

Eye diseases in the Ebers Papyrus

Part 3: Eb 387–417

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Table of contents

1	Introduction.....	2
2	The eye diseases (Eb 387–417).....	3
	Eb 387 (61,3–4)	3
	Eb 388 (61,4–6)	3
	Eb 389 (61,6–8)	5
	Eb 391 (61,9–11).....	6
	Eb 392 (61,12–14)	6
	Eb 393 (61,14–16)	7
	Eb 396 (61,18–19)	8
	Eb 397 (61,19–20)	8
	Eb 398 (61,20–21)	8
	Eb 399 (61,21–62,2)	9
	Eb 400 (62,2–3) and Eb 401 (62,3–4).....	9
	Eb 402 (62,4–5)	10
	Eb 407 (62,7–8)	10
	Eb 408 (62,9–10).....	11
	Eb 409 (62,10–12)	12
	Eb 414 (62,17–18)	13
	Eb 415 (62,18–22)	13

1 Introduction

Detailed information on the Ebers Papyrus can be found in the metadata of the translation by L. Popko.¹ The so-called “Eye Book” includes Eb 336 to Eb 431.

After having dealt with the eye diseases from Eb 336 to Eb 386 in parts 1 and 2 of this work,² this is to continue with Eb 387–417. The respective disease name was translated³ and subjected to a modern ophthalmological interpretation. Frequent diagnoses were preferred over rare ones, and the environmental and living conditions in Ancient Egypt were taken into account. Repetitions of ideas from the previous parts of this work were unavoidable, because certain (presumably common) eye diseases appear two or more times in the Ebers Papyrus. Many prescriptions are simply titled “Something else” (k.t) without specifying the eye condition being treated. In my opinion, they must be viewed as alternative treatments for the last-mentioned disease.⁴ All statements must be viewed as hypotheses.

¹ L. Popko (online), *Metadaten*, <<https://sae.saw-leipzig.de/de/documents/papyrus-ebers>>, with literature overview (last accessed 08.01.2024).

² E. Traunmüller, *Eye diseases in the Ebers Papyrus*, Parts 1 and 2 (Vienna 2023), <<https://www.egyptological-hypotheses.org>>.

³ Dictionaries used:

- A. Erman and H. Grapow, *Wörterbuch der ägyptischen Sprache*, Vols I–VII, (Berlin, 1897–1961; unchanged reprint; Berlin, 1971), subsequently referred to as “Wb” for short;
- R. Hannig, *Die Sprache der Pharaonen: Großes Handwörterbuch Ägyptisch – Deutsch, Marburger Edition* (KAW 64; 4th revised edn; Mainz, 2006), subsequently referred to as “Hannig” for short.

Other translations used on a case-by-case basis:

- B. Ebbell, *Alt-ägyptische Bezeichnungen für Krankheiten und Symptome* (Oslo, 1938), subsequently referred to as “Ebbell” for short.
- B. Ebbell, “Die ägyptischen Krankheitsnamen”, *ZÄS* 59 (1924), 55–59, subsequently referred to as “Ebbell, *ZÄS*” for short.
- B. Lalanne and G. Métra, *Le texte médical du Papyrus Ebers: Transcription hiéroglyphique, translittération, traduction, glossaire et index* (Langues et cultures anciennes 28; Brussels, 2017), subsequently referred to as “Lalanne and Métra” for short.
- L. Popko, “Papyrus Ebers: Übersetzung und Kommentar”, in *Science in Ancient Egypt* (Leipzig, online) <<https://sae.saw-leipzig.de/de/documents/papyrus-ebers>> (last accessed 08.01.2024), subsequently referred to as “Popko (online)” for short.
- W. Westendorf, “Handbuch der Altägyptischen Medizin”, Vols 1 and 2, in H. Altenmüller et al. (eds), *Handbuch der Orientalistik, Erste Abteilung: Der Nahe und Mittlere Osten* (Boston, Cologne, and Leiden, 1999), subsequently referred to as “Westendorf” for short.

⁴ Westendorf called these prescriptions “k.t prescriptions” (Westendorf, 55, 89, 91, etc.).

Translation:	Something that can be made (only) from the third to fourth month of the Peret season
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The sentence has been translated somewhat shortened.

The ancient Egyptian year had three seasons of four months each. Peret (from the end of October to the end of February) was the season of germination of the seeds (pr.t, “the coming forth”), i.e. the growth phase of crops, which falls in the winter in Egypt. It was obviously expected that the doctor knew which eye condition is intended to be treated with this prescription.

It is reasonable to assume that the specified remedy contains a certain herbal ingredient that is only available during this limited period of time.⁸ The remedy consists of everyday minerals and ḥt-ꜥwᓃ which has been translated by some as “rotten wood” or “petrified wood” (from ꜥwᓃ, “to rot, to ferment”).⁹ However, this is anything but certain. The word could just as plausibly be derived from the verb ꜥwᓃj for “to harvest” or “to plunder, to rob”.¹⁰ If so, ḥt-ꜥwᓃ(j) literally is “harvested/robbed wood”, possibly green shoots that can be collected in the late Peret season. In the dictionary by R. Hannig (2006), one finds the assumption that ḥt-ꜥwᓃ could be *Aloe vera*.¹¹ The original home of the *Aloe* (there are over 500 species) is probably the Arabian Peninsula, as the genus name comes from Arabic. Appropriately enough, *Aloe vera* blossoms from January to February.¹² Thus, we can (purely speculatively) shortlist *Aloe* blossoms. Personally, I think one has to read the name of this officinal ingredient in a different way, namely ḥt-ꜥ wᓃ(.w), making it a “drug from far away”.¹³ Perhaps it was only available for purchase in the late Peret season, when caravans of traders from Asia arrived in Egypt (which does not exclude the *Aloe*). On the other hand, the ingredient appears in several other prescriptions without any seasonal restriction.¹⁴

⁸ Westendorf (p. 26) held a different opinion: Accordingly, seasonal remedies were intended to cure seasonal diseases. At least for Eb 393 (page 7) this is not true, because this remedy was aimed at the “common” diagnosis of visual impairment.

⁹ Hannig, 671 (24480); Lalanne and Métra, 127; Popko (online), Eb 388; Westendorf, 618; Wb III, 340.8.

¹⁰ Hannig, 144 (4914), 145 (4927); Wb I, 171.3, 171.18.

¹¹ Hannig, 671 (24480).

¹² U. Egli (ed.), *Sukkulenten-Lexikon: Einkeimblättrige Pflanzen (Monocotyledonen)* (Stuttgart, 2001), 189.

¹³ ḥt-ꜥ : Hannig, 671 (24475); wᓃ.w : Hannig, 182 (49732); Wb I, 245.15; 246.2.

¹⁴ For example, Eb 336 (55,20–56,6), Eb 348 (57,6–8), Eb 355 (57,15–17), Eb 369 (59,10–13), Eb 374 (59,18–20), and others.

Eb 389 (61,6–8)

Text:	
Transcription:	k.t <nj.t> sdm jrr.t m šmw pr.t ʕh.t
Translation:	Something else (for) making up (the eyes) which can be made during the Shemu, Peret and Akhet seasons

All three seasons are mentioned: Shemu is the season of harvest (dry season, end of February to end of June), Peret is the season of germination of the seeds (end of October to end of February), and Akhet is the season of Nile flooding and sowing (end of June to end of October). Thus, this eye make-up can be made all year round; the ingredients galena and goose fat are not tied to a specific season.

The word *sdm* that is determined with D4 (eye) is most frequently translated as “to make up the eyes” and “eye make-up”, respectively.¹⁵ However, in a medical context it can also mean “to anoint”.¹⁶ Therefore, *sdm* should not be taken as eye make-up in the narrow (decorative) sense, but must more generally be understood as the application of a paste (be it medical remedy, ointment, protective paint, or cosmetic *khol*) onto the eyelids. For the sake of simplicity, I will nevertheless stick with “eye make-up”. In general, eye make-up had a medical background, but the cosmetic side effect was valued and it was also practiced ritually.¹⁷

The eye disease to be treated remains unclear. It is possible that the two medical prescriptions with a seasonal reference, Eb 388 and Eb 389, must be understood as alternative prescriptions for removal of the blood vessels in both eyes (Eb 387, see page 3).

The following prescription Eb 390 (61,8–9) with the simple title “Something else” contains, judging by the ingredients (galena, malachite, lapis lazuli, ocher, and honey), another instruction for preparing eye make-up.

¹⁵ For the translation as “another eye make-up”, it would have to be “*ky sdm*”.

¹⁶ Hannig, 855 (31627); Wb IV, 370.4–8.

¹⁷ J. Illes, *Ancient Egyptian Eye Makeup*, <https://www.hashmisurma.com/images/ancient_egyptian_eye_makeup.pdf> (last accessed 08.01.2024); S. El-Kantiry, *Ancient Egyptian Cosmetics*, <<https://studylib.net/doc/7413929/ancient-egyptians-cosmetics>> (last accessed 08.01.2024).

Translation:	Another remedy for the eye when it is infested by all sorts of bad things
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I deliberately chose the verb “infested” to do justice the prepositional phrase $r=s$ which suggests a directional process. The “bad things”²⁵ here could primarily mean disease processes that spread from the area around the eye to the eye. However, it seems more likely to me that the ancient Egyptian doctors already suspected that certain eye diseases are infectious in nature and can be transmitted from person to person or by flies.²⁶

Eb 393 (61,14–16)

Text:	
Transcription:	k.t <nj.t> s.rwd m33 jrr.t m 3bd tpj n(j) pr.t nfry.t-r 3bd sn.nw n(j) pr.t
Translation:	Something else (for) strengthening the eyesight that can be prepared (only) from the first to the second month of the Peret season

The sentence has been translated somewhat shortened.

The medical indication of this remedy is visual impairment (as so often in the Eye Book; a narrower definition of the diagnosis is not possible). However, this remedy can only be made in the first and second months of the Peret season which roughly correspond to November and December. The formula consists of equal parts “male” galena,²⁷ galena, and an ingredient named snn. The latter has been interpreted as resin or balsam.²⁸ It is likely that snn came from a plant the resin or oil of which could be collected in the winter months. One possibility is the so-called Balsam of Mecca.²⁹

²⁵ The “bad things” also appeared in the magic spell in Eb 385 (60,16–22) (Trautmüller, *Eye diseases, Part 2*, 15).

²⁶ Cf. Westendorf, 21, 457–458.

²⁷ Sexual differentiation of medicinal ingredients was not uncommon, but the significance of this is not known (Westendorf, 515 note 57; Popko [online], Eb 359 note 1).

²⁸ Hannig, 779 (28617); Wb IV, 166.13; Lalanne and Métra, 127; Popko (online), Eb 393; Westendorf, 619.

²⁹ Cf. Hannig, 779 [28617]). Balsam of Mecca is the valuable and fragrant mixture of essential oils and resin from *Commiphora opobalsamum* (a shrub, formerly named *C. gileadensis*) which is native to the coasts of the Red Sea and was later also cultivated in Egypt (K. Gauckler, “Die kostbarsten Drogen der Alten Welt: Weihrauch, Myrrhe, Balsam”, in *Abh. Naturhist. Ges. Nuernberg* 35, 1970, 154–155). In East Africa, the plant grows during the short pluvial period from October to December. In ancient times, Balsam of Mecca was used to cure various ailments.

Eb 402 (62,4–5)

Text:	
Transcription:	k.t n(j).t dr s.ḥd.w ḥpr(.w) m jr.tj
Translation:	Something else to eliminate the corneal scars that have developed in the eye

As mentioned in my comments on Eb 347 (57,5–6) and Eb 360 (58,6–15),³³ the disease is unequivocally identified with corneal scars. (There is no other externally visible eye disease that would fit the term “the whitened ones.”). Corneal scars arise from chronic inflammation, injury, or chemical burn. In the most severe case, the entire cornea has become white and opaque, and blood vessels have grown in (AoO 297). There is a total of 8 prescriptions for corneal scars in the Eye Book.³⁴

The following prescriptions, Eb 403 (62,5–6), Eb 404 (62,6), Eb 405 (62,6–7), and Eb 406 (62,7) have the simple title “Something else” and are probably also remedies for corneal scars.

Eb 407 (62,7–8)

Text:	
Transcription:	k.t n(j).t dr nḥʿ.wt
Translation:	Something else to eliminate nḥʿ.wt

The term nḥʿ.wt describes an unclear eye disease. I have already discussed it in my comments on Eb 350 (57,10–11) and Eb 383 (60,12–13) where the disease explicitly affects both eyes.³⁵ I agree with other authors³⁶ in thinking that the literal translation is

³³ Traunmüller, *Eye diseases, Part 1*, 10; *Part 2*, 4.

³⁴ Four prescriptions with this medical indication named in the title, and four alternative prescriptions. In reality, corneal scars are irreversible and can only be healed through laser ablation (in mild cases) or a corneal transplant.

³⁵ Traunmüller, *Eye diseases, Part 1*, 11–12; *Part 2*, 14. Translations by other authors: same as wḥʿ.wt (Ebbell, 26; Hannig, 223 [8051], 445 [16043]; Westendorf, 611 note 92, 621); something rough, not smooth (Lalanne and Métra, 119 and note 48); nḥʿ.t-affliction (Popko [online], Eb 350, Eb 407); eye disease (Wb II, 290.19).

³⁶ Hannig, 445 (16043); Popko (online), Eb 407; Westendorf, 621.

“the uneven ones, the rough ones” (from the verb *nḥ3*, “to be uneven, to be rough”), and that this refers to the glassy papules (lymph follicles) on the conjunctivas in stage 2 trachoma (AoO 4908, 4569).

The second possible translation as "the terrible ones, the wild ones" (according to the second meaning of the verb *nḥ3*) would indicate a very painful eye disease. However, such conditions, e.g. acute glaucoma, trigeminal neuralgia or shingles with eye involvement, usually occur on one side only. Perhaps the ambiguous verb *nḥ3* was used as a pun to describe trachoma,³⁷ as this eye infection causes unevenness/roughness (of the eyelids) in its early stages, and has “terrible” consequences in its later stages (AoO 4909).

Eb 408 (62,9–10)

Text:	
Transcription:	k.t n(j).t dr šsm.w dšr(.w) m jr.tj
Translation:	Something else to remove red inflammation in both eyes

A passage in the Edwin Smith Papyrus explains the word *šsm(.w)*: "As for 'his two eyes are *šsm*': it means that the color of his two eyes is red like the color of the *šs* flower" (Sm 7, 19–20 [gloss A]).³⁸

It is surprising that the symptom “red inflammation³⁹ in both eyes” only appears once in the Eye Book, although it is a symptom of many eye diseases such as infections (AoO 3014), injuries, chemical burns, chronic inflammation on an immunological basis, glaucoma, etc. In my opinion, this is because severe redness of the eyeball due to

³⁷ Provided that the two meanings of the verb *nḥ3* were actually pronounced in the same way.

³⁸ L. Popko, *Papyrus Edwin Smith, Case #19*, <<https://sae.saw-leipzig.de/de/dokumente/papyrus-edwin-smith>>, last accessed 08.01.2024; Westendorf, 725.

³⁹ Actually, *šsm.w dšr(.w)* is a pleonasm because according to the Edwin Smith Papyrus, *šsm.w* (also: *šsm.wt*) means “redness” (see also Hannig, 905 [33582]). Translations of *šsm.w dšr(.w)* by other authors: ptosis or similar (Ebbell, 54–56), red inflammation (Popko [online], Eb 408; Westendorf, 621); in Lalanne and Métra (p. 129) *šsm.w* remains untranslated.

population.⁵⁰ Importantly, night blindness can be accompanied by blurred vision (ḥꜣt.j) even at daytime, because advanced vitamin A deficiency leads to bilateral degeneration of the cornea (*xerophthalmia*; AoO 8280). Earlier translators postulated that the ancient Egyptian word for night blindness is šꜣ(r).w (see Eb 351 [57,11–12]).⁵¹ I myself have šꜣ(r).w instead interpreted as epithelial defects of the cornea,⁵² so that in my work, night blindness is still “free” for kk.w.

The third symptom, here written ḥꜣ.w, also occurs for the first time in the Eye Book. It was said to be a defective spelling of ḥꜣr.w (also: ḥꜣrr.w).⁵³ Depending on the author, the symptom was translated as “weak-sightedness” or “squint” (*strabismus*).⁵⁴ If the reduced visual acuity of an otherwise healthy eye is not caused by a refractive anomaly (short- or far-sightedness, astigmatism), one must take *amblyopia* into consideration (from the Greek ἀμβλύς, “blunt”, and ὄψις, “to see”; in colloquial speech called “lazy eye”). Amblyopia occurs during early childhood as a permanently inchoate interaction between the retina and the visual center in the brain. It is often the result of congenital strabismus because the brain suppresses the visual input of one eye to avoid double vision. With certain forms of strabismus, children try to compensate for the double vision by tilting and turning their head until, over time, this becomes a permanent wry neck (ocular *torticollis*; AoO 5141). This is reminiscent of two Egyptian text passages where an association is made between ḥꜣr(.w) and an ailment of the neck.⁵⁵ Because of all that, I

⁵⁰ From preserved supply documents, we know that grain products (bread, beer), onions and little meat or fish formed the basis of the diet of working men (W. Helck, “Arbeiterversorgung”, in M. Fierro et al. (eds), *Wirtschaftsgeschichte des alten Ägypten im 3. und 2. Jahrtausend vor Chr.*, [HdO 5, Leiden, 1974], 231–234). However, significant amounts of vitamin A are only found in milk, eggs and liver. Red and yellow fruits and vegetables, which contain a precursor of vitamin A (carotene) were also hardly available in ancient Egypt, especially to the lower class.

⁵¹ Ebbel, 48; Hannig, 869 (32185); Popko (online), Eb 351; Westendorf, 612.

⁵² Traunmüller, *Eye diseases, Part 1*, 12–13.

⁵³ Ebbell, 32. The ḥꜣrw/ḥꜣrr.w eye disease also appears in the spell of Eb 385 (60,16–61,1) and in Eb 856e (103,8–11).

⁵⁴ Translations by other authors: weak-sightedness (Ebbell, 31–32; Hannig, 542 [19637, 19638]; Lalanne and Métra, 129; Popko [online], Eb 415; Westendorf, 622); squint (Hannig, 542 [19638]). The translation as “weak-sightedness” is based on a Coptic word (Ebbell, 32). But if the correct name of the disease is ḥꜣ.w, as spelled in Eb 415, no etymological derivation is possible, because  is a word root that forms many different words. The conjecture by Erman and Grapov (Wb III, 18.12) that ḥꜣ.w was a misspelling for ḥꜣt.j is obsolete, because both these diseases are mentioned in the heading of Eb 415.

⁵⁵ Eb 856e (103,8): “If he suffers from his neck and his two eyes have ḥꜣr(.w) [...]” (Lalanne and Métra, 211; Westendorf, 698). Gynecological Papyrus Kahun I (1,1): “Healing [for a woman whose eyes are] sick, and she cannot see and suffers from her neck [...]” (L. Popko, *Gynäkologischer Papyrus Kahun*, <<https://sae.saw-leipzig.de/de/documents/gynaecological-papyrus-kahun>>, last accessed 08.01.2024).

advocate that ḥ³(r).w should be interpreted as strabismus (squint) with or without amblyopia in one of the two eyes.

The word st-^c (“influence, access, activity”⁵⁶) in the subordinate clause indicates that the ancient Egyptians partly imagined illness as being caused by gods, demons, or the dead.⁵⁷ A question arises as to whether this remedy helps against a combination of blurred vision, night blindness and strabismus in the same person, or whether one and the same remedy works against these three different eye problems. But perhaps it is an even more versatile remedy, and one should read the second part of the heading as a parataxis: s.t-^c ḥpr.t m jr.tj (“... and [other] symptom(s) that have developed in both eyes”).⁵⁸

Eb 416 (62,22–63,1)

Text:	
Transcription:	k.t n(j).t dr qnj.t
Translation:	Something else to eliminate qnj.t

Some authors considered qnj.t to be an alternative spelling of qn.t.⁵⁹ We are already familiar with qn.t (see Eb 354 [57,14–15]).⁶⁰ Like most authors, I have derived this disease name from the verb qn (“to be greasy”⁶¹) and interpreted it as *pinguecula* or *pterygium*.⁶² However, the disease qnj.t, as clearly written here in Eb 416, is probably a separate condition and should be derived from the verb qnj (“to injure”⁶³).⁶⁴ The root qn is also contained in the words for to be strong, to beat up, power, evil, harm (done by someone)

⁵⁶ Hannig, 702 (25565, 25566).

⁵⁷ Westendorf, 329, 360–398.

⁵⁸ Similar translations in Westendorf, 622 and Popko (online), Eb 415.

⁵⁹ Lalanne and Métra, 129; Ebbel, 56. Ebbel argued that qn.t and qnj.t are spelling variants analogously to ³d.t and ³dy.t. However, qn.t and qnj.t can be traced back to two different verbs, whereas ³dy.t is a participle of ³d.

⁶⁰ Traunmüller, *Eye diseases, Part 1*, 14–15.

⁶¹ Hannig, 926 (34293–34297); Wb V, 40.8–12, 41.19–20.

⁶² Both, *pinguecula* and *pterygium* are in essence circumscribed, yellowish-white proliferations of the bulb conjunctiva, which are visually reminiscent of a fat accumulation. The interpretation of qn.t as *pinguecula* can also be found in Westendorf, 612.

⁶³ Hannig, 929 (34409); Wb V, 52.7.

⁶⁴ Translations by other authors: damage/injury to the eye (Ebbel, 56; Hannig, 929 [34410]; Westendorf, 622); eye disease (Wb V, 52.8); corneal ulcer? (Ebbel, 56; Hannig, 929 [34410]); fat accumulation (= same as qn.t; Lalanne and Métra, 129); qnj.t suffering (Popko [online], Eb 416).

and violence.⁶⁵ This indicates that qnj.t is possibly a blunt eye trauma caused by a blow to the eye, in contrast to the thn injury⁶⁶ which is presumably caused by pointed objects. A blunt eye trauma can have serious consequences such as bleeding inside the eye (AoO 2816), torn iris, dislocation of the lens, or partial retinal detachment.

Another possible origin of the disease name qnj.t (𓄎𓄏𓄗) is qnj.t (𓄎𓄏𓄗𓄏𓄏), a golden-yellow mineral pigment (arsenic sulfide) that was used in embalming and wall painting.⁶⁷ Yellow discoloration of the sclera of both eyes is an early symptom of jaundice which is even noticeable before the skin turns yellow (AoO 7707).⁶⁸ Jaundice can have many different causes. In ancient Egypt, the primary causes were probably viral infection (hepatitis A), blockage of the bile ducts by adult stages of the *Schistosoma mansoni* parasite (hepatobiliary schistosomiasis), liver-damaging toxins (including alcohol), or a malignant tumor of the liver or pancreas.

The following prescription, Eb 417 (63,1–2), is entitled “Something else”, so it is probably also intended for the treatment of qnj.t.

To be continued in Part 4.

⁶⁵ Hannig, 926 (34300), 927 (34320, 34332, 34352, 34360); Wb V, 42.4, 48.2–8, 48.14. The verb qnj when determined with the hieroglyph D32 has additional meanings like “to embrace” and “to gather grain sheaves” (Hannig, 928 [34384, 34386, 34400]; Wb V, 50.11–16, 52.4), but these do not indicate any eye disease.

⁶⁶ Eb 337 (56,6–10) and Eb 381 (60,8–10). Cf. Traunmüller, *Eye diseases, Part 1*, 5–6, *Part 2*, 13.

⁶⁷ Hannig, 929 (34412); Wb V, 52.10–15.

⁶⁸ qnj-ḥr “one with yellow face” (Hannig, 929 [46554]).