An Interlinear Transliteration and English Translation of Portions of

THE EBERS PAPYRUS

Possibly Having to Do With Diabetes Mellitus

by

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based on the hieratic to hieroglyphic transcription by Walter Wreszinski Leipzig, 1913

> Bard College Annandale-on-Hudson NY 1998

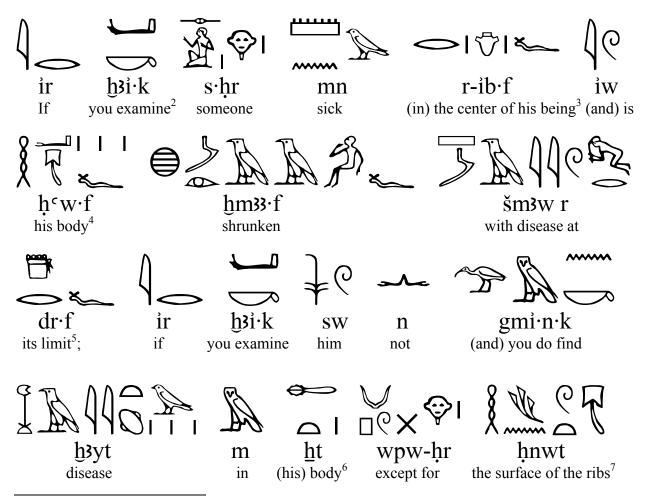
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The Ebers Papyrus is arguably the most complete and most beautiful of the medical texts to have survived from ancient Egypt. In the winter of 1872 the German Egyptologist Georg Ebers was shown a papyrus, wrapped in old mummy cloths, that seemed to be in a perfect state of preservation. The text was written in hieratic, a sort of cursive form of hieroglyphics, and was a lovely example of the calligrapher's art: some 877 section headings (rubrics) were in red ink, with intervening text in black. The papyrus roll contained 108 columns numbered 1-110; two numbers (28 and 29) were skipped with no obvious break in the text. Each column contained from twenty to twenty-two lines of text. The manuscript ended with a calendar that indicated that it was written in the ninth year of the reign of Amenophis I, thus in 1536 BC. It was either a tremendously elaborate fake or genuine, and Ebers believed it to be genuine. With the help of a benefactor, Herr Gunther, Ebers bought the papyrus and installed it in the library of the University of Leipzig.

Within a very short period of time Ebers published an exquisite two-volume color photographic reproduction of the entire text, including a hieroglyphic-Latin dictionary by his colleague Ludwig Stern (EBERS, 1875). Soon a German translation appeared (JOACHIM, 1890), and a transliteration of the hieratic into hieroglyphics (WRESZINSKI, 1917). Four English translations were done in the twentieth century. The first, by Carl von Klein, is extremely difficult to find. We know of it only by an article he wrote about it (KLEIN, 1905) and an advertisement (KLEIN, 1912). The second English translation, by Cyril P. Bryan in 1930, was actually a "rendition into English of German and other translations of the Egyptian original," is fragmentary, and is full of satiric editorial comment. Ironically, this is the only English translation commonly available (BRYAN, 1974). A very cautious and scholarly translation was done by Bendix Ebbell, which leaves many words untranslated (EBBELL, 1937). Finally, physician and scholar Paul Ghalioungui has produced a very thorough modern translation (GHALIOUNGUI, 1987), which, alas, is quite difficult to obtain. Even this, the best of these translations, does not include either the hieratic or hieroglyphic texts, nor a complete pronunciation font, and it precedes by nearly a decade the important contribution of John Nunn to the understanding of ancient Egyptian medicine (NUNN, 1996).

In the spring of 1997 we undertook, as a class project in History Z250: *Introduction to Classical Egyptian Language (Hieroglyphics)*, an interlinear representation of the urinary diseases section of the Ebers Papyrus, with a transliteration from the hieroglyphics of Wreszinski to a font that represents phonetic pronunciation, and a translation of the text into English. To this we have added a similar treatment of Rubric 197, the only section of the Ebers Papyrus to have been cited explicitly, if tentatively, as pertaining to diabetes mellitus (EBBELL, 1937). To our knowledge this is the first time the hieroglyphics, pronunciation, and English translation of portions of this famous landmark of medicine can be found together.





¹ This is the rubric about which EBBELL (p. 50) says, "The symptoms mentioned here might almost make one think of diabetes." The scribe apparently got a little confused here and wrote the last few words of Rubric 196 in red and the first few words of Rubric 197 in black. Does this imply that the scribe couldn't actually read the text? Perhaps. ² An abbreviated form of $\frac{1}{2}$ A.

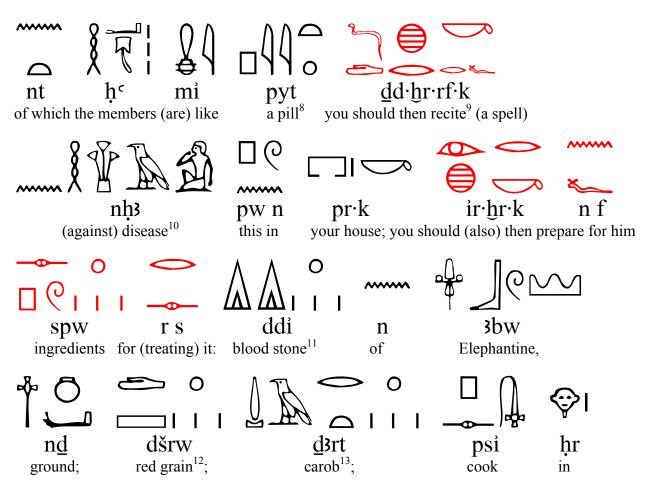
³ The various translators have had a great deal of difficulty with this word, which seems to be a combination of \bigcirc ¹, variously pronounced r or r3 ("mouth," or "opening"), and \bigcirc ¹, ib ("heart"). The Egyptians used the word ib, "heart" as broadly as we do, meaning anything from the actual organ (less frequently) to the seat of the emotions or intelligence (more frequently). EBBELL (p. 47) argues that r-ib "means literally 'the mouth of the stomach' and is certainly the designation of the cardiac orifice of the stomach or 'cardia."" GHALIOUNGUI (p. 60) simply uses "stomach," and FAULKNER (p. 146) agrees. WALKER (pp. 127-146) argues at length and quite persuasively that r-ib cannot possibly mean "stomach" in all of the contexts it is found in the various papyri, and he somewhat desperately suggests "chest" or "thorax" as a reasonable alternative. We prefer giving ib its more abstract meaning, such that mn r ib-f might mean "mortally ill."

⁴ Since \mathcal{K} (cow skin) is used here as a determinative instead of the usual \mathcal{K} (piece of flesh), possibly the surface of the body is implied.

⁵ "At its limit" presumably means "in extremis."

⁶ Or "belly."

⁷ This might be a representation of $\mathbb{R}^{O(2)}$, hnw, "ribs" (FAULKNER, p. 172). Note that the word in the text has the cow's skin determinant, whereas the word in Faulkner has the piece of flesh determinant. This might imply that the author is referring to the skin over the ribs, which would appear tight if the patient were emaciated. Another



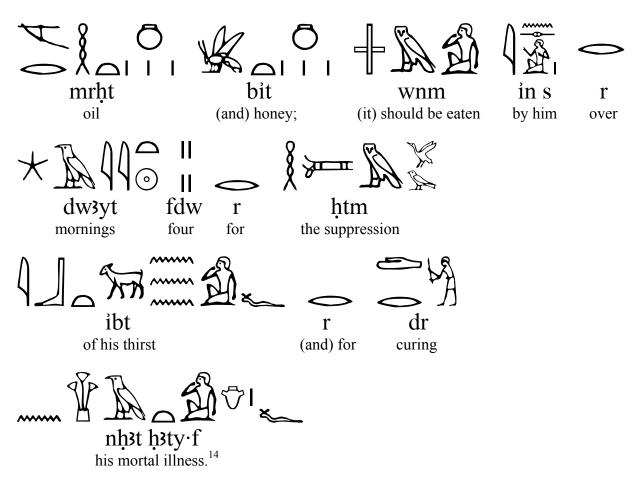
alternative we can find is 100 months, which BUDGE (1, p. 489) translates as "pudenda." Perhaps the author is referring to the skin of the genitals. GHALIOUNGUI (p. 60) conservatively leaves the word untranslated. ⁸ BUDGE 1, p. 234. At best this might mean "raised like pills," but this remains uncertain.

⁹ This word has two enclitic particles in it, hr and rf, both meaning "then," presumably because it was preceded by two "if" clauses beginning with ir.

¹⁰ We radically depart here from the largely unsuccessful attempts by both EBBELL (p. 50) and GHALIOUNGUI (p. 60) to construe this phrase (dd hr rf k n h3(wty) pw n pr k) to mean that one is supposed to communicate some sort of diagnosis to the patient. Both authors have a great deal of difficulty trying to deduce exactly what that diagnosis might be. Ebbell suggests "...then thou shalt say to him: it is a decay (?) of thy inside" and Ghalioungui leaves it mostly as transliteration: "Then you should say; it is nh3 n pr-k." We suggest that

[,] nh3t, "a disease" (BUDGE 1 383). ¹¹ hematite, rich in iron oxide, Fe₂O₃; NUNN, p. 146). WRESZINSKI (p. 55) feels this word is constructed oddly. ¹² NUNN, p. 155, very tentatively suggests that this word represents an "unknown part of corn fruit," without much substantiation. BUDGE (2 p. 890) defines $\overline{\Xi}_{1}^{(1)}$, dšr, as "red grain." It certainly has a strong quality of $\overline{\Xi}$, dšr, "red," about it. Wreszinski (p. 55) calls attention to the apparent omission of the 🔨 portion of the word here; the word is more fully represented in Rubric 268.

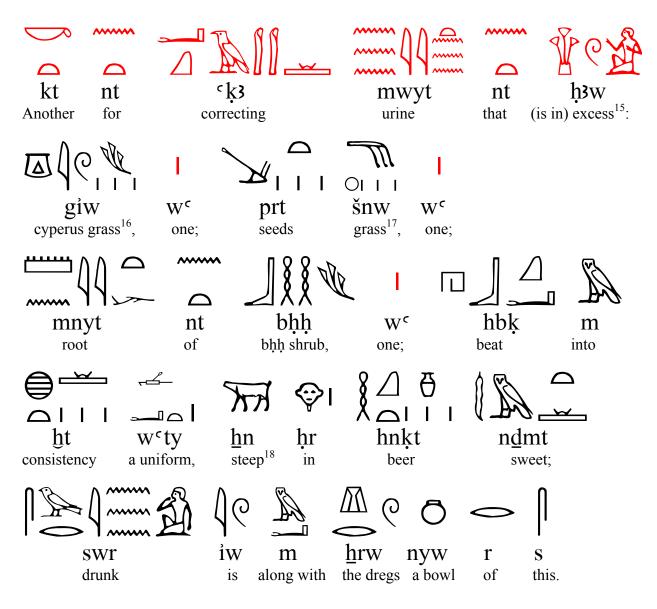
¹³ Ceratonia siliqua, listed by NUNN (p. 154) as a "less certain" interpretation. BUDGE **2** pp. 899-900 agrees. FAULKNER (p. 319) translates it as "bitter gourd," and GHALIOUNGUI (p. 60) as "colocynth."



If you examine someone mortally ill (and) his body is shrunken with disease *in extremis*; if you examine him (and) you do not find disease in his body except for the surface of the ribs, the members of which protrude like pills; you should then recite (a spell against) this disease in your house; you should (also) then prepare for him ingredients for treating it: blood stone of Elephantine, ground; red grain; carob; cook in oil (and) honey; it should be eaten by him over four mornings for the suppression of his thirst and for curing his mortal illness.

¹⁴ This rubric may deliberately end with an almost poetic repetition of sounds, which could be translated many ways. The word <u>10, nh3t</u>, could be translated as "a disease" (BUDGE 1 383), which is the way GHALIOUNGUI (p. 60) sees it, and EBBELL (p. 50) calls it "decay." However, ¹/₂, h3ty, is an alternative word for the more familiar ¹/₁, ib, meaning "heart." Combining the signs yields nh3t h3ty, "heart disease." FAULKNER (p. 136) transliterates ¹/₁ A^O ¹/₂ ²/₄ as nh3-ib, and translates it as "sad man." Clearly such a person is "sick at heart," or "heart-sick." As noted above, "mortal illness" might not be an inappropriate translation in the context Rubric 197.

Rubric No. 264 (Column 49, Line 4):



¹⁵ how means excess in the sense of wealth or surplus (FAULKNER, p. 161). It is difficult to know what to do with the seated man determinative.

¹⁶ *Cyperus esculentus* (NUNN, p. 152).

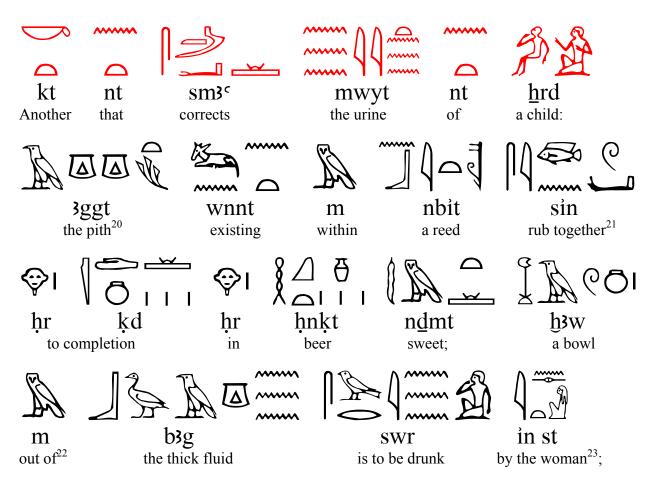
¹⁷, šnw, often means "hair" in Ebers, but when coupled with prt probably means "grass" (FAULKNER, 268). NUNN (p. 154 transliterates this ingredient as prt šny, and translates it as "grains from the umbrella pine of Byblos (*Pinus pinea*), listed among his "remedies of less certain interpretation." GHALIOUNGUI (p. 87) does not venture a guess here.

¹⁸ The character $\overline{\mathcal{M}}$, associated with the sound <u>h</u>n, is presumably an abbreviation for a verb with the <u>h</u>n sound. The word $\overline{\mathcal{M}}$, <u>h</u>n, which means "to cover" (BUDGE **1**, 576) might be intended. GHALIOUNGUI (p. 87) translates it as "left overnight."

Another for correcting urine in excess:

cyperus grass1
grass seeds1
root of bḥḥ shrub1
Beat into a uniform consistency (and) steep in sweet beer. A bowl of this is
drunk, along with the dregs.

Rubric No. 272 *bis* (Column 49, Line 18)¹⁹:



¹⁹ WRESZINSKI (p. 80) apparently forgot to number this rubric.

²⁰ GHALIOUNGUI, p. 89

²¹ Probably means to suspend or dissolve by macerating.

²² WRESZINSKI indicates that this bird is wrong, but A makes perfect sense in context. He probably meant to flag

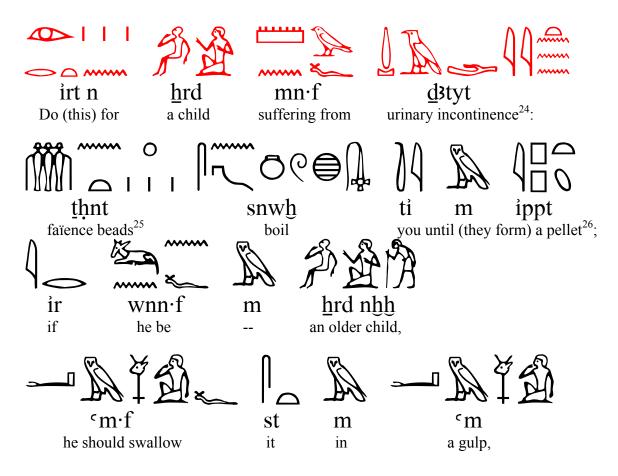
the following bird, $\stackrel{\circ}{\searrow}$ (st), which should be $\stackrel{\circ}{\ggg}$ (b3), which has the correct sound for the word (b3g). ²³ The mother or wet nurse? The Egyptians had words for "mother" and "wet nurse," however, and they are not used here.

EBERS PAPYRUS RUBRIC 272 BIS, COLUMN 49



Another that corrects the urine of a child: rub together reed pith to completion in sweet beer; a bowl of the thick fluid is to be drunk by the (breastfeeding?) woman. It is given to a child from a half-liter jar.

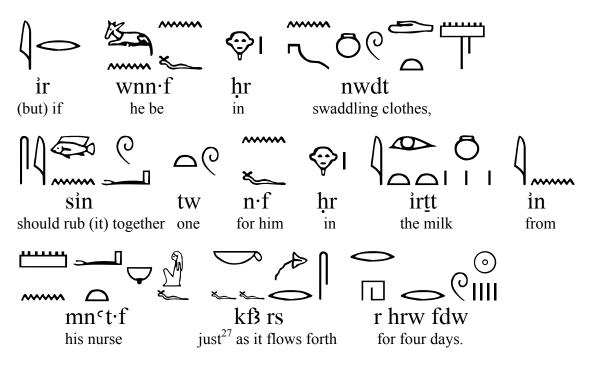
Rubric No. 273 (Column 49, Line 21):



²⁴ GHALIOUNGUI, p. 89. ddyt is translated in BUDGE, p. 900 as "urine," and the word is not to be found in FAULKNER. It probably is an amalgam of d, ddt, "handful" and d, mwyt, "urine." For example dt dt mwy, means "handfuls of water" (BUDGE 2, p. 894). NUNN, p. 92 translates ddtyt as "wetness." ²⁵ FAULKNER p. 306.

²⁶ BUDGE 1, p. 42, indicates that the word for "pellet" is $\mathbb{I}_{\circ}^{\square \circ}$. This may be an error in transcription.

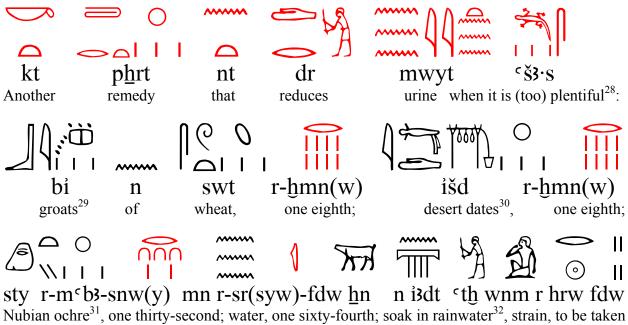
EBERS PAPYRUS RUBRIC 273, COLUMN 49



Do (this) for a child suffering from urinary incontinence: you boil faïence beads until they form a pellet. If he be an older child, he should swallow it in a gulp, (but) if he be in swaddling clothes, one should rub (it) together for him in the milk, just as it flows forth from his nurse for four days.

²⁷ The rightarrow, rs, at the end of this word has a certain emphatic quality; see GARDINER §252.





for days four.

Another remedy that reduces urine when it is (too) plentiful:

Groats of wheat	
Desert dates	
Nubian ochre	
Water	

Soak in rainwater, strain; to be taken for four days.

²⁸ FAULKNER (p. 49) indicates that ^c33 means plentiful in the sense of many, numerous, or often, making it very difficult to discern whether this remedy is for a high volume of urine or for a high frequency of urination, or both.

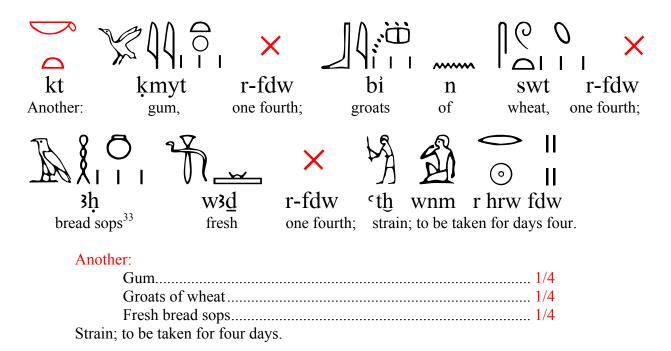
²⁹ This word may be a combination of \mathbb{A}° , bi, "grain" (BUDGE 1, p. 209) and the determinative \mathcal{E}° , which is associated with the idea of grain. GHALIOUNGUI (p. 89) translates it as "groats," implying the grain is hulled, and NUNN (p. 160) agrees.

³⁰ Balanites aegyptiaca, a "less certain" interpretation of NUNN, p. 154. This bunched and thorny tree is a member of the genus *Balanites*, characterized by edible fruits and seeds that produce an oil used in cooking and soap manufacture. However BUDGE **1**, p. 92, suggests "sycamore figs,." and FAULKNER (p. 31) just defines it as "the fruit of the išd tree," as does GHALIOUNGUI (p. 89).

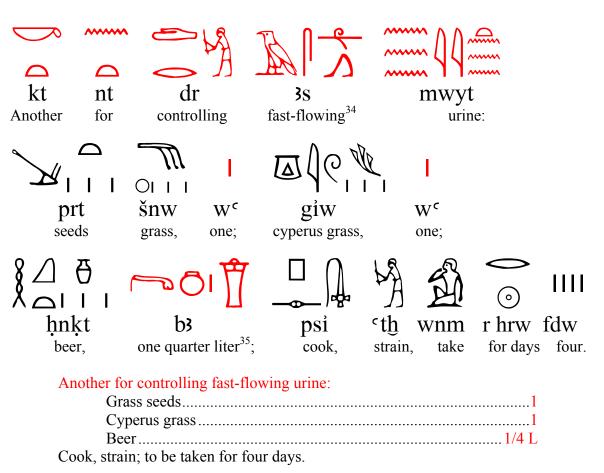
³¹ hydrated iron oxide and clay (NUNN, p. 146).

³² It does seem odd that the instructions suggest that one should soak or steep the concoction in rainwater or dew **after** adding water.

Rubric No. 275 (Column 50, Line 4):



³³ \mathbb{A}^{32} , 3h, is a kind of bread (FAULKNER, p. 4). WRESZINSKI (p. 81) thinks the $^{\circ}$ sign is an error, but the Ebers papyrus always uses this sign to indicate liquids. We suggest that bread soaked in oil, or in some other liquid, is the intent. BUDGE **1** (p. 8) translates the word as "food,." and GHALIOUNGUI (p. 89) as "pap."



Rubric No. 276 (Column 50, Line 5):

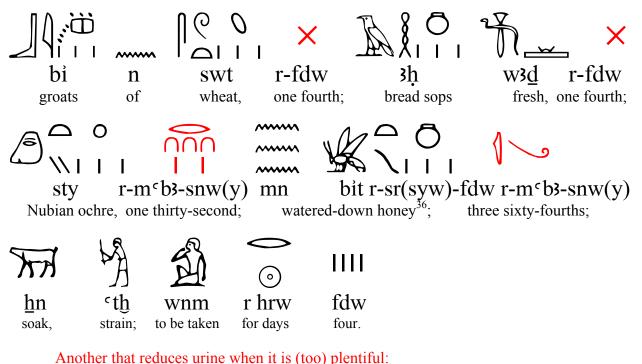
Rubric No. 277 (Column 50, Line 6):

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Another	that	reduces	urine when	it is (too) pl	entiful: gum,	one fourth;

³⁴ This word, meaning "to hurry, hasten, flow fast" has a certain sense of urgency about it, consistent with a diagnosis of cystitis, but true poluria cannot be ruled out.

³⁵ This is an complex variant. $\exists \mathcal{M} \mathbb{A}^{\circ}$, b3, is "a unit of measure for liquids, contents half a hnw" (BUDGE 1, 201). The writer of the Ebers seems to substitute \frown , the determinative of $\exists \mathcal{M} \mathbb{A}^{\circ}$, b3, "penis" for $\exists \mathcal{M} \mathbb{A}^{\circ}$, to create the b3 sound in front of the liquid measure determinatives. This actually makes more sense than using \mathcal{M} , which is associated with the p3 sound (GARDINER, p. 472).

EBERS PAPYRUS RUBRIC 277, COLUMN 50



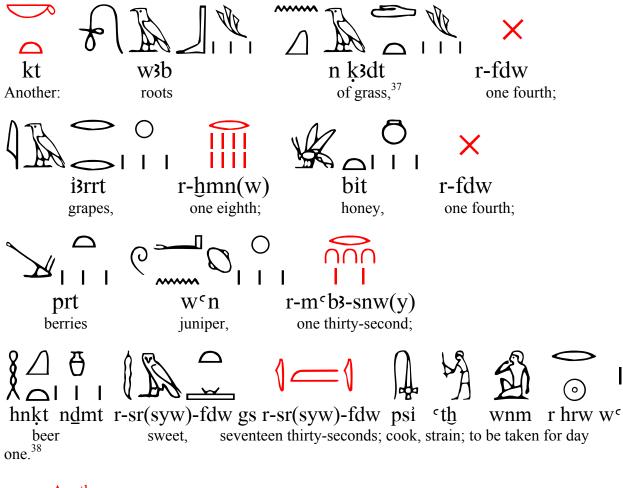
 Nubian ochre
 1/32

 Watered-down honey
 3/64

 Soak, strain; to be taken for four days.

³⁶ Thinking that water is an independent ingredient in this prescription, WRESZINSKI (p. 81) is puzzled by the lack of a quantity here. We propose that the omission is intentional, and that the combination of water and honey means "honey diluted with water."

Rubric No. 278 (Column 50, Line 8):



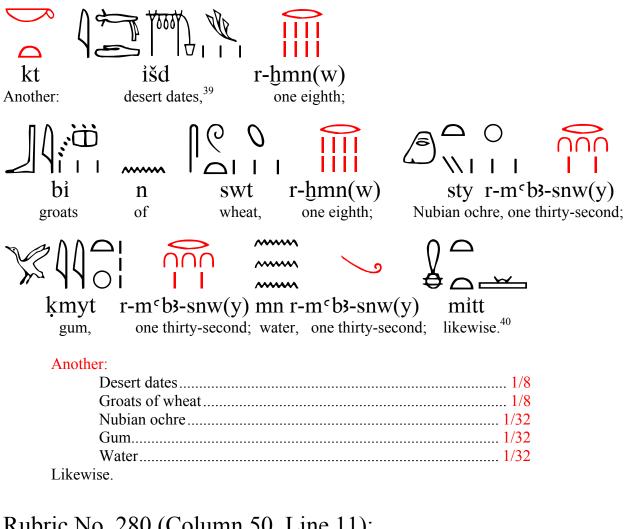
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AI	ιυι	IICI.

Grass roots	
Grapes	
Honey	
Juniper berries	
Sweet beer	
Cook, strain; to be taken for one day.	

³⁷ BUDGE **2**, p. 765. Nunn (p. 154), with some uncertainty, suggests that this plant is a member of the Family Hederacea, perhaps a variety of *Hedera helix*.

³⁸ There is a smudge on the Ebers Papyrus obscuring part of this number of days. The ¹ is quite clear, but the number could have originally been the usual ¹¹¹¹. Perhaps the erasure was deliberate.

Rubric No. 279 (Column 50, Line 10):

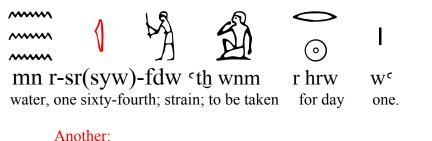


Rubric No. 280 (Column 50, Line 11):



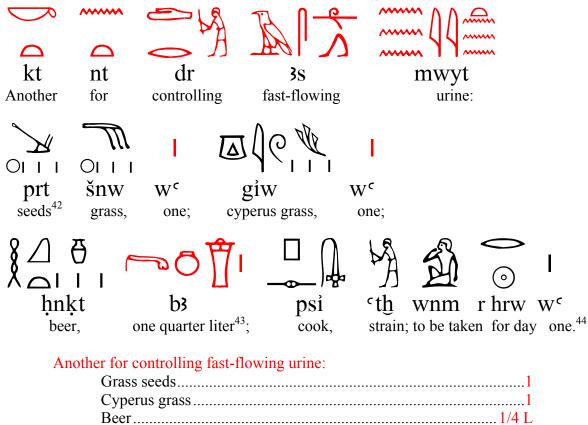
³⁹ Since this representation of išd has the ¹ determinative instead of ^o , a different part of the plant may be implied than that used in Rubric 274.

 $^{^{40}}$ Since this prescription does not end with a set of instructions, we assume mitt implies that the instructions for Rubric 278 also apply here.



i mouloi.	
Gum	
Honey	
Water	
Strain; to be taken for one day.	

Rubric No. 281 (Column 50, Line 11):⁴¹



Cook, strain; to be taken for one day.

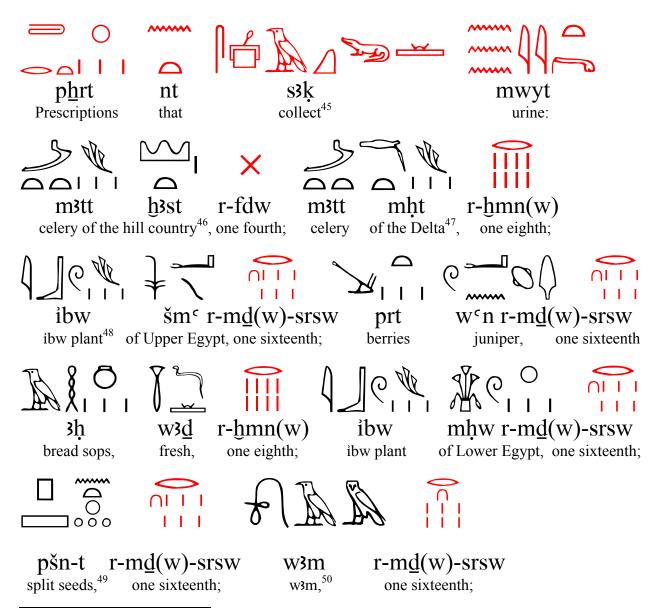
⁴¹ This prescription is largely identical to that of Rubric 276, with the three differences noted.

⁴² Perhaps more convincingly "seeds" rather than "fruits" because of the use of the $^{\circ}$ sign, frequently seen in words for seeds or grain. See the different representation in Rubric 276.

 $^{^{43}}$ This word has two characters in the opposite order seen in Rubric 276.

⁴⁴ The final discrepancy with Rubric 276 is the length of treatment: one day here rather than four days.

Rubric No. 282 (Column 50, Line 13):



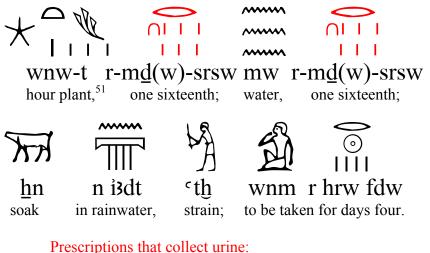
⁴⁵ It is not clear what is meant by this word. Both FAULKNER (p. 211) and BUDGE (**2** p. 639) agree that there is a wide range of possible meanings associated with it. "To pull together" in the sense of collect or assemble seems the most relevant, but whether the author meant "to collect urine from the rest of the body" (that is, to increase the flow of urine), or to "collect the urine together in the sense of concentrating it" (which would decrease the flow), we do not know. GHALIOUNGUI (p. 90) prefers "to retain." Other meanings, for exactly the same set of characters, include "to act with severity or violence, to be strict, to be severe, to behave haughtily" (BUDGE p. 639); it is difficult to rationalize this range of meanings.

⁴⁶ See Rubric 270. Ghalioungui (p. 90) translates this as "parsley (celery of the mountain)."

⁴⁷ These two ingredients represent exactly the two types of m3tt mentioned by Budge (1, p. 268).

⁴⁸ NUNN (p. 155) lists this in his table of "plant remedies which cannot, at present, be translated with any certainty from the Egyptian." It is not to be found in FAULKNER, and BUDGE (1, p. 39) says that I (b), ibw, is a tree sacred to Horus.

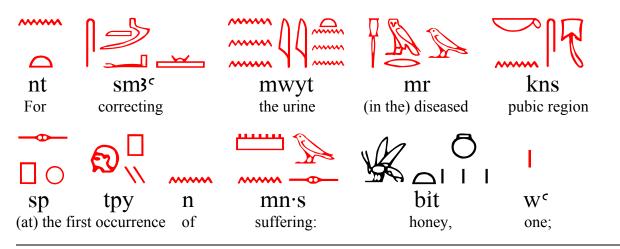
⁴⁹ BUDGE (1, p. 251) says pšhn-t is "a seed used in medicine." We note that the word contains the verb pšn, "to split," hence our translation. Perhaps something like our "split peas," is meant.



Celery of the hill country	
Celery of the Delta	
ibw plant of Upper Egypt	
Juniper berries	
Fresh bread sops	
ibw plant of Lower Egypt	
Split seeds	
w3m	
Hour plant	
Water	
in rainwater strain: to be taken for four days	

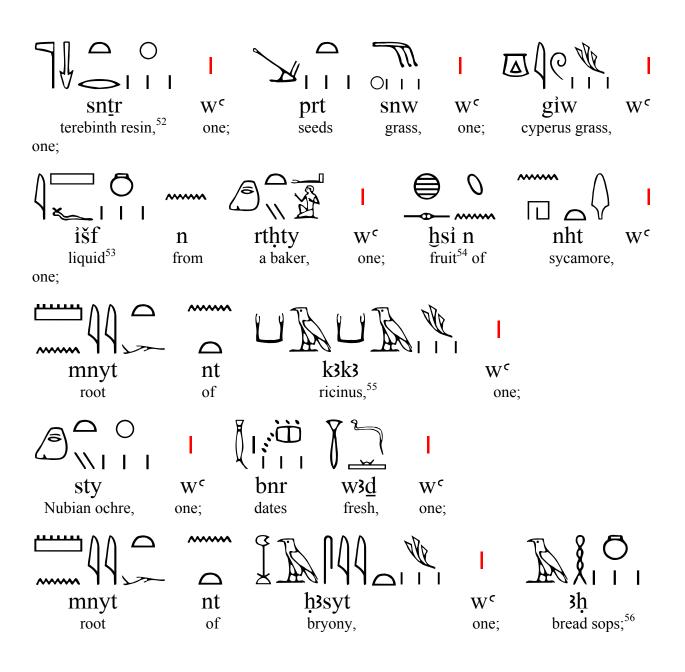
Soak in rainwater, strain; to be taken for four days.

Rubric No. 283 (Column 50, Line 16):



⁵⁰ NUNN (p. 155) lists w3m also in his table of "plant remedies which cannot, at present, be translated with any certainty from the Egyptian." ⁵¹ This plant name contains a variation on the word wnwt, which means a unit of time, or hour. Maybe it is similar

to our "day lily," referring to the duration of a flower. In any case we cannot identify the plant. GHALIOUNGUI (p. 91) prefers to transliterate the word as dwst, "netherworld," which is certainly possible, but just as conjectural.

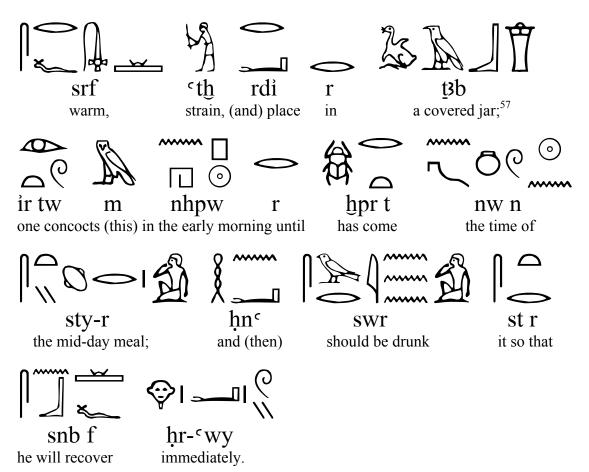


- ⁵² Nunn, p. 158; Ghalioungui, p. 91.
 ⁵³ Budge 1, p. 92.

⁵⁴ "A fruit or plant used in medicine," (BUDGE 1, p. 563).

⁵⁵ The normally conservative GHALIOUNGUI (p. 91) translates k3k3 as "ricinus" (*Ricinus communis*, the castor oil plant, whose seeds contain the toxic protein ricin. On p. 275, however, he presents strong arguments against this translation. All other authors are more vague: "bush" (FAULKNER, p. 284), "plant with a bitter taste" (BUDGE 2, p. 791), and NUNN doesn't discuss it at all.

⁵⁶ Oddly, no quantity is given for this ingredient.



For correcting the urine (in the) diseased pubic region (at) the first occurrence of suffering:

	Honey	1
	Terebinth resin	1
	Grass seeds	
	Cyperus grass	
	Baker's liquid	
	Sycamore fruit	
	Ricinus root	
	Nubian ochre	
	Fresh dates	
	Bryony root	
	Bread sops	
١,	strain, (and) place in a covered jar. One concocts (this) in the early	

Warm, strain, (and) place in a covered jar. One concocts (this) in the early morning up until the time of the mid-day meal; it should (then) be drunk, so that he will recover immediately.

⁵⁷ A jar with a lid on it is used as the determinative, which is not always the case with this word.

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