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# Pros and Cons of Mesopotamian Medical Texts – in particular of Eye Disease Texts

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For Annie Attia
in admiration

## The scope of the paper

The present paper aims to critically assess some of the pros and cons of Mesopotamian medical texts, and in particular of eye disease texts. That part of the paper will adhere to traditional Babylonian medicine scholarship and present its conclusions in the best possible light. However, there is a dark side to such a presentation as there is to similar papers. It deals with the broader questions about cuneiform medical texts that add shadowy ramifications to the many hypotheses that have been made by Assyriologists in similar papers. Several factors like taxonomy and identification of ancient medical terminology and drugs have proved to be more elusive than many scholars make them out to be. This quandary and its repercussions will be discussed here.

## Intro

Mesopotamian eye disease texts form the best-preserved corpus on ophthalmology from the Ancient World. We have only recently begun to place Mesopotamian eye disease texts in the broader history and development of ophthalmological texts from the Ancient World. Therapeutic practices recorded in cuneiform show astonishing similarities with Egyptian, Hittite, Hippocratic, Greco-Roman, Aramaic, Mandaic and Syriac medical sources (see introduction to IGI). These resemblances cannot be a coincidence, but rather point to a global ancient healing system, which calls for an interdisciplinary study in the future.

Two mainstays are discernable in Mesopotamian medical texts: a manual one – focusing on the body, and a verbal one – focusing on the mind. The first is made of remedies (drops, salves, pills, bandages, etc.) manufactured from plants, minerals, and animal substances. The second is represented by medical incantations and applications. Both therapies were in use for more than two thousand years – in the case of eye disease texts (see IGI-intro) – and could be applied together or separately depending on the physician's decision and personal case. In both mainstays we have plenty of uncertain cases that need explanation and have not been addressed in literature.

### A taxonomy concern in the manual therapy

Although we can transliterate, transcribe and translate various prescriptions on eye disease we lack understanding of the medical terminology particularly for the drugs, which are crucial for the therapeutic prescriptions. Seemingly simple words for body parts show complex meanings and can be discussed over and over again[2], but there always will be a slightly different interpretation and connotation. This is due to the fact that first **etymology, although being a good starting point, is uncertain**, and moreover **ancient and modern taxonomies do not correspond to each other**, thus making medical terminology hardly translatable. Precise

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I would like to thank the Journal des Médecines Cunéiformes for organizing the workshop "Médecine mésopotamienne", allowing me to participate and to attend RAI 2019 in Paris. To a large extend, the present paper derives from the critical edition of the Mesopotamian eye disease texts, which will be published in 2020 by M.J. Geller and the present author in the Walter de Gruyter series, Die babylonisch-assyrische Medizin in Texten und Untersuchungen 10: *Mesopotamian Eye Disease Texts: The Nineveh Treatise* (referred to in the present article as IGI). Personal thanks are due to Gene Trabich for suffering with my English.
[2] See for instance *libbu* Cadelli in *JMC* 31, Attia in *JMC* 31 and 33.

understanding requires detailed studies on every single term, which is impossible to achieve when one produces an edition like IGI.

Assyriologists, reading medical texts have their limitation, and the biggest of all is that they often do not consult medical practitioners, nor archaeobotanists.

**The *šīlu* case**

In the case of IGI 3: 70, we might have the following translation: DIŠ NA *ši-li* IGI.MIN-*šú šad-du-ma* 'If perforations of a man's eyes are lengthened'. We can interpret *šīlu* with the help of etymology and other studies: Fincke (2000: 71, 164 etc.) '*Vertiefung*,' and Scurlock and Anderson (2005: 197) translated 'perforation' for *šīlu*. A. Attia, the one and only practicing ophthalmologist with excellent knowledge of cuneiform medical texts, has seen the problem of these translations. Attia 2015: 25 suggests that *šīlu* 'perforation' in this context does not make much sense, since an eye with a hole does not need a healing anymore. One potential solution advocated by A. Attia is that *šīlu* 'perforation' does not refer to the eye but to the eyelid. This will suggest that *īnu* (IGI) 'eye' has more meanings than we give the word 'eye' nowadays. While working on the IGI edition, I had the feeling that although the texts write constantly *īnu* (IGI) 'eye', the ancient scribes often meant not only 'eye', but 'eyelid', 'eyeball' and so on – a taxonomy problem. Stubbornly, in the IGI edition we left a translation of *īnu* (IGI) as an 'eye' where we could.

**The *ninû* case**

Discussions by scholars of the specific meanings of words in an ancient language vary over time depending on the research context. It is impossible for a single scholar to embrace and digest all of these nowadays. However, with the help of etymology we can guess medical conditions and body parts to a certain degree. But what about plants, minerals, and animal products? Let us look at a drug with a well-known etymology. Derivations of the word *ninû* are still used in Oriental languages and beyond, so we can be 'certain' that Akkadian *ninû* is a kind of mint although we have no means to decide which mint is it (Kinnier Wilson 2005: 50ff.). *Ninû* might well be a general description of plants with similar leaf morphology and smell, thus being a general term for a modern botanist. Again, a taxonomy problem: Akkadian uses one word to designate different plants for a modern botanist – recall the case of *īnu* (IGI) 'eye' from above.

**The *kammu* case**

Basically, all drugs in cuneiform are causing translation problems, and *kammu* is a good illustration. CAD translates *kammu* as a 'fungus', Scurlock 2008: 173ff. proposes 'sumac', and the confusion starts. *Kammu* was certainly used as a tanning agent, as Scurlock elucidates, but whether or not it was a fungus or a plant is difficult to say. M. Stol, in his review of the IGI edition, pointed out that *kammu* is not proceeded by the determinative Ú for plants, which is in favor of excluding a plant identification. Also, there is a clue in an administrative text dispatching *kammu* shaped objects. Postgate and Collon 1999: 8 elucidate that: 'while on the subject of *kammu* it seems worth raising the possibility that these metal items used for fixing things to wood or perhaps leather were dome-headed nails or tacks and were called *kammu* because of their mushroom shape.' This comment might be anachronistic, based on how the authors imagine modern champignons. However, their observation might also be correct. Also, the word *kammu* has possible Aramaic cognates for 'truffle,' but only in Palestinian Aramaic, see DJBA: 262 (courtesy of M. J. Geller). Thus, it may be plausible to suggest that *kammu* might have been a fungus rather than a plant. If we accept the translation of a fungus, then we have the most cunning medicinal drug, whose complex morphology and recognition difficulties cost many people's lives each year. So how can we guess which fungus? Let us take a desperate look at 'Pilz' in the *RlA*. It redirects us to the article of M. Stol, '*Trüffel*' in *RlA* 14, which deserves special attention. M. Stol is by far the most prolific and specialized scholar on cuneiform medicinal etymologies. The author insists that *kamūnu*,

*kaʾu*, *gi-ib-i* (> see Arabic *ǧebaʾ*, but add also etymologically the Slavic word *гъба*) all designate '*Trüffel*'. The author is aware that other scholars translate *kamʾatu* as '*Pilz*', but at the end of the article Stol escapes long discussion due to the terse format of the *RlA* and closes the argumentation with: 'Die modernen Dialektproben machen deutlich, dass die Trüffel gemeint ist'. But, is it credible to suggest that in Mesopotamian medicine Babylonians used only *Trüffel* and disregarded other mushrooms, which are much easier to collect than *Trüffel*? Sadly, this is the feeling after consulting the *RlA*. However, we are aware of other languages using the word mushroom, *Pilz*, *ǧeba* or *гъба* mostly as a general designation for diverse mushrooms species. First, let us take a look at the study of Mustafa et al. 2014, which state in their introduction the following:

'Fourty four species of mushrooms belonging to twenty nine genera were collected and identified from different localities in Erbil Governorate of Kurdistan region. *Agaricus* spp., *Clitocybe* spp., *Collybia* spp., *Coprinus* spp., *Cortinarius* spp., *Craterellus* sp., *Crepidotus* sp., *Exidia* sp., *Fomes* spp., *Galerina* sp., *Hebeloma* sp., *Helvella* sp., *Auricularia auricula-judae, Hygrocybe pratensis, Inocybe* sp., *Lactarius* spp., *Laccaria* sp., *Mycena* sp., *Peziza* sp., *Pluteus* sp., *Psathyrella* sp., *Panellus* sp., *Paxillus atrotomentosus, Russula fellea, Scutellinia scutellata, Trichloma* spp., *Tyromyces* spp., *Lepiota* sp. and *Cystoderma* sp., the last two genera were the new record in Erbil, Kurdistan region-Iraq (Toma et al., 2013). As a result, it can be very difficult to distinguish between a country's native fungi and those that have been introduced or have recently arrived from elsewhere (Hall et al., 2003). This study was aimed to collect and identify wild mushroom that grow naturally in different orchards and gardens in the Heet district, Anbar province, Iraq.'

This is a study for only one region of Iraq in the last decade. In other words, it is highly doubtful that in assyro-babylonian times the lands of Iraq have had only '*Trüffel*' and perhaps all other mushrooms were imported later. I will suggest again that we encounter the same problem of taxonomy: Akkadian uses very few words to designate many different mushrooms, among them *Trüffel*. However, we do not have the right means to identify mushrooms and *Trüffel*s with more precision than the one used by Stol.

Note that the mushrooms in the Heet district, Anbar province of Iraq can be best picked from December to February (Mustafa et al. 2014: 31-33), which must more or less apply to other regions of the country as well. This natural appearance of the mushrooms during this season suggests that if a medical practitioner needed mushrooms in other months of the year, he must have had a dried species on the shelf or an artificial plantation, in order to obtain the medicinal drug whenever it was needed.

**The *karān šēlebi* case**

Comparative studies might give us clues about herbs with etymology, but there is a little hope for plants' descriptive names. Here we enter the twilight zone of ancient texts and there seems to be no bright light on the horizon. In fact, drug identifications are even trickier if we combine philology with lavish ethno-comparisons – like the following one. Babylonian plants sometimes bear descriptive Akkadian names like *lišān kalbi* 'dog's tongue' or *karān šēlebi* 'fox-vine/grape'. The latter is partly etymologically connected to the Arabic *inab-ath-thalab* 'fox grape,' which was exported from Iran to India under the Farsi name *sag-anjar* 'dog's grapes' (Hooper and Field 1937: 172). The term also appears in Aramaic '*inby ta'ala*' 'fox grape,' recorded in the Babylonian Talmud, Gittin 70a (courtesy of M.J. Geller). Similar figurative language can be found in the Bulgarian *черно кучешко грозде* (cherno-kucheshko-grozde) 'black dog's grapes' (Vodenicharov and Petrov 2001: 231). Interestingly, *inab-ath-thalab, sag-anjar, and черно кучешко грозде (cherno-kucheshko-grozde)* represent quite similar metaphors, although in different languages. All these names designate black nightshade or its fruits (Solanum nigrum L.). Yet, we cannot read back in time and conclude the same about the Akkadian *karān šēlebi*, nor certainly identify it with black nightshade in Babylonia. Since such drug names represent culturally-constructed figurative language, they are completely inappropriate for strict classification or identification of plants, leaving no hope for matching *karān šēlebi* with its modern botanical counterpart, by employing only

philological and ethno-comparative methods. This does not mean that *karān šēlebi* cannot in fact be black nightshade or its fruits, but it means that we have no way to prove it.

**More etymologies bring more problems**

Disregarding the handicap of etymological 'identifications' is a common approach in Assyriology and beyond, and baffling studies like Dafni and Böck 2019 continue to raise confusion with anachronistic methods based on etymologies, sometimes used to extremes. Diverse radical discussions on plants are growing (see Renaut, *JMC* 10 on Scurlock's *kamantu*, or the *kasû* identification of Eypper, *JMC* 33). But so what? Such identification quests are based on etymology with ethno-comparisons, which is not hard science, and therefore it will always remain uncertain. The same applies to identification on medical substances produced by animals. So is *rikibti arkabi* a 'bat guano' (M. Civil)[3], or is *rikibti arkabi* a 'musk' (J. Scurlock), see the discussion with literature by Chalendar in *JMC* 32. My answer is nobody knows and nobody's data and assumptions are better than anyone else's, simply because assyriologists do not have methodology and means to assess cuneiform medical data with certainty. This desperate state also applies to the pharmacology of the Hippocratic corpus which is basically silenced with the lack of relevant studies (except by Stannard 1961).

**The missing link**

Near Easter scholars did not yet conduct Organic Residue Analysis of vessels inscribed with cuneiform, which importantly contained medical drugs (e.g. Walker 1980 and Finkel and Reade 2002). Thorough laboratory results on Near Eastern objects, in combination with cuneiform medical data, etymological studies by Semitists and botanical comparisons with the help of archaeobotanists will certainly yield new data on Akkadian plants. An example from a analogous subject is worth mentioning here. For years Egyptologists have speculated concerning the substance *snTr*, which they thought to be a frankincense, among others. After Organic Residue Analyses of vessels inscribed with the very same substance it turned out that *snTr* was a pistachio resin (Serpico and White 2000), which exemplified how profoundly confusing older methods for plant identifications are. Yet, indeed just those methods are still in use by Assyriology.

Luckily, there are exceptions in the rare case of some minerals where there is a cuneiform notation on the mineral itself (Schuster-Brandis 2008: 459f.), bringing positive identification of the substance. We can only hope such cases will grow and vessels used for cooking and medicinal practices will yield new inscriptions containing drug names, and most importantly the artefacts will be scientifically analyzed in laboratories.

**Structural issues of the IGI treatise**

Let us turn our attention to textual structure of the IGI series. A striking number of repetitive patterns appear when working with the serialized medical texts from the Nineveh Medical Encyclopedia (Panayotov 2018). For instance, IGI tablet one, according to our IGI edition:

[3] In the IGI treatise, we desperately translated 'bat guano', although I am aware that this product is rather difficult to collect, needing a large and stable population of bats and an appropriate cave or crag where the bat guano accumulates over many years.

| | |
|---|---|
| **26'** *šumma amēlu īnāšu tābīla marṣā šamaškilla uhašša ina šikari išatti šamna ana libbi īnīšu tazarru*[*maʾ inaʾeš*?] | **26'** If a man's eyes suffer from 'dryness': he (the patient) should chop *šamaškillu*-onion (and) drink it in beer. (Then) you sprinkle? sesame-oil into his eyes [and he should get better?.] |
| **Alternative prescription 1** | **Alternative prescription 1** |
| **27'** *qēm aban suluppī turrar tasâk ina mê kasî talâš tukappat lām patān uʾallat* | **27'** You parch (and) pound powder of date stones, you knead (this flour) in the sap of a *kasû*-plant, you roll it (into a pill, which) he swallows before eating. |
| **Alternative prescription 2** | **Alternative prescription 2** |
| **28'** *muṣaʾʾirāna arqa taṣallip marassu ina himēti taballal īnīšu teqqi* | **28'** You dissect a yellow-green *muṣaʾʾirānu*-frog (and) you mix its bile in ghee. You daub his eyes (with it). |
| **Alternative prescription 3** | **Alternative prescription 3** |
| **29'** *hamšat* GAZI *qēm hallūri šeššet* GAZI *qēm kasî hamšat šiqil sahlê ina mê kasî talâš nakkaptāšu īnīšu taṣammid* | **29'** You knead 5 GAZI-measures chickpea powder, 6 GAZI-measures powder of *kasû*-plant, (and) 5 shekels of *sahlû*-plant in the sap of a *kasû*-plant. You bandage his temple (and) his eyes. |

L. 26'. Empirical experience must be mirrored here: chopping onion causes tearing which mechanically counteracts dryness of the eyes. It seems like an invasive measure, since the active substance which causes tearing is a gas produced by the damaged onion cells, which gets into the eyes and irritates them – thus letting tears flow. The drinking of the onion in beer might be an unpleasant act too, causing tearing as well, but this is only an assumption. I guess that internal medication cannot swiftly ease acute eye dryness. Ll. 27'-29' contain three alternative prescriptions for the same case of dry eyes. The first alternative prescription suggests internal medication from date stone powder and *kasû*-plant before eating. We cannot assess the medicinal properties of this remedy, since we do not know what *kasû*-plant is, even if we believe that *qēm aban suluppī* powder comes from date-stone. The medicinal effects of this remedy might be questioned in case of dry eyes. The second alternative prescription mentions a remedy applied as an ointment over the eyes from frog's bile and ghee. We might only hope such treatment went well. It might be that this salve irritated the eyes and produced tearing to counteract the dryness. But how can we know? Alternative remedy number three prescribes bandaging the temples with kneaded mixture of plants, but the unsure identifications leave any interpretation open.

The first major question concerning the structure of these prescriptions is: why there are three alternative prescriptions for the same case? Since the Nineveh Medical Encyclopedia is a collection of prescriptions this seems logical. But, were all four therapeutic remedies effective in the same way or only the first one was really effective and were the others a backup? Obviously, all four prescriptions were for the same case, and they were organized and put together during different redactions of what we know as the Nineveh Medical Encyclopedia, the final product. So, imagine, a medical practitioner consults these four cases in Nineveh. Will he pick up all four, three or only two, and use them one after another or arbitrary? I believe the medical practitioner had to say what he will use and what will not be used in each personal case. If he chooses only one remedy, will his choice reflect the ingredients at hand? Sure, onion was available, but a frog's bile might have been hard to obtain in the hot Iraqi summer. Could frog's bile be preserved? Was there a pond in Nineveh with frogs, which could be fetched whenever the need arises? All these questions do not have answers for now (neither in Bácskay 2018), but they are important during the healing process, which was the final product and the ultimate aim of these texts.

We can guess at different scenarios with the help of the Royal letters from Nineveh (see IGI-intro). However, we do not know for sure who consulted the IGI treatise in Nineveh and when they looked at it but it is obvious that remedies from the Nineveh Medical Encyclopedia were used by Royal physicians (see IGI intro). We do not know if physicians from other cities were allowed to consult the Nineveh Medical Encyclopedia. Was this precious collection only to be used by the Royal court? The parallel prescriptions from other cities (see manuscripts' sections in the IGI edition) make it obvious that the data in the Nineveh Medial Encyclopedia was not reserved for Nineveh alone, but remedies were widespread across the whole of Mesopotamia. The practical side of all this precious data still remains partially or entirely in the dark.

**Mind therapy**

'The use of magical incantations within Akkadian medicine has long been recognized as a characteristic feature of healing therapy in Babylonia...' (Geller 2007: 389). Still, therapeutic incantations are not always addressed when scholars discuss medical data. Medical incantations are integral, emic part of cuneiform therapeutic texts and every etic modern discussion of cuneiform medical data, which disregards therapeutic incantations disjoints Mesopotamian medicine.

Most of the incantations that we find in the Nineveh Medical Encyclopedia seem to be verified only there. Why? This might be a trick of circumstances but this is the state-of-the-art so far. What is perplexing about medical incantations is that in some cases they seem totally inappropriate to classification according to ancient systems of classification based on incipits – like the incantations in diverse compendia studied by Geller 2000. What do I mean with this? Let us turn back to the IGI edition. In the first chapter of IGI we have the following scenario. Diverse incantations start with similar incipits in IGI tablet one, which are rather long, compare lines:

**Incantation** **89'** *šiptu* igi bar igi bar-bar igi bar-ra bar-bar igi huš igi huš-huš igi bar-ra huš-huš
**90'** igi bar ná-a igi bar da-a igi bar hul-a *īnā abâtu īnā ašâtu*

**Incantation** **98'** *šiptu* igi bar igi bar-bar igi bar-ra bar- bar igi huš igi huš-huš igi bar-ra huš- huš
**99'** [igi bar ná-a igi] bar da-a igi bar hul-a *īnā ap/bâtu īnā ašâtu īnā ša dāma malâ*

**Incantation** **110'** *šiptu* igi bar igi bar-bar igi bar-ra bar-bar igi huš igi huš-huš igi bar-ra huš-huš
**111'** igi bar ná-a igi bar da-a igi bar hul-a *īnā apâtu īnā ašâtu*

**Incantation** **119'** *šiptu* igi bar igi bar-bar igi bar-ra bar-bar igi hul igi hul-hul igi bar-ra hul- hul

**Incantation** **125'** *šiptu* igi bar igi bar-bar igi bar-ra bar-bar igi sùh igi sùh-sùh igi bar-ra sùh-sùh

**Incantation** **132'** *šiptu* [igi bar] igi bar-bar [...] igi bar huš-huš
**133'** [...] igi bar-ra nu gi-na

The above-mentioned incipits belong to six different incantations, although the incipits seem like variations at first sight. However, if we take a closer look at the first three incipits together, we see the following:

**Incantation** **89'** *šiptu* igi bar igi bar-bar igi bar-ra bar-bar igi huš igi huš-huš igi bar-ra huš-huš
**Incantation** **98'** *šiptu* igi bar igi bar-bar igi bar-ra bar-bar igi huš igi huš-huš igi bar-ra huš-huš
**Incantation** **110'** *šiptu* igi bar igi bar-bar igi bar-ra bar-bar igi huš igi huš-huš igi bar-ra huš-huš

Yes, we see that these incipits are identical, although their incantations are not, and if we use an incipit as a method of classification, then we desperately need the second line of these three different incantations in order to be able to notice a difference. This is a bit of a stretch and will not work either. Maybe this is why such incantations did not go into compendia with medical incantations but were preserved only within therapeutic texts. Can this be true? There seems to be a fundamental difference between incantations within rituals and such used

together with therapeutic prescriptions. The latter address the state of the sick person and portray etiology of disease. They are the only remains of implicit theory recorded in Babylonian medicine. Therapeutic incantations help the patient imagine his situation with metaphorical expressions which are easily understandable (see IGI intro of M. J. Geller). However, in the case of abracadabra incantations, the secrecy of its power was the weird language which may have directly addressed the evil pathogens – ghosts and demons. Notably, incantations within therapeutic texts **are not** linked specifically to ghosts or demons – assumption often made by modern scholars.

| | |
|---|---|
| **2** *enūma īnāšu burṣa iddanaggalā šugidimmakku* [...] | [2]When his eyes repeatedly see a flash of light: (it is) a 'Hand of the Ghost' [...] |
| **3** *ana bulluṭīšu šadânu ṣābitu annakku kutpû* [...] | [3]In order to heal this condition (lit. it): magnetite, tin, [black] frit [...] |
| **4** *mūṣu zalāqu uqnû šubû aban tašrīti erû zikaru* [...] | [4]*mūṣu*-stone, *zalāqu*-stone, lapis lazuli, *šubû*-stone, *tašrītu*-stone, male copper (bead), [...]-stone [...] |
| **5** [*zēr*] *bīni zēr ēri zēr ašli zikari ashar* [... *šammī annûti ištēniš tahaššal*] | [5][seed] of tamarisk, seed of *ēru*-tree, seed of male rush, *ashar*-stone [... you crush these drugs together], |
| **6** *tašappah ina lipî kalīt alpi ṣalmi kīma kamma ina muhhi erî tasâkma* [*īnīšu kayyamānamma teqqīma ina'eš*] | [6]sprinkle, and pound (them) in kidney fat of a black ox – like (you pound) *kammu*-tanning-fungus over copper – and [you regularly daub his eyes, and he will get better.] |
| **Alternative prescription 1** | **Alternative prescription 1** |
| **7** [*ana ašri šanîmma*] *zēr bīni zēr ēri zēr ašli* [*zēr* ...] | [7][Alternatively: (when his eyes repeatedly see a flash of light)]: seed of tamarisk, seed of *ēru*-tree, seed of *ašlu*-rush [*seed of ..., and*] |
| **8** [*zēr*] *burāšī kīma qutāri īnīšu u nakkapti* [...] | [8][*seed*] of juniper as fumigation for the eyes and (head-) temple [...] |

In the first prescription ll. 2-6, stones were employed for producing a salve with which the healer daubed the eyes of the person. Since daubing the eyes with crushed stones was certainly inducing more harm than healing, I guess with 'eyes' is meant 'eyelids,' as suggested above as well.[4] But are stones a criterion when fighting ghosts in medicine? The alternative prescription for the same case answers: no. This test can be done with many other cases. What is important is that stones are not exclusively connected to demons or ghosts in medicine but seem more often applied in such cases. Also, other therapeutic means as fumigation come into play in cases of ghosts.

It is apparent from the IGI treatise, which so far applies to the whole Nineveh Medical Encyclopedia, that not every remedy and prescription was used with an associated incantation. However, an incantation seems to be often connected to the short therapeutic application which mostly follows the very same incantation. A swift look at IGI tablet one makes this persuasive with the following pattern: Incantation (ÉN) followed by its medical application (DÙ.DÙ.BI), showing that within a section of IGI tablet one there was a special place only for this sequence: Incantation-and-its-medical-application. Notably, that structure repeats and was not interrupted with therapeutic prescriptions, which confirms again how integral incantations for healing in Mesopotamian medicine were.

Still, when were incantations used? Which are the criteria for using eye-disease incantations? Were they used only as a last resort, or always employed?

[4] For the technique of smearing *kammu* over copper, which is part of the tanning process see Scurlock 2008: 173ff.

**Official vs. Samizdat**

The official part of the whole medical corpus, we are aware, is represented by the Nineveh Medical Encyclopedia and its synchronic and diachronic versions, which were all parts of libraries and archives (Panayotov 2018). On the other hand, we have plenty of small fragmentary tablets with fewer or single prescriptions, which seem to represent samizdat traditions of healers, having their local signatures. But, on the whole prescriptions and incantations both in the official and samizdat traditions all seem to follow a global concept of Mesopotamian healing, and for now we do not see any particular deviations of this standard healing. But, can this be true or is it only the trick of circumstances of the information available?

**Conclusion**

The reality is that the identification of drugs and medical terminology recorded in cuneiform is far from positive and we should have this in mind with every realistic assessment of the Mesopotamian medical data, so long as we do not have an empirical scientific data. Unfortunately, the ongoing vicious circle continues and will be followed by most scholars who insist on their 'correct' etymological identifications, which will remain highly uncertain unless proven wrong or right by scientific methods. The outcome is that many people follow opinions of others without any assurance of their correctness, which shows how unscientific Assyriology nowadays still is. We also could not escape this vicious circle on many occasions in the IGI edition of BAM 10. The state-of-the-art pertaining to drug identifications demonstrates that modern Assyriology is helpless without laboratory tests, which will provide a scientific base for proper identifications, and evaluations of ancient medicinal properties, in order to see if Mesopotamian medicine has any implications for modern day medicine. Assyriology is still very old-fashioned field which lacks new methods. One crucial development in the last three decades is that real medical practitioners have taken a deep interest in the Mesopotamian material and established a specialized journal- *JMC* (see also Stol in *JMC* 3). Without the help and critics of A. Attia, we (M. J. Geller and myself) would never have been able to make the edition of the IGI treatise.

Abbreviations can be found at http://www.rla.badw.de/reallexikon/abkuerzungslisten.html, except of the following:

IGI **Geller M. J., Panayotov S. V. 2020.** *Mesopotamian Eye Disease Texts: The Nineveh Treatise*. Die babylonisch-assyrische Medizin in Texten und Untersuchungen 10, Berlin/Boston: Walter de Gruyter.

DJBA **Sokoloff M. 2002.** *A Dictionary of Jewish Babylonian Aramaic of the Talmudic and Geonic Periods*, Ramat-Gan (Israel)/Baltimore: Bar Ilan University Press/Johns Hopkins University Press.

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