pEbers 66, 18);
> The sun-burnt harvester;

Designations of real world objects:

> Km.t 'Egypt,' the dark gr. arable land of the Nile Valley in contrast to ṯšr.t 'desert';
> The black of the pupil in the eye.

2. ḥč 'to be white, light':

Characterizations of real world objects:

> Limestone, described als ỉnr ḥč 'white, light stone';
> Sandstone, described as ỉnr ḥč n(.ỉ) rwč.t 'firm light stone'; in opposition to Warburton (2007) I understand ỉnr ḥč n(.ỉ) rwč.t to be 'white/light firm stone,' a stone which is light like limestone, but harder);
> Milk;
> Honey;
> Bread (t ḥč 'white bread');
> Teeth;

Designations of real world objects:

> Silver;
> ḥč.w 'onions';
> ḥč.t 'the white of the eye' (in contrast to the 'black' pupil);
> ḥč.t 'the white crown' (of the king).

3. ṯšr 'to be red/brown/yellow':

Characterizations of real world objects:

> Carnelian/sard/chalcedony: Archaeologically discovered objects are flesh-red or reddish brown, in Middle Kingdom and New Kingdom also yellowish (Nicholson & Shaw 2000: 27). ḥrs.t ṯšr.t, traditionally translated as 'red carnelian' characterizes the darker variety (contrast to ḥrs.t ḥč.t) (Harris 1961: 121) and thus probably red to brownish (Nicholson & Shaw 2000: 27) sard (e.g. → pEbers 10,11);
> Natron: ḥsmn ṯšr, traditionally translated as 'red natron,' "refers to red natron, so coloured by some impurity, presumably an iron compound" (Harris 1961: 195);
> Myrrh: yellow to brown bits;
> The medical description of 'being red,' and the derived word form ṯšr 'reddening';
> Sandstone: čw ṯšr, Arabic al-Jabal al-ahmar, 'the red mountain' near Cairo, a sandstone ridge as an island in a limestone formation;
> Mars, the red planet, personified as Ḥr.w ṯšr, traditionally translated as 'the red Horus' (Erman & Grapow 1926–1931: V, 489, 7);

Designations of real world objects:

Blood, especially *ṯšr.w* 'blood';
The sandy desert in *ṯšr.t*, 'mountain land, desert, savannah (?)';
The flamingo: deduced from the hieroglyphic sign with the phonetic value *ṯšr*;
ṯšr.t 'the red crown' (of the king);
mrš/mlš/*mnš, Coptic *mroš* etc. 'to be (light-?)red.'

The word is common in Coptic. The dictionaries vary in indicating the meaning between red and yellow, or intermediate tones, bright red and blond have also been used as translation equivalents. In determining the meaning in the recent literature, the etymological association with the Egyptian word, *mnš.t*, for a kind of ochre has played a major role. Whereas the earlier literature interpreted it as yellow ochre (also Schenkel 1963), red ochre is increasingly preferred (cf. Baines 1985).

The references in the Coptic Dictionary compel a definition in the red range, but a more precise determination is difficult since the Coptic translations of Greek do not seem to consistently distinguish *mroš* and the other words for red (*tōrš* etc., *trošr(e)š*) (Crum 1939: 183). This makes an Arabic translation which is not in the Coptic Dictionary more interesting. Jürgen Horn drew my attention to a Greek-Coptic-Arabic word list (Scale) where the Coptic adjective *merš* is translated into Arabic as ʾšqar (→ Paris, BNF, Copte 44, fol. 66 vso., ll. 46 and 56) and thus something like 'fair-complexioned, blond, reddish' (among translations in Wehr 1979:562). Another Greek translation points in the same direction: *zanthōr* (read *xanthón*) (→ Paris, BNF, Copte 44, fol. 66 vso., l. 56) which the Greek dictionary defines as "yellow, of various shades, freq. with a tinge of red, brown, auburn" (Liddell & Scott 1940:1187b).

4.   *w3ḏ* 'to be green':

Characterizations of real objects:

Malachite and other green stones;
Green eye paint;
Plants, particularly papyrus;
Occasionally and not certain: the sky (→ Philae I, 160, 5–6);

Designations of real objects:

The sea called *w3ḏ wr*, 'The great green.'

3.2.2   Concrete color words/NonBCTs

For *ins, mfk, ḥrs, čᶜb* in characterizations of nonreal objects, see Section 2.

1.   *čms* 'red' or the like:

Characterization of real objects, as variant of *ṯšr*:

The medical finding of reddening;

Designation of real objects, as variant of *ṯšr*:

The Red Crown of the king;

Characterization, not real, but drawn from the real world:

The backside of a baboon (cf. Edel 1956: 74–76) whose ears are *ṯšr* 'red.'

The hieroglyph used in the writing of the word represents the writing utensils. The color *čms* could thus be the red used in writing (as the Egyptians used black and red ink). Harris (1961: 227) suggested, however, that "The word is derived from the flower or fruit of some tree, but cannot be identified precisely."

2. *č(w)r, wtr* 'to be red' or the like:

Designation of real objects, as variant of *ṯšr*:

> 'The red' as designation for blood (Erman & Grapow 1926–1931: V, 386, 13).

3. *ḥsbč(.ỉ ?)* 'lapis lazuli-like, blue':

Designation for real objects:

> Blue cloth;

The adjective *ḥsbč(.ỉ ?)* 'lapis lazuli-like, blue' is derived from the word for the material, and is typically applied to nonreal objects, recalling the semi-precious stone or made of it, and thus means blue:

> Eyes, hair, head, horns, or even the entire figure of gods;
> Accidentally, also for blue: of the heavens, but also for the greening of the fields (by the sun whose rays render the fields *ḥsbč(.ỉ ?)*), compare this with Section 2 above.

4. *čfrr (.ỉ ?)* 'to be lapis lazuli-like, blue':

Designation of real objects, possibly less a designation than a metaphor:

> 'Very lapis lazuli-colored' (*ỉ:čfrr(.ỉ ?)*) as a reference to the sky (in a religious text, → CT VII, 220b).

5. *nb.w(ỉ ?)* 'golden':

Designation of real objects, possibly less a designation than a metaphor:

> 'The Golden One' (?) as designation for the sun (Erman & Grapow 1926–1931: II, 239, 8).

3.3 Summary

As the result of this investigation of the range of uses of the color terms, we can conclude:

1. Those words which were initially identified as abstract (*kmm* 'black'; *ḥč, wbḥ* 'white'; *ṯšr* 'red'; and *w3č* 'green') were the most widely used color terms;
2. The focus of *ṯšr* 'red' was in the red-range, and *w3č* 'green' in the green-range, as traditional Egyptological interpretations imply, and not in the red-with-yellow or, respectively, green-with-blue ranges;
3. For the final, Coptic, stage, the red-range was partitioned in **ṯšršr/trošr(e)š* 'deep-red' and *mrš/mlš/*mnš/mroš* 'light-red';
4. All of the other, concrete terms have a restricted range of uses, largely restricted for nonreal objects;
5. In the final case, the prestigious blue-range is highly significant.

4. On the etymologies of the color terms

Following the earlier Egyptological ideas adopted by Hermann (1969), the abstract color terms are derived from object-names: 'green' from papyrus-colored, 'red' from flamingo-colored, 'white' from stone-mace-colored, 'black' from coal-colored. The origin of the principle is less the etymological link between the color terms and the object-names (which exists in at least two cases), so much as the hieroglyphic signs used as written symbols to write the color words: papyrus and green, flamingo and red, stone mace and white (coal for 'black' is an error). In contrast, deriving the abstract color words or BCTs from minerals, particularly semi-precious stones, as does Warburton (2007), is more adequate because such a link exists for the concrete color words or nonBCTs (Section 2 above).

In fact, however, in the case of the four existing abstract color words or BCTs, these are not new creations based on ancient Egyptian givens. All four (or most) can be identified as verbs in the Afroasiatic languages, and thus must have been verbs in the original Afroasiatic *Ursprache*. The following etymologies can be proposed:

1. *kmm* 'to be black':

Related to Syrian and (Talmudic) Hebrew *'km* 'to be black' (Takács 1999: 219; also accepted in the critical review by Osing 2001: 568);

2. *ḥč* 'to be white':

Related to Arabic *shw*, Hebrew and Syrian *shy*, *shḥ* 'to be clear, light' (Osing 2001: 579). The use as a color term would thus be an internal development in Egyptian, which would also explain the continued existence of the meaning 'to be light,' etc.;

3. *tšr* 'to be red':

Related to Semitic *shr* 'to be reddish': Arabic (verb, stem XI) *shr* 'to be white-red, yellowish,' (adj.) *'ashar* 'yellowish-red, desert-colored' (*sahrā* 'desert,' 'Sahara'), Syrian *asǝhar* 'to blush' (Schneider 1997: 208). This etymology is a brilliant example of the "New Comparative" school of Otto Rössler, rejected by the traditional comparative school because the phonetic changes are dismissed as impossible. However, should this be nevertheless correct, the ancient Egyptian designation of the desert (*tšr.t*, 'the red (land)') would be derived from the same word as Arabic Sahara;

4. *w3č* 'to be green':

Related to Semitic and Berber *wrq* 'to be green' (first Ember 1930: 9; today generally accepted, cf. e.g. ["New Comparative" school] Rössler 1971: 316; [traditional school] Vycichl 1983: 238).

These etymologies permit the hypothesis that Egyptian was already at Stage IIIa in prehistoric times.

The specific philologically based translations of the color terms of languages other than Egyptian permit shifts of focus to be recognized. In historical times, the focus of *tšr* 'to be red' lay in the red range, but in the related Semitic languages it would appear to be closer to the lighter yellowish-red range. Whether Egyptian or Semitic preserved the earlier

focus can only be concluded on the basis of a study of BCTs in Afroasiatic languages, which is beyond the competence of an Egyptologist.

Aside from the inherited BCTs, Coptic (the final stage of the Egyptian language) produced two neologisms: *oubaš* (etc.) 'to be white,' which replaced Egyptian *ḥč* 'to be white,' and also the ancient Egyptian *mrš/mlš/*mnš*, which became Coptic *mroš* (etc.) 'to be (light-?) red.' The first is a shift whereby ancient Egyptian *wbḫ* 'to be light' was replaced with Coptic *oubaš* (etc.) 'to be white'; the second is derived from the material red ochre (*mnš.t*).

The derivation of names for color terms in ancient Egyptian from object-names is demonstrable in some cases for NonBCTs (traditional written language): *ḥsbč(.ỉ?)* '(to be) lapis lazuli-like,' *čfrr(.ỉ?)* '(to be?) lapis lazuli-like, blue,' *mfk3.tỉ* 'turquoise-like, green/blue.' Other color indicators of this kind appear, e.g., *čᶜb(.ỉ?)* 'charcoal-like, black.' None of these NonBCTs which developed in Egyptian was maintained; none were used in Coptic.

The ancient NonBCTs in the red range (*čms, č(w)r*) are probably of Afroasiatic origin, although a concrete etymology cannot be produced. Whether these were originally color terms or derived from objects will obviously depend upon discovery of the etymologies.

5.   Summary

The examination of the ancient Egyptian-Coptic color terms and their grammatical identification, the range of usage, and their etymologies permit the following conclusions:

1. There are four BCTs, all verbs, 'to be' *kmm* 'black,' *ḥč* (later *wbḫ*) 'white,' *tšr* 'red' and *w3č* 'green';
2. The focus of *tšr* 'red' is in the red range, as traditionally translated, and noted by Baines (1985:283), and not in the middle of the red-with-yellow range, as argued following the color cone approach by Schenkel (1963);
3. The focus of *w3č* 'green' lies, as traditionally translated, and noted by Baines (1985:283) in the green range, and not in the middle of the green-with-blue range as proposed by Schenkel (1963) on the basis of the color cone projection, nor in the pale green suggested by the Berlin and Kay hypothesis;
4. In the final, Coptic, stage, the partition of the red range into **tšršr/trošr(e)š* 'deep red' and *mrš/mlš/*mnš/mroš* 'light-red' must be assumed;
5. The traditional written language allowed additional place for further verbal color terms (i.e., BCTs), but these were not preserved in Coptic, and thus they never entered the colloquial language;
6. Among these alternatives, the use of *ḥsbč(.ỉ?)* 'lapis lazuli-colored' is strikingly common; that of *čᶜm(.ỉ?)* 'charcoal-like, black', *nbw(.ỉ?)* 'golden' is less common;
7. The dominance of 'lapis lazuli-colored, blue' was inadequately treated by Schenkel (1963) and Baines (1985), due to their methodological premises (semantic field and B&K hypothesis), although recognized by the empiricists (Hermann 1969;

Brunner-Traut 1977), and recently explicitly formulated (Quirke 2001:187; Warburton 2007). However, these latter go too far when concluding that Egyptian developed "a term translatable as blue before it develops a term translatable as yellow" (Quirke 2001:187). Egyptian did not, in fact, develop a BCT for either blue or yellow;

8. Egyptian-Coptic remains at Berlin and Kay Stage IIIa. It must be affirmed that the red range was further partitioned in the final, Coptic, stage.

Acknowledgments

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