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

Strahil V. Panayotov[1]

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

[1] British Museum and Bulgarian Academy of Sciences.
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*ʾ]	**26'** If a man's eyes suffer from 'dryness': he (the patient) should chop *šamaškillu*-onion (and) drink it in beer. (Then) you sprinkle[ʾ] sesame-oil into his eyes [and he should get better[ʾ].]
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.

References

Attia A. 2015. Traduction et commentaires des trois premières tablettes de la série IGI, *JMC* 25, 1-120.

Attia A. 2018. The libbu our second brain? (part 1), *JMC* 31, 67-88.

Attia A. 2019. The libbu our second brain? Appendix part 2, *JMC* 33, 50-92.

Bácskay A. 2018. 'Seize a frog!' The use of the frog in medical and magical texts, *JMC* 32, 1-16.

Cadelli D. S. 2018. Les parties du corps dans la série *šumma amêlu maruṣ*, *JMC* 31: 2-25.

Chalendar V. 2018. Éléments de pharmacopée mésopotamienne : retour sur l'ingrédient *rikibtu*, *JMC* 32, 24-55.

Dafni A., Böck B. 2019. Medicinal plants of the Bible — revisited. *Journal of Ethnobiology and Ethnomedicine*. https://doi.org/10.1186/s13002-019-0338-8
Eypper S. C. 2019. *kasû*(^{Ú}GAZI^{ŠAR}) Revisited, *JMC* 33, 35-49.
Fincke J. C. 2000. *Augenleiden nach keilschriftlichen Quellen. Untersuchungen zur altorientalischen Medizin*, Würzburger medizinhistorische Forschungen 70, Würzburg: Königshausen & Neumann.
Finkel I. L., Reade J. E. 2002. On Some Inscribed Babylonian Alabastra, *Journal of the Royal Asiatic Society of Great Britain & Ireland* 12, 31-46.
Geller M. J. 2000. Incipits and Rubrics, in A. R. George, I. L. Finkel (eds.), *Wisdom, Gods and Literature: Studies in Assyriology in Honour of W. G. Lambert*, Winona Lake: Eisenbrauns, 225-258.
Geller M. J. 2007. Incantations within Akkadian Medical Texts, in G. Leick (ed.), The Babylonian World, New York/London: Routledge, 389-399.
Hooper D., Field H. 1937. *Useful Plants and Drugs of Iran and Iraq*, Botanical Series, Field Museum of Natural History 9/3, Chicago, Illinois: Field Museum of Natural History Chicago.
Kinnier Wilson J. V. 2005. Notes on the Assyrian Pharmaceutical Series URU.AN.NA: MAŠTAKAL, *JNES* 64, 45-51.
Mustafa N. O., Mowafaq M. M., Wee C. T. 2014. First Collection and Identification of Wild Mushrooms in Western Iraq, *Journal of Advanced Laboratory Research in Biology* 5(2), 29-34.
Panayotov S. V. 2018. Notes on the Assur Medical Catalogue with Comparison to the Nineveh Medical Encyclopaedia, in U. Steinert (ed.), *Assyrian and Babylonian Scholarly Text Catalogues: Medicine, Magic and Divination*, Die babylonisch-assyrische Medizin in Texten und Untersuchungen 9, Berlin/Boston: Walter de Gruyter, 88-118.
Postgate J. N., Collon D. 1999. More stray Assur tablets, *SAAB* 13, 1-16.
Renaut L. 2007. A short note on JA Scurlock's identification of the *kamantu*-plant with *Lawsonia inermis* L, *JMC* 10, 47-48.
Schuster-Brandis A. 2008. *Steine als Schutz- und Heilmittel. Untersuchungen zu ihrer Verwendung in der Beschwörungskunst Mesopotamiens im 1 Jt. v. Chr*, Alter Orient und Altes Testament 46, Münster: Ugarit-Verlag.
Scurlock J.A. 2008. On some Terms for Leatherworking in Ancient Mesopotamia, in R. D. Biggs, J. Myers, M. T. Roth (eds.), *Proceedings of the 51st Rencontre Assyriologique Internationale held at The Oriental Insitute of The University of Chicago July 18-22, 2005*; *dedicated to the memory of Erica Reiner*, Series in Ancient Oriental Civilization 62, Chicago: The Oriental Institute of the University of Chicago, 171-176.
Scurlock J.A., Andersen B. R. 2005. *Diagnoses in Assyrian and Babylonian Medicine. Ancient Sources, Translations, and Modern Medical Analyses*, Urbana/Chicago: University of Illinois Press.
Serpico M., White R. 2000. The botanical identity and transport of incense during the Egyptian New Kingdom, *Antiquity* 74, 884-897.
Stannard J. 1961. Hippocratic Pharmacology, *Bulletin of the History of Medicine* 35, 497-518.
Stol M. 2004. A few introductory words, *JMC* 3: 1.
Stol M. 2014. Trüffel, *RlA* 14, 149-150.
Vodenicharov D. G., Petrov A. 2001. *Otrovni rastenija i otravjanija s tjah* (Воденичаров Д. Г., Петров А., Отровни растения и отравяния с тях), Sofia: Pensoft.
Walker C. B. F. 1980. Some Mesopotamian Inscribed Vessels, *Iraq* 42, 84-86.

Engendering Healthy, Royal Heirs
Some Notes on the Rationale behind the 'female' sub-series in *Alamdimmû* and *Sakikkû*

Francesca Minen[1]

Introduction

As scholars of Mesopotamian medicine, we came to understand much more of this ancient Near Eastern medical system in the last decades. Individual and collaborative research contributed to deepen our understanding in this difficult but fascinating field. *Le Journal des Médecines Cunéiformes* itself testifies to almost twenty years of research activities, catalyzing attempts at recomposing both individual texts and composite series, providing inedited or revised translations, reconstructing medical theories and practices, as well as discussing methodological approaches. In particular, most recent efforts have been directed towards the publication of the texts collected by Reginald Campbell Thompson (1923) and Franz Köcher (1963-1980). The on-going investigation of these sources have disclosed important aspects pertaining to Babylonian therapy, such as ingredients, their properties, preparation and administration to the patient. As demonstrated by the contributions collected in this issue, crucial aspects need to be further discussed and analyzed.

To the contrary, the Diagnostic Handbook *Sakikkû* has been almost completely edited and reconstructed.[2] Nonetheless, there are still aspects of this series that still need to be addressed, starting from its relationship with the physiognomic handbook *Alamdimmû*. We may derive crucial information from the *Catalogue of Esagil-kīn-apli*, providing the incipits of the tablets of both reference works and, strikingly enough, a note by Esagil-kīn-apli himself, which is a unicum in the framework of cuneiform sources.[3] In fact, it delivers to us the voice of its author, who describes its editorial work on the series, establishes his scholarly authority to do so and provides instructions on the use of both series.[4] In the light of its contents and significance, previous scholars had difficulties in assessing the nature of such text with a satisfying label: most recently, E. Schmidtchen (2018a-b) adopted the more neutral designation 'editorial note'. Nevertheless, the underlying programmatic intent conferred by the Esagil-kīn-apli himself would justify, in our view, its classification as a proper 'manifesto'.[5] The final lines of the text read as follows:[6]

> 'Pay attention! Take care! Do not neglect your knowledge! The one who has not obtained knowledge shall not speak (about) *Sakikkû*, and tell (about) *Alamdimmû*. *Sakikkû* is the compilation concerning disease, depression (and distress), *Alamdimmû* (is about) the features and the (human) shape, the fate of mankind, which Ea and Marduk/Gula (?) established. Regarding both series, their *arrangement* is one. [The exorcists], who makes the decision, who watches over people's lives, who knows *Sakikkû* and *Alamdimmû* in its entirety, shall inspect, check, [ponder], and offer (his) *interpretation* to the king.

This extract is interesting for two reasons. Firstly, Esagil-kīn-apli establishes an affinity between the two scientific disciplines of diagnosis and physiognomy. Secondly, he

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[2] The *editio princeps* of the Diagnostic Handbook *Sakikkû* (Labat 1951) contributed to raise general awareness towards Mesopotamian medicine, while a recent monograph (Heeßel 2000) succeeded in attracting fresh attentions to Assyro-Babylonian diagnostics. A recent updated English translation increased the accessibility towards this almost completely edited work (Scurlock 2014). Worth mentioning are also the most recent monographs of J. Z. Wee on the commentaries of *Sakikkû* from Late Babylonian Uruk (Wee 2019a-b).

[3] The text came down to us thanks to the manuscripts ND 4358+ from Nimrud and BM 41237+, possibly from Babylon and edited by Finkel 1988. Schmidtchen (2018a-b) offered a new edition and commentary of the text.

[4] A detailed analysis of the motifs of the editorial note can be found in Schmidtchen 2018a: 147-150.

[5] The text has been indicated as 'colophon' by Finkel 1988 (with the related problems discussed by Schmidtchen 2018a: 147-148), 'postscript' by Kinnier Wilson 1956: 136-140, 'manifesto' by Wee 2015: 252-255.

[6] We follow the edition of Schmidtchen 2018a: 147-150, ll. 62-71, including italics.

encourages his disciples to ultimately put their knowledge at the service of the king. One may easily understand why *Alamdimmû* and *Sakikkû* may constitute a twin-series: by focusing on the visible signs on healthy and sick bodies respectively, their contents and focus are complementary.

More controversial is the mention of the sovereign and his relationship with the scholars and their knowledge, as exemplified by the different translations proposed by scholars in the past of the ending line *ana* LUGAL ME-*a* (*qība*) *liš-kun*, which can be translated as "give a prognostication to the king".[7] According to E. Schmidtchen, "the concluding dedication of the series' use in service of the king should be understood as a political comment rather than a statement about the exclusive use of both series for the king. In any case, it is not unusual that a highly learned scholar such as Esagil-kīn-apli with access to the relevant texts stood in the service of the king and palace"[8]. In fact, as evidenced by Nils P. Heeßel, the king had a crucial role as mediator between deities and humanity. Health and sickness were believed to reflect the state of the relationship between an individual and his personal deity. In the case of the king, they had a significance not only for himself, but also for his subjects and the state as a whole. On the other hand, the physiognomic series *Alamdimmû* has been interpreted as a handbook directed at selecting the most appropriate officials and priests, which ultimately served the king as well.[9]

Interestingly enough, both series featured a sub-series collecting the signs observed on female bodies. In this contribution, we will present both of them and provide a possible explanation for their inclusion in the reference works for diagnosis and physiognomy, adding further insights in the statement of Esagil-kīn-apli connecting these disciplines to the sovereign.

1. The 'female' sub-series in context

1.1. *Alamdimmû* and *Šumma sinništu qaqqada rabât*

The physiognomic series consisted originally of 27 tablets (or chapters) and has been edited by Barbara Böck (2000), with the exception of five chapters which have not been preserved.[10] According to Esagil-kīn-apli's catalogue, the chapters have been arranged into five sub-series. The first one, *Šumma alamdimmû* ("If the figure"), gives name to the whole handbook: it consists of twelve tablets dedicated to the appearance of men's bodies.[11] The two following sub-series are to be considered physiognomical in the wider sense, as they refer to human behavior: *Šumma nigdimmû* ("If the outward look") collects omens related to conduct, while *Šumma kataduggû* ("If the statement") is concerned with speech.[12] The fourth and fifth sub-series are dedicated respectively to the examination of women bodies and skin appearing on a person's body (men and women). The latter consisted (most likely) of nine chapters, examining different dermatological imperfections, starting from *liptu* (hence the title *Šumma liptu* for the sub-series).

The female section, within the scope of our contribution, is known as *Šumma sinništu qaqqada rabât*, "If a woman has a big head".[13] According to the *Catalogue of Esagil-kīn-apli*, it consisted originally of two tablets: the current edition by B. Böck (2000) presents seven

[7] Finkel 1988: 148 reads the final sentence as "let him put his diagnosis at the disposal of the king".
[8] Schmidtchen 2018a: 149.
[9] Böck 2000: 55-57; Böck 2010: 214.
[10] Böck 2000. On the hypothesis of an original set of thirty chapters linked to divine numerology, see Scurlock 2003: 396 and Böck 2010: 200.
[11] An interesting section is *Alamdimmû* 3, 76-133, recently commented in Bilbija 2008, Frahm 2010: 93-142 and Minen 2020 (especially pp. 11-12).
[12] Unfortunately, only a small fragment out of its two tablets is preserved (Böck 2000: 2). It has been argued that *Šumma kataduggû* would have been of use to the king thanks to guidance in ruling (Böck 2010: 214).
[13] Böck 2000: 148-173.

fragments belonging to the first one.[14] Most of them are very fragmentary, preserving either protases or apodoses.[15] The only manuscript allowing for an extensive content analysis is the fourth (reconstructed on the basis of more testimonies), comprising 265 omens. These are arranged in a head-to-foot order, following the physical traits given in the protases. The bodily appearance is connected in the apodoses with information and predictions related to the inspected woman, namely (positive of negative) behavioral qualities and tendencies; (mis)fortunes for herself, her husband and her household; her fertility, pregnancy and her capability to bring it to term. In this sense, the female omens of *Alamdimmû* are not completely in line with the general principle by which "all predictions refer exclusively to the person who is object of or subject to visual inspection"[16]. In fact, all these information, in one way or the other, had a relevance for men as prospective husbands, explicitly mentioned in some of the omens.[17] The most desirable woman had to be easy to be with and capable to sustain his spouse as well as his households, also through the generation of offspring. In other words, a woman was conceived ideal not depending on her character alone, but ultimately on her potential to become a good wife, where 'good' is to be intended also as 'likely to able to get pregnant and bring a pregnancy to term'.

It is worth noting that these omens display a clear connection between women's generative faculties and the shape of relevant physical traits, such as breasts, nipples, navel, genitals and buttocks.[18] The following omens will suffice to illustrate the point:

143. 'If a woman has (var. abnormally) big breasts, she will be rich; she is a 'woman of god'.
144. If they are small, she will be treacherous, she will be promiscuous.
156. If the breasts of a woman are abnormally big, she is a 'woman of god'.
157. If the breasts of a woman are little, there will be losses for her.
205. If the buttocks of a woman are very big, she is a 'woman of god'.
208. If her labia are very large, she is a 'woman of god'.
209. If they are very thin, she is a woman that will have difficulties in childbirth.

Overall, these omens reveal an awareness concerning the size of given anatomical parts and its consequences for the outcome of childbirth. It seems that smaller genitals and pelvic area in general were already responsible for difficult deliveries: according to a set of interesting incantations, these occurred when a baby was literally 'stuck' inside its mother.[19] The prototype of the ideal woman (*ilānītu*, i.e. 'woman of god') conveyed in these omens is characterized by abundant physical features. Such traits remind us of the steatopygous Venus figurines from the Upper Palaeolithic or the 'mother goddesses' from Neolithic Anatolia, together with their association to women's fertility, capability to conceive and bring a pregnancy to term.[20]

1.2. *Sakikkû* and *Šumma ālittu arâtma*

Sakikkû ("Symptoms"), the diagnostical counterpart of *Alamdimmû*, comprised originally 40 tablets (or chapters), organised into six sub-series. The handbook was also known from the incipit of its first section: *Enūma ana bīt marṣi āšipu* (KA.PIRIG) *illaku*, "When the *āšipu*

[14] Böck 2000: 16-17 explained that there was no way to identify the material belonging to the second tablet.
[15] In particular, the remaining protases in the first (BM 134523 = CT 51 153) and second fragment (K 9230) are related to dermatological traits of women, namely complexion and the lesion *ḫalû*. Fragmentary omens on the fifth fragment (K 10511, 14-17) ascribe to *umṣātu*-lesions (especially appearing on a woman's genitals) the possibility of negative outcomes (even becoming a widow).
[16] See Böck 2010: 202-203, stating also that "as compared to predictions referring to king and country compiled in omen handbooks such as *Šumma izbu*, *Šumma ālu*, *Enūma Anu Enlil*, or extispicy, the impact of physiognomical omens was very limited and reduced: whether a man had a black fleck behind or on top of his left ear scarcely concerned anybody else but him, since he would have to cope with the consequences".
[17] See, e.g., ll. 106, 109, 111, 113, 229, 231, 240c, according to Böck 2000: 156-169.
[18] Böck 2010: 202.
[19] See Bergmann 2008 (especially 55-56).
[20] Leick 1991: 120; Couto-Ferreira 2008: 27-30, Minen 2018: 172-173.

goes [to the house of] a sick man". The omens collected in the two tablets of this sub-series stem from the occurrence of unusual phenomena observed over the healer's itinerary and deemed significant for a prediction of the patient's prognosis.[21] The heart of the handbook is the second sub-series, *Ana marṣi ina ṭeḫêka*, 'If you approach the patient', comprising Tablets 3-14. The protases register the symptoms of sickness observed on a (male) patient's body and, as *Alamdimmû*, are arranged from head to foot. The apodoses reduce the wide variety of symptoms into a range of possibilities comprised by the opposing poles of life and death.[22] The following sections are guided by different organizing principles. The duration of disease is the focus of *Šumma ūm išten mariṣma šikin lipti*, 'If he is sick for one day and the appearance of the touch' (Tablets 15-25), while neurological complaints are at the centre of *Šumma miqtu imqussuma sakikkû* AN.TA.ŠUB.BA, 'If *miqtu* befalls him and the symptoms of AN.TA.ŠUB.BA' (Tablets 26-30). The fifth sub-series *Šumma ṣētu iḫmussuma*, 'If *ṣētu*-fever has made him feverish' has not been completely preserved: Tablet 31 is dedicated to fevers, while tablet 33 describes the appearance and the symptoms of different ailments, namely of dermatological nature.

The female sub-series *Šumma ālittu arâtma*, 'If a fertile woman is pregnant', consisted originally of five tablets and concluded the Diagnostic Handbook. Even we have not retrieved half of the section, catalogues and colophons helped us in reconstructing the following arrangement of its contents. Tablet 36 is almost complete, with the exception of some fragmentary lines. It collects 115 omens stemming from the observation of the physical features of a (healthy) pregnant woman, but also includes symptoms descriptions, attitudes and activities during pregnancy, such as sexual intercourse in its closing section.[23] About 20 lines at the beginning of Tablet 37 are preserved. They provide cases of coitus with sick pregnant women,[24] but also refer to strange behaviors and symptoms varying from day to night and vice versa. Protases either are followed by a prognosis for the woman (such as death, worry, recovery, and also the future of her household), or report on the (super)natural cause of her symptoms.[25] Albeit not preserved, the rest of Tablet 37 may have continued the listing of symptoms experienced by pregnant women.[26] The following Tablets 38-39 are not preserved, with the exception of their catch-line. The incipit of the former mentions woman's 'waters', referring either to obstetrical anomalies or the rupture of the amniotic sack and, thus, the onset of labor in childbirth. The mention of a *ḫarištu* ("a woman in confinement") at the beginning of the latter points to postpartum complications.[27] The last chapter of the

[21] As such, they should be classified as terrestrial omens: some of them are attested also in the *Šumma ālu* series (see Heeßel 2001). This explains why Scurlock 2014 does not include the edition and translation of these first two tablets. Nonetheless, there must have been a reason for their inclusion and their foremost position within the Handbook. Attempts at deciphering their medico-diagnostical relevance have been carried by George 1991, Finkel 2014 and Wee 2019a-b.

[22] Labat 1951: xxviii-xxix; Heeßel 2000: 63.

[23] On the omens related to intercourse during pregnancy, see Minen 2018: 190-193 and Minen forthcoming.

[24] The chapter is known as DIŠ MUNUS.PEŠ$_4$ GIG-*ma*, "If a pregnant woman is sick". Both Tablets 36-37 have been studied by Stol 2000: 193-203.

[25] Such as the *lilû*-demons, in *Sakikkû* 37, 12-14: "If a woman is ill and her affliction always afflicts her during the night, it is an affliction of *lilû*. If a woman is ill and her affliction always afflicts her in the evening and she continually takes her clothes off, it is an affliction of *lilû*. If a woman's illness always afflicts her during the night, it is an affliction of *lilû*" (Scurlock 2014: 256).

[26] Heeßel 2019 published a recently discovered fragment from a related commentary.

[27] According to Esagil-kīn-apli's catalogue the incipits read, respectively: DIŠ MUNUS A-*šá ʾina*?ʾ UD 3.KÁM [...], "If a woman – her water flows (for) three days" and DIŠ MUNUS *ḫa-riš-ʾti iʾ-di-ip u ʾi-giš*ʾ*-šú*, "If a woman in labour is bloated and belches" (Schmidtchen 2018a: 140). Nevertheless, according to CAD Ḫ s.v. *ḫarištu* A-B, 103-104, the term could have designated also a (temporarily) impure woman because of her menstruation (see van der Toorn 1989). As such, as we would say these days, she needed to be 'socially distanced'. The treatment of puerperal symptoms is attested in therapeutic ob-gyn texts, such as SpTU IV 153, BM 38624, BAM III 240. See Steinert 2013, Scurlock – Andersen 2005: 281-282, Minen 2018: 197.

handbook, Tablet 40, collects pediatric symptoms affecting newborn, infants and children up to four years in over 120 lines. The omens show that physicians, when visiting a baby, checked its reflexes, the presence of congenital problems or disorders. Moreover, they monitored its development in length and weight in respect to its appetite or nourishing habits. Related problems were assessed and linked either to the baby's health or the milk it suckled. Interestingly, the symptoms descriptions differentiate among physiological events, such as colic or teething (providing reassurance to the *āšipu* as well as the concerned parents; see § 3, below), and severe pediatric problems connected to witchcraft, demons (such as Lamaštu) or gods[28].

Fittingly, scholars identified both women and children as the scope of this sub-series.[29] Nevertheless, one is left to wonder why this section has been included in the Diagnostic Handbook and whether it had an implicit relevance, as argued for the physiognomic sub-series. Moreover, a comprehensive study of *Šumma ālittu arâtma* is still lacking, being previous contributions dedicated either to women or children. According to M. É. Couto-Ferreira, the collection of contents referring to gynecology, obstetrics and pediatrics within the same sub-series implies that these realms were deemed connected to one another, as long as written medical knowledge is concerned.[30] In our opinion, the argument for such association should be supported by an equal attentiveness to the health of both women and children. Quite the opposite, a critical analysis of the material yields an uneven picture.[31]

The omens from Tablet 36 are difficult to define as a whole. Less than ten apodoses can be classified as diagnostical omens, either stemming from the physical exam of pregnant women or providing prognoses. These refer to their wellbeing, their chances of death from pregnancy or recovery. We present the following examples:[32]

> 77. If the face of a woman of childbearing age changes (for the worse), she will die as a result of her being with child.
> 81. If a woman of childbearing age continually vomits, she will not bring (her fetus) to term.
> 82. If (in) a woman of childbearing age, dark blood flows from (the womb)'s mouth, she will not get well from her pregnancy.
> 83. If (in) a woman of childbearing age pus is continually produced from her (womb)'s mouth, she will die together with her fetus.
> 103. If a woman of childbearing age is properly respectful of pregnancy, she will get well from her being with child.
> 104. If a ⌜woman of childbearing age⌝ is careless of ⌜pregnancy⌝, she will die from her being with child.[33]
> 108. If a woman of childbearing age is pregnant and at (five) months (and) five days ditto (they approach her), she ⌜will be sick⌝ with *menstrual bleeding*.
> 109. If a woman of childbearing age is pregnant and at (five) months (and) six days ditto (they approach her), ditto (she will be sick with *menstrual bleeding*).[34]

Despite their inclusion in the Diagnostic Handbook, the majority of the attested omens from *Šumma ālittu arâtma* display a physiognomic trend. In Tablet 36 the protases are centered on the appearance of a healthy pregnant women:[35] they describe single body parts (such as forehead, temples, breasts, epigastrium, navel, ankles) and other features (e.g., muscles, blood

[28] DIŠ LÚ.TUR *la-ʾ-ú*, "If the suckling". The chapter has been analyzed by Cadelli 1997, Volk 1999, Couto-Ferreira 2017. See also Scurlock 1991 and Wiggermann 2000 for the supernatural agents involved.
[29] See, e.g., Labat 1951: xix; Heeßel 2000: 35; Scurlock 2005: 303; Fales 2018: 71; Wee 2019a: 352.
[30] Couto-Ferreira 2017: 23, fn. 17.
[31] A first comprehensive study of Tablets 36-37 has been proposed in Stol 2000: 193-204, providing an insightful commentary and recognized also cases of intertextuality with other divinatory series.
[32] We follow the translation given by Scurlock 2014: 251-253.
[33] On ll. 103-104, see comments of Stol 2000: 201.
[34] Our italics, evidencing the English translation for Akkadian *naḫšātu* (cf. Scurlock – Andersen 2005: 260, Biggs 2006: 43, fn. 29, Steinert 2012 and Minen 2018: 186-188).
[35] Stol 2000: 193.

vessels, skin lesions or the dimples on breasts' tip), while the apodoses consist of general predictions rather than prognoses. And yet, these omens are intimately directed at foreseeing not the destiny of the pregnant woman per se but her potential to bring a pregnancy to term, face a difficult childbirth and give birth to healthy babies. In particular, most predictions concern the life or death of the fetus, its sex and even remarkable cases, such as the birth of twins or impaired children.[36] Interestingly, these physical observations of women provide us with different and (to a certain point) complementary information in comparison to *Alamdimmû*. For example, in the physiognomic handbook the sex of the child appears to be connected only to predictions stemming from the examination of men;[37] differently, in *Šumma ālittu arâtma* the same topic is addressed by more than fifty omens. To illustrate the point, we present selected passages from Tablet 36:[38]

> 1. If a woman of childbearing age is pregnant and the top of her forehead is greenish, her fetus is male (var. it will be fully formed).
> 2. If the top of the forehead of a woman of childbearing age is white (and) shines, her fetus is female (var. it will become rich [i.e., fat]).
> 26. If the tip of a woman of childbearing age's breast is twisted (shut), her fetus will not do well.
> 27. If it is open, her fetus will do well.
> 37. If it has four dimples, her fetus will be poor (i.e., thin).
> 38. If it has five dimples, her fetus will die.
> 40. It if has six dimples, her fetus will live.
> 61. If they (= a woman of childbearing age's insides) are packed into her hypogastric region, she will give birth to a deaf/retarded child.
> 62. If they are poured into her hypogastric region, ditto (she will give birth to a deaf/retarded child).
> 98. If she steps from to the "right" and "left", she is pregnant with twins.

The given examples clearly show how the physical observation of pregnant women are aimed at disclosing relevant information on their fetuses and their destiny, ultimately intertwined with their mothers. If we reconsider the 'diagnostical' omens from *Šumma alittu arâtma* quoted above, it appears that they also include predictions related to the health of fetuses, as depending on the health of their mothers. In the light of the hypothetical content reconstruction for the whole sub-series, the so-called 'female' sub-section of *Sakikkû* has little to do with women, but rather with children. This is clear in Tablet 40, completely dedicated to pediatric issues, but it can be inferred also from previous tablets. The focus on women is directed implicitly at their fetuses for the mere fact that, as such, they cannot be isolated from the women carrying them. Under this light, the concerns for the mother's wellbeing may be read as well as implicit concerns for the child in her womb.

2. The common rationale behind the 'female' sub-series

Besides not being reconsidered in its whole, *Šumma ālittu arâtma* has not been compared extensively with its physiognomical counterpart. Previously, M. É. Couto-Ferreira surveyed both sub-sections, arguing that they insist on the risks of pregnancy. In particular, she argued that physiognomical entries offer long-term forecasts, until marriage and conception; differently, diagnostical omens provide short-term forecasts, being the woman already pregnant.[39] Our analyses show that these arguments do not reflect the complexities of both sub-series, clearly not limited to the risks of pregnancy. For example, most apodoses in *Alamdimmû* are concerned not only with the woman's fate, but also with her qualities, tendencies and their consequences for her husband and his household. On the other hand, the

[36] More than 50 apodoses are concerned with indications of the sex of the fetus. See, e.g., ll. 1-4, 6, 8-15, 19, 22-25, 28-29, 31, 35, 45-46a, 47-53, 57-60, 63-68, 70, 72-76, 90-91, 93, 95-97, 100-101.
[37] Scurlock 2003: 396-397.
[38] We follow the translation given by Scurlock 2014: 248-252.
[39] Couto-Ferreira 2008: 30-34.

focus of the female sub-section of *Sakikkû* is indeed pregnancy, but its risks are somehow secondary.

From our discussions, it rather emerges that the omens centered on the observation of female bodies had specific and complementary purposes. Those from *Alamdimmû* were aimed at an informed choice on a good wife, which had to be fertile and able to procreate children. When, finally, a wife complied with the high expectations through her pregnancy, the omens from *Sakikkû* helped in gathering relevant information related to the desired child, such as its chances of survival, sex, health and destiny. The insertion of these 'female' sub-series in both series confirm the importance of generating offspring in the ancient Near East, as evidenced by a variety of cuneiform sources from different chronological and geographical origin. Children are related to the Akkadian concept of *šumu*, which may be translated in different and apparently unrelated manners. As extensively discusses by Karen Radner (2005), *šumu* indicated not only a simple 'name', but also reputation and fame (e.g., the 'good' name). Moreover, the term designated also 'sons', especially if paired with *zēru* ('male descendance')[40] and is strongly related to our notion of 'memory'.[41] Therefore, *šumu* embodied roughly all possible means by which someone could achieve a form of immortality according to Mesopotamian beliefs.

Children played a crucial role in the ancestors' cult, where the eldest son, in his function of *zakir šumi*, had the duty to call by name the spirits of his dead relatives. In this manner, their share in the ritual offerings brought by all the members of the family was ensured. They were deemed important also for the simple fact that they were alive: by being on earth, they reminded others of the name and the past existence of their ancestors.[42] The crucial role of offspring for spiritual immortality is represented in an interesting section of *Gilgamesh, Enkidu and the Netherworld*, where the number of sons is directly proportional to the status of the dead soul:[43]

> "Did [you see the man with one son?]" "I saw (him). [A peg is] fixed [in his wall] and he weeps over [it bitterly.]"
> "[Did you see the man with two sons?" "I] saw (him). [He sits on two bricks] eating a bread-loaf."
> "[Did you see the man with three sons?]" "I saw (him). He drinks water [from a waterskin slung on the saddle.]"
> "Did [you see the man with four sons?]" "I saw (him). [Like the owner of a donkey]-team his heart rejoyces."
> "Did you see [the man with five sons?]" "I saw (him). [Like a] fine [scribe] his hand is deft, he enters the palace [with ease.]"
> "Did you see the [man with six sons?]" "I saw (him). [Like a ploughman his heart rejoyces.]"
> "[Did you see the man with seven sons?" "I saw (him).] [Among the junior deities he sits on a throne and listens to the proceedings.]"

Nevertheless, ensuring an offspring was no easy task in the ancient Near East. Laws, rituals, incantations and therapeutic recipes display a complex system to counteract barrenness and fertility issues, spontaneous or induced miscarriages, intentional abortions, difficult childbirths and high rates of neonatal death.[44] Keeping this composite picture in mind, one

[40] As such, both terms are attested in Akkadian onomastics, in phrase names mirroring the gratitude of the parents to the gods for granting a child (see Stamm 1939: 136-160), but also curse formulas, wishing the complete annihilation of someone's family, as in Codex Hammurabi col. XLIX, ll. 18-44 and col. LI, ll. 40-49 (Roth 1997: 136 and 139) or the *adê* of Esarhaddon (SAA II 6, ll. 138-141, 160-161, 315, 435-436, 524-525, 660-661; Parpola – Watanabe 1988: 28-58).
[41] See CAD s.v. *šumu*.
[42] Saporetti 1993; Van der Toorn 2014: 81-82.
[43] Gilg. XII, 102-116 (George 2003: 732-735). See also Radner 2005: 82-84 and Cooper 2009: 31 for comments on the quoted lines.
[44] Minen 2018: 171-172.

could understand more easily why scholars felt the need to gather omens directed at the kaleidoscopic gamut of emotions and fears related to the procreation of children.

3. The 'female' sub-series in practice

After assessing the aim of the 'female' sub-series and the intimate reason and relevance for ancient Near Eastern cultural life, the following issues still need to be addressed: how was such knowledge put concretely into practice? And who could actually benefit from this scholarly material?

Unfortunately, available information is too scanty to reconstruct if and how the bodily inspections of women implied by these omens were carried, if and how the resulting observations were compared to the omens of the reference literature, or how the outcomes of the bodily inspections found use in everyday life. Nonetheless, it is interesting that the physical examination of women may have had actual legal relevance for marriage in neighboring cultures, at least in early rabbinic Judaism. The Mishnah, the foundational work of Jewish legal thinking from Talmudic Israel (ca. 2nd CE), presents us with the following prenuptial agreements (*Ketubot*):[45]

> 7. (…) [If he has betrothed her] on condition that she has no physical blemishes, and blemishes are found, she is not betrothed. If he married her without conditions and blemishes are discovered, he may divorce her without [paying] her *ketubah*. All those blemishes that disqualify *kohanim* [from serving in the Temple] also disqualify women [in this regard].
> 8. If she had blemishes [that are discovered] while she is still in her father's house, the father must bring proof that these blemishes had originated after she was betrothed, and [the bridegroom's] field was flooded [i.e., it is unfortunate for him]. [Once] she entered the husband's domain, the husband must prove she had these blemishes before she was betrothed, and his [initial] transaction was in error. These are the words of Rabbi Meir. The Sages say, "[With regard to] what were these words stated? To blemishes that are hidden [out of sight], but with regard to blemishes that are revealed he cannot make a claim. And if there is a bathhouse in that city, he may not make a claim even with regard to blemishes that are hidden, as he [would be expected] to examine her by his female relatives."

The passages provide instructions in the case of engagement and marriage to a (prospective) bride presenting bodily imperfections. Chapter 7 strikingly pairs priests (the *kohanim*) and women, paralleling the arguments gathered by B. Böck in favor of the relevance of physiognomy in religious as well as in secular contexts, such as marriage.[46] The following chapter enters in the merits of who was responsible for the bodily inspection and who was supposed to conduct it.[47]

We turn to the last issue of our contribution. According to the universal relevance of procreation highlighted above (§ 2), we believe that there is no doubt that both 'female' sub-series deal with a matter of primal concern to different strata of society: men and women, the rich and the poor. Nonetheless, the reference to the king in Esagil-kīn-apli's editorial note opens an interesting perspective. In fact, the text mentions the relevance of the practical scholarship related both to diagnosis and physiognomy for the sovereign.[48] Moreover, the health of the king was a crucial matter for the existence of the realm and should have been cared for as such.[49] In this light, we may recognize a rationale behind the final sub-section of *Sakikkû* if we conceive it as a summary of all the knowledge deemed relevant to ensure his

[45] Mishnah Ketubot 7: 7-8. We follow the English translation of D. A. De Sola and M. J. Raphall, *Eighteen Treatises from the Mishnah* (London 1843) according to the online version available on www.sefaria.org (last accessed on 29th September 2020).
[46] Böck 2010: 218-219. On the physical appearance and blemishes of priests see Van der Toorn 1989; 345-346; Sallaberger – Huber Vulliet 2005: 620-621; Waerzeggers 2008. Cf. Quack 2005: 64 for similar instructions related to ancient Egyptian priests.
[47] See Secunda 2012: 70-78 for comments on these passages and Iranian parallels.
[48] Böck 2010: 214-215.
[49] Heeßel 2000: 91-92.

interests, such as: his chances to engender rightful heirs, ensure their wellbeing and, consequently, the his dynasty and the memory of his 'name'.

In this respect, the analysis of the State Archives of Assyria (SAA X) may be a fruitful case study. The interest of this corpus for historical insights into medical professionals at the court has been assessed before with profit.[50] We may add that a group of around twenty letters proves that begetting children, keeping them alive and healthy were primal concerns of kings (see Table 1, below). The selected texts reveal a general interest for the king's health and his family involving reports, rites and therapies (nos. 214, 305, 320 and 322). In particular, some reveal a close concern for the health of the princes, whether affected by fevers, teething pains, epilepsy episodes or abscesses (e.g., nos. 193, 302, 309 and 319)[51]. Interestingly, in a letter we find also the suggestion of a therapeutic treatment to be offered to the prince only after conducting a preliminary test on 'guinea-pigs' servants (no. 191). The letters display also general interest for the health of the women of the family, namely the Queen Mother (e.g. nos. 200-201). In particular, childbirth is an attested theme (nos. 203 and 316). The learned instructions and technicalities of court physicians disappear when they are faced with the tragedy of the untimely death of a son, as in the case of Adad-šumu-uṣur's heartfelt attempt to console his king (no. 187, ll. 6-15):

> As to what the king, my lord, wrote to me: "I am feeling very sad; how did we act that I have become so depressed for this little one of mine?" – had it been curable, you would have given half of your kingdom to have it cured! But what can we do? O king, my lord, it is something that cannot be done.[52]

This material is noteworthy per se but acquires wider relevance for our arguments if we remind the provenance of the material analyzed above. In fact, most manuscripts from both physiognomic and diagnostic series have been retrieved in the Ninevite Royal libraries of 1st millennium BCE; the *Catalogue of Esagil-kīn-apli* – together with his editorial note – are attested also by Neo-Assyrian testimonies.[53]

[50] See in particular Geller 2010: 76-88.

[51] Teething, due to its symptoms, appeared worrying to parents. Therefore, both this letter and the Diagnostic Handbook provide reassuring comments on the physiological cause for their manifestation in babies. See SAA X 302, 11-r.3: "The 'burning' wherewith his head, arms and feet were 'burnt' because of his teeth: his teeth were (trying) to come out" (Parpola 1993: 241). Cf. *Sakikkû* 40, 10-12: "If the infant's head holds fever (and) his body (holds) a lukewarm temperature (and) he does not sweat (but) his hands and feet are hot, his saliva flows and he drools, whatever he eats does not rest easy in his stomach and he then pours (it) out, that infant's teeth are coming out. He may suffer for fifteen or twenty days, but he will get well" (Scurlock 2014: 263).

[52] Parpola 1993: 154.

[53] See Böck 2010: 200, Labat 1951: xiv.

Table 1. List of the letters from the State Archives of Assyria (SAA X) related to the health of the Royal women and children.

No.	Medical relevance for Royal women and or babies
187.	Comforting Esarhaddon upon his son's death
191.	Servants as guinea-pigs for the crown prince
192.	Prince affected by fever
193.	Visiting the prince suffering from fever (ll. 7-8)
200.	Anti-witchcraft rituals for the Queen Mother
201.	Curing the Queen Mother
213.	Baby healed from fever
214.	Health of the Crown prince
223.	Medical reports on sons' health
244.	Recovery of the Queen Mother
293.	Royal childbirth (gone wrong?)
301.	Report on royal baby's health
302.	Teething pains
305.	Royal baby's health
309.	Epilepsy episodes in children
316.	Plants for a woman in labor
319.	Cure for an infant's abscess
320.	Cures for royal babies
321.	Mention of the prince's health (l. 7)
322.	Treatment of Crown prince (ll. 7-14) (followed by critics over a wrongly administered tampon for nosebleed (r. 1-17; Geller 2010: 83-85).
323.	Report on Crown prince's health, after personal visit
328.	Health of Šamaš-šumu-ukin
329.	Health of the prince (?)

Conclusions

Our contribution aimed at providing new insights on the rationale of the physiognomic and diagnostic handbooks by focusing on their 'female' sub-series. From our analyses, it emerged how a genuine focus on women is somehow limited in both cases. In *Alamdimmû*, *Šumma sinništu qaqqada rabât* provides signs to distinguish among women unsuitable for a happy marriage (promiscuous, barren, unable to bring pregnancy to term) and the good wife *par excellence* (which had to be faithful, fertile, with the proper physical traits easing pregnancy and childbirth).

If this section is concerned with women before marriage, *Sakikkû*'s last sub-series is concerned with the underlying reason for marriage, i.e. the fulfillment of such high expectations of feminine procreation. Rather than a chapter concerned with the health of women and children alike, this final sub-series of *Sakikkû* may be viewed as a focus on childbirth and children alone.

Cuneiform sources attest to diagnostical entries directly concerned with women's wellbeing, therapeutic texts collecting remedies for women ailments unrelated to pregnancy or childbirth and even incantations displaying a sincere care towards laboring women. Differently, *Šumma ālittu arâtma* should be viewed as a collection of knowledge aimed at ensuring the procreation of children and their care. In this light, the body of a pregnant

woman would have been considered only a medium to gather useful information for predictions related to the desired baby.

Important questions remain open to discussion, especially practical issues concerning the setting of the observation of women's bodies or who benefitted from such knowledge and services. Nonetheless, the editorial note of Esagil-kīn-apli comes to help in pointing us to the king as the primary beneficiary. This detail should be referred not only to the care of his health, but also of his wider interests, including the fate of his family and dynasty. Letters from the State Archives of Assyria provide corollary evidence to the king's attention to the health of his sons. From this viewpoint, the *raison d'être* of *Šumma ālittu arâtma* would lie in its attention on the medical care of offspring, from within the maternal womb until weaning. By doing this, physicians would ensure the survival of the father's 'name', which was particularly crucial in the case of sovereigns wishing to generate healthy, royal heirs.

Bibliography

Bergmann C. D. 2008. *Childbirth as a Metaphor for Crisis: Evidence from the Ancient Near East, the Hebrew Bible, and 1QH XI*, 1-18, Berlin/New York.

Biggs R. 2006. The Human Body and Sexuality in the Babylonian Medical Texts, in L. Battini, P. Villard (eds.), *Médecine et Médecins au Proche-Orient ancient. Actes du Colloque International organisé à Lyon les 8 et 9 novembre 2002*, Oxford, 39-51.

Bilbija J. 2008. Interpreting the Interpretation. Protasis-Apodosis-Strings in the Physiognomic Omen Series *Šumma alamdimmu* 3.76-132, in R. J. van der Spek (ed.), *Studies in Ancient Near Eastern World View and Society presented to Marten Stol on the Occasion of his 65th Birthday, 10 November 2005, and his Retirement from the Vrije Universiteit Amsterdam*, Bethesda, 19-27.

Böck B. 2000. *Die babylonisch-assyrische Morphoskopie*, Wien.

Böck B. 2010. Physiognomy in Ancient Mesopotamia and Beyond: From Practice to Handbook, in A. Annus (ed.), *Divination and Interpretation of Signs in the Ancient World*, Chicago, 199-224.

Cadelli D. 1997. Lorsque l'enfant paraît… malade, *KTEMA* 22, 11-31.

Campbell Thompson R. 1923. *Assyrian Medical Texts from the Originals in the British Museum*, London.

Cooper J. S. 2009. Wind and Smoke: Giving up the Ghost of Enkidu, Comprehending Enkidu's Ghosts, in M.-C. Poo (ed.), *Rethinking Ghosts in World Religions*, Leiden/Boston, 23-32.

Couto-Ferreira M. É. 2008. «Si una mujer tiene la cabeza grande»: fisionomía y carácter femenino en un texto asiriobabilónico, *Asclepio. Revista de Historia de la Medicina y de la Ciencia* 40 (1), 19-36.

Couto-Ferreira M. É. 2017. Un corpo malato: le malattie dei bambini nella serie assiro-babilonese di diagnostici e prognostici (*sakikkû*), in A. M. G. Capomacchia, E. Zocca (eds.), *Il corpo del bambino tra realtà e metafore nelle culture antiche*, Roma, 21-38.

Fales F. M. 2018. Uno sguardo d'insieme alla medicina mesopotamica: i medici, le terapie, il corpo e le malattie, in F. M. Fales (ed.), *La medicina assiro-babilonese*, Roma, 3-77.

Finkel I. L. 1988. Adad-apla-iddina, Esagil-kīn-apli, and the Series SA.GIG, in E. Leichty *et al*. (eds.), *A Scientific Humanist. Studies in Memory Abraham Sachs*, Philadelphia, 143-159.

Finkel I. L. 2014. *The Ark Before Noah*, London.

Frahm E. 2010. Reading the Tablet, the Exta, and the Body: The Hermeneutics of Cuneiform Signs in Babylonian and Assyrian Text Commentaries and Divinatory Texts, in A. Annus (ed.), *Divination and Interpretation of Signs in the Ancient World*, Chicago, 93-142.

Geller M. J. 2010. *Ancient Babylonian Medicine. Theory and Practice*, Chichester.

George A. R. 1991 Babylonian Texts from the Folios of Sidney Smith. Part Two: Prognostic and Diagnostic Omens, Tablet 1. *Revue d'Assyriologie* 95, 137-167.
George A. R. 2003. *The Babylonian Gilgamesh Epic. Introduction, Critical Edition and Cuneiform Texts*, 2 vols, Oxford.
Heeßel N. P. 2000. *Babylonisch-assyrische Diagnostik*, Münster.
Heeßel N. P. 2001. „Wenn ein Mann zum Haus des Kranken geht ...“ Intertextuelle Bezüge zwischen der Serie *Šumma ālu* und der zweiten Tafel der Serie SA.GIG. *Archiv für Orientforschung* 48-49, 24-49.
Heeßel N. P. 2019. K. 11939 : fragment d’un commentaire de SA.GIG 37 en provenance de Ninive, *JMC* 34, 1-3.
Kinnier Wilson J. V. 1956. Two Medical Texts from Nimrud, *Iraq* 18, 130-146.
Köcher F. 1963-1980. *Die babylonisch-assyrische Medizin in Texten und Untersuchungen*, 6 vols., Berlin.
Labat R. 1951. *Traité akkadien de diagnostics et pronostics médicaux*, Paris.
Leick G. 1994. *Sex and Eroticism in Mesopotamian Literature*, London/New York.
Minen F. 2018. Discendenza, gravidanza e nascita nella Mesopotamia antica: i testi ostetrico-ginecologici, in F. M. Fales (ed.), *La medicina assiro-babilonese*, Roma, 167-203.
Minen F. 2020. Ancient Mesopotamian views on human skin and body: a cultural–historical analysis of dermatological data from cuneiform sources. *Notes and Records. The Royal Society Journal of the History of Medicine* 74 (1), 119-130.
Minen F. forthcoming. « Dans les eaux de l’acte conjugal, l’ossature s’est faite ». Fluides corporels et procréation dans la Mésopotamie ancienne, in C. Audouit, B. Mathieu, E. Panaite (eds.), *Les fluides corporels en Égypte et au Proche-Orient anciens, Université Paul Valéry Montpellier, 5-7 septembre 2019*, Leuven.
Parpola S., Watanabe K., 1988. *Neo-Assyrian Treaties and Loyalty Oaths*, SAA II, Helsinki.
Parpola S. 1993. *Letters from Assyrian and Babylonian Scholars*, SAA X, Helsinki.
Quack J. 2005. Tabuisierte und ausgegrenzte Kranke nach dem ‚Buch vom Tempel‘, in H.-W. Fischer-Elfert (ed.), *Papyrus Ebers und die antike Heilkunde. Akten der Tagung vom 15.-16. 3. 2002 in der Albertina/UB der Universität Leipzig*, Wiesbaden, 63-80.
Radner K. 2005. *Die Macht des Namens. Altorientalische Strategien zur Selbsterhaltung*, Wiesbaden.
Roth M. T. 1997. *Law Collections from Mesopotamia and Asia Minor*, Atlanta.
Sallaberger W., Huber Vulliet F. 2005. Priester I.A. Mesopotamien, *RlA* 10, 617-640.
Saporetti C. 1993. *Abolire le nascite: il problema nella Mesopotamia antica*, Roma.
Schmidtchen E. 2018a. Esagil-kīn-apli’s Catalogue of *Sakikkû* and *Alamdimmû*, in U. Steinert (ed.), *Assyrian and Babylonian Scholarly Texts and Catalogues*, Boston/Berlin, 137-157.
Schmidtchen E. 2018b. The Edition of Esagil-kīn-apli’s Catalogue of *Sakikkû* (SA.GIG) and *Alamdimmû*, in U. Steinert (ed.), *Assyrian and Babylonian Scholarly Texts and Catalogues*, Boston/Berlin, 313–347.
Scurlock J.A. 1991. Baby-Snatching Demons, Restless Souls and the Dangers of Childbirth: Medico-Magical Means of Dealing with some of the Perils of Motherhood in ancient Mesopotamia, *Incognita* 2, 137-185.
Scurlock J.A. 2003. Review of *Die Babylonisch-Assyrische Morphoskopie* by Barbara Böck, *JAOS* 123 (2), 395-399.
Scurlock J.A. 2005. Ancient Mesopotamian Medicine, in D. Snell (ed.), *A Companion to the Ancient Near East*, Oxford, 302-315.
Scurlock J.A. 2014. *Sourcebook for Ancient Mesopotamian Medicine*, Atlanta.

Scurlock J.A., Andersen B. R. 2005. *Diagnoses in Assyrian and Babylonian Medicine. Ancient Sources, Translations, and Modern Medical Analyses*, Urbana/Chicago.
Secunda S. 2012. The Construction, Composition and Idealization of the Female Body in Rabbinic Literature and Parallel Iranian Texts: Three Excursuses, *Nashim: A Journal of Jewish Women's Studies & Gender Issues* 23, 60-86.
Stamm J. J. 1939. *Die akkadische Namengebung*, Leipzig.
Steinert U. 2012. K. 263+10934: A Tablet with Recipes Against the Abnormal Flow of a Woman's Blood, *Sudhoffs Archiv* 96, 1, 64-94.
Steinert U. 2013. *Fluids, Rivers, and Vessels: Metaphors and Body Concepts in Mesopotamian Gynaecological Texts*, *JMC* 22, 1-23.
Stol M. 2000. *Birth in Babylonia and the Bible. Its Mediterranean Setting*, Groningen.
Van der Toorn K. 1989. La pureté rituelle au Proche-Orient ancien. *Revue de l'histoire des religions* 206 (4), 339-356.
Van der Toorn K. 2014. Dead are slow to depart: Evidence for Ancestor Rituals in Mesopotamia, in V. R. Herrmann, J. D. Schloen (eds.), *In Remembrance of Me. Feasting with the Dead in the Ancient Middle East*, Chicago, 81-84.
Volk K. 1999. Kinderkrankheiten nach der Darstellung babylonisch-assyrischer Keilschrifttexte, *OrNS* 68, 1-30.
Waerzeggers C. 2008. On the Initiation of Babylonian Priests (with a contribution by Michael Jursa), *Zeitschrift für Altorientalische und Biblische Rechtsgeschichte* 14, 1-38.
Wee J. Z. 2015. Phenomena in Writing. Creating and Interpreting Variants of the Diagnostic Series Sa-gig, in J. C. Johnson (ed.), *In the Wake of the Compendia. Infrastructural Contexts and the Licensing of Empiricism in Ancient and Medieval Mesopotamia*, Boston/Berlin, 247-287.
Wee J. Z. 2019a. *Knowledge and Rhetoric in Medical Commentary*, Leiden/Boston.
Wee J. Z. 2019b. *Mesopotamian Commentaries on the Diagnostic Handbook Sa-gig*, Leiden/Boston.
Wiggermann F. A. M. 2000. Lamaštu, daughter of Anu. A profile, in M. Stol, *Birth in Babylonia and the Bible. Its Mediterranean Setting*, Groningen, 217-252.

How to manage the hallow art of crafting strings of amulet beads? Answers from a Late Babylonian tablet in the Toronto Royal Ontario Museum

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Abstract
This paper focuses on a previously unedited Late Babylonian tablet inscribed with fifteen lines of text. The inscription merits particular attention for two reasons: first, as a consecratory spell for amulet stones it is a precious addition to the small group of such incantations currently known; second, its subject matter makes it a prime source of information on the actual process of chain amulet crafting. Although related texts offer clues as to how such chains of stone beads were created and applied as amulets, this information is usually couched in a narrow set of stock phrases. The new incantation thus broadens our outlook on the ancient art of charm making, and allows for evaluating some of its aspects afresh. A full edition of the tablet is presented in the first part of this paper. In the second part, the data gathered from the text will be assessed in the light of a variety of sources relevant to the topic.

Introduction

Housed in the Royal Ontario Museum in Toronto, the cuneiform tablet ROM 910.209.531 of Late Babylonian date and unknown provenance is fully published here for the first time.[1] The small tablet (5.8 × 4 cm) is written in portrait format, bearing twelve lines on its obverse side and another three on its reverse. The text on the reverse is ruled off by a single line, with the remainder of the tablet left blank, in all likelihood deliberately so. The absence of scribal remarks such as a rubric or colophon leaves us without any formal clues to contextualise the tablet generically, historically and geographically. Nevertheless, the only paratextual feature of the tablet, the blank space occupying most of its reverse, seems to point to the fact that it was prepared in order to accommodate this single piece of text which, at some point, might have been part of a larger collection of similar text material. As to what this collection might have looked like, we may venture a guess on the basis of the evidence the Toronto tablet has preserved: a hitherto unknown incantation designed to mobilise the magical potential of precious stones. As this is about the utilisation of stones in a so-called chain amulet – describing how they were created, processed, consecrated and put to use – the Toronto spell may reasonably be understood to belong to the broader corpus of amulet stone texts.[2]

The documents that make up the broader corpus of amulet stone texts do not constitute a uniform group. In addition to the chain amulet texts, such diverse texts as inventories,

[1] The authors of this paper would like to express their gratitude to the Royal Ontario Museum staff for their kind permission to publish the tablet ROM 910.209.531. They are likewise greatly indebted to Frank Simons for his valuable comments on the draft of this paper and his help in improving its English. The distribution of labour has been such that text edition and philological annotation are essentially the work of the second author who identified the cuneiform artefact for what is in the first place, shortly after images of it had become available on the CDLI platform under no. P417279, while the first author created the line art copy and wrote the introductory and most of the commentary parts, as well as the excursus.

[2] The name chosen here to describe this particular type of magico-medical device is admittedly a modern one and has no counterpart in ancient terminology that utilises distinct designations to denote (1) single chains of amulet stones (*takṣīru*, from the verb *kaṣāru* 'to tie, bind, knot'), (2) multiple chains of amulet stones that were combined to form a strip or band (DUR, Akkadian *ṭurru* with the general meaning 'string' or 'band'), and (3) multiple bands of amulet stones which, when put together, are called GÚ (Akkadian *kišādu*, the word for 'neck,' used here in the sense 'necklace' or 'complete ensemble'). In this connection it must also be noted that the semantic fields of *takṣīru* and *ṭurru* are not sharply demarcated from one another and have some overlap (Schuster-Brandis 2008: 59-62; for *takṣīru* see also Kraus 1970: 59-61). The designation 'chain amulet' has been introduced here on account of the most characteristic feature of this type of magico-medical device which sets it apart from other types, such as the small pouches of wool and leather bags that were filled with a vast assortment of substances, including bits of minerals, to be hung around the client's neck. For the question of what precisely constitutes an amulet in ancient Mesopotamia, see Reiner 1987, drawing on both literary and iconographic sources, with an emphasis on the astrological aspects. For the various forms of Mesopotamian amulets see also Van Buren 1945; Goff 1963: 162-211; Reiner 1960; Heeßel 2014.

catalogues, and prescriptions detailing stone-based therapies belong to the corpus, since they share a common topic: together they treat in varying levels of detail the numerous problems stones can help solve, ranging from simple physical troubles like headaches to complex issues that have to do with the social standing or religious interests of the client.[3] As a group, these documents overwhelmingly attest also to the practice of employing not just a single piece of a single mineral, but a well-defined set of different kinds of stones for any given problem. Applied in the form of beads and strung on a cord of wool or linen, these chain amulets were frequently used by healing specialists to combat both natural and supernatural forces.

Turning now to the creation and application of chain amulets, it is important to note that even within the class of amulet stone texts proper there exist divergencies. Some restrict themselves to the most basic information only, providing a bare list of the necessary stone types and a brief summary section where the total number of the listed minerals and their magico-medical utilisation are specified.[4] Other texts are more elaborate, and describe the finer points of the preparation and application of amulet chains, as well as their ritual context. The elaborate texts vary considerably in that sometimes they merely specify the material of the cord or string that must be used for threading the stones, and the body part to which the chain should be applied.[5] Other texts include still more methods in the chain making process for enhancing the apotropaic or healing properties of the artefact. One such practice is the tying of knots between each of the stone beads, which is mentioned quite often.[6] In other cases, small pouches of wool and leather bags were filled with all sorts of healing substances, and attached to the chain. It was common practice for incantations to be recited at successive stages in the ritual process with the aim of calling the magical potential of the chain into effect. This is shown by the more elaborate amulet stone texts that abound with references to the practice, quoting the pertinent Sumerian and Akkadian spells either by incipit or full length verbatim.

As a consecratory incantation that appears to have been recited over the stone beads of a chain amulet, the text on the Toronto tablet might be related – generically, at least – to the corpus of amulet stone texts, especially to the more elaborate sources with instructions on the preparation, consecration, and application of such chains. Interestingly, the same tripartite operation forms the leitmotif of the incantation itself, revealing facets of the bead-making process not known from elsewhere in the corpus. Starting with the creation of the stones, the

[3] The standard work on the corpus of amulet stone texts is Schuster-Brandis 2008; for reviews of this book see Abrahami 2010, Couto Ferreira 2010, Böck 2014a and Geller 2015. In her book, Schuster-Brandis gives a systematic and in-depth analysis of the source material; however, she does not edit all texts, but a selection intended to illustrate, among other things, the typological differences between the sources. In this respect, it must also be noted that the number of texts has increased considerably since 2008. Around 150 texts and fragments have been collected recently within the framework of a project aimed to make editions of the corpus of amulet stone texts.

[4] See, e.g., the Late-Babylonian tablet UET 4 150 from Ur which contains two prescriptions enumerating 41 and 34 stones, respectively. After the stones are listed, the quantity of the necessary materials and the relevant magico-medical problems are specified: 41 NA$_4$.MEŠ ŠU.GIDIM$^{!}$.MA *šim-mat* ŠU.II *u* GÌR.II '41 stones (against) Hand of Ghost (and) paralysis of hands and feet' (obv. 10); ⌜34⌝ NA$_4$.MEŠ ⌜*mim-ma*⌝ *lem-nu u* ŠU GIDIM.MA '34 stones (against) Anything Evil and Hand of Ghost' (rev. 9). For this text see Oppenheim 1950: 188; Limet 1984: 330-332; Scurlock 2006: 484-486 and 551-552; Schuster-Brandis 2008: 373-390 Text 17D.

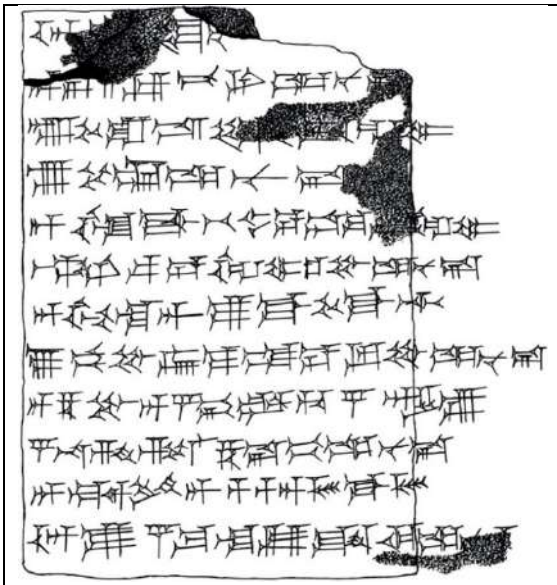
[5] For instance, in UET 4 150 the last fragmentary line might be read as [*ina* G]Ú$^{?}$-*šú* GAR-*an* 'you place it around his neck' (rev. 10). On the other hand, the Neo-Assyrian tablet BAM 361 from Ashur has a sequence of paragraphs consisting of two units: the list of necessary stone types and the corresponding set of instructions pertaining to the preparation and application of chains. The first set of instructions in BAM 361 is concerned with a chain of 14 beads: [14] NA$_4$.MEŠ Á.MEŠ ḪUL.MEŠ / *ana* LÚ NU TE-*e ina* DUR GADA *ina* GÚ-*šú* GAR-*an* '14 stones for the evil signs not to approach the person. You place it around his neck on a cord of linen' (obv. 6-7). For this text see Köcher 1963: 157; Maul 1994: 108-111; Schuster-Brandis 2008: 358-372 Text 16B.

[6] See, e.g., AO 17614 (TBER pl. 42) ll. 22-27: 21 NA$_4$.MEŠ / ŠU.GIDIM.MA / *ina* $^{\text{síg}}$ḪÉ.ME.DA È-⌜*ak*⌝ / 7 KA.KEŠDA KÉŠ *e-ma* KÉŠ / ÉN *mu-šal-lim* <*é*>*-kur-ra ana* UGU ŠID / KI GÚ-*šú* KÉŠ '21 stones (against) Hand of Ghost. You string (them) on red wool, (and) tie seven knots. Each time you tie (the knots), you recite the incantation 'The one who provides well-being for the Ekur' over (the knots). You bind it where it hurts him'.

successive steps in the crafting of a string of amulet beads are described in a logical order. With the information pertinent to the ritual process, the Toronto tablet could also be understood as a self-contained unit and a composition in its own right, sharing in the tradition of those incantations that have the healing procedure embedded in the wording of the spell, amalgamating dicenda and agenda into a single text unit labelled ÉN (*šiptu*). The older incantations, up to and including the OB period, are commonly structured this way, the most representative of which are those that feature a Marduk–Ea dialogue, with the former instructing the latter how to go about his healing job. As a matter of logic, a separate section telling the practitioner how to proceed need not be appended.[7]

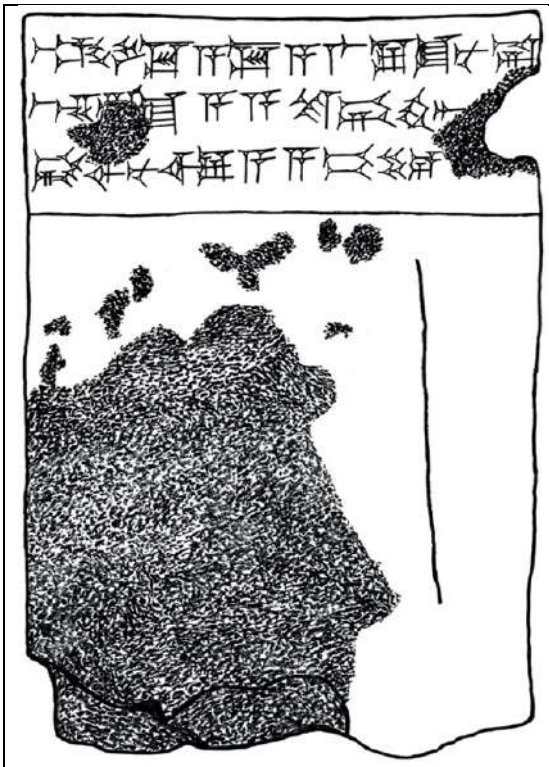
Text edition

Museum no.: ROM 910.209.531
Measurements: 5.8 × 4 cm
Provenience: unknown
Date: Late Babylonian



1. EN$_2$ ⌜*at-tu-nu*⌝ [NA$_4$.MEŠ]
2. ⌜^{d}*é-a*⌝ *ib-bi-ni-ka-nu-*⌜*uš*⌝
3. $^{d+}$*nun-kur-ra iš-*⌜*tu*⌝ ⌜KUR-*i*⌝ ⌜*el*⌝*-lum*
4. *ú-še-rid-ka-nu-uš*
5. ^{d}*nin-ìmma be-let e-gub-ba-*⌜*i*$^{?}$⌝ *el-lum*
6. *ina* DUR GADA-*e el-lum iṣ-pu-ka-nu-uš*
7. ^{d}*gu-la an-zu-gal-lat* GAL-*ti*
8. *lu-up-pu sa-ma-at e-lu-pu-ka-nu-uš*
9. ^{d}*kù-su*$_{13}$ ^{d}*šá-ga-maḫ-ḫu šá* $^{d+}$*en-líl*
10. NÍG.NA GI.ZI.LÁ KÙ *uš-bi-ka-nu-uš*
11. ^{d}*asal-lú-ḫi* ^{d}MAŠ.MAŠ DINGIR.MEŠ GAL.MEŠ
12. ÉN-*su šá ba-la-ṭu id-di-ka-*⌜*nu-uš*⌝

[7] See Finkel 1980: 51-52, with the important observation that in the first millennium BCE such self-contained units of incantations could be incorporated into longer collections of associated text material by separating the introductory, descriptive part of the text from the subsequent description of the magical praxis. In these late texts the descriptive part is kept as the actual incantation (ÉN), whereas the magical praxis is often expanded and becomes a separate activity.



13. *ina* GÚ ^{lú}NÉNNI A NÉNNI *a-lal-lu-ku-nu-uš*

14. *ina* EN.⌜NUN⌝*-ku-<nu> a-a te-ga-a'*-[*ma*]

15. GABA *lem-nu ù a-a-bi ter*-⌈*ra*$^{?}$⌉

Bound text transcription

§1. 1 *šiptu attunu* [*abnū*]

§2. 2 *Ea ibb*^{i}*nikanūš*

§3. 3 *Nunkurra ištu šadî ellum*
4 *ušēridkanūš*

§4. 5 *Ninimma bēlet egubbê ellum* 6 *ina ṭurri kitê ellum iṣpukanūš*

§5. 7 *Gula anzugallat rabīti* 8 *luppu sāmāt ellupp*^{u}*kanūš*

§6. 9 *Kusu šangamaḫḫu ša Enlil*
10 *nignakka gizillâ ella ušbīkanūš*

§7. 11 *Asalluḫi mašmaš ilāni rabûti*
12 *šipassu ša balāṭu iddikanūš*

§8. 13 *ina kišādi annanna mār annanna allall*^{u}*kunūš*

§9. 14 *ina maṣṣartīku<nu> ay tēgâ'*[*ma*]
15 *irti lemnu u ayyābi ter*[*rā*]

Translation

§1. 1 *Incantation*. You [stones],

§2. 2 Ea has created you;

§3. 3-4 Ninkurra has brought you down from the holy mountain;

§4. 5-6 Ninimma, the lady of the holy water basin, has bathed you on a cord of pure linen;

§5. 7-8 Gula, the chief physician, has wrapped up a wrapping of red (wool) for you;

§6. 9-10 Kusu, the chief purification priest of Enlil, has moved the holy censer (and) torch past you;

§7. 11-12 Asalluhi, the exorcist of the great gods, has cast his life-giving spell over you.

§8. 13 I am hanging you around the neck of so-and-so, son of so-and-so,

§9. 14-15 Do not neglect your watch and ward off evil and enemy!

Philological notes

Grammatically, our tablet bears the distinct fingerprint of a post-classical type of Akkadian, as is evident from the following phenomena (GAG[3] §§ 191b, 192a-b, 193a): epenthesis (*ibb^{i}ni*, 2; *allall^{u}kunūš*, 13); apocope of short vowels, entailing complete loss of case endings (*-kanūš*, passim; *anzugallat*, 7; *sāmāt*, 8); inconsistencies in the use of case endings and short vowels in end-position (*ellum* for genitive, 3, 5, 6; *lemnu* and *balāṭu* for genitive, 9, 13; *rabīti* for nominative, 7; *luppu* for *luppi*, construct state); suppression of strong aleph (*ušbīkanūš*, 10); paragogic aleph (*tēgâ'*, 14). This is alongside the unorthodox features that may be attributed to scribal inaccuracy.

2. *ibb^{i}nikanūš*: the unusually spelt preterite of *banû* 'to create' (CAD B, s.v. *banû* A 3, 87-89) contains an epenthetic vowel which has entailed the reduplication of the first radical. Inserting an epenthetic vowel into a consonant cluster occasionally comes with the apparent reduplication of the preceding consonant, at least in writing; see, e.g., the Neo-Assyrian examples *id-di-bu-ub* (*idd^{i}bub*) and *ad-da-bu-ub* (*add^{a}bub*) in SAA 5 95 ll. 10'-11', preterite tense forms of the verb *dabābu* (Hämeen-Anttila 2000: 34-35). See also Parpola 1983: 47, Huehnergard 1989: 115-118, and Stadhouders – Panayotov 2018: 680 for multiple examples from non-Neo-Assyrian sources. As for *-kanūš*, which – except for line 13 – is how the stones are spoken to throughout the text, it is evidently an apocopated by-form of *-kanūši*, which in turn has been defined as a rare Late Babylonian variant of *-kunūši*, the dative pronominal suffix of the second person plural masculine, being used in late texts for direct and indirect object indiscriminately (GAG[3] §42k, with note 16 and *); as the stress is on the long *ū* in the final syllable, the short *a* may quite plausibly represent a reduced vowel ('shwa').

3. *Nunkurra*: an as yet unprecedented name-form, well-nigh certainly meant to refer to the deity Ninkurra, who as 'Lord of the mountain' oversees the mining of precious stones and, on occasion, their cutting and carving, as well. For details of this artisan deity see RlA 9, s.v. Nin-kur(a), ^{d}NIN-KUR, 451; all spellings of the name listed there have 'nin' as their first element, so the deviant one here may quite safely be branded as just another idiosyncrasy of our scribe.

6. *išpukanūš*: the mention of the holy water basin should weigh as a compelling argument for deriving this form from the verb *ṣapû* 'to bathe, to soak, to dye'. In those who fail to see how soaking might have played a role in the stone-cutting process, the sequence of signs might prompt a hugely different normalisation, viz. *ispukkanūš* 'she has polished you,' from the verb *sapānu* 'to polish'. They would have to assume, then, that upon assimilation the final radical *n* is exceptionally not expressed in writing (GAG[3] §33h). A similar tendency to phonetic spelling in violation of the rules of standard orthography can indeed be observed in *uš-bi-ka-nu-uš* (line 10), from the verb *šubūʾu*, for which it is most rare in any of its forms not to have retained the final radical, even when this aleph must be assumed to have gone silent (compare Schaudig 2001: 225 sub a).[8]

7. *anzugallat*: 'chief (female) physician' is normally *azugallatu*, with *azungallatu* and *azugallutu* as rare by-forms (CAD A/2, s.v. *azugallatu*, 529). The spelling *an-zu-gal-lat*, which appears to have the Toronto tablet for its sole witness, might have resulted from metathesis affecting the first part of the by-form *azungallatu*. As a bold alternative, it could be hypothesised that the phenomenon of aphaeresis had been at work, causing the noun to drop its initial vowel (GAG[3] §14b); the first sign is then to be taken as a determinative marking a divine epithet: ^{d}*zugallatu*.

[8] Syllabifying *is-sér-* = *issēr* < *istēr*, G-stem perfect from *sêru* 'to coat, to scrape off, to rub, to wipe (off/clean)' might be attempted as a last resort, were it not for the discontinuity of tense this reading would cause. Even so, we should not ignore the lexical equation *sêru – sapānu*, even though this seems to regard the destructive meaning 'to wipe out, to crush' which both verbs can connote, as may also be inferred from the equation *mêsu* ('to crush, to trample') – *sêru*; see CAD S, s.v. *sêru* and M/2, s.v. *mêsu*, lex. sections.

8. *luppu sāmāt ellupp^{u}kanūš*: the interpretation of this line's unorthodox grammar, which cannot be but tentative, starts from the premise that it is a mangled instantiation of the phrase *lippī lapāpu* 'to wrap (medicaments) in wrappings (of a certain kind of wool),' 'to wrap (woollen) burls (between beads on a string),' which is met with frequently in therapeutic and amulet stone recipes (CAD L, s.v. *lippu*, 200; Schuster-Brandis 2008: 66-67). First, our bizarre-looking normalisation *ellupp^{u}kanūš*, to be parsed as a G-stem preterite for what normally ought to be *ilpupkanūš*, is modelled upon the admittedly hardly less outlandish G-stem preterite form *akkarrūni* (*ak-kar-ru-u-ni*, SAA 9 1 i 14'), instead of regular *akrurūni*, which in GAG[3] §101f is described as possibly revealing the existence of a weak conjugation pattern for a Verb II-geminate, *karāru* in this case. By the same token, *allallukunūš* in line 13 might have to be parsed analogously, instead of normal *ālulkunūš*, even though this Verb I-weak has its second radical affected by the mechanism. The unusual morphology of these G-stem preterites might reflect an interference from Aramaic in the reduplication of the first radical in prefix-conjugation forms of Verb II-geminate (Bauer – Leander 1927: 57). The lengthening of the final radical in tandem with the vowel attached (*-ppu-* and *-llu* respectively; *-ūni* in *akkarrūni* is subjunctive) can best be explained from the phenomena of shifted stress and epenthesis (GAG[3] §§20g, 83d etc.)[9]; transcribing *ellùpp^{u}kanŭš* and *allàll^{u}kunŭš* would therefore approximate fairly closely to spoken reality.

If this is accepted, *luppu* might well be an idiosyncratic spelling of *lippu* (*lappu*) 'wrapping, wad, burl,' the noun we naturally expect as the accusative complement of the verb *lapāpu*. As for *sāmāt*, it has been understood here as the feminine plural of the adjective *sāmu* 'red,' qualifying an omitted *šipātu* 'wool'; the circumstance that *lippu*-wrappings were made almost exclusively of wool, red wool in particular, should count as a strong argument in favour of this interpretation.

A widely different explanation is possible by syllabifying the cuneiform as *e-ṭep-pu-ka-nu-uš* instead, apparently representing a G-stem present from *ṭepû* 'to attach, apply'. A present tense verb fits in badly with the overall narration pattern, though, and should therefore be tagged as faulty grammar resulting from scribal carelessness or lack of competence. Perhaps the spelling is the corrupted outcome of an intended preterite *eṭṭ^{e}pukanūš* (for *iṭṭ^{e}pi-*, with an epenthetic vowel after the first radical), unless the whole thing is the result of a trivial error by a copyist who mistook a preterite for a present.[10] In this line of argument, *lu-up-pu* need not be revocalised, and could be taken as an instance of *luppu* 'leather bag, bellows'. This rare lexeme, however, is almost exclusively found in economic texts (CAD L, s.v. *luppu*, 252), and occurs only once in the magico-medical domain, namely, in an incantation as a metaphor for a bloated belly (BAM 574 iii 51; Collins 1999: 171 'Belly 28'); it is entirely alien to recipes. Moreover, *luppu*-bags could contain sizeable volumes and did not come in such tiny dimensions as to be suitable for being worn on the human body as talismans stuffed with drugs and amuletic minerals; in other words, there is no supportive evidence for a *luppu* ever being applied in the manner of a *mašku* or *mêlu*, as protective and apotropaic pouches and poultices are commonly called.[11] As a corollary, taking *sāmāt* as 'carnelian stones' and translating the phrase as 'she has applied a bag of carnelian stones on/for you' or 'has assigned to you' would appear to be a no-go, if it is indeed healing minerals that are addressed. The option of rendering 'she has

[9] Not to be confused with the consonant gemination described in GAG[3] §101g* and Kouwenberg 2010: 493.

[10] The rules conditioning past reference for the present tense ('imperfective form') as summarised in Kouwenberg 2010: 93 can in no feasible way be brought to bear upon the case. A present tense form would oddly break the chain of preterite tense forms of lines 2-12 that each report a similar event from the same temporal and aspectual perspectives, and are to be categorised as relating a "präsens-perfektische Geschehen", i.e. "... soeben erst beendetes Geschehen (...), das noch eine Auswirkung auf die Gegenwart des Sprechers hat" (Metzler 2002: 330; equally relevant are the text samples pp. 331-333, 760-770, 813, and many of those discussed pp. 842-851).

[11] Its equation with *ḫindu* 'purse' (CAD L, s.v. *luppu*, lex. section, 252), however, should make us cautious not to rule out such application altogether.

applied a red-woollen wad (*luppu* for *lippu*) on you,' on the other hand, cannot be dismissed definitively on the current evidence.

13. *allallᵘkunūš*: if one were to go for an analysis of the verb as a preterite tense form, it might be taken to express current or performative action, and translate "I (herewith) hang you ..."; for examples of the preterite so used –'Koinzidenzfälle'– see Metzler 2002: 341-343, 771. However, as a shift of person is not only prone to come with a change of perspective but also to entail a change of tense, and given that it is a well-established feature of grammar for the intended type of action to be rendered by the present tense as well, parsing *allallᵘkunūš* as a present tense form is the likeliest and least complicated way to proceed; striking instances of the present tense reporting "unmittelbare Gegenwart ritueller Handlungen" come from *ikribu* prayers, where it is the dominant tense par excellence: Metzler 2002: 785-791; see also p. 835. The explanation of the deviant spelling of the final radical remains unaltered.

14. *ina maṣṣartīkunu ay tēgā'ma*: an almost identically worded admonition has recently become known from a bipartite ritual for the protection of the king, at home first and on a military campaign next, the climax of which reads as follows: *ana maṣṣartīkunu lā tēgâ* (BM 98561 obv. 16-17; Schwemer 2012; reference courtesy E. Jiménez, who is to be credited for putting us on the right track by alerting us to it). The exhortation is from the second spell of the ritual, and is addressed to the south and west winds, as well as heaven and earth.[12] While in this text the prohibitive *lā teggâ* is spelled *la te-ga-a* in compliance with standard orthography, a counterpart to the plene spelling with an aleph-sign in Auslaut is on record from a Neo-Assyrian letter: *en-na a-na* EN.NUN-*ku-nu* / *la te-eg-ga-a'* 'now, do not be neglectful of your duties' (said to the citizens of Nippur in ABL 287 obv. 8-9). Yet another attestation of the idiom and, what's more, one that parallels our spell in *Sitz im Leben*, comes from the *Šēp lemutti* ritual, in which a newly fashioned protective figurine is instructed as follows: *attā ṣalmu sākip lemni u ayyābi* (...) *ullānu ana pān Ea abīka tazzaz imnaka u šumēlka uṣur ana maššartīka lā teggi* "you figurine of the one who repels evil and enemy (...), from the beginning you have been in the service of your father Ea; watch your right and your left, do not be lax about your watch!" (Wiggermann 1992: 18, lines 277-281); identically worded is an omen apodosis quoted in a scholar's letter to the king: *ana maṣṣartīka lā teggi šarru ūmu lemnu bāba lā uṣṣi* "do not neglect your guard; the king should not go outdoors on an ill-omened day" (SAA 10 8 obv. 25-26).

Whereas for our late tablet to have the commandment couched in the vetitive mood as opposed to the prohibitive mood of the parallels just reviewed does not carry much weight grammatically (GAG[3] §81i, end; Abusch 2018, reprinted in Abusch 2020: 139-145), the replacement of the vetitive particle allomorph *ē* with *ay* in combination with a t-prefix is an utter anomaly not to go unnoticed. A possible explanation for this anomaly can be sought in the poetic quality of our spell: a form like *ay tēgā'* mirrors nicely the following line ending *ayyābi ter*[*rā*], which is why the vetitive particle *ay* would have appeared to be preferable to the grammatically sounder allomorph *ē*. The same poetic consideration might also be the reason that the vetitive was chosen in this spell instead of the more common prohibitive mood as in the above-discussed parallels.

For the sporadic incidence of the verbal plural endings *-ū* and *-ā* being highlighted by a paragogic aleph also in literary texts see Schaudig 2001: 187.

[12] BM 98561 is also discussed in Jiménez 2013: 123-124, with an edition of the second spell; a few of his readings diverge from Schwemer's. For the sake of completeness, we quote the crucial lines:

(14) ⌈*šu*⌋-*ú-tum a-na ma-ṣa-ra-ti-ki* — (14) ¡viento del sur, (no descuides) tus guardias!
(15) *šadû* (IM.KUR.RA) *a-na ma-ṣar-ti-ka* — (15) ¡viento del este, (no descuides) tu guardia!
(16) ⌈*qa*⌋-*qa-ru ša-mu-u ana ma-ṣa-ra-ti-ku-nu* — (16) ¡Inframundo y cielo, (no descuidéis) vuestras guardias
(17) *la te-ga-a a-*⌈*di*⌋ *i-na-pa-ḫa u-ḫu-úḫ šamši*(ᵈUTU)-*ši* — (17) hasta que salga para mí *la saliva* del sol!

Crafting strings of amulet stones: evidence from the Toronto tablet

The incantation on the Toronto tablet exhibits interesting details about the preparation, consecration and application of chains. In addition, it makes telling remarks about the creation and transportation of stones, as well as about the purpose of the finished chain. This is in line with the incantation being of the consecratory type, with special emphasis on the material or the object used during ritual. While all other known consecratory incantations for stones mention specific minerals employed for specific purposes,[13] the incantation on the Toronto tablet focuses on the chain itself, and it does not mention any specific substance. In fact, if the restoration of the first line is correct, the text starts by addressing the stones collectively (§1). From the second line onwards, the qualifier NA4 is missing from the text; instead, the objects to be consecrated are indicated with the pronominal suffix of the second person plural *-kanūš* attached to each verb.

After the stones are addressed, the incantation gives an account of their creation (§2) in a similar way to how this topic features in an inscription of Esarhaddon. In both texts the god Ea occurs in connection with the creative task, obviously because of his prominent role as the god of magic, but also as that of arts and crafts. The latter association is particularly clear in Esarhaddon's inscription, where the refurbishment of the gods' statues is the reason that stones had to be created. According to the passage, the ruler supplied the craftsmen with the necessary raw materials, including 'precious stones that are not conquered by emery-abrasive yet (*lā kišitti šamme*), without number, products of the mountains, for which Ea magnificently fixed a destiny of splendour, (fit) for lordly works'.[14] Among other purposes, stone beads were manufactured and used to adorn the statues as jewellery, not unlike the chain amulets that were placed around the neck, hip, wrists or ankles of the conjurer's clients. The preparation of stone beads was a creative craft in its own right,[15] so not surprisingly Ea is mentioned in both the incantation and the Esarhaddon passage as the one who creates such a substance of magico-medical importance and, at the same time, presides over its turning into an appropriate work of craftmanship.

As the next logical step, the stones are brought down from the mountains (§3). In the incantation this task is given to Ninkurra. It is hard to say if there was a reason for charging this deity with this particular task other than the divine name meaning literally 'Lady of the Mountain'. One explanation might be that genealogical considerations have played a role in assigning deities to the different tasks, since the first three gods mentioned by the incantation,

[13] See, e.g., the incantation in SpTU 2 22 + SpTU 3 85 iv 32-35, where the materials used for the chain are treated in the same order as they are listed in the preceding line, giving *māmītu* (curse) as the reason for the preparation of the chain (Schuster-Brandis 2008: 247-264). A similar incantation can also be found in CT 51 89 i 17'-23', which is a Late Babylonian manuscript of the 'Kette Narām-Sîns' (Schuster-Brandis 2008: 341-345). Note, further, the incantation to be recited over haematite in Rm 2 160 obv. 20-24 (Mullo-Weir 1929), as well as the two 'Insignienbeschwörungen' belonging to the series *bīt salā' mê* ('House of Sprinkling Water'), with the respective incipits NA4 GAL NA4 GAL NA4 ḪI.LI MA.AZ.ZA.NA ('Great stones, great stones, stones rejoicing at the abundance') and NA4 GAL NA4 GAL ^{na4}ŠUBA GAL.GAL.LA ('Great stones, great stones, greatest *šubû* stones'); see Berlejung 1996 and Ambos 2013: 220-223. For the Sumerian spell in AMT 46/1 i 1'-9' which is similar to the Toronto tablet in that it relates how a chain amulet is to be prepared, see the excursus below.

[14] NA4.MEŠ *na-as-qu-ti* / *la ki-šit-ti šam-me šá ni-i-ba la i-šu-u nab-nit ḫur-šá-a-ni šá* ^{d}*é-a a-na ši-pir be-lu-ti ši-mat* ME.LÁM *ra-biš i-šim-šu-nu-ti* (RINAP 4 48 ll. 82-83). For this passage see Simkó 2015, with earlier literature.

[15] The making of beads and inlays was the responsibility of the TIBIRA (Akkadian *gurgurru*) whose close connection to the most precious stones is already documented in the Sumerian literary texts *Nanše C* Segment A ll. 51-53 (ETCSL 4.14.3), *Copper and Silver* Segment D l. 58 (ETCSL 5.3.6) and *Dumuzid-Inana Y* ll. 42-47 (ETCSL 4.08.25). For understanding this craft as 'carver, sculptor' or 'inlay-maker' on the basis of the Old Babylonian and earlier text material, see Heimpel 1987: 54; Neumann 1987: 35 n. 87; Cavigneaux – Al-Rawi 1995: 30 and 38; Sallaberger 1996: 5; Sallaberger 1999: 277; Waetzoldt 1997: 91. On the other hand, Berlejung analysed the texts pertaining to the making of cult images in the first millennium and concluded that the *gurgurru* craftsmen were responsible for the tasks of 'Schneiden, Schleifen und Fassen von Edel- und Halbedelsteinen in Gold sowie (…) Anfertigen von Inlays' (Berlejung 1998: 124-125). For the discussion of *gurgurru* see also CAD G, s.v. *gurgurru* A, 138-139.

Enki-Ea, Ninkurra and Ninimma, represent three consecutive generations of deities in Sumerian mythology.[16] On the other hand, it is also probable that a male deity under the name Ninkurra was meant here, who was the god of craftsmen entrusted with carving stone beads.[17] Like the god Ea in the preceding passage, this deity might thus have a twofold part in our spell, featuring not just as the acquirer of the necessary substances, but also – on a more implicit level – as the actual craftsman who makes them into beads for the chain amulet.

The goddess Ninimma[18] may have been given a role here in reminiscence of the above-mentioned Sumerian tradition that makes her the daughter of Ninkurra – who in this filiation has female gender – and through her a grand-daughter of Enki. The deciding factor, however, is more likely to have been her marriage to Kusibanda, the goldsmith in the craft-guild which assists Enki-Ea in creating a god, amongst other things, and whose membership includes Ninkurra, too.[19] According to myth, her husband's abode is located in Ea's *apsû*, which plausibly accounts for her having been assigned an epithet that surprisingly links her with holy water, an element she otherwise has no connection to at all. Our tablet is thus unique in conferring the title of *bēlet egubbê* on Ninimma (§4), the near unchallenged patentee of which is Ningirim. However, the occasional appropriation of this title by Nammu might also suggest the possibility that Enki-Ea's mother's name was originally intended here and that it ended up disfigured in the guise of a minor semi-namesake.[20] Being done either by Nammu or by Ninimma, the immersion of the stones in holy water is obviously the first step in the purifying process, paralleling the episode featuring Kusu (see below).

The most difficult part of the Toronto tablet is the passage following the soaking of the beads in holy water. Based on what we can infer from other amulet stone texts, it seems that once the chain was finished small pouches were made, filled with healing substances and tied to the cord between the beads (§5). There were two types of pouches, the woollen *lippu* and the leather *mêlu*.[21] As discussed above, the unorthodox phraseology of the incantation might have something do with *lippu* which occurs in such verbal and nominal phrases as *ina tabarri talappap* 'you wrap (the drugs) in red wool'[22] or *ina uqnâti* 7 *lippī talappap* 'you wrap (the drugs) in seven wrappings of blue wool'.[23] The proposed interpretation also explains why Gula is named in this context: as the goddess of healing, she was closely associated with all sorts of healing substances,[24] and because of this she must have been the ideal choice when drug-filled pouches had to be prepared for chain amulets. Even so, as mentioned above, the incantation presents some very unusual grammatical forms, thereby making any interpretation conjectural to a certain degree.

As the final step in making chain amulets, a ritual had to be performed to call into action the magic potential of the object and to enhance its apotropaic and healing properties.[25] As already mentioned, references to such rituals can be found in the elaborate amulet stone texts

[16] In the Sumerian literary text *Enki and Ninhursag* ll. 108-126b (ETCSL 1.1.1) Ninkurra occurs as the daughter of Enki. She is raped by her father, and gives birth to the goddess Ninimma. Interestingly, our incantation seems to follow the same genealogy by assigning the respective tasks of creating, transporting, and polishing stones to Enki-Ea, Ninkurra and Ninimma. For this passage see also Focke 1999/2000: 93-94 and 101-102.
[17] Berlejung 1998: 124.
[18] For a general discussion of Ninimma see Focke 1999/2000. See also Focke 1998, with the edition of a hymn to this goddess.
[19] Focke 1999/2000: 108-109; Walker – Dick 2001: 60, ll. 105-106 with n. 90.
[20] Cf. Focke 1999/2000: 108. See also Lambert 2013: 431-432 and Simons 2018: 138-139.
[21] Schuster-Brandis 2008: 66-67.
[22] See, e.g., K 2542+ i 20 (Schuster-Brandis 2008: 373-390 Text 17A): 7 Ú.ḪI.A *an-nu-ut ina* ^{sig}ḪÉ.ME.DA *ina bi-ri-šú-nu tála-pap* 'You wind these seven drugs in red wool between them (i.e., the stone beads)'.
[23] See, e.g., AMT 46/1 ii 5'-6': *ga-bi-id* UR.BAR.RA / ^{sig}ZA.GÌN.NA 7 *líp-pi tála-pap* 'You wrap wolf's liver plant (i.e., tamarisk) in seven wrappings of blue wool'.
[24] Böck 2014b: 129-165.
[25] Schuster-Brandis 2008: 68-70.

that often quote the incantations to be recited over the chain.[26] The Toronto tablet has clearly preserved such an incantation, the next section of which describes the performance of a purification ritual and the casting of a spell as the final procedure before the application of the chain. As a matter of course, it is the divine purifier Kusu who is said to have moved the censer and torch past the stones (§6), while Asalluhi recited the incantation (§7).

Once finished, chain amulets are put to the test. The method of application used in the incantation on the Toronto tablet was to place the object around the neck (§8). This is the most common method found in such texts, but in other cases the chain could be applied directly to the diseased body parts, most commonly the temples, hips, arms or legs.[27] As for the magico-medical problem this particular chain was designed to solve, the text first makes the general remark that the stones should not be neglectful of their duties (§9). A bit more specific is the instruction that comes next, pointing to an obvious apotropaic purpose as the amulet is ordered to ward off any evil or enemy.

Excursus on a Sumerian spell

The incantation on the Toronto tablet is a highly informative text, presenting an array of details about the preparation, consecration and application of chain amulets. In addition, the appearance of deities best suited to the discussed tasks renders a second layer of meaning to this text, which was probably meant to emphasise the divine origin of the chain, and lend authority to the corresponding ritual. Couched in such religious terms, and with the healing procedure embedded in the wording of the spell, the Toronto tablet can be understood as a composition in its own right that was concerned with the management of a particular type of magico-medical device. In this respect, there is a remotely comparable Sumerian spell known from a collection of magico-medical prescriptions against the neck disease GÚ.GIG.GA. As the rubric of this text, 'wording (of the incantation) for a chain of ŠU.U stones,'[28] indicates, this spell deals with a specific mineral used in the form of a chain amulet. First, it prescribes the acquisition of 'male' ŠU.U stones that are to be strung on a cord made by spinning together three different types of wool with gazelle sinew. Then, the sulphur has to be wrapped; the text probably alludes here to the small pouches of wool or leather bags filled with healing substances and tied to the string in between the beads. Finally, an incantation is to be recited, and the chain is applied to an unspecified part of the person's body as Asalluhi is said to tie the amulet simply 'wherever it hurts the sick'.

It is in fact the god Asalluhi alone whom the Sumerian spell tasks with preparing chain amulets, as opposed to the whole series of deities appearing in the Toronto tablet. On first glance, therefore, as far as gods are concerned, the same topic seems to have been transmitted in two alternative versions. This can be easily explained, however, by the specific genre probably represented by the Sumerian text, which seems to be a Marduk–Ea dialogue. This is a type of incantation in which Marduk/Asalluhi visits his father, Ea/Enki, to tell him about a disease that affects his patient, and to ask what course of action to take. Ea/Enki responds that his son knows just as much as he does, but nonetheless informs him about the proper ritual to

[26] See, e.g., BM 56148+ i 1-ii 36 (Schuster-Brandis 2008: 276-318 Text 9A). This passage contains instructions pertaining to the making of two chain amulets: one to make a person remember what he has forgotten (*mašīta ḫasāsi*; i 1-ii 4), and the other for those who are about to enter the palace (*ērib ekalli*; ii 5-36). In both cases, long ritual descriptions occur, including verbatim quotations of the incantations that are to be recited over the chains.

[27] Schuster-Brandis 2008: 67-68.

[28] KA.INIM.MA *tak-ṣi-ru šá* ⌜^{na4}⌝ŠU.U (K 3612+ i 23'). The tablet has been copied as AMT 46/1, with the sign NA$_4$ drawn in a way that it looks like 'kib' (cf. CAD Š/3, s.v. *šû* b 2', 162), thus leaving room for the alternative rendering *kib-šu-u* 'a fungal mould'. While collating the tablet in July 2017, the passage was found in a fragmentary condition, with a deep break running across the middle of the sign. Even though this break makes it impossible to decide which sign occurs in the fragmentary passage, the alternative reading *kib-šu-u* should be abandoned on the basis of context.

be performed. Such incantations relate the details of the ritual one has to perform in order to combat the disease successfully, essentially acting as an embedded ritual within an incantation. [29] The Sumerian spell is likely an example of such an incantation, though due to its fragmentary state the actual dialogue between Marduk/Asalluhi and Ea/Enki is missing from the preserved part of the text. The only remaining part is the passage where Ea instructs his son about the necessary ritual, in this case the construction of a chain amulet.

K 3612 + K 8010 + K 8124 (AMT 46/1) i 1'-9'

1'. [……] x x [……]
2'. [^{d}asa]l-lú-ḫi ˹ušumgal an ki-bi˺-[da-ke$_4$]
3'. [lú]-u$_{18}$-lu-bi su gíd-da su ˹uš gál$^{?}$˺
4'. [^{n}]^{a4}šu-u nita šu u-me-ti
5'. [^{sig}g]a-ríg-ak-a ^{sig}ḫé-me-da
6'. [^{sig}za-gìn]-˹na˺ sa maš-dà u-me-ni-nu-nu
7'. [piš$_{10}$]-˹^{d}˺íd-lú-ru-gú úḫ-^{d}íd-lú-ru-gú
8'. u-me-ni-nigin
9'. ˹mu$_7$-mu$_7$˺ dùg-ga-zu u-me-ni-sì ^{lú}tu-ra ki gig-ga-ni-ta u-me-ni-kéš

Preliminary translation	Corresponding paragraph in the Toronto tablet
i1'-3' […] Asalluhi, the great dragon of heaven and earth, the one who *prolongs (life in) the body of mankind* …	–
i4' acquire 'male' ŠU.U-stones	§2-3
i5'-6' spin carded wool, red wool, blue wool (and) gazelle sinew (into a cord)	§4
i7' wrap up *kibrītu*- (and) *ru'tītu*-sulphur	§5
i8'-9' cast your pleasant spell (and) tie (the chain) to wherever it hurts the sick	§7-8

References

Abrahami P. 2010. Review of Schuster-Brandis 2008, *JMC* 16: 39-41.

Abusch T. 2018. Vetitive and Prohibitive: An Observation, in S. V. Panayotov, L. Vacín (eds.), *Mesopotamian Medicine and Magic: Studies in Honor of Markham J. Geller*, AMD 14, Leiden/Boston, 1-8.

Abusch T. 2020. *Further Studies on Mesopotamian Witchcraft Beliefs and Literature*, AMD 17, Leiden/Boston.

Ambos C. 2013. *Der König im Gefängnis und das Neujahrsfest im Herbst. Mechanismen der Legitimation des babylonischen Herrschers im 1. Jahrtausend v. Chr. und ihre Geschichte*, Dresden.

Bauer H., Leander P. 1927. *Grammatik des Biblisch-Aramäischen*, Tübingen.

[29] Falkenstein 1931: 44-67; Finkel 1980: 51-52; George 2016: 2-4; Zomer 2018: 38-39.

Berlejung A. 1996. Die Macht der Insignien. Überlegungen zu einem Ritual der Investitur des Königs und dessen königsideologischen Implikationen, *UF* 28, 1-35.
Berlejung A. 1998. *Die Theologie der Bilder. Herstellung und Einweihung von Kultbildern in Mesopotamien und die alttestamentliche Bilderpolemik*, OBO 162, Freiburg/Göttingen.
Böck B. 2014a. Bemerkungen zur Literatur über Amulettsteine, *OLZ* 109, 173-178.
Böck B. 2014b. *The Healing Goddess Gula: Towards an Understanding of Ancient Babylonian Medicine*, CHANE 67, Leiden/Boston.
Cavigneaux A., Al-Rawi F. N. H. 1995. Textes Magiques de Tell Haddad (Textes de Tell Haddad II). Deuxième partie, *ZA* 85, 19-46.
Collins T. J. 1999. *Natural Illness in Babylonian Medical Incantations* (unpub. diss.), Chicago.
Couto Ferreira M. E. 2010. Fuentes lapidarias cuneiformes. Artículo-recensión a A. Schuster-Brandis, Steine als Schutz-und Heilmittel, *Historiae* 7, 97-105.
Falkenstein A. 1931. *Die Haupttypen der sumerischen Beschwörung*, LSS NF 1, Leipzig.
Finkel I. L. 1980. The Crescent Fertile, *AfO* 27, 37-52.
Focke K. 1998. Die Göttin Nin-imma, *ZA* 88, 196-224.
Focke K. 1999/2000. Die Göttin Ninimma, *AfO* 46-47, 92-110.
Geller M. J. 2015. Review of Schuster-Brandis 2008, *AfO* 53, 372-375.
George A. R. 2016. *Mesopotamian Incantations and Related Texts in the Schøyen Collection*, CUSAS 32, Bethesda.
Goff B. L. 1963. *Symbols of Prehistoric Mesopotamia*, New Haven/London.
Hämeen-Anttila J. 2000. *A Sketch of Neo-Assyrian Grammar*, SAAS 13, Helsinki.
Heeßel N. P. 2014. Amulette und 'Amulettform': Zum Zusammenhang von Form, Funktion und Text von Amuletten im Alten Mesopotamien, in J. F. Quack, D. C. Luft (eds.), *Erscheinungsformen und Handhabungen heiliger Schriften*, Materielle Textkulturen 5, Berlin/München/Boston, 53-77.
Heimpel W. 1987. Das Untere Meer, *ZA* 77, 22-91.
Huehnergard J. 1989. *The Akkadian of Ugarit*, HSS 34, Atlanta.
Jiménez E. 2013. *La imagen de los vientos en la literatura babilónica* (unpub. diss.), Madrid.
Köcher F. 1963. Ein verkannter neubabylonischer Text aus Sippar, *AfO* 20, 156-158.
Kouwenberg N. J. C. 2010. *The Akkadian Verb and Its Semitic Background* , LANE 2, Winona Lake.
Kraus F. R. 1970. Akkadische Wörter und Ausdrücke, I-III, *RA* 64, 53-61.
Lambert W. G. 2013. *Babylonian Creation Myths*, MC 16, Winona Lake.
Limet H. 1984. Amulettes babyloniennes et lapidaire zoroastrien, in J. Duchesne-Guillemin, J. Loicq (eds.), *Orientalia J. Duchesne-Guillemin emerito oblata*, ActIr 23, Leiden, 327-339.
Maul S. M. 1994. *Zukunftsbewältigung. Eine Untersuchung altorientalischen Denkens anhand der babylonisch-assyrischen Löserituale (Namburbi)*, BagF 18, Mainz am Rhein.
Metzler K. A. 2002. *Tempora in altbabylonischen literarischen Texten*, AOAT 279, Münster.
Mullo-Weir C. J. 1929. Fragment of an Expiation-Ritual against Sickness, *JRAS* 2, 281-284.
Neumann H. 1987. *Handwerk in Mesopotamien. Untersuchungen zu seiner Organisation in der Zeit der III. Dynastie von Ur*, Schriften zur Geschichte und Kultur des Alten Orients 19, Berlin.
Oppenheim A. L. 1950. Review of UET 4, *JCS* 4, 188-195.

Parpola S. 1983. *Letters from Assyrian Scholars to the Kings Esarhaddon and Assurbanipal, Part 2: Commentary and Appendices*, AOAT 5/2, Kevelaer/Neukirchen-Vluyn.
Reiner E. 1960. Plague Amulets and House Blessings, *JNES* 19, 148-155.
Reiner E. 1987. Magic Figurines, Amulets, and Talismans, in A. E. Farkas, P. O. Harper, E. B. Harrison (eds.), *Monsters and Demons in the Ancient and Medieval Worlds: Papers Presented in Honor of Edith Porada*, Mainz on Rhine, 27-37.
Sallaberger W. 1996. *Der babylonische Töpfer und seine Gefäße nach Urkunden altsumerischer bis altbabylonischer Zeit sowie lexikalischen und literarischen Zeugnissen*, MHE Series II Memoirs III, Ghent.
Sallaberger W. 1999. Ur III-Zeit, in P. Attinger, M. Wäfler (eds.), *Mesopotamien: Akkade-Zeit und Ur III-Zeit*, OBO 160/3, Freiburg/Göttingen, 121-414.
Schaudig H. 2001. *Die Inschriften Nabonids von Babylon und Kyros' des Großen*, AOAT 256, Münster.
Schuster-Brandis A. 2008. *Steine als Schutz- und Heilmittel. Untersuchung zu ihrer Verwendung in der Beschwörungskunst Mesopotamiens im 1. Jt. v. Chr.*, AOAT 46, Münster.
Schwemer D. 2012. Protecting the King from Enemies, at Home and on Campaign: Babylonian Rituals on Th 1905-4-9, 67 = BM 98561, *ZA* 102, 209-218.
Scurlock J.A. 2006. *Magico-Medical Means of Treating Ghost-Induced Illnesses in Ancient Mesopotamia*, AMD 3, Leiden/Boston.
Simkó K. 2015. On the Meaning and Cultural Setting of the Phrase *lā kišitti šamme*, *Kaskal* 12, 337-348.
Simons F. 2018. The Goddess Kusu, *RA* 112, 123-148.
Stadhouders H., Panayotov S. V. 2018. From Awe to Audacity. Stratagems for Approaching Authorities Successfully: The Istanbul Egalkura Tablet A 373, in S. V. Panayotov, L. Vacín (eds.), *Mesopotamian Medicine and Magic: Studies in Honor of Markham J. Geller*, AMD 14, Leiden/Boston, 623-697.
Van Buren E. D. 1945. Amulets in Ancient Mesopotamia, *OrNS* 14, 18-23.
Waetzoldt H. 1997. Die Berufsbezeichnung tibira, *NABU* 1997/3, 90-91.
Walker C., Dick M. 2001. *The Induction of the Cult Image in Ancient Mesopotamia: The Mesopotamian Mīs Pî Ritual*, SAALT 1, Helsinki.
Wiggermann F. A. M. 1992. *Mesopotamian Protective Spirits: The ritual Texts*, CM 1, Groningen.
Zomer E. 2018. 'The Physician is the Judge!' – A Remarkable Divine Dialogue in the Incantation: ÉN ur-saĝ ^{d}asal-lú-ḫi igi-bé ḫé-pà saĝ-ḫul-ha-za ḫé-pá, *JMC* 31, 38-42.

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(The photos are the courtesy of the Royal Ontario Museum)

Dreck-, *Deck-*, or What the Heck?

Maddalena Rumor*

Abstract

Most ancient medical traditions, including the Babylonian, record a fair amount of medical ingredients with names that suggest they are made of foul substances, usually referred to as *Dreckapotheke*. While this label indicates a literal understanding of the substances, it is clear that in some cases they were not to be interpreted literally, neither in Mesopotamia nor elsewhere. How can we explain these names then? Among various suggestions, Franz Köcher in 1995 argued that such names of ingredients, specifically the "aš-names" of Uruanna III, were used in Babylonian medicine as "secret names" (*Geheimnisnamen* / *Decknamen*). Because this hypothesis has had such a pervasive influence on our understanding of Mesopotamian pharmacology (as well as the perception of it outside of Assyriology), the purpose of this paper is to examine the validity of the evidence offered to support it, while reflecting upon additional aspects that also contribute to the discussion. The results of this investigation conclude that the foundations upon which such theory was built are unsound. In particular, the aš-names of Uruanna III may have represented alternative names, word puns, synonyms, vernacular names, etc. (with the exact reason for their being collected in the same section still unclear), but do not provide evidence of a system of *deliberately* hidden names (*Geheimnisnamen*).

Introduction

Even though truncated, the words in the title summarize well the topics in this article and the order in which I will address them, that is *Dreckapotheke*, *Decknamen* and the problems regarding their interpretation as *Geiheimnisnamen,* secret names, according to one specific scholarly theory, also here analyzed.

Dreckapotheke, literally "filthy pharmaceuticals," is a term which is commonly used to refer to a number of rather foggy and unappealing, if not downright repulsive, substances derived from any one of the three natural kingdoms, or even from less tangible, mythological or supernatural, realms, and that were employed in ancient pharmacological contexts (examples could be: "dog dung," "human testicle," or "soiled rag"). Such medical ingredients are even more strange when they do not display any clear phytochemical property, or extracting potential, not to mention when they pose a threat to the health of a patient. The cuneiform pharmacopoeia includes a number of these substances, which have puzzled modern historians for quite some time. Besides having to wrestle with the identification of ordinary plant names, scholars must also, in the case of *Dreckapotheke,* contend with whether these bizarre ingredients ought to be understood literally, or whether they represent synonyms, variants, foreign or vernacular expressions (perhaps derived from puns), or metaphorical designations, all of which are common constituents of folk plant nomenclatures. The possibility that such names may have served restrictive purposes of some sort (*Decknamen*), or even secretive intentions (*Geheimnisnamen*), is also to be considered.

In 1995 Franz Köcher published an influential article in which he argued that the latter possibility may be proved based on evidence obtained from a Neo-Assyrian list of drugs, the third tablet of Uruanna (better: Irianna)[1] = *maštakal*. The first section of the tablet matches pairs of drug names by means of a sign, aš, the meaning of which is still unknown, placed at the beginning of the right-hand column. Köcher proposed that this sign aš must point to secret

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[1] Cf. Stol 2003–5, 504b. The numbering system I use in this article follows my edition of Uruanna III published in JMC 29, 2017. When I quote from Köcher, however, I use his numbering, which was slightly different and can be found on his *Ein text medizinischen Inhalts aus dem neubabylonischen Grab* (1995).

knowledge (*Geheimnisnamen,* or *Decknamen*), and, since several substances included in the list could be classified as *Dreckapotheke,* he suggested that similar names of ingredients would be used in Babylonian medicine to conceal the real identity of conventional drugs (more on this below). Because this theory of *Geheimnisnamen*/*Decknamen* has, now for a quarter of a century, influenced our understanding of Mesopotamian drugs and medicine, as well as their perception outside of Assyriology,[2] it deserves a thorough examination.

In actuality the suggestion is quite reasonable, and in general terms it is even likely that, at various points in history, especially during times of socio-political disruption, the "meta-knowledge" attached to evocative or unusual ingredient names would have struggled to survive unaltered, as it was traditionally transmitted in oral form. The relative uncertainty resulting from every and any loss of explanation along the way would have contributed an additional level of esotericism to the already complex pharmaceutical lore. Babylonian scholars must have been very aware of the problem, the consequences of which they strived to avoid by re-establishing order within their pharmaceutical literature (as the colophon of Uruanna suggests), and eventually by designing tools aimed at preserving, and developing, *ad hoc* explanations, in the form of commentaries.[3]

It is also probable that, in particular contexts, medicinal ingredients may have been, for a host of reasons, intentionally *coded*, as seems to be the case of late astromedical therapy. The specific reasons for concealing (or intentionally altering) the identity of those ingredients can only, however, be speculative.

The topic is a problematic one, and thus the present focus will be, for the moment, on a single aspect of the discussion, that is on the evidence exhibited by Köcher to support his point. It will be shown that Uruanna III cannot be used to argue in favor of *secrecy* as the reason driving the presence of *Dreckapotheke* in medical recipes. Specifically, it will be argued that the names in the right-hand column of the aš section of Uruanna III are not to be understood as *Geheimnisnamen*.

For the reasons mentioned above, however, it is still possible that such names, or some of them, may have reflected, at different times in Babylonian history, or in specific contexts, various degrees of esoteric knowledge. Yet I would also stress that the medical art, in virtue of being a highly complex *techne*, would have already been almost inaccessible for most people, simply because it required long years of personal training and an incredible amount of first-hand experience to be mastered. In the absence of specified dosages, and especially in a world where drugs and their components needed to be adjusted to the circumstances of the medical case (season, time of the day, gender and physical condition of the patient, etc.),

[2] Publications of Classical Studies, including recent ones, refer to the third tablet of Uruanna as listing "secret knowledge," a notion which clearly follows Köcher's interpretation. See, for instance, Dieleman 2005, 194: "secret code names, or *Decknamen* … Each of these items is followed (sic!) by the name for an ordinary herb, mineral or liquid as in the PGM XII list. Given this exact correspondence between the device of the PGM XII list and the third tablet of Uruanna = *maštakal*, it might seem obvious to assume that the Greek text is a reflection of Mesopotamian influence in the Greek Magical Papyri. However, this conclusion is probably not correct … ."

[3] A good example is the medical commentary (BRM 4, No. 32) edited by Geller (2010, 168 ff.), where the scribe explained the terms he could read in a medical source text (also given in Geller's edition). What is explained, translated (from Sumerian), or commented upon is not only several colorful and perhaps obscure *Dreckapotheke* names*,* but also very common herbs (e.g. *imḫur-līm*, *kukru*) and actions (e.g. "to mix"). In the case of the medical substances, the scribe does his best to explain and describe them either through similarity to other plants (X *kīma* Y, X (is) "like" Y), or by providing more than one explanation (*šanîš,* "otherwise," "alternatively"), or through the *Glossenkeil* ("means," "meaning"). He appears mostly confident in this exercise, but in some cases he is rather uncertain and provides not only a second, but a third (*šalšiš,* l. 17) and sometimes even a fourth (*rebîš,* l. 17) alternative name or explanation. These are frequently based on word puns and etymology – often precarious, if not downright false etymology – and clearly were intended to offer a reasonable interpretation. What the text suggests is that, by the late period, a number of ingredient names probably presented some ambiguity, being known with more than one name, occasionally a truly puzzling name.

having a medical recipe at hand, or *knowing of* a certain medical technique, was no guarantee of success. A famous Neo-Assyrian letter is clear in this regard: in his response to the king's enquiry, the chief physician Urad-Nanaya complained about the way a simple nosebleed was handled at court by someone who evidently was not an expert. A procedure as elementary as the application of a tampon to the nose appeared, after all, to have been not such an easy task as Urad-Nanaya must have hoped, and the unfortunate patient had bled all evening. The chief doctor then explained to his lord what had been done wrong, and promised that the day after he would go to the palace to show in person how to perform the task correctly.[4]

I should finally say that, while Köcher's theory has, over the years, been the object of intense discussions among scholars, he may not have initially intended it to be definitive. It was in fact set out in the mere space of one single page (if we exclude the edition of W 21033) and issued as one of the appendices in an archaeological monograph, almost as an afterthought. For this reason, we might wonder whether the author was still pondering the hypothesis himself, but his health was already withering at that time, and he passed away shortly after. Regardless, the idea was picked up and began to influence the interpretation of Mesopotamian therapy at times more than it probably should have.

What follows is an inquiry into the validity of its premises as they were proposed.

Animal-based names of ingredients and "Dreckapotheke"

The study of medicinal ingredients in Mesopotamia is usually approached according to the natural kingdom, that is according to whether these ingredients are of plant, mineral or animal origin. This "natural" division is a good way to look at the material, but it runs into a notorious stumbling-block when having to deal with those ingredients whose nature is ambiguous as, for instance, plant names that have an animal element as part of them, including *Dreckapotheke*. The semantic interpretation of these names cannot be straightforward.

Assuming that names such as "*šammi ṣēri*" snake drug/plant, or "*lišān kalbi*" dog tongue, etc. are phytonyms, their presence in the Mesopotamian botanical nomenclature is not in the least surprising and follows semantic principles that are common to many languages,[5] and that ultimately stem from the physical experience practitioners have with the world around themselves.[6]

Plant names and attributions may, for instance, reflect *general qualities* (color, shape, surface type, size, place etc., e.g. *aktam ṣalmu* in Akkadian) or *the usage* of a plant (for food or medicine, e.g. the *bu'šānu* plant would have been called that way because somehow associated with the *bu'šānu* disease). Similar to many other cultures, Mesopotamian phytonyms also make a strong use of animal metaphors, and *physiological* or *morphological* attributions that normally belong to the animal semantic domain. These usually present underlying motivations; for instance "dog's plants" often include inferior, worthless, not

[4] See SAA X, N. 322 r.1–s.2: "Concerning the patient whose nose bleeds, the *rab mūgi* told me that much blood flowed yesterday evening. They are handling those tampons ignorantly! They put them against the cartilage of the nose, pressing the cartilage, and that is why the blood keeps coming out. They should put them into the openings of the nostrils; it will cut off the breath but the blood will be held back. With the king's consent, I will enter (the palace) tomorrow and give instructions."

[5] Kreiter (1912) published a study on French names of plants with animal components; Hauenshield (1996) examined the presence of animals in Turkic plant names; Marzell (1913) wrote on German phytonyms formed with animal names; many other works have examined the topic in several different languages. For further references on the subject, and an interesting investigation of bear phytonyms (bear tongue, bear ear, bear claw, bear bristle, bear tail, bear balls, and so on and so forth) in Eurasian languages and dialects, see Kolosova et al. 2017.

[6] This is true not only of plants, but also of minerals and stones. Cf. for instance Pliny's *Natural History* 37.167, where he writes that the *horn of Ammon* (*Hammonis cornu*), rather than the actual thing was a stone: "is among the most sacred *stones* of Ethiopia, has a golden yellow color and is shaped like a ram's horn" (the Egyptian god Amun-Ra was usually depicted as a ram). What he was referring to was indeed "ammonite."

cultivated or even harmful plants, besides those serving as medicine in regards to dogs, either healing people from dog bites or used to cure dogs (Haber 1963). More specific substance attributions may point instead to an analogy with the morphology of the corresponding animal part/product as, for example, the "blood" of a plant often refers to its resin (e.g. *dām erīni*, cedar blood/resin),[7] "milk" usually denotes a plant's milky secretions, "hair" may indicate its fibers, and so forth. Many other motives may be behind the naming of plants, such as geographical, social, emotional aspects, or even folklore, myths and other cultural expressions.

In short, animal components and body parts in folk plant names are common to many languages, both in antiquity and in today's world; sometimes they are semantically transparent, an explanation may even survive,[8] or their naming could especially be used as a mnemonic tool.[9] Most other times, however, and especially in the case of *Dreckapotheke*, their nomination is so cryptic that understanding the motivation behind them is not easy in the least. While in the case of living languages it might be possible to query native speakers, in the case of Mesopotamia it is impossible to interview Babylonian scribes in order to clarify their metaphors, and thus we are usually left with no other choice than to interpret most of those names *literally*.

The "secret" theory

Yet, our western experience with alchemy and esotericism has lead scholars to advance the hypothesis that some of these strange names may have stood for something else than they appear to claim, or, in other words, that they should not be read literally. This idea was first suggested by Reginald Campbell Thompson in 1936, when in regards to the *chemical* recipes he wrote that:

[7] The same happens in other languages as well, for example in Greek, αἱμα X "blood of X" seemed to denote substances able to coagulate, or solidify, as in the case of resins (Barbara 2008, 141).

[8] Cf. for instance BRM 4 No. 32, l. 15–6 (Geller 2010, 169): 15) ^{mun}*a-ma-nu* Ù.MU.UN : *a-ma-nu* 16) [Ù.M]U.UN *da-mu áš-šú* MUN *sa-mat šá* KUR *ma-da-a-a*." Translated as: "15) *Amānu*-salt (explanation): Ù.MU.UN (Sum.) is (the same as) *amānu*, (etymological explanation) 16) Ù.MU.UN (Sum.) is (also called) "blood" because the salt of Media is red (analogical explanation)."

[9] See for example the "Doctrine of Signatures," where herbal physical characteristics were believed to reveal therapeutic values (e.g., the *Hepatica* plant was named that way because of the shape of its leaves, which resemble a liver, the plant was also assumed to be medicinally useful for liver conditions). The Doctrine is well attested in the Middle Ages, although it may have stemmed from ancient mnemonic systems employed to remember medicinal properties of plants and herbs and (Bennett 2007). A good example from Dioscorides could be *De Materia Medica* IV 190 in which he described a plant still known in English as "scorpion tail." The text reads: "Large heliotrope that some call *scorpiouron* (scorpion-tailed) from the shape of its flower (…). At the ends is a white flower, slightly purple, and *curling like a scorpion's tail*; the root is thin and useless. It grows in rough places. (…) It is also *suitable for people stung by scorpions* when drunk with wine and plastered on." Shortly after, the same author presented another plant with similar virtues: "Scorpionwort: it is a small herb that has few leaves and seeds that *resemble tails of scorpions*. They *help people stung by scorpions* when plastered on" (*De Materia Medica* IV 192). Very similar renditions are also found in Mesopotamia, almost a millennium earlier; a plant (the name of which is unfortunately lost) was described in *Šammu šikinšu,* for instance, in the following terms: its "appearance is *like the tail of a scorpion*" (Stadhouders 2011, Text IIIb §6 and IV §9). It is quite possible that a number of plants in the Babylonian pharmacopoeia owed their names to their physical characteristics or to their medicinal properties. We know, for instance of a plant *rušrušu*, which appears to have been equivalent to "Ú *šá-mi zuqaqīpi*(GÍR.TAB)" and of *zuqiqīpānu*, both "scorpion" plants (Ú *šá-mi* GÍR.TAB : Ú *ru-uš-ru-šú*, Ú *ru-uš-ru-šú* : Ú *zu-qi-qi-pa-nu,* KADP 6 v 14–15 or Uruanna I 478–479). *Rušrušu,* at least, was known to be beneficial against snake bites, suggesting that, since these were often associated with scorpion stings, it may have relieved people from some consequences of venom, see CT 14 23 (K.9283):13: [Ú *r*]*u-uš-ru-uš-šu* : Ú *miḫiṣ*(PA-*iṣ*) *šibbi*(MIR) : *ina šikari* (KAŠ.SAG) *šaqû*(NAG) *ina šamni*(Ì.GIŠ) *pašāšu/pitaššušu*(EŠ.MEŠ), "*rušrušu* plant : plant for the bite of a *šibbu* snake : to give to drink in fine beer, to smear on repeatedly with oil (dupl. STT 92 i 13).

> "The Assyrian was as ready to call what was almost certainly opium by the name of "lion fat" (*lipî nēši*) or "human fat" (*lipî amēlūti*), or castor oil as "the blood of a black snake" (*dām ṣerri ṣalmi*) as the later alchemists were to give ridiculous synonyms for mercury, cinnabar, cadmia and such." (1936, xiii)

Campbell Thompson added that such unusual names, together with the progressively more frequent use of Sumerograms in the first millennium, may have been "intended to conceal professional knowledge from the layman" (p. xii).

Almost sixty years later, the same idea was embraced, and expanded, by Franz Köcher, who moved one step further and attempted to *prove* that some of these strange names were indeed intended to be used as *Geheimwissen,* secret knowledge. His argument centred around Uruanna = *maštakal*, the best-known and most comprehensive work of Assyro-Baylonian pharmacology, and in particular it focused on the beginning section of the 3rd tablet of the series (U3 from here on).

The full reasons for Köcher's choice of this text will be illustrated and examined below, one by one, but in a nutshell they were based upon:

1. The analysis and interpretation of the crucial sign aš in Uruanna III.
2. Four examples of duplicate recipes in which Köcher intended to show that *Geheimnisnamen* were used to conceal normal names of plant.
3. A Neo-Babylonian tablet from Uruk that allegedly uses several of these secret names.

The initial ten lines of the aš section of U3, which includes about 140 entries,[10] are reported in the chart below. The text consists in a list of (for the most part) perfectly legitimate drugs on the left-hand column (A), and more bizarre names of medical ingredients, on the right-hand column (B).

All drugs in column A are separated from those in column B by one horizontal stroke, the aš sign (and thus from here after I will refer to this specific section of U3 as the "aš section").

Line	A	B
1 (1)	Drug *šūšu*-licorice[?]	aš tail of mongoose
2 (2)	Drug tamarisk	aš dog neck
3 (3)	Drug (*a*)*murdinnu*-bramble[?]	aš spider leg
4 (4)	Drug *sikillu*	aš fat of 'nest' snake (young snake[?])
5 (5)	Drug *šumuttu*	aš human feces
6 (6)	Drug *šumuttu*	aš *ḫulû*-mouse of the canebrake
7 (7)	Drug 'fruit'	kúr/ aš human testicle
8 (8)	Drug *kamkadu*	aš *išqippu*-earthworm
9 (9)	Drug *bu'šānu*	aš dog tongue
9a	Drug *armēdu*	aš dog tongue
10 (10)	Drug *bu'šānu*	aš dog flea
Etc. etc.		

Column B is commonly thought to be a list of *Dreckapotheke* and of animal-based drugs, as the following examples suggest:

[10] The numbering follows my edition of the text in JMC 29 (2017). What I there retained in parenthesis is Kinnier Wilson's (or CAD's) numbering.

Dreckapotheke ingredients:

- 5 (5). Drug *šumuttu* | aš human feces
- 42 (39). Drug *nikiptu* | aš dog dung
- 108 (103). Drug *kurkanû* | aš dust of the latrine

Animal-based:

- 1 (1). Drug *šūšu*-licorice[?] | aš tail of mongoose
- 7 (7). Drug "fruit" | aš human testicle
- 8 (8). Drug *kamkadu* | aš *išqippu*-earthworm
- 127 (122). Drug clod of the field | aš scorpion horn

When we look at the entire section more up-close, however, the interpretation of its contents becomes more problematic. Column B does not only include *Dreckapotheke* and the like, but also medical ingredients that belong to the mineral kingdom, and even good old plants and herbs. Here are some examples:

Mineral-based:

- 27 (25). Drug *tašnīqu* | aš *mūṣu* stone
- 54 (51). Drug *ašqulālu* | aš *kalû*-paste
- 60 (56). Drug *emesallim*-salt | aš *šadânu ṣābitu*

Plants and herbs:

- 105 (100). Drug *ṣamuṣīru* | aš *išbabtu*-grass
- 109 (104). Drug *ḫazallūnu* | aš pomegranate pip/seed
- 138 (133). Drug *urbatu*-reed | aš papyrus
- 139 (134). Drug seed of *urbatu*-reed | aš *kungu*-rush

Thus, the plants in column A are associated with all types of materials in column B, regardless of their plant, mineral or animal origin. What is clear, at this point, is that these ingredients were not organized based on their *nature*. The usual, and traditional, classification based on the natural kingdom is thus not very useful here.

For this reason Köcher must have thought that the key to the interpretation of the aš section of U3 must be something that goes *beyond the nature* of those ingredients. And in this regard he was most likely right. Perhaps mindful of Campbell Thompson suggestions about the chemical recipes, he then proposed, that the sign aš, in the middle, could be an indicator of some sort of "secret lore."

He wrote:

> "Ich vermutete (…), daß sich unter dem Zeichen /aš/, das im Sumerischen auch die Lesung /dili/ hat, ein Wort verbergen müßte, das so etwas wie Geheimnis oder Geheimwissen bedeuten könnte." (Köcher 1995, 204).

He added that he found evidence for this idea in two lexical lists – Antagal Tablet B:229 and izi Tablet E:195a, where the sign aš (or Sumerian dili), would be paired to Akkadian *pirištu*, secret. *Pirištu* is normally written with the sign ḫal or ad.ḫal; it is occasionally attested as sag/dili in lexical contexts, but otherwise it is never written with only one stroke. In those two lists instead, Köcher argued, *pirištu*/secret is given as the Akkadian translation of dili *by itself,* and thus we would have good evidence that the names of ingredients in column B were used to conceal information "from the profane look of curious people."

> "Da es sich in Kolumne 2 meistens um Begriffe wie 'Schlangenfett' (…) usw. usw. handelt, ist es offensichtlich, daß diese Bezeichnungen dazu dienten, die jeweils gemeinte und verordnete offizinelle Pflanze oder Droge anderer Art *vor dem profanen Blick der Wißbegierigen zu verschleiern.*" (Köcher 1995, 204)

The argument, as we will see, presents some difficulties, which will be analyzed, together with other problems, in the next section. In particular, my observations will touch upon 4 points:

A. The evidence used to support the equivalence of aš with *pirištu.*
B. The Colophon of Uruanna.
C. Where these names occur in the medical literature.
D. Eventual parallels to this list in the Ancient World.

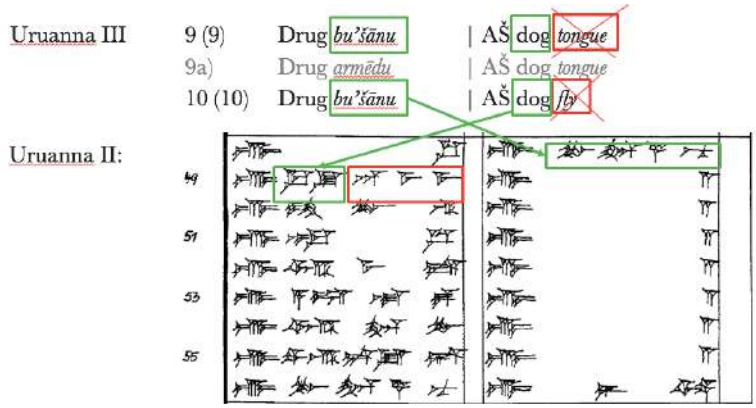
Problems with the "secret" theory

Since the publication of Köcher's article in 1995, various internal inconsistencies have become evident with his theory, such as the presence of some names of drugs in *both* column A and in column B, as in the case of *išbabtu*-grass or of *lišān kalbi*, dog tongue:

U3 64 (60): Drug *išbabtu*-grass | aš wing of a black raven[11]
U3 105 (100): Drug *ṣamuṣīru* | aš *išbabtu*-grass[12]

U3 9 (9): Drug *bu'šānu* | aš dog tongue[13]
U3 9a: Drug *armēdu* | aš dog tongue[14]
U3 38 (36): Drug dog tongue | aš bat head[15]

If we look up the same drug (for) *bu'šānu* (U3, 9) in other tablets of Uruanna to check what its substitute names (or synonyms) are there, we do find the presence of the animal element "dog," although not in an exact way. In Uruanna II (KADP 11 48ff.), for example, the plant/drug *bu'šānu* is paired with "dog of Gula," but never with "dog tongue" (or "dog fly," its equivalent in U3 10).



At line 42, the situation becomes even more complicated: the same ingredient name, "dog tongue," is paired with more than one name, *both to the left and to the right*:

U3 42 (39): Drug *nikiptu* | aš dog dung, dog tongue: aš dog bone[16]

In a case like this it would be difficult to explain the drug names as *Geheimnisnamen*, as their presence on both sides of the equation makes it impossible to determine what is secret and what is not.

[11] GIŠ *iš-bab-tu₄* | AŠ Á $BURU_5$ GE_6 [KADP 12, 52; Sm 1701,15; CT 14, 10 (K 4218a):12; K 4152+, 24].
[12] GIŠ *ṣa-mu-ṣi-ru*| AŠ *iš-bab-tu₄* (KADP 12 ii 2; KADP 19 ii 19; KADP 20, 7; Sm 1701 ii 4)
[13] Ú *bu-u'-šá-nu* | AŠ EME $UR.GI_7$ (KADP 13, 9 and K 4163, 9).
[14] [GIŠ *ar-me-d*]*i*| AŠ [EM]E $UR.GI_7$ (KADP 12, 8). The restoration is supported by KADP 27, 16, where Ú *ar-me-du* is paired with Ú *bu-u'*-[*šá-nu*].
[15] Ú EME $UR.GI_7$ | AŠ SAG.DU *šu-ti-ni* (KADP 2 iv 1, and KADP 12, 30).
[16] Ú *ni-kip-ti* | AŠ $ŠE_{10}$ $UR.GI_7$ EME $UR.GI_7$: AŠ GÌR.PAD.DU $UR.GI_7$ (KADP 2 iv 6-7; KADP 12, 33; KADP 17, 4-5).

Another difficulty was identified in the fact that some entries in the list replicate (although usually with slight differences) lines from other tablets of the Uruanna series, namely tablets I and II, which are considered preserving normal lists of synonyms or substitute ingredients, once again raising questions in regards to their supposed secrecy. Below are examples of entries of this kind:

Uruanna III 60 (56):	mun *eme-sal-lim*	| aš *šadânu ṣābitu*(^{na4}ka.gi.na dib.ba)
Uruanna II 560:	mun *eme-sal-lim*	| mun kur-*e*
Uruanna III 89 (84):	giš *iš-bab-tu*$_4$ kiri$_6$	| aš *a-na-pu-u*
Uruanna II 339:	ú *iš-bab-tú* ^{giš}kiri$_6$	| ú *a-la-pu-u*
Uruanna III 100 (95):	ú *ku-si-pu*	| aš *ga-la-lu*
Uruanna II 32:	ú *ka-si-bu*	| ú *ga-la-lu*
Uruanna III 114 (109):	giš tu$_9$.nim	| aš saḫar *ḫa-lu-la-a*
Uruanna I 462:	ú ud-*ti* kaskal	| ú *ḫa-lu-la-a*[17]

Because of these and other shortcomings, the secrecy theory began to receive some skepticism. Leading the way was James Kinnier Wilson, who in 2005 pointed out the difficulty in clarifying "the exact nature of the secrecy" (p. 48) and noticed how some of the so-called *Decknamen,* could originate from riddles, word-plays, or could simply be popular names, interpreting *pirištu* as an *alternative*. Many scholars have since adopted, in various degrees, Köcher's suggestion or Kinnier Wilson's suggestion, but the interpretation of a single aš sign as *pirištu* has never been questioned; while the complexity of the material also contributed to the deadlock.

A. Evidence used by Köcher to support the equivalence aš = *pirištu*

Evidence from lexical lists:

As introduced above, Köcher's entire argument was built on the premise that the sign aš/dili could be translated as "*pirištu* / secret" based on the evidence he found in two lexical lists. The first of these two lists, Antagal B:229 (MSL XVII: 194), is well preserved, and both the tablet and the edition clearly show that the sign aš/dili is not alone, but it is preceded by sag: "sag.dili | *pi-riš-tum*," and thus this example cannot be used as evidence.

In the second list, Izi E:195a (MSL XIII: 189), one aš/dili stroke is preserved as equivalent of *pirištu*, but the left corner of the tablet is broken: "[… d]ili|*pi-riš-tu*," hence the absence of other signs is merely assumed in the lacuna.

Therefore, out of the two examples, we can possibly consider only the second one, and even that one, only works assuming that dili was not preceded by anything else. In conclusion, Köcher's interpretation of aš as *pirištu*/secret in Uruanna III was based on a single, reconstructed, occurrence.

Examples from the recipes:

To strengthen his case for the reading of the substances in column B as *Geheimnisnamen*, Köcher also provided four examples of medical recipes with duplicates, each mentioning a *secret name* in place of the name of a more common drug in the duplicate recipe (Köcher 1995, 204). The examples he selected, however, are problematic. To begin with, three of them (No. 1, 2 and 4) present a supposed *Geheimnis-*/*Deckname* that is not even listed in the third tablet of Uruanna as an aš-term.[18] Consequently, we cannot exclude that those names may

[17] Cf. KAR 92.2: "Ú UD-*ti* KASKAL SAḪAR *up-pat-ti*" and Hh XIV 333: UB.PAD = *ḫa-lu-la-a-a.*

[18] Ú *biṣṣūr atāni* (example No. 1) is not listed in the AŠ section of Uruanna and is preceded by the determinative Ú, not AŠ. *Eper asurrê* (ex. No. 2) is also absent from U3 (although it sounds fairly similar to another one of the ingredients, SAḪAR KÁ.GAL *kamēti* "dust of the outer city gate" (l. 48). *Šinni pīri,* elephant tusk, or ivory (example No. 4), as admitted by Köcher, is an ingredient name that is not attested in any list, and thus neither in Uruanna III.

have designated alternative/substitute substances, or simply been synonyms, just as it happens with other descriptive names preserved by tablets I and II of Uruanna.

Out of the four examples, the only one that could possibly be used as evidence is example Nº 3, where the *Geheimnis-/Deckname eṣēmti amēlūti* is indeed mentioned in the aš section of U3, specifically at Uruanna III 40,[19] paired with "shepherd staff (*ḫaṭṭi rē'i*).

U3 40: ú *ḫaṭṭi rē'i*(níg.gidir)$_{šu\text{-}me\text{-}rù}$ | aš *eṣēmti*(gìr.pad.du) $_{šu\text{-}me\text{-}rù}$ *amēlūti*([lú])
"shepherd's staff $_{\text{Sumerian}}$ | aš human bone $_{\text{Sumerian}}$"

According to Köcher's explanation, *eṣēmti amēlūti* "human bone" would thus be the *secret* name of *ḫaṭṭi rē'i*. To prove the point, the example refers to one recipe, reported both in BAM IV 323:75-78 and BAM 471 iii 17-20. In the first of these texts, the "secret name" *eṣēmti amēlūti* is listed right after *bīnu*-tamarisk; in the same position, that is right after *bīnu,* the second text is unfortunately broken. Köcher thus explains that in the broken spot of this duplicate text (of BAM V 471 iii 19) must have been the "non-secret" name of *eṣēmti amēlūti*, which as we saw, according to U3, is *ḫaṭṭi rē'î.* If I understand Köcher's reasoning here, he expected *ḫaṭṭi rē'î* to be there because of another list of drugs where "human bone" is paired with "shepherd staff (CT 37 32) and because of the alleged existence of additional duplicates of the same recipe. As it turns out though, the pharmaceutical list in question is a simple list of synonyms or substitute drugs, where both *eṣēmti amēlūti* and *ḫaṭṭi rē'î* are paired (without aš) with at least two other terms each, which would be enough to defeat any attempt at creating an effective secret code. Moreover, any additional duplicate to the recipe (BAM III 221 iii 17 and BAM IV 385 iv 9-10) lists "*bīnu, amīlānu*-plant" and not "*bīnu, ḫaṭṭi rē'î*:"

BAM III 221 iii 17: ^{giš}*bi-ni* ú lú.u$_{18}$.lu
BAM IV 385 iv 9-10: ^{giš}*bi*-[*ni*] ú lú.u$_{18}$.lu

Finally, BAM V 471 iii 19, the broken recipe, shows the signs ú l[ú …] before the lacuna, suggesting that in the reconstruction we should indeed expect the *amīlānu*-plant, in accordance to all the above duplicates. In sum, Köcher's reconstruction of *ḫaṭṭi rē'î* in BAM V 471 iii 19 is not supported by any evidence, and thus this fourth example (No. 3) also does not work. None of the examples provided can therefore be used as evidence to support the claim of secrecy.

Evidence from the Uruk tablet W 21033, 1 (= BAM IV 409)

The last piece of evidence offered by Köcher to prove that names in the right-hand column of Uruanna III must be "*Geheimnisnamen*" consists in a Neo-Babylonian tablet from Uruk (W 21033, or BAM IV, 409), listing therapeutic measures to relieve skin ailments.

The text includes a number of ingredient names (8, in the space of ca. 74 lines of text) that have all the prerequisites to pass for good *Dreckapotheke*, which is why Köcher identified them as *Decknamen/Geheimnisnamen*. They are:

Lines:	*Deckname*/*Geheimnisname*:
5, 8	*mašak imēri*, "Donkey skin"
7	*eper askuppati abulli* (saḫar kun$_4$ ká.gal), "Dust from a threshold"
9	*zappi šahî* (šaḫ), "Pig bristle"
12	*zê amēlūti* (še$_{10}$.nam.lú.u$_{18}$.lu), "Human feces"

[19] The numbering here follows Köcher's numbering (1995, 204). According to my edition (2017) this line would be line 36, and according to CAD's numbering it would be line 34.

16	*zê buqli* (še$_{10}$ munu$_5$), "Chaff of malt"[20]
17	*zê summati* (še$_{10}$ tu.mušen.meš), "Dove dung"
20	*šikkû* (^{d}nin.kilim), "Mongoose"
Rv. 2	*zê šerri* (še$_{10}$ genna), "Baby's feces"

Looking like *Dreckapotheke*, however, is by itself not sufficient to demonstrate the assumption that an ingredient name be a *secret* ingredient. If his assumption were proven by other evidence, the identification of the strange ingredients in W 21033 as secret names would come as a mere consequence, but the premises of that assumption, as was shown above, are rather insubstantial. Thus, the alleged *Geheimnisnamen* in this tablet could be undisputed evidence to support Köcher's theory only if a duplicate tablet were found where those ingredients were substituted with their U3 matching counterpart. Such a tablet, however, is not known.

A specific analysis of the ingredients leads to further observations. Firstly, it is risky to judge an ingredient name to be a *Deckname,* and even less a *Geheimnisname,* because it *looks* like one. We do not know whether an ancient reader would have recognized a certain ingredient name to be a coded name until it is made plain, or it is otherwise evident, and our selective discretion is no infallible tool. For example *zappi šahî* (šaḫ), "pig bristle" (line 9 in W 21033) is presented by Köcher as a secret name, even though it is not listed in the aš section of U3, allegedly because it is *similar* to one of those aš-names.[21] Five, out of the eight examples provided by Köcher, are actually *not* in the aš list, although they are similar to some that are.[22] If, however, we were to follow the same line of thought, that is the similarity procedure, "fat from the kidney of an ox" (line 7 in the Uruk tablet W 21033), which is an animal-based ingredient also extremely similar to the aš-name "fat from the kidney of a sheep" [U3, 135 (130)],[23] should also have been listed by Köcher as a *Deckname.* Yet it is not. Naturally there is a good reason for this, which is that fat from the kidney of sheep/cows (tallow), is a perfectly good ingredient for skin treatment, and as such it is still used today. Thus we recognize the expression as referring to a legitimately healing substance and we accept it as such. Did the ancient practitioner recognize some value in (the ashes of) *pig bristle* too, some value that perhaps we cannot see? Or could have *pig bristle* simply been a plant vernacular name?

Besides "pig bristle," two other ingredients identified as *Geheimnisnamen* (*mašak imēri,* donkey skin, and *šikkû*-mongoose) were not used in their natural state, rather what was employed was their ashes. The physician was supposed to sprinkle these three ingredients on the patient's affected area only after he had *charred and pound* them ("*turrar tasâk tazarru*"), meaning the therapeutic substance used was *ash*. At first sight, the action might sound puzzling, but ashes are traditionally used to make soap and, either alone or in combination with soil, they are still today used by rural communities where soap is not available for dry hand-washing.[24] Because of their antiseptic powers, the sprinkling of ashes on the surface of

[20] This is not even a "strange" name. The logogram, ŠE$_{10}$, elsewhere read as "dung," can here be understood as referring to the "powder", or "chaff" (*apud* Borger, 1998, 821–822) of malt; it could even be used as ZÌ, flour (for ZÌ.DA, *qēmu*), thus referring to "malted (barley) flour." Cf. Köcher BAM 124 iii 44–45 // 125 1–22 where a list of KUs is summarized as *napḫar*(PAP) 46 ZÌ.DA.MEŠ.

[21] Lines 26a and 52 (49): Drug ^{ú}*elkulla* |AŠ "wool of an unmated kid/wool of a virgin ewe."

[22] The other ingredients identified by Köcher in this medical text as *Decknamen/Geheimnisnamen*, based on their *similarity* with names in the AŠ section of U3, are (besides the one discussed above): *mašak imēri*, donkey skin; *eper askuppati abulli*, dust from a threshold; *zê summati,* dove dung; and *zê šerri*, child excrements.

[23] U3 135 (130). ^{giš}AMA.A.NI | AŠ Ì.UDU ELLAG$_2$ UDU.NITA$_2$-*e* (Drug *amannu* | AŠ fat from the kidney of a sheep).

[24] Cf. Hoque 2003, 81: "Experimental trials showed that use of soap, ash or soil gave similar results when women washed their hands under the same conditions.

the ill spot, in the treatment of skin conditions, seems a quite reasonable action.[25] Indeed it is in line with the previous steps taken by the practitioner, whose first actions had been to wash the patient's *simmu* and anoint it with oil (cf. W 21033, ll. 3-4).

The ingredient *eper askuppati abulli,* "dust from a threshold" (l. 7), is also pound and sprinkled, but this time, presumably because it is already *dry*, it is not charred, which goes to show that, at least in this case, the ingredient is prepared and applied according to the nature of the substance denoted by its name.

To continue with Köcher's examples, two additional *Decknamen* (*mašak imēri* at ll. 5, 8, and *zê šerri,* rev. 2) are, again, not attested in Uruanna III, nor in any other pharmacological list. Thus these substances are nowhere known paired with plant names, which leads to the question as to whether they were employed literally. In this regard it should not be excluded that some of those ingredients could have been considered having some real benefic effect, and consequently been applied as such, as *perhaps* in the case of human (whether adult or baby) feces.[26] The possibility that they may have stood for a vegetable substance is nonetheless always legitimate. No coding list instead points to their secrecy.

Conversely, other aš-names occur on the Uruk tablet that are *not Dreckapotheke,* and these are ignored by Köcher. For instance, *urnû*-mint[?] (line 32 in W 21033) can be found in the right-hand column of U3 72 (68) as the aš equivalent of the "red *urnû*-plant." It happens to *also* be the equivalent of the *anameru*-plant at U3 85 (80). Consequently, if we were to apply Köcher's reasoning, this name should be marked as a *Deckname/Geheimnisname* for two different plant names; nonetheless, because it *looks* like a normal ingredient to us, and because having a secret name for two different substances does not make sense, it was not marked as such in his edition.[27]

To conclude this section, if the aš-names in Uruanna III cannot otherwise be proven to be *Geheimnisnamen,* nothing excludes that they could be used literally, or that they should be interpreted otherwise. They could, for instance, have pointed to an alternative, variant, fanciful, folk, or regional names for plants or herbs, as *zê summati* ("dove dung") almost certainly was,[28] or they may have derived from puns, misunderstandings, or problematic entries even for them,[29] or perhaps a mix of all this.

[25] The use of ashes (derived from wood, charcoal and dried buffalo dung) has also been evaluated as a natural medicine for wound healing in surgically induced wounds. Cf. Shaik & Shaik 2009; the study concluded that "ashes have unique properties to influence and enhance safe and sepsis-free wound healing in the rabbit skin wound model."

[26] The, perhaps, most revolting-sounding ingredients in the text are "*zê amēlūti* (ŠE_{10}.NAM.LÚ.U_{18}.LU), "Human feces" and *zê šerri* (ŠE_{10} GENNA), "Baby's feces." Yet it ought not to be excluded that similar substances may have been used *ad litteram* – unless what follows is the result of errors in transmission: in this regard, just a few centuries later, Greek pharmacologist Dioscorides (*De Materia Medica* II 80.5) wrote that: "Fresh human feces, plastered on wounds, maintain them free from inflammation and glue them together, and when smeared with honey on people with inflammation of the throat, it has been reported that they help them." Galen (*De Simplicium Medicamentorum Temperamentis ac Facultatibus*, Liber X.10 = XII.20 Kühn) was of the same opinion, probably *apud* Dioscorides, and he added that dry excrements of a baby, mixed with Attic honey also help. Was this therapy simply *Dreckapotheke*? Were the ingredients vernacular names or *Decknamen*? Or were those expressions "secret" ingredient names? Unfortunately, their presence in this tablet does not prove either point.

[27] Also note the presence in column B of U3 of other, perfectly legitimate, names of plants (such as *lišān kalbi*, root of *baltu*-thorn, pomegranate pip, or papyrus), and of mineral or clay-like substances (such as *kalgukku*-paste, *šīpu*-paste, or *šadânu šābitu*). The presence of these substances raises doubts as to an association between *Dreckapotheke*-looking names (even though predominant in the list) and secrecy.

[28] Köcher himself explains (p. 211, commentary to ll. 1–13) that the expression refers to a part or product of a plant, the *gurummaru* (not *gurummadu*!), GIŠ.GIŠIMMAR.KUR.RA, which is a kind of tree, lit. "foreign date palm." See BAM 494 I 36: "ŠE_{10} TU.MUŠEN.MEŠ *šá* GIŠ.GIŠIMMAR.KUR.RA ḪÁD.DU-*ti.*" Also cf. Kinnier Wilson 2005, 49.

[29] I intend to investigate further this hypothesis in a future study.

In sum, the list of ingredients mentioned in W 21033 and identified by Köcher as *Geheimnisnamen*:

a) includes *Dreckapotheke* names of ingredients that are not present in column B of U3 (e.g. *zê summati; zappi šahî; mašak imēri; eper askuppati abulli*; and *zê šerri*).
b) does not include other names – legitimate names of plants – that instead are present in column B of U3 (e.g. *urnû*-mint, line 32 in W 21033);
c) includes substances that could have been applied literally (such as ashes of *mašak imēri*; of *zappi šahî*; of *šikkû*; and perhaps even human excrements);

Accordingly, W 21033 does not add any conclusive evidence to the *Geheimnisnamen* discussion. On the contrary, the general impression one has from reading the tablet is that it was meant to provide quite "informative information," as accurate and detailed as possible, to the point that some of its recipes even specify dosages.

B. The Colophon of Uruanna

A second problematic aspect is that no colophon fragment from the tablets of Uruanna suggests a secretive purpose. I report here a couple of passages from these fragments. KADP 1 vii 3, which was a Middle-Assyrian precursor to Uruanna, says for example that its "Tablet 2" was "checked, collated, and in order."[30] A few other fragments from the Neo-Assyrian colophon report:

> "[1)] First (var. 10th, 12th) section (of) Irianna = *maltakal* series. [6)] Assurbanipal, king of the world, king of the land of Assur, checked [2-3)] (those) plants that since ancient times had not been taken and … in commentaries/lexical lists(?) and explanatory texts; [4)] (he checked) those plants and their equivalents, which had been collected within (them) but [5)] had no ordered section (…), [17)] (and) he inserted (their names) on the tablets. [18)] He who reads (this tablet) should not treat (it) disrespectfully! He should treat (it) as Nabû gave (it) to him! (…)"[31]

Thus, according to the colophon of the pharmacological series: (a) all entries had been collated from older tablets, had been checked and put in order; (b) those entries included drugs *and their equivalent names*, which evidently had been collected for some time without being systematized. Assurbanipal claims that he (read: "his scholars") restored this to working order; and (c) the tablets were to be used respectfully. Nothing is there to warn the reader that he should keep this information from indiscrete eyes. What is evident instead is that the scribes were working hard to *reorganize* those names of drugs for a refined edition. Transparency, rather than secrecy seems to be the goal. We should then expect every section of Uruanna, including the aš-section, to have received careful attention and to have had a clear purpose.

[30] (KADP 1, vii 3): *ṭup-pi* 2 KÁM-*ma áš-ra ba-ri-a šal-ma* [Hunger, Nº 63].

[31] [1)] *nis-ḫu* 1ú (Var. 10ú; 12ú) Ú *eri-an-na* : *mal-ta-kal* [2)] Ú.ḪI.A *ša ina ṣ*[*a*]-*a-ti u* EME.BÚR[meš] [3)] *ša ul-tu ul-la za-ra-a la ṣab-tu* [4)] Ú.ḪI.A *gaba-re-e* Ú.ḪI.A *ina lìb-bi sam-ḫu-ma* [5)] *la i-šu-ú sa-di-ru* [6)] [m]*Aš-šur-ban-apli ša*[r_4 ŠÚ *šar*] *māt* [d]*Aššur*[ki] *is-niq* [7)] Ú.ḪI.A *gaba-re-e* Ú[.ḪI.A …] [17)] *ina* SAG DUB[meš] *ú-še-li* […]. [18)] *a-me-ru a-a iṭ-pil ki-i ša* [d]*Nabu* SUM-*šú li-pu-uš*(var. DÙ[uš]) (…). See Hunger 1968, Nº 321 for sources. For a freer translation of the entire text, see Böck (2011, 692–693): "First (var. third/tenth/twelfth) part of the handbook uru.an.na | *maštakal*. It contains drugs, which since times of old have not been systematically redacted in commentaries and explanatory texts. Assurbanipal, king of the universe and king of Assyria, checked all those drugs and their equivalents that had been indiscriminately lumped together without applying any criterion as far as the sequence is concerned and for the first time he methodically arranged these drugs and their equivalents. He removed those entries that appeared two or three times. In doing so, he did not change the old handbooks, but rather followed their old order of entries, then checked and collated them." [Böck refers, for the original text, to Hunger's collation (1968, 98–99, Nº 321), but notes that his list of texts quoted is not complete].

C. Occurrence in medicine

If, in spite of all that was argued above, we still wonder whether that purpose may have been the creation of a tool to help scribes code their medical texts (as an arrangement of "secret names" on the right-hand column would suggest), then we should expect most of those names – i.e. the ones in the aš-section, and not *similar* names, as no other similar list exists – to appear in the recipes, which were for sure the most valued type of knowledge of the professional medical practitioner. This takes me to my third point, which is the occurrence of the aš-names in medicine. What was the practical application of the ingredient names listed in the right-hand column of Uruanna III? Do they emerge in the medical literature? For example, was the first substance listed in column B, *zibbat šikkî* "tail of mongoose", used as a mixing agent or as a drug in the medical prescriptions, or even in the medical rituals?

U3 1 (1):	ú *šu-šum*	| aš kun ^{d}nin.ka$_{6}$
	Drug *šūšu*-licorice	| aš mongoose tail

The answer is no. Similar expressions are attested in the literature, for example "flesh of mongoose" is prescribed in BAM 574 apparently as a substitute to *šūšu*-licorice,[32] but, as far as I am aware, "*tail* of mongoose" is not used in the recipes. The second substance (Uruanna III 2), "dog neck," is also not used in the medical literature as a drug. Other parts of the dog are attested, but not the neck.

U3 2 (2):	ú *bi-nu*	| aš gú ur.gi$_{7}$
	Drug tamarisk	| aš dog neck

Likewise, "*anzuzu*-spider leg" (Uruanna III 3) is not a known ingredient. In short, just a few of the expressions in column B are known to have been used *medicinally*, that is as drugs in therapeutic recipes (e.g. dog tongue, human bone, some minerals), but most are not. Of the substances that are indeed present in the medical literature, most only appear in *rituals,* or are prescribed as amulets, or even in not-specifically-healing magic. In the medical texts, the so-called "*secret names*" (the aš-names) occur only seldom. It would be useful to analyze one ingredient at the time, tracing its history, as it is difficult to detect any kind of clear pattern in the list, but for the moment we can at least say that it seems odd that such names would be used rarely, especially when *similar Decknamen*, not included in U3, are instead widely attested.

D. The "Priestly Interpretations" double list

My last point leads me outside of Mesopotamia. While Köcher's interpretation of this list is today encountering more and more resistance, it still lingers in our thoughts every time we come across *Dreckapotheke* names in the medical literature. The main reason why this idea continues to influence our scholarship is perhaps the existence of an alleged parallel from Greco-Roman Egypt, whose interpretation as a list of secret names is often, in a circular argument, supported by means of Köcher's explanation of U3, (cf. Fn. 2). This parallel, known as the "Priestly Interpretations" and preserved in the corpus of Greek Magical Papyri (*Papiri Graecae Magicae* XII 401-444, II c. CE), is also a double list. It pairs bizarre names of ingredients on the left (column A) and more normal names of drugs on the right (column B), as from the example:

[32] BAM 574, 8–10: "DIŠ KI.MIN UZU *šikkû*(^{d}NIN.PÉŠ. /^{d}NIN.KILIM) UD.A *ba-lu pa-tan* NAG-*ma* TI : DIŠ KI.MIN *šu-ru-uš* ^{giš}*šú-še ina* A.MEŠ *ba-lu pa-tan* NAG-*ma* TI" – "If ditto (*suālu* turning into *kīs libbi*), he should drink on an empty stomach dried 'mongoose meat' and he will recover : If ditto, he should drink licorice root with water on an empty stomach and he will recover."

(§1 = l. 408 Betz 1986)	Snake head	: a leech
	Snake "ball of thread"	: this means soapstone
	Snake Blood	: hematite
	Bone of an ibis	: this is buckthorn
(§5)	Blood of a hyrax	: truly of a hyrax
	Tears of a baboon	: dill juice
	Crocodile dung	: Ethiopian soil
	Blood of a baboon	: blood of a gecko
	Lion semen	: Human semen
(§10)	Blood of Hephaistos	: wormwood
	Hairs of a baboon	: dill seed
	Semen of Hermes	: dill
	Etc. etc.	[Tr. Betz 1986, 167-168]

The list presents an introduction, which reads:

> Interpretations from the holy writings, in translation, used by the temple scribes. Because of the nosy curiosity of the masses, the scribes inscribed on statues of gods the [names of] herbs and other things which they used, so that, *by* [*the masses*] *taking precaution, they do not practice magic at all in an erroneous fashion*.[33] We, on the other hand, have collected the explanations [of these names] from many copies [of the sacred writings], even all of the hidden ones.[34]

While the Greek text is problematic, as it originates from popular "magical" texts, scholars have often translated the sentence in italics as: "so that they [i.e. the masses], since they do not take precaution, / might not practice magic, [being prevented] by the consequence of their misunderstanding" (Betz 1986, 167), and thus have taken this Introduction to imply that temple scribes purposely hid the real substances they used in their rituals under false and misleading names, and that this list of explanations (*hermeneumata*) could be used as a key to understand the coded names in column A. Such an interpretation would sound like the case of our Uruanna III (except in the latter the supposed coded names are in column B). A different interpretation of the line in question, however, would suggest quite a different scenario.

Furthermore, Classical scholarship has recently made a great effort to understand the *Greek Magical Papyri*, and the list of ingredients in the Priestly Interpretations in particular has attracted the attention of many specialists. What the new studies suggest is that the list may not be what it looks like at first glance. The Introduction may not even pertain to the list, but may have been added later to explain those peculiar names of drugs, which at the time of composition no longer made sense to the reader (LiDonnici 2002, 369).

The names in column A (the *Dreckapotheke*), present a very evident Egyptian "flavor" (LiDonnici 2002, 371) and could indeed "introduce a list of pharmacological jargon that was in use among Egyptian priests," as was argued by Jacco Dieleman (2005, 203). Most likely the jargon would have become known to the composer(s) of PGM XII through such Greco-Roman sources, but Dieleman showed that it occurred in pharaonic medical texts as well. While some of those names were interpreted literally in the Egyptian literature, others presented instead a different connotation, and clearly referred to ordinary herbs and minerals. This is demonstrated by the emergence of seven of the *Dreckapotheke* names, as mentioned in

[33] The Greek text is difficult (it is here translated as a straightforward negative purpose clause introduced by ὅπως μὴ). The only other possibility is to punctuate differently, or ὅπως, μὴ εὐλαβούμενοι, περιεργάζωνται μηδὲν διὰ τὴν ἐξακολούθησιν τῆς ἁμαρτίας, in which case the μὴ is going with εὐλαβούμενοι and makes the participle conditional, or "*so that, if they* [*the masses*] *do not take precautions, they do not at all practice magic in an erroneous fashion*."

[34] ἑρμηνεύματα ἐκ τῶν ἱερῶν μεθηρμηνεθμένα, οἷς ἐχρῶντο οἱ ἱερογραμματεῖς. διὰ τὴν τῶν πολλῶν | περιεργίαν, τὰς βοτάνας καὶ τὰ ἄλ[λ]α, οἷς ἐχρῶντο, εἰς θεῶν εἴδωλα ἐπέγραψαν, ὅπως μὴ, εὐλαβούμενοι, | περιεργάζωνται μηδὲν διὰ τὴν ἐξακολούθησιν τῆς ἁμαρτίας. ἡμεῖς δὲ τὰς λύσεις ἠγάγομεν ἐκ τῶν πολλῶν ἀντιγράφων καὶ κρυφίμων πάντων.

the PGM XII list, in the revision of Dioscorides' *De Materia Medica* (end of I c. CE),[35] where such terms are listed as synonyms to plant names. For example, next to "Dill" one finds the following description of synonyms, some of which correspond with PGM XII, §11-12:

> "Manageable Dill: some call it Polyeidos, others Aniketon, *the prophets call it* Semen-of-a-baboon, also *Hairs of a baboon, other Semen-of-Hermes* (…)." [Dioscorides, *De Materia Medica* III 58][36]

In the meantime it had been observed that the items in column A do not occur in the recipes of the Greek Magical Papyri, whereas the items in column B do; in other words "the list provides explanations where explanation is not needed, and (despite the claims in the Introduction) it provides mystification rather than clarity" (LiDonnici 2002, 374-375). LiDonnici also established that the list contains copy errors (2002, 373), so that regular and common names of plants would have been misunderstood or misremembered, or copied down wrongly at some point in transmission/translation, transforming perfectly normal names of plants into bizarre (and at times even repulsive) ingredient-names.

For example, (§8) "Blood of a (Hamadryas) baboon, αἷμα κυνοκεφάλου is explained with "blood of a spotted-gecko." As it turns out, the word for baboon here, κυνοκεφάλος, is likely an error for other plant-names that were in fact more common in the magical papyri and in other literature, such as κυνοκεφάλιον or κυνοκεφαλίδιον. Thus, instead of "blood of a baboon" the original entry is more likely to have been "blood/resin of the *cynocephália*-plant." (LiDonnici 2002, 371-373).

Similarly, "Semen of Helios," γόνος Ἡλίου (§26) would be a mistake for ἡλιόγονος, which together with σεληνόγονος, is elsewhere explained with the convenient statement "these are herbs" (LiDonnici 2002, 373). "Semen of Helios" would then be, once again, a simple mistake for a common name of plant, and not a *Deckname.*

A couple more examples were recently identified by Miriam Blanco Cesteros, who noticed a similar phenomenon at §3, where "Snake blood" (αἷμα ὄφεως) could be a mistake for αἷμα δρακόντιον (or δρακόντειον), "Blood of the Serpent-plant," which was a well-known red resin (2020, 155-159). The name is such to be easily misremembered, but it was not secret at all. In fact, its association with "hematite" (in column B of PGM XII) was already known from Dioscorides (Blanco Cesteros 2020, 158).[37] The same author also discussed § 28 ("Blood[?]/Semen[?] of Titan = wild lettuce"), and more examples will probably emerge from the text over time, but the logical conclusion appears to be the same in each of the studies reported above.

PGM XII 401-444 is not a list of secret names and thus, I shall add, it cannot work as a parallel to support Köcher's theory.[38]

[35] In an effort to make Dioscorides's work more accessible, the revision had provided each name entry with a number of synonyms (from other languages, or from other botanical/medical authors), mostly drawn from a lexicographical work "On Botany," written by a certain Pamphilus in the 1st c. CE. Pamphilus lived in Alexandria of Egypt, where he compiled several lexical works, among which the "On Botany" in 6 books. In this work he collected lists of plant names, in alphabetical order, and provided them with synonyms, morphological descriptions, indication of their medicinal uses and applications. Unfortunately, little more than the title survives (see Diller 1949).

[36] See Dieleman 2005, 200.

[37] In his description of cinnabar (*De Materia Medica* V 94), which he says some people mistake for "αἷμα δρακόντιον" serpent blood, Dioscorides points out that the resin is a substitute for *hematite* (Gr. αἱματῖτις referred to a red gem in antiquity, and not to the black metallic stone to which the term refers today. Cf. Blanco Cesteros 2020, 158, fn. 40).

[38] In the conclusive words of Blanco Cesteros (2020, 167): "los *Hermeneumata* de *PGM/PDM* XII (=*GEMF* 15) no son un listado de nombres secretos (…) como ya demostró Dieleman: las expresiones de una y otra columna son equivalentes (o, al menos, su redactor las consider equivalentes)."

Conclusions

In sum, the interpretation of the aš section of Uruanna III has long represented a conundrum, and still does. In 1995, Franz Köcher argued, in the space of one page, that the sign aš must stand for *pirištu*-secret, and thus that the drug names following that sign must have been used to code medical recipes in a way that key ingredients could not be recognized by the non-initiated. Catching two birds with a stone, the idea seemed to offer both an interpretation of U3, and a simple solution to the often puzzling presence of *Dreckapotheke* ingredient names in Babylonian medicine. Whether the practice of coding ingredients was indeed followed, unfortunately, cannot be demonstrated by the evidence presented in that publication.

The present study examined various aspects of the problem, including:

- The evidence used by Köcher to support his argument
- The intentions behind the composition of Uruanna, as described in its colophon
- The occurrence of the aš-names in the medical literature
- And a possible parallel from the Classical World

What it determined is that none of those aspects supports Köcher's idea that the aš-names of Uruanna III may be *Geheimnisnamen*, thus forming a system of *deliberately* hidden names. This conclusion does not necessarily mean that Mesopotamian medicine did not make use of coded terms (or *Decknamen*), whatever the reason for having a code would have been, and in fact it is likely that it did, especially in the late period. Ultimately, however, we cannot use the aš section of Uruanna III to prove that point.

Yet, all the substance-names listed in the aš section of Uruanna have something in common: they are all introduced by the same single horizontal stroke, which must be intentional. Why were they distinguished from the rest of the pharmacopoeia and grouped together? The case is intriguing and at present I am testing a new hypothesis that, if sound, will be published elsewhere. For the time being, however, the question remains open.

Works cited:

Barbara S. 2008. Castoréum et basilic, deux substances animales de la pharmacopée ancienne, in I. Boehm, P. Luccioni (eds.), *Le médecin initié par l'animal. Animaux et médecine dans l'Antiquité grecque et latine*, Actes du colloque international tenu à la Maison de l'Orient et de la Méditerranée (26 et 27 octobre 2006), Lyon, 121-148.

Bennett B. 2007. Doctrine of Signatures: An Explanation of Medicinal Plant Discovery or Dissemination of Knowledge?, Economic Botany 61/3, 246-255.

Betz H. D. 1986. *The Greek Magical Papyri in Translation*, Chicago/London.

Blanco Cesteros M. 2020. Los *Hermeneumata* de *PGM/PDM* XII (=*GEMF* 15): la *Dreckapotheke* mágica a examen, *CFC (g): Estudios griegos e indoeuropeos* 30, 149-176.

Böck B. 2011. Sourcing, Organizing, and Administering Medicinal Ingredients, in K. Radner, E. Robson (eds.), *The Oxford Handbook of Cuneiform Culture*, Oxford, 692-693.

Borger R. 1998. The Assyrian Dictionary (Š), *BiOr* 55 5/6 (Boekbesprekingen), 818-824.

Campbell Thompson R. 1936. *A Dictionary of Assyrian Chemistry and Geology*, Oxford.

Dieleman J. 2005. Priests, Tongues, and Rites: The London-Leiden Magical Manuscripts and Translation in Egyptian Ritual, 100-300 CE, Leiden/Boston.

Diller H. 1949. Pamphilos, Paulys Realencyclopädie der classischen Altertumswissenschaft 18.2, 336-349.

Geller M. J. 2010. *Ancient Babylonian Medicine. Theory and Practice*, Ancient Cultures, Chichester.

Haber T. B. 1963. Canine Terms in Popular Names of Plants, American Speech 38, 28-41.

Hauenschield I. 1996. Tiermetaphorik in türksprachigen Pflanzennamen, Wiesbaden.
Hoque B. A. 2003. Handwashing Practices and Challenges in Bangladesh, International Journal of Environmental Health Research 13, Suppl. 1, 81-87.
Hunger H. 1968. Babylonische und assyrische Kolophone, AOAT 2, Kevelaer/Neukirchen-Vluyn.
Köcher F. 1995. Ein text medizinischen Inhalts aus dem neubabylonischen Grab, in R. M. Boehmer, F. Pedde, B. Salje (eds.), *Uruk: Die Gräber, Ausgrabungen in Uruk-Warka 10*, Mainz am Rhein, 203-217.
Kreiter H. 1912. *Die von Tiernamen abgeleiteten Pflanzennamen im Französischen*, Diss. Darmstadt.
LiDonnici L. 2002. Beans, Fleawort, and the Blood of a Hamadryas Baboon: Recipe Ingredients in Greco-Roman Magical Materials, in P. A. Mirecki, M. Meyer (eds.), *Magic and Ritual in the Ancient World*, Religions in the Greco-Roman World 141, Leiden, 359-377.
Marzell H. 1913. *Die Tiere in deutschen Pflanzennamen: Ein botanischer Beitrag zum deutschen Sprachschatze*, Heidelberg.
Parpola S. 1993. *Letters from Assyrian and Babylonian Scholars*, SAA X, Helsinki.
Rumor M. 2017. The 'aš Section' of Uruanna III in Partitur, JMC 29, 1-34.
Shaik D. M., Shaik H. Z. 2009. Ash as a Unique Natural Medicine for Wound Healing, ISRA Medical Journal 1/3, 72-78.
Stadhouders H. 2011. The Pharmacopoeial Handbook Šammu šikinšu – An Edition, JMC 18, 3-51.
Stadhouders H. 2012. The Pharmacopoeial Handbook Šammu šikinšu – A Translation, JMC 19, 1-21.
Stol M. 2003-5. Pflanzenkunde A, *RlA* 10, 503b-506a.

Healing substances and therapies in Mesopotamian women's health care texts: properties, effects and cultural meanings

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Introduction: how to approach ancient illness concepts and healing practices?

Several studies by medical historians and anthropologists suggest that both in folk traditions as well as in specialists' healings systems of the past there existed intimate relationships, between concepts of the body and disease processes on the one hand, and therapeutic practices and healing substances on the other.[1] Recent research on Mesopotamian medical texts highlights that knowledge and conceptions about the body, disease and healing processes are encoded prominently via (conceptual) metaphors, serving as an important device in healing spells.[2] On the one hand, metaphors – by drawing on processes in other domains of experience – help to describe and explain processes in the healthy and sick body, while at the same time providing models or guides for choosing therapeutic interventions.[3] On the other hand, Mesopotamian healing spells – typically recited over the remedy before application to the patient's body – were performative instruments of healing. Spells were believed to have an immediate effect on the applied therapeutic agents, which together served as mediators that could bring about a change in the patient's condition. The metaphors invoked in healing spells are often expressed in a way that underlines the anticipated change in the patient's state by referring to parallel situations in other domains of experience. In short, medical metaphors serve important epistemological functions as instruments to develop and express concepts or models about the body and disease, and to select therapeutic strategies and remedies in accordance with these concepts.

As a second approach to tracing medical knowledge via therapeutic practices, text-based studies on ancient recipes and anthropological research on medical practices point out that knowledge about illness and healing is also enshrined in medical recipes, in particular in the prescribed ingredients and in their forms of preparation and administration. As shall be shown here, this approach to tracing emic conceptions of illness and healing through prescriptions and *materia medica* has great potential for the study of Mesopotamian therapeutic texts and ancient healers' understandings of treated conditions, bodily processes and healing strategies.

Among the various fields of study for the history of medical prescriptions, the rich literature of Chinese medical texts throws light on centuries of developments and evolving traditions that are still alive in present TCM practices. Scholars such as Elisabeth Hsu (2018; 2020) engage with Chinese medical formulae through a combination of textual scholarship and approaches from medical anthropology and the anthropology of the body, offering conclusions that are highly stimulating for a student of cuneiform medical texts. Hsu argues that culturally acknowledged properties of prescribed healing plants in Chinese medical formulae reflect the characteristic *Gestalt* or physiognomy of the treated problem, which she calls "*Gestalt* of disease", thus allowing an approach of "reverse diagnosing", or "working backward from the prescription to the complaint". Hsu emphasizes that a scholar of ancient medical manuscripts

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[1] See e.g. the recent collection of essays on humoral medicine in cross-cultural perspective in Horden and Hsu 2013; Gehrke 2014 for Tibetan medicine; King 1998 and Totelin 2009, esp. Chapter 5 on Hippocratic treatments for women; Zimmermann 1993 for Ayurvedic medicine; Kuriyama 1995 for bloodletting in comparative perspective.

[2] See e.g. Böck 2014; Johnson 2017; Panayotov 2017; Steinert 2013; 2017.

[3] For metaphors in the medical sphere, see e.g. van Rijn-van Tongeren 1997; Martin 1987; Nerlich 2011; Pritzker 2003; Ning Yu 2008; Horstmanshoff, King and Zittel 2012. These studies show that metaphors highlight certain aspects, while hiding others, and that metaphors of the female body in the past and present often served certain ideologies by corroborating views of women (and their bodies) as inferior to men.

should pay attention to medical techniques as a kind of "skilled practice", reflecting concrete knowledge grounded in the direct engagement with the world, which includes knowledge about the interactions between human bodies, healing substances and the (natural and cultural) environment. Starting from the insight that both the biological and the cultural are always implicated in the interactions between human bodies and *materia medica* in medical knowledge and healing practice, Hsu draws both on modern research on the pharmaceutical properties of healing plants applied in Chinese medicine and on the distinctive and culturally meaningful *Gestalt* evoked by material qualities of *materia medica* in manuscripts of medical prescriptions from the Song period.

But recent studies of ancient Egyptian medical remedies and illness concepts also develop approaches of considerable comparative potential for Assyriologists working on Mesopotamian medical texts. Especially Tanja Pommerening (2017) has highlighted the intimate interrelations between illness concepts and medical treatments.[4] In particular, she speaks of Egyptian healing procedures as "medical (re)-enactments", meaning that certain properties of healing substances and applied procedures physically enact or mimic characteristics of the treated ailment or anticipate the outcome of the therapy, similar to a "signature". As Pommerening points out, elucidating the concepts underlying these "re-enactments" allows glimpses of an emic and often culture-specific understanding of medical treatments and disease conditions.[5]

Pommerening's (2017) example in Papyrus Ebers 63, of a treatment for intestinal worms using pomegranate root, can serve as entry point to the concept of "medical re-enactment". This remedy is remarkable because not only are there very similar prescriptions already in Old Babylonian medical texts suggesting cross-cultural transfers of knowledge between Mesopotamia and Egypt in the first half of the second millennium BCE (Pommerening and Steinert 2019). What is likewise striking is that ancient healers apparently knew of the efficacy of pomegranate against tapeworm or roundworms, which has been confirmed by modern studies. The prescription reads as follows:

Papyrus Ebers XIX.19-22 (= Eb 63), ca. 1550 BCE (Pommerening 2017, 519):
Another (remedy **for "killing" the *ḥfꜣ.t*-worm**):
Root of the pomegranate tree, to be crushed (*ḥbq*) in 1/64 *Oipe* (= 300 ml) of beer; to be left overnight in a *hin*-vessel with 1/32 1/64 *Oipe* (= 900 ml) of water. You should rise early (the next morning) to strain it through cloth. To be drunk by the man.

The notion of "medical re-enactment" is implied in the choice of the root of the tree (not the bark which is even more potent, according to modern pharmaceutical knowledge), which resembles the appearance of intestinal worms. Also, the process of preparation of the remedy forms an enactment: especially the forceful crushing, leaving overnight in a vessel with water, and letting the patient drink the decoction. Thus, the pomegranate root enacts and imitates the appearance of the intestinal worms; the crushing of the root enacts the intended "killing" of the worm; the extraction of the root in water in a vessel stands for the eliminated worms in the patient's belly; finally, the appearance and ingestion of the remedy mirrors the intended result or effect of the treatment: the worms expelled from the patient's intestines (Pommerening 2017, 526).[6]

[4] Rune Nyord (2017; 2020) also elucidates interrelations and resonances between illness and concepts and medical treatments in Egyptian healing texts, drawing on approaches of conceptual metaphor theory and phenomenology.
[5] Medical treatments have been shown to carry cultural meanings, which can affect the effect of prescribed drugs or remedies (Moerman and Jonas 2002). These meanings are linked, for example, to sensory qualities of therapeutic agents (such as taste, colour, shape) standing in relation to their function in the healing process, see e.g. Ngubane 1977 on the symbolic meanings of colours in healing.
[6] For examples of medical re-enactment in Egyptian remedies for women's health matters, see also Pommerening (forthcoming), and the discussion below.

The approaches just outlined can enrich our understanding of Mesopotamian prescriptions, because they offer an alternative to viewing ancient recipes and drug use either as based purely on knowledge of pharmaceutical efficacy (i.e. "scientific knowledge" based on a physical concept of therapy) or purely on symbolic connections between drugs and the body (based on an "esoteric concept" of therapy) – which, in my view, is not satisfactory.[7] Rather, uses of *materia medica* in Mesopotamian therapeutic texts often appear to be based on a more holistic or integrated understanding of therapeutic processes, of the *materia medica* as mediators of these processes, and of their efficacy. Thus, in what follows I will try to show that Mesopotamian remedies draw on multiple relations or "resonances": between significant properties of *materia medica*, the distinctive logics of their perceived effects unfolding through specific treatment regimes, and the perceived nature and properties of the treated condition(s). Therefore, I will analyse exemplary cases of recommended substances and therapeutic procedures found in Mesopotamian gynaecological texts, as "(re)-enactments" of the patient's condition as well as of the expected effects of treatment. Furthermore, I would like to highlight following Laurence Totelin's (2007; 2009, 197-224) investigations of ingredients with sexual or fertility connotations in Hippocratic gynaecological prescriptions, that therapeutic practices, the choice of specific drug ingredients and treatment forms in Mesopotamian gynaecological texts are linked in similar, yet culturally distinct ways to underlying concepts of the (female) body and its reproductive functions.

The proposed approach may be helpful in elucidating aspects of Mesopotamian healing practices and knowledge of healing substances, by proposing context-dependent and emic concepts motivating the use of specific ingredients, and by teasing out links to the nature of the treated ailment. How far can such an approach take us? Needless to say, our knowledge of the identity of the majority of healing plants and other substances recommended in Mesopotamian medical texts is still very poor, and therefore questions of efficacy of ancient remedies in terms of pharmaceutical properties are still difficult to assess and evaluate in many cases. Another tricky issue is our frequent uncertainty about whether recommended substances that appear bizarre or unexpected from our modern viewpoint (e.g. certain animals or body parts/substances such as bones) are to be taken at face value or whether they are instances of alias names for a medicinal plant, some cases of which we know from drug handbooks or medical commentaries.[8] All these problems of interpretation are considerable and should constantly be kept in mind. Similar problematic issues concern our limited understanding of the diseases (in modern biomedical terms) that are indicated in Mesopotamian healers' descriptions of symptoms and diseases names, which are often vague or reflect a culture-specific understanding and classification of ailments and health problems.

However, all these difficulties and our distance from the Mesopotamians and their practices, shouldn't make us exclude the possibility that a modern interpreter might be able to

[7] Cf. Scheyhing 2011, dividing Mesopotamian therapeutic procedures into three categories, depending on whether they apply a "physikalisches therapeutisches Konzept" (these are internal or external drug-based treatments or surgical procedures), an "esoterisches therapeutisches Konzept" (characterized by procedures with symbolic or metonymic aspects, such as the use of amulet stones or objects standing in analogy to the treated ailment), and procedures based on a "magisches therapeutisches Konzept" (characterized by additional use of incantations, recited over remedies or addressed at disease agents, or prayers). Although this approach shows that therapeutic approaches that healers applied in Mesopotamian texts stand in a relation to the type of ailment treated, the neat division of therapeutic concepts into "physical", "symbolic/esoteric" and "magical" collapses, when the three approaches are applied together in one healing procedure, as is often the case in the texts. For example, is a treatment such as a potion with medically active ingredients automatically "magical" rather than "physical" only because a spell was recited over it? The application of etic categories may be useful from an analytical point of view, but it does not mean that these categories correspond to Mesopotamian healers' views of their healing practices (rather, any type of treatment applied in healing texts can be referred to as "remedy" (*bulṭu*) or "procedure" (DÙ.DÙ.BI/KÌD.KÌD.BI)).

[8] On this issue see, e.g. Böck 2011; Rumor 2017.

recognize some conditions described in ancient texts, or make sense of significant features of the described health problems (e.g. bleeding or infertility), based on emic perceptions reflected in ancient descriptions. Neither should it be excluded that the ancients had some empirically valid knowledge and insights into the efficacy of healing substances and plants in the treatment of specific health problems, even if it is true that a part of the treatments recommended in ancient texts look overtly bizarre, or may have been of limited pharmaceutical effect, or were based to some extent on symbolic connotations, analogical reasoning or belief.[9] Although questions of efficacy from a biomedical perspective are difficult to answer for most Mesopotamian medical recipes and pharmaceutical substances, it is possible, however, to start investigating questions of drug use and their grounding in emic concepts of efficacy and meaningfulness of *materia medica*, by applying interpretative and contextual approaches such as the concept of medical re-enactment. The following analysis of exemplary remedies for women's ailments in first millennium BCE medical cuneiform texts investigates properties of used ingredients highlighted in ancient sources (or confirmed by modern biomedicine), as well as forms of preparation and application. Analysis will show that they often stand in relations to the nature of the treated medical problem and to underlying understandings of the female body and its physiology.

Case study 1: Treatments for abnormal bleeding

One of the central topics of Mesopotamian gynaecological remedies is abnormal bleeding, in particular haemorrhage during pregnancy and delivery, which is often described as unstoppable (i.e. acute).[10] Several cuneiform tablets from first millennium BCE Assyria and Babylonia contain prescriptions for this problem. The most prominent type of treatment for gynaecological bleeding in these texts are tampons or suppositories inserted into the vagina. The recipes apply a variety of different (plant, mineral, or animal) substances, some of which have astringent or haemostatic properties (e.g. alum). At the same time, some ingredients provide signature elements alluding to the haemorrhage, such as yellow-reddish *kalgukku*-mineral or red-coloured wool, into which ingredients were often wrapped and then inserted.[11]

In most of the preserved texts concerned with female bleeding, the diagnostic passages or purpose statements preceding the prescriptions are very brief, usually stating simply: "If a woman's blood flows (constantly) and cannot be stopped, in order to stop it" (*šumma sinništu damūša ītanallakū/illakū lā ipparrasū ana parāsi*), followed by the recipe. The end of the prescriptions is often marked by the prognostic phrase "her blood will stop" (*damūša iparrasū*

[9] Pommerening 2006 investigated remedies from Egyptian medical papyri focusing on examples with identified ingredients and exact quantities, comparing them with modern pharmaceutical uses and recommended dosages. The selected remedies, drug uses and dosages corresponded quite well with today's pharmaceutical standards, thus implying that they could have been potentially effective for the indicated complaints. Another example for fruitful historical research into past knowledge of medicinal plants is found in Hsu 2010b; 2018 who elucidates the use of *Artemisia annua* as an antimalarial drug in Chinese medical recipe texts, drawing on biomedical research into the antimalarial efficacy of Artemisin contained in plant materials of *Artemisia annua* and on a close reading of medical procedures and modes of preparation described in the early and classical Chinese literature of medical remedies.

[10] For discussion of treatments to stop gynaecological haemorrhage and other abnormal discharges, see e.g. Scurlock 1991; Böck 2013; Steinert 2012, 2013, for female blood and genital bleeding in Mesopotamian texts, see also Steinert forthcoming b.

[11] For *kalgukku*, which is usually interpreted as a reddish mineral such as ochre, see lately Thavapalan 2020, 197, 342-6, who suggests, based on the evidence of the glass recipes, that *kalgukku* was a lead-based mineral pigment and colourant, ranging from primarily yellow to red in hue (lead-yellow). The use of lead-rich minerals is also attested in Egyptian medicine as well as in ancient cosmetics, see e.g. Walter et al. 2003; Weser 2005; Jacob 2011, 56-63. For *kalgukku* in recipes to staunch bleeding, see Steinert 2012, 76-77.

or similar).[12] However, a Late Babylonian text from Uruk (SpTU 4, No. 153, ca. 4th-3rd cent. BCE) which belonged to the archive of a family of exorcists and descendants of Ekur-zakir (Clancier 2009, 53, 59-61, 396), is unusual in this regard. It contains several commentary-like details explaining the envisaged effects of applied ingredients, thus providing hints for the motivation behind the use of particular substances. Thus, the text speaks of different "mixtures" (*maššītu*) applied in the form of tampons or vaginal suppositories, which contain ingredients that are supposed to have the effect of "damming up" (*pehû*) the flow and "soaking/softening" (*lubbuku*), the latter of which may refer to the effect of absorbing the haemorrhage in this context:[13]

SpTU 4, No. 153 obv. 1-4 (von Weiher 1993, 89-91):
1) DIŠ MUNUS MÚD.MEŠ-*šú* DU.MEŠ-*ma la ip-par-ra-su ana pa-ra-si* **^{na4}*gab-ú* ^{im}KAL.G[UG** …]
2) ***šá lu-ub-bu-ku*** SUM-*ši* EGIR ***šá lu-ub-bu-ku u* ÚŠ-*e*** SUM-*su* EGIR ***maš-šit an-n[it šá ^{na4}gab-ú$^{?}$]***
3) ***u*** **^{im}KAL.GUG** SUM-*su* **^{na4}*gab-ú tu-qal-la*** **^{im}KAL.GUG** *lìb-bu-u*$^{?}$ [...]
4) DÙ-*uš* Ú.MEŠ *an-nu-tu ma-la iq-bak-ka* 1.TA.ÀM *ina-aš-ši ki-i ru-ṭib-ti i-b*[*a-lu*$^{?}$ ...]

If a woman's blood flows constantly and cannot be stopped, in order to stop it: you administer to her (lit. "give her") **alum, *kalgukku*-mineral, [*a suppository*$^{?}$] for 'soaking'**; thereafter you give her (a **suppository) for 'soaking' and 'damming up' (the flow)**; thereafter you give her (again) **thi[s] *suppository* (*maššītu*) [of alum$^{?}$] and *kalgukku*-mineral**: **You roast alum (and) *kalgukku*** – this means: [....], you make [*a suppository*$^{?}$]. These drugs, as much as one has told you (to be appropriate), she applies one at a time/separately, until$^{?}$ the wetness$^{?}$ has [*dried*$^{?}$ ...].

The verb *pehû* "to dam up, to bar, to block, to make watertight", which is used with reference to doors, rivers, waterways, body openings and containers, is reminiscent of imagery encountered in spells recited over remedies used to staunch bleeding, which were often written down together with the prescriptions, for which they were used. These incantations compare the haemorrhage with a red river flood, and equate the body suffering from bleeding with a wet meadow bordering a leaky dike, and with a fermenting vessel whose stopper (inserted into the hole at the bottom of the vessel) does not function properly, resulting in leaking:

BAM 237 ii 1′-2′ // SpTU 4, No. 129 vi (i$^{!}$) 17′-22′ (von Weiher 1993: 32-40; Schuster-Brandis 2008, 325):
"[Oh ...! Blood] continually drips and flows from the young man's nose and from the young woman's vagina,
His (i.e. their) blood and tears continually drip and flow,
Li[ke] ⌈a (waterlogged) meadow⌋ whose dike is not holding back (the water),
⌈Like⌋ a fermenting vessel whose stopper does not stop (the outflow),
Like a waterskin whose strap is not strong, whose drawstring is not trustworthy. …"[14]

The insertion of tampons containing haemostatic or astringent materials (such as alum) into the vagina as a prominent therapeutic strategy in the context of gynaecological bleeding can be seen as corresponding with the metaphors comparing the female body to a leaking vessel or to a wet meadow with a defective dike. The suppositories thus enact the goals of sealing a leaking body opening, to as well as containing and stopping the body fluids.[15] The choice of alum

[12] In some of the diagnostic passages, the singular of *dāmu* "blood" is used instead; the mostly logographic spellings of *parāsu* "to stop" (e.g., TAR-*su*, TAR-*is*) are not consistent and could imply different grammatical forms, cf. K. 263+ 10934 obv. 1, 3, 10 (Steinert 2012, 65).
[13] Cf. CAD P, 315-318 s.v. *pehû*; CAD L, 7-8 s.v. *labāku.* In instructions for the preparation of remedies, *labāku* mostly refers to steeping ingredients or macerating them in a liquid, to soften or moisten them, before further steps in preparation; cf. Goltz 1972, 43; Herrero 1984, 43, 68). But in the present text, the verb in the D-stem refers to the intended effect of the treatment. In other comparable texts, the phrase *ana lubbuki* refers to relaxing or making stiff muscles supple, or to lubricating body parts (e.g., the anus), but these meaning do not fit the specific context of stopping haemorrhage in SpTU 4, No. 153; cf. Herrero 1984, 41 "pour assouplir/soulager".
[14] For discussion of this incantation, see also Steinert 2013; 2017: 318-20; forthcoming b. For the imagery, see also BAM 235 obv. 10-13 // BAM 236 rev. 1'-4'.
[15] The application of potions in addition to tampons indicates that Mesopotamian practitioners saw the mouth as well as the vagina as suitable routes to treat haemorrhage issuing from the vagina, which may imply that they

(*gabû*) and yellow-reddish *kalgukku*-mineral in SpTU 4, No. 153 obv. 1-4 speaks to the relevance of both pharmaceutical and external properties (colour) in Mesopotamian understandings of efficacy.

One may speculate whether Mesopotamian healers, similar to Hippocratic medicine, linked abnormal gynaecological bleeding also with an excess of moisture in the patient's body, which they tried to regulate with remedies deemed appropriate to this end. Interestingly, the prescriptions against bleeding in SpTU 4, No. 153 speak not only of damming up and absorbing, but also recommend drugs that "dry up" the wetness (*abālu* G/D, cf. obv. 4 above and obv. 14 below) and "cool down" ($ŠED_7$ = *kaṣû* G/D, obv. 9, 14; *ana takṣâti* "for cooling", obv. 7 below) the patient, so that "the blood will be held back" (*dāmū ikkallû*, obv. 9). The latter notion of a "cooling" effect associated with stopping a haemorrhage is remarkable, given the occasional characterization of menstrual blood as hot in ancient Greek medicine:[16]

SpTU 4, No. 153 obv. 7-9 (von Weiher 1993, 89-91):
7) **^{u}IN$_6$.ÚŠ *sim*$^{?}$*-bar*$^{?}$ *ana tak-ṣa-a-tú šá* MUNUS.PEŠ$_4$ E-*ú*** MUNUS *šá*$^{?}$(text: *šú*) Ù.TU-*ma* MÚD.MEŠ *la ip-par-ra-su* SUM-*s*[*u* (…)]
8) *šá* MUNUS.PEŠ$_4$ *šá* 3 4 ITI.MEŠ-*šú u* MÚD *i-ta-nam-ma-ru* SUM-*su* : *ina* u_4-*mu* ŠE BAD(*gamri/gimirti*$^{?}$)-*šú* SUM-*su ina* u_4-*m*[*u*] *l*[*a*$^{?}$ ŠE NU$^{?}$]
9) SUM-*su **ina** **ŠÀ UZU-šú ŠED$_7$-ú u MÚD ik-kal-lu-u*** : **Ú.MEŠ *šá ú-lab-bak-*[*ku*$^{?}$ ...]**

***Maštakal*-soapwort (and) *simbirru*-plant(?) are prescribed for cooling a pregnant woman**. You can administer (it) to a woman (lit. "give her") who$^{?}$ has given birth and (whose) blood cannot be stopped. [(…)] You administer (it also) to a pregnant woman who is in her third or fourth month and keeps discovering blood: you administer (it) on an auspicious (*magru*) day, all (day) long(?), (but) you [do not(?)] administer (it) on an un[favourable (?, *lā magru*)] day, **(so that) she will cool down in her flesh and the blood will be held back. (These are) drugs that absorb$^{?}$ (lit. 'soak', 'soften') [...].**

The effects of cooling the patient's body, absorbing and holding back the undesired loss of vital body fluids in the context of pregnancy and childbirth are ascribed here to the ingredients *maštakal*, a purifying plant *par excellence* probably referring to soapwort, and the *simbirru*-plant, an unidentified medicinal plant, which, like *maštakal* occurs several times in prescriptions for stopping gynaecological haemorrhage.[17] Since the identification of *simbirru* is uncertain, and since soapwort is not known as astringent or haemostatic in modern pharmaceutics, it is difficult to evaluate their use in the present context. The ascription of a cooling effect and absorbing properties to *maštakal* and *simbirru* is only encountered in this Late Babylonian text, but the regularity of their use shows that Mesopotamian healers used *materia medica* intentionally, based on culturally specific logics and traditions.

There are also remedies in SpTU 4, No. 153 that can be read as re-enactments using signature ingredients that present a link to the intention of "drying" an excessive wetness implied by the haemorrhage. The following examples are instructive:

SpTU 4, No. 153 obv. 10-11, 14-15 (von Weiher 1993, 89-91):
10) PAP$^{?}$-*nu*$^{?}$ ZÍD ^{šim}GIG *u* EREN.BAD *šá* EGIR *maš-šit i-ṣi ta-ta-nam-mar ana*$^{?}$ ÚŠ …
11) ^{šim}GIG *ú-lab-bak* EREN.BAD *ub-bal* ILLU IN$_6$.ÚŠ GÌR.PAD.DU UDU.NÍTA *ina* DÈ *tur-ár* ŠIKA NUNUZ GA.[NU$_{11}$^{mušen}]
...

conceived of an internal bodily connection between the mouth/digestive tract and the reproductive organs; cf. Pommerening (forthcoming) for parallels in Egyptian understandings of women's bodies.

[16] See King 1998: 32-33, 90; Totelin 2009, 197. For menstrual blood or bleeding after birth as a "hot" body state in Mesoamerican folk medical traditions, cf. also Messer 2013, 156-157.

[17] For *maštakal*, see Pappi 2010; for its use against bleeding, see Steinert 2012, 79-80. For *simbirru/sibbirru*-plant in gynaecological remedies, see Steinert, in preparation. CAD S, 230 presents text references that point to *simbirru* as being an aromatic (once, it appears to refer to a tree rather than an herb) used against evil witchcraft. In plant lists, it is equated or associated with *šibburratu*, a medicinal plant and aromatic and probably a cognate of the Syriac word meaning "rue" (CAD Š/2, 376-377).

Another one(?): **Powder of *kanaktu*-aromatic and *šupuḫru*-cedar**, which, after a *mixture/suppository* of (aromatic) woods(?), **you will always find (to be good) for damming up**. ...
***Kanaktu*-aromatic will *absorb*, *šupuḫru*-cedar will dry (out)**. **You (can also) roast resin of *maštakal* (and) sheep bone on coals.**
...

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14) [^{d}]^{ug}ÚTUL NE *u* ŠIKA SÁḪAR *šá* KA UDUN *ma*-'-*diš* DU$_{10}$.GA *ú-lab-bak ú-kaṣ-ṣa u ub*-[*bal*$^{?}$ ...]
A new(?) pot (*diqāru eššu*) or a **porous potsherd (*haṣbu šaharru*) from the opening of an oven (*utūnu*) is very good (as well): it absorbs(?), cools and dri[es out(?)** ...].

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15) IGI UDU.NÍTA SI UDU.NÍTA *šá ina* DÈ *iq-lu-ú ma*-'-*diš* DU$_{10}$.GA *di-iq-me-en-na-šú-nu* ⌈x x⌋ šú$^{?}$ x[. . .]
A ram's eye (and) ram's horn, which have been roasted on embers, are very good (as well). Their ashes ... [...].

Going through the ingredients of these prescriptions and their ascribed effects, some of the substances stand out as conspicuous, displaying contrasting properties with regard to the treated problem. Thus, the use of dry ingredients (such as powder of *šupuḫru*-cedar) and the use of roasted materials (ram bone, horn or eye) devoid of moisture, signal the aim of the treatment (absorbing and drying out, or balancing excessive moisture). Another ingredient "enacting" the aims of treatment (absorbing, drying and cooling) is found in the potsherd from the opening of an oven, since the oven and the potsherd both stand for an object (container/vessel) that gets hot and cold again, in a way signalling the intended cooling of the patient's "hot" body state. Roasting of the drugs could likewise be understood as an action embodying the patient's hot state. The choice of a porous clay vessel or sherd for absorbing/cooling may further involve cultural knowledge of the cooling effects of the such vessels on their liquid contents.

Case study 2: Some implications of treatments for postpartum conditions and infertility
Another aspect worth highlighting is that the type of treatment chosen for a specific medical problem can offer implications on the level of underlying body and illness concepts. Thus, we can see a general coherence between the preference for potions and vaginal suppositories in Mesopotamian treatments for women's conditions on one hand, and body and illness concepts prevalent in Mesopotamian medicine on the other. In gynaecological texts, the application of vaginal treatments is based on an understanding of the womb as the central organ connected to female health and affected in gynaecological conditions (Steinert 2017). The combination of suppositories with potions points to a broader understanding of internal ailments as being treatable by administering medicine via the two main orifices leading to the inside of the body, i.e. via the mouth/vagina in women (i.e. from above and from below).[18]

But external treatments applied in women's health care texts are likewise interesting with regard to re-enactments of or allusions to underlying ideas about the body and disease processes treated with them. External remedies often consist of salves (*napšaltu*), with which the patient is anointed (*pašāšu*) or massaged/rubbed (*muššu'u*). Also popular are recipes for baths or lotions (*narmaktu*, *marhaṣu*) and recipes for poultices or bandages (*naṣmattu*, *lubku*), in which the ingredients are smeared on a piece of cloth or leather and applied as a bandage (*ṣamādu*):

BAM 240 rev. 59'-63' (8th-7th cent. BCE; from Assur):
59') DIŠ MUNUS MIN-*ma* KÚM *li*-'-*ba u ter-ku ina* UZU.MEŠ-*šá u* SA.MEŠ-*šá* ⌈GÁL.MEŠ⌋ *qer-bé-nu*
60') LUGUD *ú-kal ana šup-šú-ḫi ina*$^{!}$ A GAZI^{sar} *ina* A ^{giš}*bu-uṭ-na-nu* RA.MEŠ
If a woman ditto (gives birth) and subsequently there are fever, *li'bu*-disease and dark spots on her flesh and her muscles, she has pus internally. **To calm (down the fever)**: **you bathe (her)** repeatedly with juice of tamarind (*kasû*) (and) *buṭnānu* (lit. 'terebinth-like plant') juice/infusion (lit. water).

61') A.GAR.GAR *ša* IGI MU.AN.NA *ina* NINDU ÚŠ-*ir* RA-*si* ...
You **enclose (heat) dung pellets (*piqannu*) from the springtime in an oven**, **you bathe her (with it)**.

[18] For similar notions about an internal route or channel connecting the mouth and vagina/womb in ancient Egyptian remedies for women, which correspond to the regimes of orally and vaginally applied treatments, see also Pommerening (forthcoming).

...

62') 1 SÌLA ZÍD ^{giš}*šu-še* 1 SÌLA ZÍD DUH.ŠE.GIŠ.Ì 1 SÌLA ZÍD MUNU$_6$ 1 SÌLA ZÍD ^{giš}GÚR.GÚR 1 SÌLA ^{šim}LI
63') *ina* A GAZI^{sar} SILA$_{11}$-*aš ina* TÚG SUR-*ri* ***tu-kàṣ-ṣa*** *ina ruq-qí* LÁ-*id*
You knead one litre of the powder of *šūšu*-tree (liquorice?), one litre of powder of sesame bran, one litre of malt flour, one litre of powder of *kukru*-aromatic, one litre of *burāšu*-juniper with juice of tamarind (*kasû*), you smear (the mixture) on (a piece of) cloth, **you let (it) cool down (and) make a bandage** with a thin (cloth?).[19]

These examples of washes and bandages used in the context of postpartum conditions are applied to treat symptoms of infection (implied by the terms *ummu* (KÚM) "fever" and *li'bu*-disease, and *šarku* (LUGUD) "pus"), showing that these treatments were intended to cool down fever (possibly alluded to by the action of cooling down the remedy before application in line 63'), to treat related symptoms visible on the skin (described as *terku* "dark or bruise-coloured spot(s)"), and probably also to cleanse the body from the outside.[20]

Of particular interest in the extract from BAM 240 is line 61', because of the conspicuous ingredient "dung pellets from the springtime" (*piqannu*(A.GAR.GAR) *ša rēš šatti*(MU.AN.NA)), which had to be heated in an oven und used in a wash. To be sure, the use of animal (probably sheep) dung in the present context looks like a bizarre substance to a modern observer.[21] But the ingredient may particularly hint at the notion that pathogenic body substances (in our case, pus inside the womb) held as the cause for the symptoms could be countered by choosing a substance with similar properties such as excrement (i.e. applying "dirt" against "dirt") and by evoking or re-enacting the characteristics of the treated ailment through the recipe.[22] In our example, the dung heated in an oven would allude to the patient's feverish body containing a pathogenic substance.

However, on second thought, the particular choice of animal dung collected in the spring may also allude to an agricultural analogy prominently found in Mesopotamian texts, which links the female body and its reproductive processes with fields und agricultural production, namely the use of dung as fertiliser.[23] Thus, the remedy in BAM 240 rev. 61' may have been understood and intended not only as a cleansing, but also as a fertilising, regenerating treatment for the female body after birth, which could not only counter pathogens, but also prepare the female body/womb for future conception.[24]

This bring us to a third topic of interest, namely treatments to enable conception and enhance female fertility. The spectrum of therapies for enabling fertility or treating infertility in Mesopotamian medical texts is actually very broad. Tampons/suppositories and enemas were applied into the vagina; potions and other substances were ingested orally; external remedies included washes/baths, ointments, bandages and amulets.[25] The following extract is taken from a section of BAM 244, a tablet which, like BAM 240, stems from the "House of the incantation priest" at Assur, but which focuses on treatments for conception and fertility. The selected

[19] Cf. Scurlock 2014, 612, 616; Bácskay 2018, 110-112, for previous editions and a few diverging readings.
[20] Cf. Scurlock and Andersen 2005, 282 with 12.125 for an interpretation of the symptoms as child-bed fever; and Stol 2007; Bácskay 2018 for discussion of fever-related conditions in Mesopotamian medicine.
[21] This expression is not known as an alias name for a plant; usually, the term for excrement in alias plant names is *zû* (ŠE$_{10}$). For these reasons, I understand *piqannu* literally in the example under discussion, although a metaphorical drug designation is not excluded.
[22] For the idea of "dirt" against "dirt", see von Staden 1992 who discusses the gender-specific nature of similar gynaecological treatments involving excrement in Hippocratic medicine. In Mesopotamia, however, the prescription of *Dreckapotheke* or excrement is not restricted to the treatment of women.
[23] For the female reproductive body as an agricultural landscape including imagery of fields, canals and meadows that are embedded in notions of fecundity, conception, pregnancy and birth, cf. Stol 2000; Steinert 2017; Couto-Ferreira 2017, 2018.
[24] Cf. Totelin 2009, 212-14 for a parallel interpretation of "dung" treatments in Hippocratic gynaecology. Dung pellets from the spring time may allude to the fertilisation of fields after the harvest (in spring) to prepare them for the next agricultural season.
[25] For discussion of examples, see e.g. Böck 2013; Steinert 2017.

section (obv. 10-30) consists of a complex treatment over several days combining repeated baths in a liquid (prepared from an extract of garden plants, reeds and aromatic woods mixed with beer) and anointing (obv. 10-20), followed, after three days, by the preparation of a poultice. The section is preceded in obv. 8 by a statement indicating the purpose of the treatment:

BAM 244 obv. 8, 10, 21-30 (8th-7th cent. BCE):
To enable an infertile woman to get pregnant ([MUNUS] *la a-lit-ta <ana> šu-*[*ri*]*-im-m*[*a …*]): ...
The procedure for it (KÍD.KÍD.BI):
...
When her (three) days are completed, [***you prepare***] **a poultice** […], …: pea flour, lentil flour, *kiššēnu* (vegetable)-flour, powder of *barīrātu*-plant, [flour of …], powder of ***nīnû*-plant (mint?)**, **powder of *azupīru*-plant (saffron?)**, powder of *kasû*-plant (tamarind), powder of […], **powder of *nikiptu*-plant**, powder of *kanaktu*-plant, **cedar powder**, [….]-flour, **powder of *asu*-plant (myrtle), powder of *ṣumlalû*-plant, powder of *ballukku*-plant**, in sum 21 (sorts of) flours/powders […] – you take (them) one by one, you mix (them) together, [you bring them to boil(?)] in a little metal pot like (one) used by a physician (*asû*), **moistening (the mixture) with half a litre of oil, you soak (*tuṣabbâma*) her hips, her thighs and [her] lo[ins] (with it), by ⌈applying (this) as a bandage?⌉.** You keep repeating (this treatment) for her, and she will get well.[26]

The passage illustrates several interesting aspects of Mesopotamian treatments for infertility. One aspect is the prominent use of cleansing and aromatic plants (some of which are also used for perfumes, such as cedar, myrtle, *kanaktu*, *ballukku*), suggesting the underlying idea that bodily impurities were seen as a cause of infertility, hindering conception. This would also be underlined by the combination of the poultice or bandage with repeated baths. Furthermore, the verb *tuṣabbâma* "you soak (her hips, thighs and loins)" in obv. 30 (from *ṣabû/ṣapû* "to irrigate; to moisten, to soak") describes the therapeutic action, namely that the medical substances were to be absorbed via the skin to reach the area inside the body that was the focus of the therapy (the womb). The use of the verb "to soak; to irrigate" may not be accidental in this context, but may allude to metaphors and imagery found in Mesopotamian incantations and other texts comparing the female body with a fertile field or meadow "irrigated" by the male semen. In extension of this metaphor, it may be surmised that the treatment of "soaking" was meant to prepare the patient's body for conception like a field by suppling moisture.[27]

Previous discussions have pointed out that Mesopotamian medical texts attributed infertility or inability to conceive to different physical causes (beside personalizing aetiologies such as divine wrath or witchcraft), including deformation or closure of the womb/reproductive organs, or a "systemic" disorder caused by the kidneys (Steinert 2017, 305-307, 315). Remedies employing tampons that are inserted into the vagina (lit. "womb") were often intended to "open up" (*petû*) the woman's womb, so that she would be able to "receive" (*maḫāru*) the male semen and get pregnant. Signature ingredients employed in such remedies can be shown to enact the opening of the womb by alluding to metaphors associated with the organ of reproduction. For example, "fatty material from the opening of a vat (*dannu*)" is mixed with aromatics, almonds,

[26] 21) [G]IM U_4.MEŠ-*šá im-ta-lu-ú na-aṣ-ma-a*[*t-tu*? …] / ... / 23) ZÍD ŠE.BAR SIG_5 KU <ŠE>.NÁ.<A> ZÍD ZÍZ.ÀM ZÍD *in-ni-ni* […] / 24) ZÍD GÚ.GAL ZÍD GÚ.TUR ZÍD *kiš-še-ni* ZÍD *ba-ri-ra-te* [ZÍD …] / 25) ZÍD ^{ú}KUR.RA ZÍD ^{ú}ǴUR.SAG ZÍD GAZI^{sar} ZÍD ^{ši}[^{m}x x] / 26) ZÍD ^{šim} ^{d}MAŠ ZÍD ^{šim}GIG ZÍD ^{giš}[*e*]*-re-ni* Z[ÍD …] / 27) [Z]ÍD ^{šim}GÍR ZÍD ^{šim}GAM.MA ZÍD ⌈^{šim}⌉BAL ŠU.NIGIN 21 Z[ÍD.HI.A …] / 28) [1].TA.ÀM TI-*qé* DIŠ-*niš* HI.HI *ina* ŠEN.TUR GIN_7 ŠU A.Z[U $ŠEG_6$-*šal*?] / 29) 1/2 SÌLA Ì.GIŠ *tal-tap-pat ina* ⌈$MURUB_4$⌋-*šá pe-ni-šá u ra-pa*[*l-ti-šá*] / 30) [*t*]*u-ṣa-ab-ba-ma* ⌈KÉŠ?!⌉ GUR.GUR-*ši-ma ina*-[*eš*]. For photo and transliteration, see also *Cuneiform Digital Library Initiative* (CDLI, https://cdli.ucla.edu/P285330). Cf. Böck 2010, 109 for a German translation of the passage.

[27] For metaphors and imagery in Mesopotamian medical and literary texts linked with the female reproductive body, see further Couto-Ferreira 2017; Steinert 2017.

"stinking" sesame, and pieces of bread into an acorn-shape suppository in a remedy "for opening up and getting pregnant" (*šá* BAD *u* PEŠ$_4$) known from two Late Babylonian tablets.[28]

Another recipe from "House of the incantation priest" at Assur uses ingredients that may function as signature elements signalling or enacting the intended effect of the treatment. BAM 240, a collection of prescriptions focusing mostly on health problems of pregnant and postpartum women, also contains a section (rev. 69'-74') concerned with a woman's (in)ability to conceive, linked to the observation that her womb (*qerbītu*) receives (*maḫāru*) the male semen (*riḫûtu*) but cannot retain (*kalû*) it inside, both of which appear to be seen as preconditions for successful conception.[29] The associated prescription is fragmentary, but some crucial elements are preserved:

BAM 240 rev. 71'-74' (8th-7th cent. BCE):
DIŠ MUNUS ⌈*ina* ŠÀ⌋ TUKU-*at ka-la-a la i-le-'e-e ana* MUNUS *nu-uḫ-ḫi* GÌR.PAD.DA GÍ[D.DA][30]
munus ÁŠ.GÀR GIŠ NU ZU *ki-la-la-*⌈*an*⌋ [*te-ṭe*$_4$*-en*$^?$] ⌈NÍG$^?$⌋.ÀR.RA *ina* A *ta-maḫ-ḫa-a*[*ṣ*]
GÌR.PAD.DU GÍD.DA *šú-nu-ti ina* ŠÀ-*b*[*i* ŠUB$^?$.....] ⌈x x⌋ […]
ina GAL$_4$.LA-*šá* GAR-*an tu-u*[*l*$^?$*-la-ad*$^?$ …..]

If a woman has received (the semen) in (her) belly, (but) cannot retain it (inside), in order to calm/allay the woman: [you **grind**$^?$] **both of the 'lo[ng]' bone(s) (i.e. thigh bones) of a virgin she-goat, you sti[r] *mundu*-groats into water**; [you throw$^?$] these 'long' bones into (it) [……..], you insert (this) into her vagina, (and) **she(?) will be able to b[ear**$^?$ …].[31]

The state of preservation of the remedy leaves open how exactly the ingredients were prepared, before they were inserted into the patient's vagina, but it seems likely that one would first need to grind up the bones, before they could be applied.[32] One may suppose that they were added to and mixed with the *mundu*-groats-and-water-mixture, which may have resulted in a solid dough or pill(s), which could be inserted or wrapped up in a tampon before insertion. The purpose statement in line 71' *ana sinništi nuḫḫi* "to calm down the woman" is interesting, since it focuses on the patient's psychological state, although it is not entirely clear whether the implied agitation of the patient was seen as the cause or consequence of her inability to conceive. In line 74', we may have a fragmentary positive prognosis *tul*[*lad*] "she will (be able to) bear".

Because of the lacuna in lines 73'-74', it is unclear whether other ingredients had to be added. But the two preserved ingredients, consisting of the thigh bones of a virgin goat and *mundu*-groats mixed with water, are highly remarkable in light of the treated problem. The use

[28] BM 42313 rev. 33-36 // BM 42333+ obv. 5-11, see Finkel 2000, 171f. Text 17; Böck 2013, 32; Steinert 2017, 307.
[29] It may be of interest to note similar ideas in the Hippocratic treatise *Diseases of Women I*, Chapters 10-13 (Potter 2018). Chapter 10 discusses causes for a woman's inability to conceive connected to the observation that the patient discharges the semen after intercourse. If the semen is discharged immediately, then the mouth of the uterus is either not straight (folded over) or too tightly closed, so that it cannot take up the semen. In this case, treatments to straighten and open the uterus are recommended. If the semen is discharged on the second or third day after intercourse, the author believes that the uterus is too full of moisture and the seed gets washed away; therefore, it has to be dried with proper treatments. If, however, the semen is discharged on the sixth or seventh day and is already decomposing, then not only the uterus but the woman's whole body are regarded as too moist and require treatment. Opening and straightening the uterus involved e.g. the application of dilating objects/suppositories, fumigations, fomentations. Drying was achieved through drying fomentations, cleansing agents, emetics, exercise and adjustments of the patient's diet (consumption of drying foods and avoidance moistening foods).
[30] Böck (2013, 30 n. 10) reads DIŠ MUNUS ⌈NUMUN ŠÀ⌋ TUKU-*at* with the same meaning. The beginning of the line is now worn off. There does not seem to be enough room at the end of the line for the restoration [UDU NÍTA *u*] suggested by Böck (*ibid*.), which would mean that bones of a male and a female animal were used.
[31] For this recipe see also Böck 2010, 109; Scurlock 2014, 616. The use of the 3rd person fem. prefix *tu-* in line 74' is somewhat exceptional in this text; all other syllabically spelled verb forms which speak of the patient use the *i-* prefix instead. The restoration is thus provisional.
[32] It is also thinkable that the bones may have been roasted or dried before grinding. In this case, one could restore [*tur-ár*] in line 72'.

of animal bones is conspicuous; but in my view, it is unlikely that "long bones of a virgin she-goat" refers to an alias drug name here, because the text explicitly requests to use "both" thigh bones (from the right and left hind leg). The choice of bones may, however, be significant and meaningful, because in ancient views of embryology and physiology male semen is often regarded as supplying the basis for the white or hard body substances of the foetus, especially for the bones. Thus, a birth incantation known from Old Babylonian sources (YOS 11, No. 86: 1-2 //) tells us that the baby's bone is created from the "fluids of intercourse", referring primarily to semen as procreative fluid.[33] The term *eṣemtu aḫītu* "separate bone" is further used as a synonym for the foetus/offspring in a birth incantation from the Neo-Assyrian period (BAM 248 ii 54-55; Scurlock 2014, 597, 601). Linking the remedy in BAM 240 to the concepts associated with this body substance, the bones and their application would have signalled or enacted the implicit aim of the treatment, i.e. that the patient's womb would be able to retain the semen and to bring about a foetus/"bone". The *mundu*-groats may have matched the ingredient bone in colour, and may have added further connotations that we are currently unable to grasp (such as the idea of providing nourishment to the woman or envisaged foetus). It may be worthwhile pointing out that cereals such as barley are linked to notions of fertility, for example in ancient Greek culture and medicine (cf. Totelin 2009, 199-211).

Case study 3: Pharmaceutical and material properties of materia medica in relation to treated complaint

In the last section of this survey, I would like to highlight that the study of identified medical ingredients in Mesopotamian medical recipes may provide insights into how knowledge of both pharmaceutical properties *and* material properties of drugs was employed by Mesopotamian healers in order to bring about an effect in the patient's body or to influence a specific condition. One may view the following examples as re-enactments based on analogical reasoning; however, we also find the idea of a transfer of properties from the drug to the patient's body. The exploited properties or potentials of healing plants such as the date palm also throw light on aspects of cultural meaning systems.

In Mesopotamian prescriptions and rituals for women, one important aspect linked to the use of date palm is its importance as an abundantly fruit-bearing tree motivating its role in medical and ritual texts to boost women's fertility and child-bearing capacities.[34] This association links up with comparable uses in later folk-medical traditions as well as with modern scientific insights about plants like date palm as producers of female sex hormones which play a crucial role in regulating female reproductive processes.[35]

Most medical remedies for women from the first millennium BCE prescribe the fruits, for a range of female health problems.[36] At least one recipe on a Late-Babylonian tablet from Sippar (BM 79061 obv. 5-8), employs dates in a compound formula to enhance fertility ("to enable a woman (who is) not pregnant to get pregnant", MUNUS *la e-ri-tu*$_4$ *a-na šu-ri-*'-[*i*]), taken orally together with other plants and aromatics including *tarmuš*-plant and *ṭūru*-aromatic.[37] But the (re)productive capacities of the date palm were also transferred to patients

[33] See the recent discussion in Steinert 2017, 307-310 with further literature. For parallels from Egypt and beyond, see also Pommerening forthcoming.

[34] The date palm's fruit-bearing capacities are also praised in the *Dialogue between Date Palm and Tamarisk*, see Streck 2004.

[35] With regard to uses in women's health care, it is noteworthy that in different ethnomedical traditions past and present, dates and their oestrogen-containing seeds and pollen are known not only as an aphrodisiac used for enhancing fertility, but also as a contraceptive; they are further used to treat genital sores, cancer (e.g. of the uterus or vagina) and venereal diseases, see e.g. Duke 2008, 327-28; Riddle 1992, 33, 51-53, 85. Butenandt and Jacobi discovered that pomegranate and date palm contain sex hormones in 1933.

[36] For a study of date palm in Mesopotamian remedies for women, see Steinert forthcoming a.

[37] For an edition of the text, see Steinert in preparation.

through ritual means. In a passage from the Late Babylonian ritual text SpTU 5, No. 248, intended for a woman who has difficulty to bring babies to term (*sinništu lā mušēširtu*), physical contact between the patient and the date palm was intended to bring about a transfer of properties from the tree to the woman:[38]

SpTU 5, No. 248 obv. 33-34, 37-38 (ca. 4th cent. BCE):
ana ^{giš}KIRI$_6$ *ur-rad-m*[*a*] ^{giš}GIŠIMMAR *i-haṣ-ṣí-in-ma* ^{giš}GIŠIMMAR *ma-hi-rat kal šá-a-ri mu-uh-ra-an-ni-ma ár-nu šèr-tú gíl-lat hi-ṭi-ti ...*
...
a-šar ha[*r-p*]*u up-ul tu-šab-šú a-šar up-ul tu-šab-šú har-pu*
iṣ-ṣi [*nap-ṣ*]*a in*$^{!}$(text: *zum*)*-bi tu-šar-šú iṣ-ṣi la na-šu-ú tu-šar-šú in-bi*

She goes down to a garden an[d] *embraces* a date palm and (says): "Oh date palm, who withstands (or: receives) all winds: receive from me the guilt, wrongdoing, sin, misdeed! …
Where there is an early (harvest), you let there be (also) a late (harvest); where there is a late (harvest), you let there be (also) an early (harvest).
You let (even) the [dama]ged tree get fruit$^{!?}$(text: flies), you let (even) the non-bearing tree get fruit!"

The patient, in her address to the tree, praises its power of regeneration and ability to bear fruit abundantly over a longer period of time (enabling an early and a late harvest). She also asks the tree to receive the sins and wrongdoings that are upon her, which were probably seen as causal to her incapacity to perform her reproductive roles. In this connection, it is also significant that in incantations, the date palm is enumerated with tamarisk and soapwort as a cleansing plant that has the power to release from evil. Parts of the tree (such as the "palm heart" = young offshoots, and fronds) played a role in cathartic rituals, in the context of symbolic actions signalling the removal of evil and the patient's regeneration (Maul 1994, 62-66, 82; Streck 2004, 272-73; Couto-Ferreira 2013, 110-111).

A final example for the sympathetic use of date palm stems from a text from Nineveh with treatments for hair loss in women, duplicated on an Assur extract tablet on diseases of the head:[39]

BAM 499 ii 7'-9', var. BAM 3 ii 24-26 (cf. Worthington 2006, 21-22, 29):
KA.INIM.MA SÍG SAG.DU MUNUS *i-šah-hu-uh*

KÌD.KÌD.BI ***mu-šá-ṭi-šá*** TI-*qí ku-niš-tú ta-ṣa-par* ***ur-ṭe-e*** **ÉŠ** ^{giš}**GIŠIMMAR** *šá* ^{tu15}SI.SÁ **NU.NU** *zap-pi* ANŠE.KUR.RA BABBAR 7 *u* 7 KA.KEŠDA KÉŠ *ina* SÍG-*šá* KÉŠ ÉN 7-*šú* ŠID-*nu*

Wording (of an incantation if) a woman's hair falls out.

The procedure for it: You take **combings from her (var. his) hair**, you strand (it) into a skein of hair, **you twine (it with) fibres from a rope (made from) a date palm** (from the side) facing north (with) bristles from a white stallion, you knot seven and seven knots, you bind (it) into her (var. his) hair, you recite the incantation seven times.

Here, it is probably no coincidence that a prescription for restoring hair loss uses rope fibres from a date palm which are bound into the patient's hair. Thus, date palm fibres were an important source for making ropes of great strength and can easily be imagined as resembling hair. It was apparently hoped that the positive properties of the palm fibres could be transferred to the patient's hair by bringing both into physical contact. While we tend to see such treatments based on analogical reasoning as purely "magical" or symbolic and contrast them with prescriptions that look purely medical at first sight, Mesopotamian healers apparently did not draw such distinctions. On the contrary, as we have seen in several text examples discussed above, the same principles of analogy, transfer of desirable (including pharmaceutical)

[38] For translations and discussions, see von Weiher 1998, 58-65; Scurlock 2002; Foster 2005, 980; Couto-Ferreira 2013.
[39] For possible connections of these texts with the treatise CRANIUM dealing with conditions of the area of the head (or skull), cf. Steinert et al. 2018, 220-221. BAM 3 is an excerpt tablet with extracts running parallel to Nineveh texts belonging to the CRANIUM treatise.

properties and their "enactment" often appear to underlie the application and choice of medical plants in the prescriptions.[40]

Conclusions

The present discussion of treatments for Mesopotamian women's health problems argues that the remedies found in them are based on a culturally shaped understanding of the body, on knowledge about the nature of the treated ailment and on clear ideas about the desired effects of the prescribed remedies, although these underlying ideas often remain implicit. The uses of plants and substances investigated here appear to be based on what has been called "common sense" knowledge shaped by the cultural interactions with plants and substances as much as by specialists' lore about pharmaceutical properties.[41] In my reading of the Mesopotamian remedies, in particular ingredients or elements that struck me as a modern reader as conspicuous and unusual often pointed to culturally based notions of the body, in our case the female reproductive body, that informed and motivated their use in a specific context.

Throughout the selected text examples, we were able to trace interconnections between procedures and properties of medical ingredients one the one hand, and the characteristics of the treated problems or aims of therapies on the other. Thus, some ingredients were apparently chosen because of their perceived contrasting or similar properties in comparison with the treated problem. Furthermore, some of the procedures of remedy preparation could be understood as "medical re-enactments", showing that this approach developed in response to Egyptian medical recipes can be applied with much insight also to Mesopotamian materials. Lastly, Mesopotamian medical practices showed some commonalities with medical practices and concepts found in neighbouring traditions (such as Hippocratic medicine), which may point to similar patterns of thought and reasoning about the body, but also to comparable experiences and conceptions about the interactions between medical substances and the body.

Let us recall the concepts linked to women's bodies and their dysfunctions that have been elucidated in recent research and were underlined in the present survey of prescriptions. Throughout the paper, I have pointed to elements in the prescriptions and therapies that appear to resonate with body concepts highlighted in healing spells for women's disorders, showing aspects of congruence or correspondence. In the discussion of remedies for abnormal bleeding, we saw that the effects ascribed to drugs and treatments in SpTU 4, No. 153 ("staunching/sealing", "drying", "absorbing") corresponded with the imagery of leakage and overabundant wetness encountered in the spells recited for the same purpose, which revolve around the metaphorical understanding of the womb as a container and as an agricultural landscape (especially a wet meadow). We found that the local application of suppositories containing haemostatic drugs and certain signature ingredients (e.g. dry ingredients) prepared in specific ways (e.g. desiccating, roasting) enacted the aims of drying, containing and stopping the flow.

The examples of remedies for postpartum infection/fever underlined the intention of cooling and cleansing (e.g. through baths), but we also encountered the striking use of animal dung heated in an oven, which we compared to the notion of "dirt" against "dirt" in Greco-

[40] We may compare the roles of healing substances and material objects in Mesopotamian prescriptions and rituals with Dario Novellino's (2009, 760) concept of "tool-signs", as "any natural or man-made object, word, sound, gesture, or bodily movement that is perceived to be an essential vehicle of cross-ontological communication and action on the material world, and whose technical effectiveness is always embedded in social processes. Tool-signs have a wide range of attributes since they are believed to condense the relation between subject and form, vision and hearing, smell and other sensory experiences." The use of such tool-signs in rituals or magic relies, similar to the use of *materia medica* in healing, on cultural knowledge about the properties of the involved materials, on inferences drawn from the environment, as well as on experimentation and creativity.

[41] For the notion "common sense" in connection with the use of and interaction with plants and drugs in different cultural contexts, as a form of "skilled practice" at the interface of practice and knowledge, see Hsu 2010a.

Roman dung treatments. Thus, the signature ingredient and its preparation were seen as enacting the patient's condition (having the *Gestalt* of a pathogenic substance in a hot body container). Secondly, we speculated whether such a treatment may have alluded to an agricultural analogy seeing the female body as a field, and thus may have implied something like a regenerative and fertilizing treatment.

In connection with therapies for fertility and conception we noticed a strong focus on cleansing and aromatic plants in Mesopotamian texts, suggesting that the treated problem, in particular infertility, was linked to notions of bodily impurities, which were sometimes attributed to the effects of witchcraft or the patient's wrongdoings seen as responsible for her reproductive incapacity and impairment. One treatment appeared to enact the notion of "irrigating" and moistening the patient's body/womb in analogy to agricultural practices, corresponding to the prominent metaphors of fields, meadows and agricultural production linked with the female body and its reproductive processes in Mesopotamia. Such notions of a "body technologic" (Steinert 2017) resonate in external, and often cleansing, treatments such as baths and poultices aimed at preparing the womb for conception. Other therapies, however, indicated that a physical problem or defect (such as a deformation or blockage of the patient's womb/reproductive organs) was seen as the cause of the problem, as they aimed at opening her womb like a vessel. In one prescription, in which the patient's womb was found to be unable to retain the male semen, the conspicuous ingredient bone that was applied to the vagina enacted the aim of the therapy by alluding to semen transformed into bone, and thus to the foetus to be.

In conclusion, the views of the female body and the processes characterising and affecting it which we encountered in Mesopotamian prescriptions are multi-faceted and context-specific. On the other hand, the treatments for the gender-specific conditions and ailments discussed here were based on a few recurring principles and notions, foregrounding the regulation or balancing of bodily states along the opposites of hot–cold, wet–dry, as well as the notion of cleansing and removing of pathogenic substances and impurities. The importance of the qualities hot–cold, wet–dry in Mesopotamian prescriptions forms a fascinating continuity to Greco-Roman medicine and other premodern medical systems working with a central idea of bodily balance (also called "humoral medicines"), which merits further investigation.

The leading metaphors and notions that guide the interpretation of bodily processes and medical interventions in Mesopotamian gynaecology appear to focus on regulating and assisting the female body in case of irregularities and disorders, often linked to its reproductive functions or to conditions that are specific to the female body. However, the basic body metaphors (vessels and agricultural landscapes, canals, crafts and technologies) also served to conceptualize other types of conditions such as intestinal/digestive ailments in Mesopotamian medical texts, which are not restricted to women.[42] Some prescriptions for women, such as the example of the treatment for hair loss discussed above, were also included in other medical treatises, where they are used for male patients (or patients or either sex). Moreover, a few recipes for pregnant women with digestive problems found in BAM 240 are also encountered in a slightly varying version in the treatise STOMACH, for the treatment of the same complaint.[43] This overlap of basic body metaphors and treatments indicates in my view that Mesopotamian medical specialists did not regard the female body as entirely different from the male (in contrast to Greco-Roman medical authors). It appears to me that in Mesopotamia, the female body was seen as standing in a kind of parallelism to the male body, although the Mesopotamian texts also recognised women's anatomical differences, their gender-specific

[42] See Steinert 2013; Johnson 2017; Steinert and Vacín 2018.

[43] See e.g. BAM 240 obv. 26' and 28', which contains a slight variant to the remedy for intestinal bloating due to wind in the body found in BAM 575 ii 54-55 (= STOMACH (Suālu) Tablet 2). In BAM 240, the remedy is recommended for a pregnant woman, in BAM 575, it is prescribed for a male (or generalized) patient.

roles in reproduction and the existence of gender-specific complaints necessitating context-specific treatments.[44]

In other words, the central body metaphors and analogies drawn from the environment that were applied flexibly and in context-dependent ways to the observed physiological processes and changes allowed Mesopotamian healers to interpret and influence both male and the female bodies. Likewise, the crucial notion in Mesopotamian therapy – regulating the body and removing abnormalities and impairments – was applied to both male and female bodies alike, both of which were prone to suffer from many similar conditions, some of which could be compared to each other (including haemorrhage or discharge of fluids from the genital organs).[45] However, what may have been regarded as a specific characteristic of the female reproductive body in Mesopotamia is possibly its function as a productive body and locus of creation.

References

Bácskay A. 2018. *Therapeutic Prescriptions against Fever in Ancient Mesopotamia*, Alter Orient und Altes Testament 447, Münster: Ugarit-Verlag.

Böck B. 2010. Kontrazeption, Konzeption, Geburt, Frauenkrankheiten, in B. Janowski, D. Schwemer (eds.), *Texte zur Heilkunde*. *Texte aus der Umwelt des Alten Testaments, Neue Folge Band 5*, Gütersloh: Gütersloher Verlagshaus, 107-14.

Böck B. 2011. Sourcing, organising and administering medical ingredients, in K. Radner, E. Robson (eds.), *The Oxford Handbook of Cuneiform Cultures*, Oxford: Oxford University Press, 690-705.

Böck B. 2013. Medicinal plants and medicaments used for conception, abortion, and fertility control in Ancient Babylonia, *Journal Asiatique* 301, 27-52.

Böck B. 2014. *The Healing Goddess Gula: Towards an Understanding of Ancient Babylonian Medicine*, Leiden: Brill.

Clancier P. 2009. *Les bibliothèques en Babylonie dans la deuxième moitié du I^er^ millénaire av. J.-C.*, Alter Orient und Altes Testament 363, Münster: Ugarit-Verlag.

Couto-Ferreira M. E. 2013. The River, the Oven, the Garden: The Female Body and Fertility in a Late Babylonian Ritual Text, in C. Ambos, L. Verderame (eds.), *Approaching Rituals in Ancient Cultures. Proceedings of the Conference, November 28-30, 2011, Roma*, Pisa: Fabrizio Serra, 97-116.

Couto-Ferreira M. E. 2017. 'Let me be your canal': some thoughts on agricultural landscape and female bodies in Sumero-Akkadian sources, in L. Feliu, F. Karahashi, R. Gonzalo (eds.), *The First Ninety Years: A Sumerian Celebration in Honor of Miguel Civil*, Boston: de Gruyter, 54-69.

Couto-Ferreira M. E. 2018. Politics of the Body Productive: Agriculture, Royal Power and the Female Body in Sumerian Sources, in S. L. Budin, M. Cifarelli, A. Garcia-Ventura, A. Millet Albà (eds.), *Gender and Methodology in the Ancient Near East: Approaches from Assyriology and Beyond*, Barcelona: Universitat de Barcelona, 3-9.

Duke J. A., with P.-A. K. Duke and J. L. DuCellier **2008**. *Duke's Handbook of Medicinal Plants of the Bible*. Boca Raton/London/New York: CRC Press.

Finkel I. L. 2000. On Late Babylonian Medical Training, in A. R. George, I. L. Finkel (eds.), *Wisdom, Gods and Literature. Studies in Assyriology in Honour of W. G. Lambert*, Winona Lake: Eisenbrauns, 137-223.

Foster B. R. 2005. *Before the Muses: An Anthology of Akkadian Literature*, 3rd edition, Bethesda: CDL Press.

[44] Cf. Heeßel 2006 for the male body as the normative body in Mesopotamian medicine, and the subordinate position of the female body in the medical compendia.

[45] For discussion, see further Steinert forthcoming b.

Gehrke B. 2014. The Art of Tibetan Medical Practice, in T. Hofer (ed.), *Bodies in Balance: The Art of Tibetan Medicine*, New York: Rubin Museum of Art, 16-31.
Goltz D. 1972. *Studien zur altorientalischen und griechischen Heilkunde. Therapie–Arzneibereitung–Rezeptstruktur.* Wiesbaden: Franz Steiner Verlag.
Heeßel N P. 2006. Der verschwiegene Unterschied: Die Geschlechterdifferenz in medizinischen Texten aus dem Alten Mesopotamien, in B. Heininger, R. Lindner (eds.), *Krankheit und Heilung. Gender – Religion – Medizin*, Münster: Lit, 9-24.
Herrero P. 1984. *La thérapeutique mésopotamienne*, Paris: Editions Recherche sur les civilisations.
Horden P., Hsu E. (eds.) 2013. *The Body in Balance: Humoral Medicines in Practice*, Oxford: Berghahn.
Hostmanshoff M., King H., Zittel C. (eds.) 2012. *Blood, Sweat and Tears: The Changing Concepts of Physiology from Antiquity into Early Modern Europe*, Leiden: Brill.
Hsu E. 2010a. Introduction. Plants in medical practice and common sense: On the interface of ethnobotany and medical anthropology, in E. Hsu, S. Harris (eds.), *Plants, Health and Healing: On the Interface of Ethnobotany and Medical Anthropology*, Oxford: Berghahn, 1-48.
Hsu E. 2010b. *Qing hao* 青蒿 (Herba *Artemisiae annuae*) in the Chinese *materia medica*, in E. Hsu, S. Harris (eds.), *Plants, Health and Healing: on the Interface of Ethnobotany and Medical Anthropology*, Oxford: Berghahn, 83-130.
Hsu E. 2018. Diverse biologies and experiential continuities: A physiognomic reading of the many faces of malaria in the Chinese Materia Medica, in T. Aftab, M. Naeem, M. Masroor, A. Khan (eds.), *Artemisia Annua: Prospects, Applications and Therapeutic Uses*, Boca Raton: CRC Press, 1-15.
Hsu E. 2020. How to read a recipe? Working backwards from the prescription to the complaint, in U. Steinert (ed.), *Systems of Classification in Premodern Medical Cultures: Sickness, Health and Local Epistemologies*, London: Routledge, 57-83.
Jacob R. 2011. *Kosmetik im antiken Palästina*, Münster: Ugarit-Verlag.
Johnson J. C. 2017. The Stuff of Causation: Etiological Metaphor and Pathogenic Channeling in Babylonian Medicine, in J. Z. Wee (ed.), *The Comparable Body: Analogy and Metaphor in Ancient Mesopotamian, Egyptian, and Greco-Roman Medicine*, Studies in Ancient Medicine 49, Leiden: Brill, 72-121.
King H. 1998. *Hippocrates' Women: Reading the Female Body in Ancient Greece*, London: Routledge.
Kuriyama S. 1995. Interpreting the History of Bloodletting, *Journal of the History of Medicine and Allied Sciences* 50, 11-46.
Martin E. 1987. *The Woman in the Body: A Cultural Analysis of Reproduction*, Boston: Beacon Press.
Maul S. M. 1994. *Zukunftsbewältigung. Eine Untersuchung altorientalischen Denkens anhand der babylonisch-assyrischen Löserituale (Namburbi)*, Mainz am Rhein: von Zabern.
Messer E. 2013. Hot/Cold Classifications and Balancing Actions in Mesoamerican Diet and Health, in P. Horden, E. Hsu (eds.), *The Body in Balance: Humoral Medicines in Practice*, Oxford: Berghahn, 149-168.
Moerman D. E., Jonas W. B. 2002. Deconstructing the Placebo Effect and Finding the Meaning Response, *Annals of Internal Medicine* 136(6), 471-476.
Nerlich B. 2011. The Role of Metaphor Scenarios in Disease Management Discourses: Foot and Mouth Disease and Avian Influenza, in S. Handl, H.-J. Schmid (eds.), *Windows to the Mind: Metaphor, Metonymy and Conceptual Blending*, Berlin: de Gruyter, 115-142.
Ngubane H. 1977. Colour Symbolism in Medicine, in *Body and Mind in Zulu Medicine: An Ethnography of Health and Disease in Nyuswa-Zulu Thought and Practice*, London: Academic Press, 113-139.

Ning Yu. 2008. The Relationship between Metaphor, Body and Culture, in R. M. Frank, R. Dirven, T. Ziemke, E. Bernárdez (eds.), *Body, Language and Mind, Vol. 2: Sociocultural Situatedness*, Berlin/New York: Mouton de Gruyter, 387-407.
Novellino D. 2009. From 'Impregnation' to 'Attunement': A Sensory View of How Magic Works, *Journal of the Royal Anthropological Institute* (N.S.) 15, 755-776.
Nyord R. 2017. "Analogy and Metaphor in Ancient Medicine and the Ancient Egyptian Conceptualisation of Heat in the Body", in J. Z. Wee (ed.), *The Comparable Body: Analogy and Metaphor in Ancient Mesopotamian, Egyptian, and Greco-Roman Medicine*, Studies in Ancient Medicine 49, Leiden: Brill, 12-42.
Nyord R. 2020. Experiencing the dead in ancient Egyptian healing texts, in U. Steinert (ed.), *Systems of Classification in Premodern Medical Cultures: Sickness, Health and Local Epistemologies*, London: Routledge, 84-106.
Panayotov S. V. 2017. Eye Metaphors, Analogies and Similes within Mesopotamian Magico-Medical Texts, in J. Z. Wee (ed.), *The Comparable Body: Analogy and Metaphor in Ancient Mesopotamian, Egyptian, and Greco-Roman Medicine*, Studies in Ancient Medicine 49, Leiden: Brill, 204-246.
Pappi C. 2010. Seifen(kraut), in M. P. Streck (ed.), *Reallexikon der Assyriologie und Vorderasiatischen Archäologie* 12/5-6, Berlin: de Gruyter, 353-54.
Pommerening T. 2006. Überlegungen zur Beurteilung der Wirksamkeit altägyptischer Arzneimittel aus heutiger Sicht, in K. Zibelius-Chen, H.-W. Fischer-Elfert (eds.), "*Von reichlich ägyptischem Verstande" – Festschrift für Waltraud Guglielmi zum 65. Geburtstag*, Wiesbaden: Harrassowitz, 103-112.
Pommerening T. 2017. Medical re-enactments: Ancient Egyptian prescriptions from an emic point of view, in G. Rosati, M. C. Guidotti (eds.), *Proceedings of the XI International Congress of Egyptology*, *Florence Egyptian Museum, Florence 23-30 August 2015*, Oxford: Archaeopress, 519-526.
Pommerening T. (forthcoming). The female body in Ancient Egypt: sources, terminology, and concepts, in L. Lehmhaus, C. F. Salazar (eds.), *Female Bodies and Female Practitioners in the Medical Traditions of the Late Antique Mediterranean World*, Tübingen: Mohr Siebeck.
Pommerening T., Steinert U. 2019. "Hilfreiche Rezepte überschreiten Grenzen: Zur Behandlung von Würmern mit der Granatapfelwurzel im alten Ägypten und Mesopotamien", in A. Schubert, W. Leitmeyer, S. Zanke (eds.), *Medicus: Die Macht des Wissens*, Begleitkatalog zur Sonderausstellung, Speyer/Darmstadt: Historisches Museum der Pfalz/Wissenschaftliche Buchgesellschaft, 54-55.
Potter P. 2018. *Hippocrates Vol. XI. Diseases of Women 1-2*, Cambridge, MA: Harvard University Press.
Pritzker S. 2003. The Role of Metaphor in Culture, Consciousness, and Medicine: A Preliminary Inquiry into the Metaphors of Depression in Chinese and Western Medical and Common Languages, *Clinical Acupuncture and Oriental Medicine* 4, 11-28.
Riddle J. M. 1992. *Contraception and Abortion from the Ancient World to the Renaissance*, Cambridge, MA: Harvard University Press.
Rumor M. 2017. The 'AŠ-section' of Uruanna III in Partitur, *Le Journal des Médecines Cunéiformes* 29, 1-34.
Scheyhing H. 2011. Babylonisch-assyrische Krankheitstheorie: Korrelationen zwischen medizinischen Diagnosen und therapeutischen Konzepten, *Die Welt des Orients* 41, 79-117.
Schuster-Brandis A. 2008. *Steine als Schutz- und Heilmittel. Untersuchung zu ihrer Verwendung in der Beschwörungskunst Mesopotamiens im 1. Jt. v. Chr*, Münster: Ugarit-Verlag.

Scurlock J.A. 1991. Baby-Snatching Demons, Restless Souls the Dangers of Childbirth: Medico-Magical Means of Dealing with Some of the Perils of Motherhood, *Incognita* 2, 137-185.
Scurlock J.A. 2002. Translating Transfers in Ancient Mesopotamia, in P. Mirecki, M. Meyer (eds.), *Magic and Ritual in the Ancient World*, Leiden: Brill, 209-223.
Scurlock J.A. 2014. *Sourcebook for Ancient Mesopotamian Medicine*, Atlanta: SBL Press.
Scurlock J.A., Andersen B.R. 2005. *Diagnoses in Assyrian and Babylonian Medicine: Ancient Sources, Translations, and Modern Medical Analyses,* Urbana/Chicago: University of Illinois Press.
Steinert U. 2012. K. 263+10934, A Tablet with Recipes Against the Abnormal Flow of a Woman's Blood, *Sudhoffs Archiv. Zeitschrift für Wissenschaftsgeschichte* 96/1, 64-94.
Steinert U. 2013. Fluids, rivers, and vessels: metaphors and body concepts in Mesopotamian gynaecological texts, *Le Journal des Médecines Cunéiformes* 22, 1-23.
Steinert U. 2017. Concepts of the Female Body in Mesopotamian Gynecological Texts, in J. Z. Wee (ed.), *The Comparable Body: Analogy and Metaphor in Ancient Mesopotamian, Egyptian, and Greco-Roman Medicine*, Studies in Ancient Medicine 49, Leiden: Brill, 275-357.
Steinert U. (forthcoming a). Medicinal Substances in Ancient Mesopotamian Women's Health Care Texts, in H. Perdicoyianni-Paleologou (ed.), *Health, Disease and Healing from Antiquity to Byzantium: Medicinal Foods, Plants and Spices*, Amsterdam: A. Hakkert.
Steinert U. (forthcoming b). Created to Bleed: Blood, Women's Bodies and Gender in Ancient Mesopotamian Medicine, in L. Lehmhaus, C. F. Salazar (eds.), *Female Bodies and Female Practitioners in the Medical Traditions of the Late Antique Mediterranean World*, Tübingen: Mohr Siebeck.
Steinert U. (in preparation). *Women's Health Care in Ancient Mesopotamia: An Edition of the Textual Sources*, Berlin: de Gruyter.
Steinert U., Vacín L. 2018. BM 92518 and Old Babylonian Incantations for the 'Belly', in S. V. Panayotov, L. Vacín (eds.), *Mesopotamian Medicine and Magic: Studies in Honor of Markham J. Geller*, Boston/Leiden: Brill, 694-740.
Steinert U., Panayotov S. V., Geller M. J., Schmidtchen E., Johnson J. C. 2018. The Assur Medical Catalogue (AMC), in U. Steinert (ed.), *Assyrian and Babylonian Scholarly Text Catalogues: Medicine, Magic and Divination*, Die babylonisch-assyrische Medizin in Texten und Untersuchungen (BAM) 9. Berlin: de Gruyter, 203-291.
Stol M. 2000. *Birth in Babylonia and the Bible: Its Mediterranean Setting*, Groningen: Styx.
Stol M. 2007. Fevers in Babylonia, in I. L. Finkel, Geller M. J. (eds.), *Disease in Babylonia*, Leiden: Brill, 1-39.
Streck M. P. 2004. Dattelpalme und Tamariske in Mesopotamien nach dem akkadischen Streitgespräch, *Zeitschrift für Assyriologie und Vorderasiatische Archäologie* 94, 250-90.
Totelin L. M. V. 2007. Sex and vegetables in the Hippocratic gynaecological treatises, *Studies in History and Philosophy of Biological and Biomedical Sciences* 38, 531-540.
Totelin L. M. V. 2009. *Hippocratic Recipes: Oral and Written Transmission of Pharmacological Knowledge in Fifth- and Fourth-Century Greece*, Leiden: Brill.
Van Rijn-van Tongeren G. W. 1997. *Metaphors in Medical Texts.* Amsterdam: Rodopi.
Von Staden H. 1992. Women and Dirt, *Helios* 19, 7-29.
Von Weiher E. 1993. *Uruk: Spätbabylonische Texte aus dem Planquadrat U 18. Teil IV* (Spätbabylonische Texte aus Uruk IV), Mainz am Rhein: von Zabern.
Von Weiher E. 1998. *Uruk: Spätbabylonische Texte aus dem Planquadrat U 18. Teil V* (Spätbabylonische Texte aus Uruk V), Mainz am Rhein: von Zabern.
Walter P., Martinetto P., Tsoucaris G., Levêque J.-L. 2003. Les formulations cosmétiques à base de plomb, in C. Leblanc (ed.), *Parfums, onguents et cosmétiques dans l'Égypte ancienne:*

actes des rencontres pluridisciplinaires tenues au Conseil National de la Culture, Le Caire 27-29 avril 2002, Le Caire: Centre Français de Culture et de Coopération; Association pour la Sauvegarde du Ramesseum, 123-132.
Weser U. 2005. Biochemische Grundlagen für den Gebrauch von Kupfer, Eisen und Blei in der altägyptischen Medizin zur Zeit des Papyrus Ebers, in H.-W.Fischer-Elfert (ed.), *Papyrus Ebers und die antike Heilkunde: Akten der Tagung vom 15.-16.3.2002 in der Albertina/UB der Universität Leipzig*, Wiesbaden: Harrassowitz, 121-132.
Worthington M. 2006. Edition of BAM 3, *Le Journal des Médecines Cunéiformes* 7, 18-48.
Zimmermann F. 1992. Gentle Purge: The Flower Power of Āyurveda, in C. Leslie, A. Young (eds.), *Paths to Asian Medical Knowledge*, Berkeley: University of California Press, 209-223.

Abstracts des Communications
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Nils Heeßel

Disease Names and Disease Lists: Towards an understanding of Babylonian taxonomy of disease.

Abstract: Research on Babylonian and Assyrian diseases in Assyriology has largely focused on identifying diseases according to our modern taxonomy. This has been increasingly criticized in recent years because of theoretical and methodological problems, often under the heading of "problems of retrospective diagnosis". However, while scholars invested much time and effort into this debate, there has been surprisingly few attempts to understand the emic perspective: By analysing the way Babylonians named and ordered diseases, the Babylonian rationale of disease taxonomy comes into view, which promises interesting results concerning the Babylonian view of sickness, disease and medicine. Preliminary results of an analysis of disease lists and disease names will be presented in this paper, pointing beyond the current debate on the problems of retrospective diagnosis and outlining possible ways for future investigations.

Francesca Minen

Engendering healthy royal heirs. Some thoughts on the rationale behind Sakikku 36-40

Over the last decades Assyro-Babylonian medicine has received much attention from Assyriologists and is now regarded as a proper sub-discipline in the framework of Ancient Near Easter studies. Most recent years have experienced intense analysis of medical sources in order to reconstruct the background and role of medical practitioners, their sources, theories and methods of healing. These activities have been generally focused on therapeutic sources, which are still in the process of being edited; however, they have left aside another consistent part of the medical corpus, namely diagnosis.

The most representative source for diagnosis is the so-called handbook *Sakikkû*, "Symptoms". The series has been edited first by René Labat (1951), but the text has been improved consistently over the years, mainly thanks to Nils Heeßel (2000), who provided new textual editions of selected tablets also a first comprehensive study on the handbook, and JoAnn Scurlock (2014), who offered an updated, almost complete English translation of *Sakikkû* and other relevant medical sources. The handbook consists of 40 chapters distributed in 6 different thematic sub-series. Among these, the last subseries, *šumma ālittu arâtma* (tablets 36-40), is quite fragmentary and, together with its position in the economy of *Sakikkû*, has been labelled so far generally as a collection of medical prescriptions regarding woman and child. As a matter of fact, the sub-series has never been considered in its entirety: even specific studies have been focused on diagnostic omens concerning either women (Stol 2000) or children (e.g., Cadelli 1997, Couto Ferreira 2017).

Strahil Panayotov

"Pros and Cons of Mesopotamian Eye Disease Texts"

Babylonian therapeutic practices and drugs for healing eye ailments had a great success in the ancient world. Babylonian remedies were acculturated into other ancient medical systems in a variety of regional languages, including Aramaic, Syriac, Egyptian, Hittite, Greek, and Latin. For now, the largest corpus of Babylonian Eye Disease Texts is the second chapter of the Nineveh Medical Encyclopedia (7th century BCE), which is arguably the best preserved and systematically standardized collection of medical treatises (series) from the ancient world, prior to the Hippocratic Corpus and Galen. While the heterogeneous Hippocratic Corpus comprised dozens of individual treatises collected over several centuries, the cuneiform tablets of the Nineveh Medical Encyclopedia are original manuscripts, which were edited within a short period of time by a team of expert scholars, who incorporated sources from all of Mesopotamia that can be traced back to the Middle Babylonian period.

Although, there is abundant evidence of Babylonian medical acculturation, structure and serialization of Babylonian eye disease texts, the technical nature of cuneiform medicine is highly laconic and often seemingly impossible to grasp from modern perspective. There is a conundrum: how was it possible to heal eye disease with laconic practices recorded in cuneiform texts? The present paper will discuss this issue and the pros and cons of cuneiform medical texts on eye disease vis-à-vis medical theory and practice.

JoAnn Scurlock

The Effectiveness of Ancient Mesopotamian Medical Practices: The Example of *kurkānu*-turmeric

It is conventional wisdom in American medicine that plants are either a) poisonous or b) useless for any medical purpose or c) both at the same time. Cutting edge pharmacological research in the United States is in the field of designer drugs and genetic modification experiments. Meanwhile in Asia and the so-called third world where it is increasingly impossible to afford the exhorbitant cost of the medicine produced (and "tested") by the big drug companies, what is truly cutting edge research is being performed on plants that can be grown locally at minimal cost. What is emerging from these studies is the realization that traditional herbal medicines "really" do work and, in the process of understanding how they work, manifold new discoveries have been made. For the most

part, Ancient Mesopotamia has been shut out of this exciting new field of medicine due to the fact that we do not know the modern equivalents of most of the plants. However, there are exceptions, words with secure etymological connections to known Aramaic and Arabic plant names. In an article now in publication, I was able to present in great detail what modern experiments can tell us about *šūšu*. In this paper, we shall examine a few uses of *kurkānu*.

Chalendar Vérène

Hématite et magnétite dans les pratiques thérapeutiques mésopotamiennes

La pierre *šadānu* est particulièrement bien attestée dans les textes thérapeutiques mésopotamiens. Sur un total de 115 mentions de ce minéral dans la documentation cunéiforme, M. Melein (2018) recense 98 attestations dans le corpus médico-magique. Utilisée sous plusieurs formes : portée en amulettes ou entrant dans la réalisation de recettes plus complexes, elle pouvait être indiquée dans le soin de multiples tableaux cliniques. Cette communication se propose d'étudier les utilisations thérapeutiques de cet ingrédient minéral en lien avec sa symbolique telle qu'elle nous apparaît par les entrées dans Ur$_5$-ra = *ḫubullu* ou encore par le texte du Lugal-e.

Simkó Krisztián

Make a string of amulet stones? Evidence from an unpublished Late Babylonian tablet.

The corpus of amulet stone lists is a varied group of texts, encompassing all kinds of sources from simple inventories to multi-column tablets, and with a clear focus on the magico-medical importance of the discussed materials. Ranging from basic physiological problems like headache to complex issues with the social standing or religious affairs of the patient, the possible uses of stones are described in great detail. In addition, these sources unequivocally attest to a custom, according to which not a single piece, but a well-defined group of different stone types was employed for any given magico-medical problem. As for the technological aspect of how such strings of amulet stones were created, the information comes from standardized descriptions provided by sources, which always list the necessary stones first. In the case of more detailed texts, references to the cord type, the making of small pouches or leather bags and the ritual context are also included.

The presentation will centre around an incantation, which is known only from an unpublished Late Babylonian tablet. Even though this small tablet does not have a colophon, indirect evidence clearly suggests that it represents an excerpt from a longer collection that contained not only the basic information about the necessary amulet stones, but also references to the corresponding ritual context, including the incantations to be recited over the finished strings. As one such incantation of the consecratory type, our text can be used to infer hitherto unknown details about the techniques surrounding the preparation and, to a lesser degree, application of strings. The presentation will thus demonstrate that, apart from a remotely comparable Sumerian spell known from a collection of prescriptions and incantations against the neck disease gu_2 gig-ga, this incantation is one of the most important sources we have to date for studying the technological aspect of string making.

Mark Geller

Notes from the desk of an Assur apothecary.

The text of BAM 1 has been thoroughly commented upon but never translated. Wrestling with the meanings, behind this unusual catalogue of drug lore leads to some surprising results.

Bácskay András

Six glosses in six manuscripts of one therapeutic prescription. A case study.

The aim of this paper is to provide a case study of my on-going research on glosses and embedded variants attested in therapeutic text corpus. The presented therapeutic prescription is preserved on six clay tablets from different Assyrian and Babylonian scientific libraries which have been kept in tablet collections of four different Museums (British Museum, Vorderasiatisches Museum, Metropolitan Museum and Musées royaux d'Art et d'Historie). Through the example of the presented text I would like to demonstrate the methodology of the research and present some preliminary results.

Rumor Maddalena

"*Dreck-*, *Deck-*, or What the Heck? – Puzzling *materia medica* in Mesopotamia"

Babylonian and other ancient medical traditions display a fair amount of medical ingredients with names that suggest they are made of foul substances, such as animal body parts or excremental products, the purpose of which is often unintelligible to the modern reader. Such ingredients are generally classified by Assyriologists as *Dreckapotheke*, implying a literal interpretation of the substances, but in some cases their names clearly refer to medicinal, and in no way "*Dreck"*, plants. Furthermore, their pairing with less puzzling, if not *normal*, *materia medica* in the pharmacological list Uruanna has sparked curiosity as to their exact function in Babylonian medicine. Various suggestions have been proffered, ranging from their serving as *secret* or *coded* names (*Decknamen* theory – Köcher 1995) to their originating from *popular* or even *alternative* names, yet none seems

conclusive. What do we make of these strange names and their (sometimes seemingly appalling) presence in ancient therapy? Our appreciation of Mesopotamian pharmacology, and ancient medicine in general, would benefit from a better understanding of this still obscure area. In this paper I will return to this topic by re-examining and reflecting on Köcher's *Decknamen* theory while trying to reframe and place it in a wider historical context.

Robert Hawley

"On the Canaanite and Aramaic glosses in Uruanna".

Alongside *Šammu šikinšu* and the so-called *Vade mecum* (BAM 1), a third major Assyrian pharmacological treatise, known by its incipit as "URU.AN.NA = *maštakal*", has been the subject of much recent work. Within the framework of a recent European-funded project, JoAnn Scurlock and Jeanette Fincke have prepared a new critical edition of the text, based on the full collation of the known manuscripts, and the time thus is now right for launching some adjacent inquiries. Among the curious features of this series, already attested in the Middle Assyrian period but nevertheless best known from 1st millennium witnesses, is the set of glosses for various plant names, to the effect that a given plant is known as such-and-such "in Canaanite", "in Aramaic" or "in Subarian" (to cite just a few examples). This paper presents a preliminary overview of these glosses, with some reflections on their socio-linguistic background.

Ulrike Steinert

Healing substances in Mesopotamian women's health care texts: properties, effects and cultural meanings

Medical historians and anthropologists suggest that there is an intimate relationship in folk medical traditions and in ancient medical systems, between concepts of the body and disease processes on the one hand, and therapeutic substances, their preparation and application on the other. This paper analyses such patterns of interrelation in the corpus of Mesopotamian women's health care texts of the first millennium BCE. In particular, it is argued that Mesopotamian healers chose particular ingredients and applied them in particular types of therapy on the basis on their understanding and knowledge about the ingredients' properties and effects, which were perceived to interact with and exert an impact on the patient's body. The contribution will present case studies illustrating recurring principles of this dynamic interaction between the body and healing substances, such as *like cures like (similia similibus curentur)*, *curing through opposites*, and well as examples of ingredients with cultural connotations or associations that determined their choice in particular medical contexts (e.g. fertility, childbirth).

Troels Pank Arbøll

Practice Makes Perfect: The Career of a Neo-Assyrian Healer.

The family of the exorcist Kiṣir-Aššur from the so-called "Haus des Beschwörungspriesters" in Assur has left us a remarkable collection of magico-medical texts. Not only does this collection form the basis for much of our knowledge about Neo-Assyrian healing outside the Nineveh libraries, but many tablets also provide detailed information about individual family members via their colophons. Especially the numerous texts with Kiṣir-Aššur's name form a coherent group of manuscripts. My dissertation, *Medicine in Ancient Assur: A Microhistorical Study of the Neo-Assyrian Healer Kiṣir-Aššur*, provides the first detailed analysis of a single exorcist's education and practice in ancient Mesopotamia. By analyzing 66 texts securely assigned to Kiṣir-Aššur and allocated to six specific phases of his career, ranging from "junior apprentice" (*šamallû ṣeḫru*) to "exorcist of the Aššur temple" (*mašmaš bīt Aššur*), the study investigates how Kiṣir-Aššur was educated, how he practiced his craft, and how he produced and organized his knowledge. This paper will outline the background and framework of the dissertation in order to investigate Kiṣir-Aššur's individual career phases. I will examine specific texts from each phase to discuss his education and practice, as well as consider his training in, for example, diagnostics, anatomy, and physiology.

Irene Sibbing-Plantholt

The Goddess and the Snake Charmer: A Survey of the Mesopotamian Medical Marketplace based on the Relationship between Healing Deities and (Non-)Scholarly Healers.

In the last few decades, historians of medicine have shifted their focus from looking at medicine as a science to approaching it "from below" and as a social system consisting of relationships between healers and their patients. In the context of ancient Mesopotamia, such a study seems unfeasible because of the lack of textual sources that would allow a reconstruction of the social and daily life aspects of medicine. One aspect of Mesopotamian society that is poorly understood is the medical marketplace at large, i.e. the various options that were available to those in need of healing. There are two potent strategies that can provide a unique glimpse in this opaque medical marketplace: 1) studying the divine representations of healing, who can be perceived as exemplary models that gave meaning to actions and particular elements of society, in particular illness and medical practice;

and 2) letting the scant textual evidence for non-scholarly healers interact with archaeological and iconographical sources, and cross-cultural evidence.
In this talk, these two approaches will be combined in order to shed light on the patients' responses to illness and the different kinds of healers they could consult. Firstly, the origins of the different healing deities will be discussed. Mesopotamian healing deities, including the goddesses who usually are treated as one (Gula/Meme, Ninkarrak, Ninisina, Bau and Nintinuga), are all distinct from each other in place of origin, primary role, when and how they first were clearly associated with healing, and how they relate to mundane healing practices and specialties. Some of them (in particular Gula) became the divine model for scholarly healers, who legitimized themselves by posing as their human parallels and the recipients of their divine wisdom and knowledge. Through this, they were able to distinguish themselves from other, non-scholarly healers, to whom they worked side by side - and against - in the medical market place. But healing deities could embody both scholarly and non-scholarly healers, as they also represent a medical knowledge and practice that is older than constructed pantheons and scholarly medicine.
This indigenous medical knowledge and related healing specialties will be explored through the origins of the healing deities in conjunction with the analysis of such an ancient craft: snake charming. The mušlaḫḫu, "snake charmer", is only rarely mentioned in texts. Nevertheless, this talk will demonstrate that he was a significant healer whose skills, which were reflected in the divine world, were essential for the maintenance of health in ancient Mesopotamia. This new understanding of the qualities of the individual healing deities and the related practice and position of mušlaḫḫu in the medical market place contributes to the general understanding the otherwise impermeable social history of Mesopotamian medicine.

Martin Worthington

Investigating líl-demons

A recently completed book project led me, via the word līlâti, to the family of líl-demons (lilû, lilītu, etc). Though there are many perceptive comments on this group in scholarly literature, there has never been a detailed treatment of them, and a number of questions and ideas about them remain largely unexplored. To do so is my current research project, and in this paper I will present some of my results so far. In particular, I will propose a new solution to a problem of gender (failed gender polarity) in the Diagnostic Handbook, and unravel links between líl-demons and Ištar (and Dumuzi). I also explore issues of circulation and standardisation of knowledge: there appears to have been more ‘systematic theology’ surrounding líl-demons than is apparent on the surface of the sources.

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