Markham J. Geller, Strahil V. Panayotov
Mesopotamian Eye Disease Texts
Die babylonisch-assyrische Medizin in Texten und Untersuchungen

Begründet von Franz Köcher

Herausgegeben von Robert D. Biggs und Marten Stol

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Mesopotamian Eye Disease Texts

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Plates
Preface

Like all large text editions, the present work has a long and complex history. The plan for a comprehensive modern edition and translation of Mesopotamian eye disease texts began in 2005, when Geller was invited to spend a year in Paris as Visiting Professor at the École Pratique des Hautes Études, supported by a research grant from the Wellcome Trust. The decision to study eye disease texts was made jointly by Geller with Dr. Annie Attia and Dr. Gilles Buisson, editors of the Journal des Médecines Cunéiformes and practicing physicians. Eye disease was chosen because of the existence of an extensive corpus of texts in cuneiform script, and the study could take advantage of Dr. Attia’s personal expertise as an ophthalmologist. The three collaborators met every Friday to read through eye disease texts in the library of the Collège de France, throughout 2005–2006. There was not much previous work to take advantage of, since the only modern study of Mesopotamian eye disease had been a Würzburg dissertation from Jeanette Fincke (2000), which was useful for its extensive discussion of relevant terminology and numerous excerpts, but her work did not edit eye-disease texts. By the end of 2006, a preliminary edition of the main eye-disease texts from Nineveh had taken shape, with a translation in both English and French, but much work remained to be done.

Eye disease became one of the key texts to be studied in the programme of the ERC Advanced Grant BabMed (2013–2018), in which Geller was the PI and Panayotov a post-doctoral researcher. With the earlier preliminary edition from Paris as a starting point, Panayotov assembled all exemplars of eye disease texts into an IGI corpus, with the crucial decision being made to have Nineveh manuscripts as the basic exemplars – i.e. duplicates – and parallel witnesses from other sites treated as secondary. This is an important methodological innovation for working with serialized Nineveh texts. Geller and Panayotov each collated IGI tablets, and they jointly read every line of every text together, agreeing on a translation and key points for an explanatory philological commentary on the texts. Panayotov collated every relevant text in the British Museum and the Vorderasiatisches Museum in Berlin and Geller collated tablets in Istanbul as well. In the few instances when a text could not be collated, photos were used instead. Panayotov was responsible for the text layout and for the transliteration and transcription of the eclectic text, and the basic draft of the translation and commentary was his work, with additions and corrections made by Geller. Panayotov took photos, assembled the plates, and composed a complete glossary of IGI as well as a list of Sumerian logograms, with reproductions of the cuneiform signs for each logogram, which was novel. He also composed the indicies. While the philological commentary was being written, Panayotov incorporated many references to further work on IGI carried out by Annie Attia, which appeared as a French translation and interpretation of IGI, in the Journal des Médecines Cunéiformes in 2015. Finally, each co-author wrote his own introduction to the volume, reflecting their individual interests in the material. Geller proofread and corrected the whole volume on several occasions.
Neither author would have been able to produce this edition of IGI working alone, and this text edition confirms the distinct advantages of collaborating in a large project, while incorporating the assistance and support of other colleagues over many years. The German capital proved to be an ideal working environment for the BabMed Project, with many opportunities for consultation and collaboration with colleagues in the Topoi Excellence Cluster, from the Freie Universität, Humboldt Universität, and Max Planck Institut für Wissenschaftsgeschichte. The broader context of ancient medicine often featured in these discussions, on Greek medicine and science with Philip van der Eijk, Markus Asper, and Gerd Grasshoff, on Chinese medicine with Paul Unschuld, on Mesopotamian intellectual culture with Eva Cancik-Kirschbaum, and on common sense science with Klaus Geus. Glenn Most’s Anneliese Maier research colloquium addressing methodological issues of editing ancient texts proved useful. The various discussions and Topoi seminars all had an impact on the vision of Mesopotamian eye disease within ancient science proposed in this volume. Furthermore, members of the BabMed research team, together with students and visiting scholars such as Henry Stadhouders, Amar Anns, András Bacskay, and Frans Wiggermann, participated in the weekly Keilschriftmedizin Seminar, which advanced the work on cuneiform medicine and related texts. Frans Wiggermann shared his personal research archive and Zettelkasten on Mesopotamian medicine. In addition, many scholars associated with BabMed, in particular Irving Finkel, Marten Stol, Nils Heeßel, Daniel Schwemer, Martin Worthington, Annie Attia, and Gilles Buisson, participated in BabMed workshops and lent their considerable expertise to a fuller understanding of Babylonian medicine.

It is gratifying to know that the present volume is not the end of the road for work on eye disease texts within Babylonian medicine. A new project, NinMed, managed by Jon Taylor of the British Museum and funded by the Wellcome Trust, will continue the pioneering work of BabMed. The three-year project will create online editions and translations of the extensive medical treatises of the Nineveh Royal Library. Panayotov, who designed the original project proposal, will be a primary contributor to NinMed, with Geller and Irving Finkel as project collaborators. The transition from BabMed to NinMed has already proved to be productive for the present edition. The Electronic Babylonian Literature (eBL) tools, under the guidance of E. Jiménez, has proved to be particularly useful in catching small inconsistencies in the transliteration of IGI, which is being digitalised by Panayotov for the NinMed project. The shift in venue from the Freie Universität Berlin to the British Museum will bring the editions of Babylonian medicine closer to the cuneiform tablets. Nevertheless, cross-border cooperation with colleagues in Berlin and elsewhere will continue to play an important role in deciphering, interpreting and contextualising ancient Babylonian medicine, and in particular its close associations with other systems of medicine in the ancient world.
Overview of Cuneiform Eye Disease Texts
(Strahil V. Panayotov)

Cuneiform therapeutic prescriptions on eye disease form the largest surviving corpus of
ophthalmology from the Ancient Near East, sharing numerous comparable features with
medical practices from synchronic and diachronic neighbouring cultures. This volume
is the first complete edition and commentary on Mesopotamian medicine from Nineveh
dealing with diseases of the eye. This ancient work, languishing in the British Museum
since the 19th century, is preserved on several large cuneiform manuscripts from the
Royal Library of Ashurbanipal, from the 7th century BCE. In contrast to classical sources,
the material edited in this volume derives from original manuscripts and not from later
copies. Thus, the cuneiform texts in this volume are of utmost importance for the history
of ancient medicine.

Eye disease texts written on cuneiform tablets are represented by therapeutic pre-
scriptions and incantations, which are discovered mainly from the 1st millennium BCE.
However, scattered vestiges of their forerunners are known from the 3rd and 2nd millennia
BCE, showing that the textual production of the eye disease texts – most of which were
edited in this volume – were transmitted, collected and edited over two millennia.

Important works from other scholars have to be briefly mentioned. The relevant Ni-
neveh tablets from the British Museum were partially identified, copied and translated
by the British scholar Reginald Campbell Thompson. Later on, the material was system-
atized, joined and copied by Franz Köcher and published by 1980 in Die babylonisch-
assyrische Medizin in Texten und Untersuchungen, volume 6. The Grossmeister, Köcher,
produced hand copies and indices of cuneiform manuscripts which are extremely valu-
able for the current book, but Köcher hardly ever published editions or translations of
medical texts. Multiple therapeutic texts on eye disease were discussed in Fincke 2000:
6ff., which has a good introduction on textual history. Notably, Jeannette Fincke’s dis-
sertation concentrates on terminology, and does not edit entire texts. The IGI treatise
from Nineveh was translated and commented on for the first time by Annie Attia in 2015.
Dr. Attia’s work is of importance, since it is the only treatment of IGI from a professional
ophthalmologist. Thus, her work has been consulted together with our critical edition.

3rd Millennium BCE

Incantations

Sumerian incantations of the 3rd millennium BCE are the earliest witnesses to eye disease
therapy.

VAT 12597 originates from Fāra-Šuruppak, dating to ED IIIa, 2600–2500 BCE. A pas-
sage from this tablet (r. X 7 – XI 9) contains an incantation, which is the earliest example
of an historiola on eye disease (Krebernik 1984: 54–63, No. 8; Cunningham 1997: 19, 37, 41; Rudik 2011: FSB 23). This genre is also known from the 2nd and 1st millennium BCE.

HS 1552 from Nippur is another incantation on eye disease, dating to the Ur III period, ca. 2100–2000 BCE (van Dijk and Geller 2003: 26; Rudik 2011: FSB 24).

**Therapeutic prescriptions**

Beside incantations, there are a few Sumerian prescriptions for eye complaints from the 3rd millennium BCE, which are worth being re-edited and translated here, since they were previously thought to be incantations.

**CBS 6195**

 Origin and date: Nufar-Nippur. ED IIIb (2500–2340 BCE)
 Copy: PBS 9/40
 Photo: [Link to image](http://cdli.ucla.edu/dl/photo/P263932.jpg)
 Literature: van Dijk and Geller 2003: 77

```
1 x x ˹šē-bar˺ ? utu ...     (old reading [é]n ˹é˺-[nu-r]u / ˹d˺utu)
2 7 [...] gi             and 7 reeds
3 u₄-ten`-ta             'you put in the evening
4 a-a ù-gar               in water.
5 ge₄-ba-a-ka           At midnight
6 igi ˹dušu-šē         – before dawn –
7 igi-a gar-ra          apply (the salve) onto the eye.
  r.1 eme-ni lú i-ni-zu The man who knows his language(-spell)
  r.2 a-rá-7-àm           `r³ rubs his eye (with the salve) r² seven times.
  r.3 igi-na bí-ib-úr-e
```

This prescription shares similarities with a therapeutic ritual, see Rudik 2011: FBS 102. FSB 82.

Another text with ‘defective’ Sumerian spellings exemplifies early therapeutic prescriptions of eye disease in combination with treating with lice.
HS 1357

Origin and date: Ur III (2100–2000 BCE)
Copy: TMH NF I 357
Photo: https://cdli.ucla.edu/dl/photo/P134667.jpg
Literature: van Dijk and Geller 2003: 75; Bauer 2007: 179; Attinger 2008: 10, 12

1  ì-nin (for ì-nun)
2  uh-uš-da ù-da-hi (sandhi for uh-huš)
   He mixes 'ghee 'with red louse.
3  igi gi 6-ga ù-gar (for igi gig)
   He applies (the salve) on the sick eye (and) he anoints (the sick eye).
4  nam-en-li
   uh-uš-da ù-da-hi
   He mixes prime quality juniper (resin) with red louse.
4  uh-huš ba-āš
   He rubs on the red louse.

2nd Millennium BCE

Incantations

By this period Sumerian and Akkadian incantations were addressing eye complaints from different provenances. The evidence shows that incantations spread throughout Mesopotamia and its periphery, as an integral part of medical procedures. Notably, part of the material from the 2nd millennium BCE was transmitted into the 1st millennium BCE. Incantations portray etiology and implicit theory of harm through metaphorical language (see Panayotov 2017).

VAT 1413 is an Old Babylonian (1900–1600 BCE) incantation in Sumerian (CDLI P342906; Falkenstein 1931: 44, Cunningham 1997: 141, No. 198). This text features a divine dialogue between Enki and Asalluhi, which is a spiritual topic in incantations used in Mesopotamian magic and medicine for three thousand years (Annus 2019). VAT 1413: 15 shows the earliest example of the rubric [ka-in]im-ma igi-gi[g-ga-kam] (if reconstructed properly), which is common later on in Nineveh, e.g. IGI 1: 96’, 108’ and so on.

Ish. 35-T. 19 is an Old Babylonian forerunner in Akkadian of an historiola concerning the creation of the merhu-kernel. The etiology of this harmful agent is also known from the Nineveh eye disease treatise, which is briefly discussed with literature in the notes to IGI 1: 194’.

BM 122691 is an Old Babylonian tablet from Tel Duweihes. Its lower edge reads ši-iptum ša i-ni [(x)]. However, this incantation is directed against the ‘evil eye’ and is not
therapeutic, although intended to avert evil (discussed with literature in Geller 2003; and SEAL 5.1.7.2).

BM 79022 rev. 19ff. (edited and discussed in Wasserman 2010) mentions a brief incantation similar to an historiola. Its content suggests that it has been used for therapeutic purposes.

YBC 4616 is another historiola describing a worm causing eye reddening. A later version of the very same incantation might have contained some of the broken parts of the Nineveh IGI treatise, as did Ish. 35-T. 19 (translation modified after SEAL 5.1.26.2):

Anu begot the sky, the sky bore the earth, the earth bore the stench, the stench bore the mud, the mud bore the fly, the fly bore the worm. The worm is the daughter of Gula, clad in a garment, thick with blood – the devourer of child’s blood is reddening his eyes. Damu cast the incantation and Gula slew the thick worm, slaughtered them for the (sake of the) child. He opened his mouth, took the breast, raised his eyes, (and began to) suck. The incantation is not mine, it is the incantation of Damu and Gula. Damu cast (it) and I (the medical practitioner) took (it).

In addition, several incantations from the Middle Babylonian period (1400–1100 BCE) could be recognized as forerunners to the Nineveh material. The comparable texts – under § I. 3 Related Manuscripts from Different Cities; Periphery – were found in Emar and Ugarit, and might be considered either as a Babylonian import or local production.

**Therapeutic prescriptions**

Old Babylonian therapeutic texts (1900–1600 BCE) are written almost exclusively in syllabic orthography and are welcome counterparts to the encrypted material from the first millennium BCE edited in this volume.

ASC 207 col. i has a passage on eye disease, which was initially transcribed during BabMed seminars in Berlin 2017–2018, mainly by H. Stadhouders. This remedy illustrates internal medication for amurrigānu ‘jaundice’ of the eyes. Healing this eye condition is also known from IGI 2: 115f.

27 AŠ a-wi-lum
28 i-na-šu a-wu-ri-qā-
29 -na-am ma-ar-ṣa
30 zi-bi-bi-a-nam
31 ta-ha-ša-ša-al-ma
32 a-na li-ib-bi
33 ši-ka-ri-’i’m’

‘If a man’s eyes suffer from ‘jaundice’. You crush zibibiānum-cumin and pour (it) into
Overview of Cuneiform Eye Disease Texts (Strahil V. Panayotov) 5

34  ta-ša-ap-pa-[a]k  33beer.
35  ta-ša-aq-qi You give (to him) to drink (it).
36  i-ne-e-eš'  He will get better.’

Notably, ASC 207 uses AŠ, either in place of the more common DIŠ for šumma (Fincke 2007: 134), or as a short hand for ašar used in HS 1883, see below and the notes to IGI 1: 55.

HS 1883 (BAM 393) is an Old Babylonian tablet from Nippur, which contains eye prescriptions among others (Attinger 2008: 14, fig. 2; Geller 2006). However, I.L. Finkel has suggested that this tablet might possibly be a later copy of an Old Babylonian text, see Abusch and Schwemer 2011: 66. For the incipit style see the notes to IGI 1: 55.

Old Babylonian Medicine from Ur by Irving L. Finkel

Worth noting are some unpublished Old Babylonian medical texts in the British Museum, which were excavated by H.R. Hall (Finkel 2004: 26). Selected passages on eye disease will be briefly presented below. The full edition of the tablets will follow in a separate publication.

BM 113967+ col. ii (part of a two-column tablet)
17’ [šum-ma] a-wi-lum i-na-šu ši-[i]-l-la-am
18’ me-e 'šur-ni-im me-e am-ma-aš-tam’-[ka-al(?)]
19’ me-e pu-qú-ut-[i-im ....................]
20’ ši-zi-ib [musukkati (?) .....................]
21’ i-ni-šu te-qi-[ma]
22’ i-[ne-e-eš]
17’ If a man’s eyes (suffer) ‘shadow,’
18’ 21’ you daub his eyes 18’with šurnû juice, maštalak juice
19’ puquttu juice [..............................]
20’ milk from [a woman in maternity (?), and ...]
22’ and he will get better.

BM 113935+ col. iv (part of a three-column tablet)
18’ šum-ma a-wi-lum i-na-šu ši-si-tum
19’ ma-ar-t[a-a]m ša ar-ab-b[i]-x
20’ [t]e-le-eq-gi-ma
21’ a-na pu-ur-si-ti-im wa-r[u]-[uq-ti-im]
22’ [t]a-ab-ta-am za-ku-ta-a[m]
23’ [u]b-ta-al-la-al’-ma
If a man’s eyes have a membrane you procure gall of a doormouse’ ...
He shall mix (it) in a green bowl with pure salt.

BM 113938+ col. iii (?) (part of a three-column tablet)

3’ [šum-ma a-wi]-lum i-na-šu e-ši-a
4’ [..........................]-am hu-šu-ul-ma
5’ [..........................] pu-šu-uš-ma
6’ [..........................] x šu-ku-um-ma
7’ [(...) n][i-iṭ-lam ú-ṣa-˲
3’ If a man’s eyes are blurred,
4’ crush [.....................], and
5’ anoint him [...............], and
6’ apply [...............], and
7’ [...] will increase eyesight.

Therapeutic prescriptions (continued)

Mesopotamian eye disease texts were transmitted in Hattuša. They are conveniently collected on http://www.hethport.uni-wuerzburg.de/HPM/index.html, CTH 809. Passages paralleling the IGI treatise from Nineveh have been included in the present edition in § II.3 Related Manuscripts from Different Cities BoA (KUB 4/50) and in § III.3 Related Manuscripts from Different Cities BoB (KUB 37/2) and BoC (KUB 4/55).

More therapeutic texts on eye disease in the late Old Babylonian and/or Middle Babylonian period are still unknown, and their existence is acknowledged by the catalogue BM 103690, line 39: ‘DIŠ NA [x x] x dam? pa ˝IGI.MIN˝-šú MÚD DIRI-˝ma.‘ If a man ... his eyes flicker’ (Finkel 2018).

Middle Babylonian therapeutic prescriptions are rare, but recently some tablets from Baghdad (IM 202631 and IM 202652, photos courtesy of Dr. A.A. Fadhil) show that the period witnessed an abundance of therapeutic material. The exemplar IM 202631 is faked to a great extent, although some original passages remain. The original signs of the tablet are written in Babylonian script, most likely of Middle Babylonian origin, since the shape of the signs is similar to BM 103690 (Finkel 2018). IM 202631 was a large six column tablet, similar to IM 202652, a forerunner to BRONCHIA 5 (Panayotov 2018a: 90, 102). Probably, both tablets (IM 202631 and IM 202652) originate from the same unknown provenance where fake text was added to the original tablets. Sadly, only a few genuine passages of IM 202631 are preserved. The last prescription from the first column of IM 202631 shows a remedy against blood in the eyes (DIŠ.NA IGI.MIN-šú MÚD DIRI-˝ma). Prescriptions against this condition are also known from IGI 1: 36’, 45’, 79’ and so on.
Furthermore, on the reverse of IM 202631, there are fragmentary eye prescriptions mixed with fake passages.

Several Middle Assyrian prescriptions on eye disease are preserved from the city of Assur. The exact dating of the manuscripts from Assur is rather difficult, but palaeographic and material observations suggest that there are more Middle Assyrian tablets from Assur in the *Vorderasiatisches Museum zu Berlin* than previously expected.

BAM 12 is a neatly written Middle Assyrian tablet, baked in antiquity, showing the typical contrast between the white slip and the reddish core, exemplified by the so-called Tiglath-Pileser I (1115–1076 BCE) tablets (see Lambert 1957/58: 39ff.; Lambert 1965: 283; Pedersén 1985: 31). Köcher’s copy shows several miscopied signs, e.g.: i’ 9’ gišMI.PAR4; i’ 11’ gišPÈŠ (which confused CAD Š/3 386b); i’ 17’ PA.

Another tablet from the same period is AmA (BAM 165) mentioned in § I. 3 Related Manuscripts from Different Cities, which is partly related to IGI. The dating of BAM 18 and BAM 159 (see § I. 3 Related Manuscripts from Different Cities) might be Middle or Late Assyrian.
BAM 13, 17 and 25: according to Franz Köcher, VAT 11488 (BAM 13) probably belongs to VAT 11409+ (collated). But the shape of the signs, the thickness of the fragment as well as the colour of the clay are very different. VAT 10363 (BAM 17) can be tentatively dated as early Neo-Assyrian or late Middle Assyrian according to the shape of the sign LI [parameters: a2b4c5], l. 13’, and also the shape of TU, col. i 3’ (see Gottstein and Panayotov 2014). Furthermore, the same shape of the sign LI [a2b4c5] can be observed on VAT 11488 (BAM 13) at line ii 9’, which also shows Middle Assyrian MEŠ [a1b5] at l. 8’ and AH [a3b2c5] at l. 6’. The copy above shows a possible positioning of fragments BAM 13 and 17. Additionally, VAT 16464 (BAM 25) has the same colour clay, and shows Middle Assyrian sign forms of BA on lines 5’, 8’ [a1b1c2], DIM [a1b3c2], the HI-group with five wedges [c5], and MEŠ [a1b5 or a1b4]. The thickness of the fragments (BAM 17= 3,2 cm, also Köcher, BAM 1: XV) and their similar features suggest that BAM 13, 17 and 25 were originally part of a three column tablet on eye disease, which might have been serialized. Other serialized Middle Assyrian medical texts from Assur are known, see BAM 11 (series for ghost afflictions: rev. 3618 \textit{bu-ul-ṭú ša SAG.KI.DAB.BA 37IM.GÍD.DA 1.KAM.MA 38ša bit(Ē) Ra-bi-a-ša-ä-AMAR.UTU (pace the reading of Heeßel 2009: 25), and BAM 36 (series for lung problems), l. 5’: [...] [ ... G]IŠ.GÀR MUR.MEŠ [GIG.MEŠ].

1st Millennium BCE

Incantations

It is probably by chance that most of the material is known only from Nineveh. All of the incantations on eye disease known to us were collected and revised in the IGI Nineveh treatise by Ashurbanipal’s scholars and are edited in the present volume. There are rare IGI parallels from outside of Nineveh, like Ms. HA (STT 279) from Huzirina in § I. 3 Related Manuscripts from Different Cities.

A systematic study of the figurative language of medical incantations in general was produced by Collins 1999 and Geller 2007c. Attia 2015 and Panayotov 2017 took a closer look at the eye disease incantations, which are the best example so far of an implicit theory of causation and etiology of ophthalmological problems, expressed through allegories and metaphors.

Therapeutic prescriptions

Like with the incantations, the biggest collection of eye disease therapeutic texts is the IGI treatise from Nineveh itself. However, it is not the only systematized therapeutic corpus of eye disease from the first millennium BCE. The series on eye disease from Assur is known only from catch-lines, as with BAM 3, which was incidentally an import from Babylonia (col. iv 47 \textit{ina pu-ut širZU URI širZI Ša}):
šumma(DIŠ) amēlu(NA) īnāšu(‘IGI.MIN-šū’) šilla(GISSU) ār-ma arkišu(EGIR-šū)
The (series) ‘If a man’s eyes are covered with a shadow’ (is written) after it (this tablet).

Pace the translation in Worthington 2006: 32, arkišu(EGIR-šū) is a short-hand for arkišu(EGIR-šū) iššaṭṭar, designating the next tablet in a cuneiform collections, as shown by the catchline of the next relevant example, AO 11447 (Geller 2007b).

šumma(DIŠ) amēlu(NA) īnāšu(‘IGI.MIN-šū’) dāma(MÚD) malā(DIRI) maṭâma(LAL-ma) u i-bar-ru-‘ra’ … arkišu(EGIR-šū) iš-šaṭ-tar
The (series) ‘If a man’s eyes are full of blood, and flicker, (and his eyesight) is diminished…’ is written after it (this tablet).

Although the Assur series on eye disease are unknown, a number of therapeutic texts from Assur allude to their content, for instance AO 11447, BAM 3 (13, 17 and 25 see above), 14, 15, 16, 18, 19, 20, 21, 22, 23, 28, 50, 156, 159, 165, 183, 328 (BM 123362, Ms. XA, see § IV. 1. 3 Related Manuscripts from Different Cities). They all share common therapeutic texts with the IGI treatise from Nineveh, noted in the present edition. Isolated additional therapeutic material from Assyria is also known from Kalhu (CTN 4/123, Ms. KA in § II. 3 Related Manuscripts from Different Cities) and Huzirina (STT 279, Ms. HA in § I. 3 Related Manuscripts from Different Cities), but also STT 105.

As stated above, BAM 3 shows that some therapeutic eye disease texts in Assur were imported from Babylonia. Mainly I.L. Finkel and M.J. Geller have collected Late Babylonian unpublished tablets concerned with eye ailments in the British Museum. Other Late Babylonian texts on eye disease are scattered around the world. Presumably coming from Babylon are: VAT 17406 (BAM 382, Ms. bB, § II. 3 Related Manuscripts from Different Cities), BM 37119 (a copy of SVP to the left), BM 38483, BM 38673, BM 38679 (a copy by SVP on the next page), BM 39872, BM 39725, BM 40737 (Ms. xB in § III. 3 Related Manuscripts from Different Cities), BM 41173 + 41199, BM 41261, BM 41293 + 44866 (Ms. bA in § I. 3 Related Manuscripts from Different Cities), BM 45941, BM
49133. The catchline of BM 35512 refers to relevant prescriptions as well, see Bácskay 2018c.

Presumably from Sippar are: BM 54641 + 54826 (Ms. xA §I.3 Related Manuscripts from Different Cities), BM 50508, BM 54808 + 54816, BM 70420 + 70436, BM 76023 + 83009, BM 73420, BM 109097a, BM 68373, BM 50508. Another important tablet from this city is IM 132670 (Ms. sA in §I.3 Related Manuscripts from Different Cities). Presumably from Sippar is also CBS (Kh2) 1543, PBS 1/2, 121 in Abusch and Schwemer 2011, text 10.2, p. 405. Pace their transcription of the incipit we read SAG.KI.DAB.BA TUK.TUK.

Uruk has also yielded therapeutic texts on eye disease, like BAM 403, BAM 410, SpTU 50, and SpTU 22+85.

The provenance of BM 132097 (Geller 1988) is unclear, see Fincke 2000: 9 fn 59. Also, the Nineveh fragment, K 10535 edited in § IV. 9 NV (AMT 18/3) was a Babylonian import from an unknown city, if not written in Nineveh.

The Late Babylonian material on eye disease, although partly fragmentary, needs a proper edition and comparison with the Nineveh IGI treatise, which is beyond the scope of the present volume.

**Eye Disease Texts meet Royal Letters in Nineveh**

The IGI treatise from Nineveh is the second chapter of the Nineveh Medical Encyclopaedia (henceforth NME), created especially for the Royal Library of Ashurbanipal in Nineveh (Panayotov 2018a: 109ff.). Vestiges of the NME were discovered in the ancient mound of Kuyunjik, where the royal letters of Nineveh were also found. The letters reflect daily life of the King, his consort, and his scholars, who were dwelling and working inside the capital (on the next page see the reconstruction of the Nineveh vicinities by Reade 2016: 48 fig. 7). Royal letters contain abundant medical references and there is a good discussion of this material in Geller 2010a: 75ff.
Information from the NME is reflected in royal letters but there are certain specifics which make comparisons difficult. The royal letters and NME employ stylistically different language while addressing the same medical issues. The royal letters were written mainly syllabically in an official Assyrian dialect, politely addressing the king in indirect speech, while therapeutic prescriptions of the NME were written mostly logographically in the technical language of medicine, but employing literary language in the therapeutic incantations. Let us observe how a common head therapy is addressed in the first chapter of the NME: (SAG.DU-su) SAR-ab LAL-ma ‘you shave (his head and)
bandage (it with bandages)’ (see the edition in § V, NI i 4ff.), compared to the same statement from a royal letter: ma-a SAG.D[U-su] nu-gal-li-[ib ...] ši-in-di [...] ni-ir-k[u-us] ‘let us shear [his] head and bind [it] with [...] bandages’ (modified after SAA 10: no. 335: 2ff.). Logically, royal scholars must have had access to the NME and similar material from the Royal Library, since their letters allude to therapeutic material which existed in Nineveh, like the expression ina bu-ul-ṭi gab-bu ‘among the entire therapeutic prescriptions’ (modified after SAA 10: no 326: 3), implying most probably the content of the NME. This very same letter tells us about a remedy for a royal baby: r.1 ina pi-i-šú ù DÚR-šú r.2 ú-še-šar-am-ma r.3˹ i˺-ba-al-lu-ṭ ‘he purges through his mouth and his anus, and he will get better’ (modified after SAA 10: no 326). Notably this looks like a direct citation from the eighth chapter of ‘STOMACH’ of the NME: ina KA-šú u DÚR-šú SI.SÁ tu-SUD-šú-ma Ti-ṭ ‘he purges through his mouth and his anus, you sprinkle him and he will get better’ (modified after Cadelli 2000: 72: 30, see especially p. 352 fn. 347, and p. 397 fn. 121).

Similar, to the case addressed above, we can compare other ailments and treatments from the IGI treatise to royal letters. Let us look at the hunṭu condition (a kind of burning sensation in the eyes) of the Assyrian king Esarhaddon. The word hunṭu, as a kind of fever, described the poor health of the Assyrian king (Stol 2007a: 21; Parpola 1983). In one letter, the scholar Ikkaru refers to Esarhaddon as ḫu-un-ṭu ḫi[SĀ e]-na-a-te uk-ti-ils, ‘hunṭu lingered in (his) eyes’ (modified after SAA 10: no 328). This letter also suggests
that the *hunṭu* condition might be linked to warm weather (SAA 10: no 328 r.9ff.). In another letter, Esarhaddon complains in a statement reported by the scholar Marduk-šākin-šumi: "*ma-a a-hi-ia ʔše-pi-ia la-mu-qa-้a* ʔu ma-a IGI.MIN-ia la a-pat-ti ṭa marṭak kar-rak ‘My arms and legs are weak and I cannot open my eyes, I am scratched and lie prostrate!’ Then Marduk-šākin-šumi says: "*ina ŠÀ ša hu-un-verbs* *šu-û ina ŠÀ eš-verbs ma-verbs ti verbs ȗ-kil-verbs lu-verbs u-verbs ni ina ŠÀ-bi šu-û la-aş-sú hi-tu ‘This is because hunṭu lingered inside the bones. It is therefore not serious’* (modified after SAA 10: no 242). This complex medical condition was caused by *hunṭu*, which seems to occur often to various persons from the royal family and affecting different body parts, eyes included (also SAA 10: nos. 193, 243, 320). The chief physician Ur[ad-Nanaya, who had difficulties identifying Esarhaddon’s *hunṭu*, treated it with different salves and *ṣilbānu*-bandages (probably crosswise arranged, see Geller 2010a: 83 and Marsham 2011: 103), which caused the king to sweat (SAA 10: no. 315). The condition *hunṭu* also affected royal babies, but it was reported as not serious (SAA 10: no. 213: ṭhi-tu la-aš-sú).

Surprisingly, if we survey the therapeutic material on eye disease, we do not find the condition *hunṭu* referring to eyes, otherwise common in royal letters. This must be due to stylistic differences between letters and therapeutic texts. First, the word *hunṭu* (var. *humṭu*) is the Assyrian form of *himṭu* (Stol 2007a: 21). However, *himṭu* does not seem to appear in therapeutic texts in this form. Instead of the nominal form, therapeutic texts employ a stative form of *hamāṭu* ‘to burn’ (IGI 1: 14’) describing a burning sensation of the eye, which might also suggest a reddish color, since the stative is also used in physiognomic omens (Alamdimmû tablet 8) to describe the color of the human face (Böck 2000: 112: 73ff.). Often, *hamāṭu* refers to inflamed eyes due to *ṣētu*-sun-heat (IGI 2: 9).

One therapeutic prescription from IGI 3 is particularly descriptive: "If a man’s eyes cannot see (*īnāšu lā inaṭṭalā*): that man is inflamed with sun-heat (*ṣēta hamiṭ*): [you pound] *emesallu*-saline solution in mountain honey and ghee, (and) you daub his eyes (with it),’ see also § IV.6 NS (AMT 18/4): 6’). The phrase *īnāšu lā inaṭṭalā ‘his eyes cannot see’ is another way of saying IGI.MIN-ia la a-pat-ti ‘I cannot open my eyes’ cited in SAA 10: no 242 above. The prescription of IGI 3 mentions the warm weather suggested as a probable cause of *hunṭu* (SAA 10: no 328 r.9ff.), similar to the expression, ‘inflamed with sun heat’ (*ṣēta hamīṭ*) from therapeutic texts. Sun-heat (*ṣētu*) was a daily problem in Mesopotamia, and it was likely that it caused sunstroke. We suggest that *hunṭu* from the royal letters is equivalent to the stative of *hamāṭu* ‘to burn’, or to the expression *ṣēta hamīṭ* from therapeutic texts. Stol asks, ‘Is it possible that the normal Assyrian word for fever *hunṭu* is an abbreviation of this Old Babylonian *himīṭ šetti?’ (Stol 2007a: 38, also 34 fn. 90). In other words, *hunṭu* from the royal letters represented a burning sensation (i.e. inflammation) caused by sun heat, corresponding to the stative of *hamāṭu* and the expression *ṣēta hamīṭ* from therapeutic prescriptions. The burning sensation could be recognised by its reddish color, but was nothing really to worry about, as royal physicians report.
Cuneiform Eye Disease Texts in Near Eastern and Greco-Roman Perspective

From the 5th century BCE onwards, Greco-Roman scholars argued about how visual perception functioned. Consequently, they developed extramissionist and intromissionist theories of vision and sight (Coughlin 2016: 56). Cuneiform medical texts are silent about the function of the human eyes and vision, although implicit eye-disease theory and etiological explanations can be recognized in medical incantations. The eye in Mesopotamia was conceived as a water source dating back to mythical time when the world was created (Panayotov 2017: 211ff.). This metaphor reflects tears which flow from the eyes like a river from the ground.

Historical sources from the Ancient Near East occasionally mention ophthalmological drugs and doctors dispatched internationally. In the 13th century BCE, the Hittite king Hattušili III suffered from eye problems. He received particular drugs for his treatment from the Egyptian Pharaoh Ramses II. This case was recorded in diplomatic correspondence (Edel 1976: 44, 76; Ritner 2000: 112; Couto 2013: 405). Another case is reported by Herodotus: in the 6th century BCE a chosen eye-doctor of the Egyptian Pharaoh Amasis was unwillingly sent to Persia, in order to help with eye treatment for Cyrus (cf. Zaccagnini 1983: 255ff.).

Ancient Egypt, prominent in eye-doctors and remedies, shares conceptual metaphors with Mesopotamia, ancient Greece and even modern languages. The Egyptian pds.t ‘small ball’ – describing an eye problem – is similar to the Akkadian term merhu ‘kernel,’ or Greek krithè ‘barley grain,’ or even German Gerstenkorn (Panayotov 2017: 214ff).

Medical prescriptions from Papyrus Ebers (16th century BCE) resemble material edited in this volume:


Drugs in this prescription have precise measures, also found throughout Mesopotamian eye disease material; for references see SILA, uṭṭatu, šiqlu in the glossary. Furthermore, the Egyptian formulation ‘allow to spend the night in the dew’ is another way of saying ‘let it stay under a star’ (= stay overnight), frequent in Mesopotamian medicine as well (IGI 1: 81’, IGI 3: 34’), see Ritner 2000: 112. Another comparable drug is ‘excrement(?) of a gazelle,’ reminiscent of the common ‘gazelle droppings’ (IGI 2: 177’; IGI 3: 72’). The duration of the eye bandage in Ebers is also known from IGI 2: 1–7. The alternative use of a vulture feather as an eye-dropper comes close to the drug application by
bronze tube in IGI 1: 86f., and although the medical instrument is different, the formulation, style and technology are comparable.\(^1\)

A common practice in ancient Near Eastern medicine deserves to be mentioned – the treatment of blindness with animal liver (Stol 1986), as recorded in IGI 3: 75 (employing a donkey-liver), 81, 89. A chronological survey would be particularly telling for universal healing practices in the ancient Near East. In the 16\(^{th}\) century BCE, Papyrus Ebers mentions the use of beef liver against blindness:

Ein anderes (Heilmittel) für die Blindheit in beiden Augen: Leber des Rindes, gebraten (und) ausgepreßt; werde daran geben (=an das Auge). Wirklich vorzügliche (Methode). See Westendorf 1999: Ebers § 351.

Papyrus London from the 14\(^{th}\) century BCE mentions a similar case:


Papyrus London is useful for pointing out international medical relationships, since it contains references to Crete as Keftiu (Arnott 2004: 165f.), and the Near East as Samāna (see Beck 2015). Also, the first Semitic spell (27) from Papyrus London mentions ‘another incantation against the strangulation-disease (\(ḥmkt\)) in the language of the foreigners’ (Ritner 2000: 110). We suggest that \(ḥmkt\) derives from the Akkadian medical condition \(hiniqtu\).\(^2\)

The material on blindness from Hattuša has been noticed and discussed by Stol (1986: esp. 296f.), and included in the present edition to IGI 3: 81ff.’

IGI material from the 7\(^{th}\) century BCE, edited in the present volume is also comparable to the Hippocratic Treatise on the Eye, 5\(^{th}\) century BCE:

As a medicaton for nyctalopia (night blindness) let the patient drink squirting-cucumber juice, have his head cleaned, and reduce his neck as much as possible, compressing it for a very long time. When remission occurs give him raw bull’s liver dipped in honey, and have him drink down as much as he can, one or two. See Potter 2010: 385.

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1 Akkadian recipes regularly employ a feather to induce vomiting. The Babylonian Talmud refers in several instances to drugs (such as goose fat) being applied with a feather.

2 In this respect, Semitic loanwords of medical plants employed in eye therapy are known in Mycenaean Greek: \(Κύμινον\) and \(Σέλινον\), Akkadian \(kāmu₃\) and \(sahl₃₃\) (Bourguignon 2012). Another case is \(Sikil₃\) and \(Σκιλ\) (Rumor, in press). Furthermore, a shared structural design exists between Akkadian drug lists (eye drugs included) and herbal descriptions in Theophrastus (Rumor 2018). The Mesopotamian drug list Irianna equates Akkadian drugs to those in the languages of \(Kînu₃\), Mu₃₃ru, Šub₃₃ria, Ah₃₃lu₃, Ka₃₃ṣ₃₃u, El₃₃am and Melu₃₃ha (forthcoming edition by J. Scurlock and J. Fincke), pointing to global Near Eastern medical terminology transfers.
Moreover, the Hippocratic Treatise on the Eye mentions copper as an ingredient used in eye therapy:

When the eyelids become scabby, and itchiness is present: grind a lump of flower of copper against a wet stone, next rub off the eyelid with it, and then grind some scale of copper as fine as you can (= produce powder). Then add strained juice of unripe grapes, grind fine, and pour what is left into a red copper vessel, continuing to grind it a little at a time until it has the thickness of mussotos. Then, when this becomes dry, grind it fine and apply. See Potter 2010: 384f.

Diverse copper products are often found in Mesopotamian eye disease prescriptions; for references consult the present glossary under: erû, erû labîru, erû zikaru, hil erî, šuhtu, šuhtu ša tangussi, tangussu (comparable to ‘a red copper vessel’ above).

In the first 1st century CE, Dioscorides, De Materia Medica, Book 2, mentions goat liver as a treatment for blindness:

The watery fluid that drips from the liver of a goat whilst it is a roasting is good rubbed on for those troubled with night blindness. If anyone receives the smoke of it with open eyes whilst it is boiling he receives benefit from this. Eaten roasted it is good for the same purpose. They say that epilepsy may be discerned by eating the liver (especially) of the buck goat. See Osbaldeston and Wood 2000: 199.

Probably dating from the same century are the eye disease prescriptions found in Celsus ‘De Medicina’:

There is besides a weakness of the eyes, owing to which people see well enough indeed in the day-time but not at all at night ... But such sufferers should anoint their eyeballs with the stuff dripping from a liver whilst roasting, preferably of a he-goat, or failing that of a she-goat; and as well they should eat some of the liver itself. But, we may also use with advantage the same remedies which dry up scars and trachoma. Some add honey to pound purslane seed until the mixture no longer drops from the end of a probe, and with it anoint the eyeballs. The same exercises, baths, rubbings and gargles are also used for their patients. See Spencer 1989: 225f.

The resemblances between the Mesopotamian treatment of blindness and those from the Babylonian Talmud (5th century CE) were pointed out by Stol 1986 and Geller 1991. Remarkably, the above-mentioned treatments have even commonalities with the much later Syriac Book of Medicine, a heterogeneous medical compilation:

Another (prescription), which is to be used for those who cannot see in the twilight. Take the liver of a goat (or, stag), roast it until it is half-cooked, squeeze out the juice and catch the liquid which flowed from it in a glass vessel, and smear the eyes with it, and let the patient eat the liver. Now others stew the liver in a cooking pot, and order the patient to hold his head over the pot and to keep his head covered on all sides. The above medicines constitute the means which are to be used for dimness of sight, and effusion of the eyes, and nocturnal blindness. See Budge 1913: 96f.

Undoubtedly – via trade and diplomatic exchange – medical knowledge, doctors and drugs circulated in Egypt, Mesopotamia, Levant, Hatti, Mycenaean Greece and the
Greco-Roman World. The parallels in Ancient Near Eastern ophthalmological healing can be viewed as indirect borrowings and/or similarities in the light of a common prescription-based medical practice, rather than as a direct influence from one culture upon another. But a definitive view on this matter can only be based upon further research.
1 Introduction: Eye Disease in Mesopotamia
(Mark J. Geller)

Eye disease is common to all systems of ancient medicine and its prominence among medical remedies may simply be explained by the prevalence and visibility of eye ailments in all ancient societies. This means that eye disease can offer useful comparative data for both diagnosis and pharmaceutical remedies, and even a cursory survey will show that certain types of medications were widely used throughout the Mediterranean and Near East. What is unusual about the Mesopotamian recipes in the present collection – drawn from the Nineveh Medical Encyclopaedia from the Royal Library of Ashurbanipal1 as well as from duplicate and parallel texts from other sites – is the large number of incantations which accompany the medical recipes, and these provide clues to theories of eye disease and its treatment. Moreover, there is some similar medical data in the Syriac Book of Medicines and Babylonian Talmud, in Aramaic, which appear to betray some degree of awareness of the Akkadian treatments, and this provides important clues to the reception of Akkadian medicine into Late Antiquity.

1.1 Diagnosis of symptoms

Modern medicine distinguishes between signs and symptoms, the one referring to how the patient describes his or her own perceptions or pain, and the other referring to the observations by the physician based on examination and tests. Both types of notations appear in Babylonian medical and diagnostic texts, although usually restricted to external examination of the body without benefit of aids or instruments, which is why retrospective diagnoses are scarcely reliable.2

The usual pattern for all of Akkadian medicine is for symptoms to be introduced by the standard formulaic logograms DIŠ NA, understood to stand for šumma amēlu, ‘if a man’.3 Although this same formulaic notation also appears in the Diagnostic Hand-

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1 For a description of the Nineveh Medical Encyclopaedia, see Panayotov 2018a.
2 Attia 2015: 4. See Fincke 2009: 99–101, in which she offers an abbreviated scheme for the sequence of symptoms within IGI, as well as (for comparison) the incipits of a single LB tablet dealing with eye disease (BM 54641 + 54826). Her categories of symptoms include: bloodshot eyes, foreign bodies in the eye, dysfunction of lachrymal glands, eyelids, internal eye pathologies, and ‘shadow’, as well as general categories of vision and eyesight.
3 The identification of the logogram DIŠ for šumma ‘if’ is likely to be correct and can be argued on the basis of older medical texts from the Old Babylonian period (c. 1700 BCE), which begin with the word šumma spelled out syllabically. However, Akk. šumma has other logograms in divination texts, such as BAD, and the DIŠ could be used to denote a separate entry, as in accountancy, rather than the word ‘if’.
book, it does not appear that the symptoms described in the therapeutic corpus were simply copied or drawn from the symptoms noted in the Diagnostic Handbook. The first encountered (and most common notation of eye disease) is a straightforward statement that the patient’s eye is ‘sick’ (marṣu); while this may appear to be generic, this sparse symptom designation (like all others) nevertheless called for specific kinds of treatments, suggesting a nosology not indicated by the text but obvious to the practitioner.

Treating the prescriptions and their associated symptoms in sequence within IGI, we turn now to a symptom with both a primary and secondary description, in which the eyes are ‘sick’ (marṣā) and ‘inflamed’ (hanṭā), with the latter term usually describing feverish conditions. The symptom is distinctive enough to warrant its own specific treatment, although the exact nature of the pathological condition is not adequately indicated (which is true of most of the symptom notations).

The next stage of symptoms is another two-clause description, beginning with the general condition of eyes being ‘sick’ (marṣā) and also ‘closed’ (katmā), or additionally, that the patient cannot open his eyes for a period of time, lit. ‘he cannot open (them) for many days’. This recipe also includes a tertiary description, that his head is hot (with ummu-fever) and his eyes contain a film (ṣillu), which could indicate a variety of pathologies. The ‘closing’ of the eyes can be an indication of swelling, which, combined with fever and a filmy eye, provided the essential symptoms of this pathology.
The text now returns to a single-clause description, moving away from the general category of the eyes being ‘sick’, but providing the single symptoms of the eyes being ‘sick’ (marṣā) specifically from ‘dryness’ (tābīlu), for which rather elaborate treatments are recommended, applied through daubing or bandaging the eyes. The single-clause pattern continues for the next two prescriptions, again relying upon the general description of the eyes being ‘sick’ (marṣā), but each with distinctive recipes, involving daubing and bandaging the eyes. These marṣā-prescriptions may serve as sub-headings for a new sequence of recipes, indicating a type of division between recipes of different categories.

The pattern introduced by the next three sets of prescriptions involves blood in the eyes. The first of these is a compound symptom with two separate if-clauses (šumma), the first describing the eyes as ‘filled’ (malā) with blood, preventing the patient from sleeping, while the second clause describes the middle of the eye as ‘red’, with the eyes again being ‘closed’ (katmā), as above (IGI 1: 21’). The follow-up prescription with this theme is a single-clause entry that the eyes are ‘suffused’ (lit. ‘blocked’ < šanāʾu) with blood, which differs from eyes being filled with blood.15 The interesting feature of this set of prescriptions is the use of Dreckapotheke (bat guano, lizard droppings, etc.). The third prescription in this series returns to the simple condition of the eyes being ‘filled’ (malā) with blood, while offering no less than four different remedies for this condition.16

We cannot be certain about the specific symptoms which follow, since the introductory clauses are damaged, except that the very next prescription returns to the default incipit, ‘if the man’s eyes are sick’ (marṣā). This may, in fact, introduce a new type of symptom, as indicated by the succeeding prescription, ‘if a man’s eyes are found to have a deposit of blood’ (šikna ša dāmi), and at this point the text introduces no less than three incantations and accompanying medical rituals, and these form a block of text which concludes the recipes which precede it. This division makes sense in the light of what comes next, namely a prescription with an elaborate array of symptoms arranged over five descriptive clauses, beginning with the eyes being sick (marṣā). In this case,
blood and tears emerge from the eyes, with a film (ṣillu) covering the eye’s pupil; this medical condition also has four alternative recipes, followed by thirteen incantations and corresponding medical rituals, emphasising the seriousness of the problem, and bringing the reader to the end of the tablet.

The second tablet of IGI is thematically quite different, lacking the general observation that the eye is ‘sick’, which was a key Leitmotif of Tablet 1. What is of primary concern to Tablet 2 is the appearance of eye pathologies, with murdinnu-‘brambles’ appearing in the eye (1), or giddagiddû-fibers (12), which are not known from elsewhere, or a flesh-like lesion (or perhaps growth) in the eye (16). None of these can be identified with modern diagnoses. The next symptom follows thematically with a description of hair (perhaps an eyelash) growing out of the eye causing blurred vision (17). A group of subsequent prescriptions share variations of the same symptom of the eye being ‘full’ of moving tissue, perhaps indicating some type of tumour (19), with variations being that the tissue (or flesh) keeps moving (illak, 22), or that the diseased eye is full of tissue and blood (25). The final symptom is that the eye is full of qūqānu-worms (27). These worms are usually associated with the digestive tract, but this description is likely to be metaphorical for observable patterns of eye lesions, similar to the presence of ‘brambles’ in the eye mentioned above.

The prescriptions adopt a new direction (54’), featuring the patient’s own report of his or her vision, with some part of the eyes (perhaps the pupils) being characterised as progressively becoming ‘dark’ (itenetṭā), with a secondary remark that this condition is likely to persist and that the eyes will be ‘cloudy’ (ippâ), referring to the patient’s vision rather than to the eye itself. The subsequent sequence of eye symptoms reflect what the patient relates, that the eyes feel ‘inflamed’ (56’) or ‘pressed’ (ṣuhhutā, 63’), or his

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20 IGI 2: 1 šumma amēlu ināšu murdinnī malā, ‘if a man’s eyes are full of murdinnu-brambles.’
21 IGI 2: 12 šumma amēlu ināšu giddagiddā ukallā, ‘if a man’s eyes contain giddagiddû-fibers.’
22 IGI 2: 16 šumma amēlu ina inīšu līpištu, ‘if there is a fleshy substance in a man’s eyes.’
23 IGI 2: 17 šumma amēlu ina inīšu šārtu aṣāt u ināšu ašā, ‘if a hair protrudes from a man’s eyes, and his vision is blurred.’
24 IGI 2: 19 šumma amēlu ināšu šīra ālika malā, ‘if a man’s eyes are full of loose flesh.’
25 IGI 2: 22 šumma amēlu ināšu šīra malāmâ u illak, ‘if a man’s eyes are full of loose flesh and it moves.’
26 IGI 2: 25 šumma amēlu ināšu šīra u dāma malā, ‘if his eyes are full of flesh and blood.’
27 IGI 2: 27 šumma amēlu ināšu qūqāni malā, ‘if a man’s eyes are full qūqānu-worms.’
28 IGI 2: 54’ šumma ina ini [...] iteneṭṭā amēlu su šīpiru ilabbirma ināšu ippâ, ‘if in the eye [his pupils(?)] keep darkening, the effect on that man will be long-lasting and his eyes will be cloudy.’
29 IGI 2: 56’ šumma amēlu ināšu nuppuhâ, ‘if a man’s eyes are inflamed.’
30 IGI 2: 63’ šumma amēlu ināšu šuhhutâ, ‘if a man’s eyes are under pressure.’
vision is ‘dimmed’ (barrā, 58’)

or ‘dark’ (arpā, 61’).

The next symptoms portray what can be seen by the physician, that the eyes are ‘closed’ (katmā),

probably reflecting external swelling which blocks the vision. The next two symptoms which can be identified refer to yellowness in the eye (amurriqānu), which might be jaundice, and this also reflects an external observation from the practitioner.

A thematic change can now be seen in the prescription incipits, which return to the general theme of Tablet 1 in describing the eyes as being ‘sick’ (marṣā, IGI 2: 117’, 121’, 124’), but in this case more details are provided by secondary symptoms within additional clauses. It is difficult to gauge the precise meaning of ‘sick’, whether this might refer specifically to pain or discomfort, or simply that the eye was in an abnormal state. The first secondary clauses provide more precise information, stipulating that the eyes in this condition would not open over several days and would be affected by a ‘film’ (ṣillu), and that the patient’s head would be hot; it is difficult to know whether these symptoms occur concurrently or would have been alternative symptoms for ‘sick’ eyes. The second set of symptoms for ‘sick’ eyes is also quite specific, that a ‘membrane’ (šišītu) covers the pupil, tears flow, and a ‘film’ (ṣillu) fills the eyes; the distinction between an ophthalmic ‘membrane’ and a ‘film’ cannot be precisely determined. The third symptom of sick eyes provides additional information, since the membrane covering the eye is described as a white spot (pūṣu, IGI 2: 124’), which causes the patient’s vision to be ‘difficult’ (kabit, lit. ‘heavy’), again adopting a subjective report from the patient.

After a long gap with either no symptoms or only fragments of šumma-clauses, we encounter more objective descriptions of eyes, such as the eyes being ‘rotten’ (madirā, a term with Aramaic cognates referring to eggs), and a series of prescriptions referring to the eyes being ‘thickened’ (šamhā) by the presence of a film (ṣillu), with the right and

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31 IGI 2: 58’ šumma amēlu ināšu barrā dimta ukallā, ‘if a man’s eyes are dim and contain tears.’
32 IGI 2: 61’ šumma amēlu ināšu arpā, if a man’s eyes grew dark.’
33 Lit. ‘covered’, cf. IGI 2: 76’ šumma amēlu ināšu katmā, ‘if the man’s eyes are closed.’
34 IGI 2: 115’–16’ šumma amēlu ināšu amurriqāna malā, ‘if a man’s eyes are full of yellowness (jaundice).’
35 IGI 2: 117’ šumma amēlu ināšu marṣāma imē ma’dūti lā ipetti ina ummi qaqqadišu ināšu šīla malā, ‘if a man’s eyes are sick and he cannot open (them) for many days, with his head being feverish, (and) his eyes are filled with a film.’
36 IGI 2: 121’ šumma amēlu ināšu marṣāma šišītu muhha lamassat inīšu armat dimta illak ināšu šīla malāma, ‘if a man’s eyes are sick, and a membrane covers the surface of the pupil of his eyes, tears flow, (and) his eyes are filled with a film.’ See also IGI 2: 139’.
37 IGI 2: 124’ šumma amēlu ināšu marṣāma šišītu muhha lamassat inīšu armat digalšu kabit, ‘if a man’s eyes are sick, and [a membrane covers the surface of the pupil of his eyes], (and) his vision is “heavy”.’ Similar expressions occur in IGI 1: 80’ (digal ikabbitūšu), IGI 2: 126’ (digalšu kabit), and IGI 2: 137’ (kabit), all indicating difficulty in seeing.
38 IGI 2: 196’ šumma amēlu ināšu madirā, ‘if a man’s eyes are rotten.’
left eye being treated individually. This brings us towards the end of IGI Tablet 2, returning once again to the standard symptom that the patient’s eyes are ‘sick’ (marṣā) but adding a second description of being ‘shiny’ (namrā), followed by a variation of an earlier symptom, that the pupil of the eye or the eye itself is ‘filled’ by a film (ṣillu) and inflammation (ṣirihtu), indicating observations made by the practitioner. The end of the tablet is fragmentary and no further symptoms can be recovered.

Tablet 3 of IGI features another type of symptom which attempts to establish causal factors which also serve as diagnoses. The initial short recipe provides a general description of the eyes as ‘troubled’, meaning ‘blurred’ (dalhā, IGI 3: 1), reflecting a patient’s report on lack of clarity of vision. The second prescription combines a subjective description of the symptoms with a putative diagnosis: while the patient continually sees a ‘flash of light’ (burṣu), his eyes are affected by a condition labelled as the ‘Hand of a Ghost’. It seems likely the eyes are affected by a Hand-of-the-Ghost medical syndrome rather than assuming an actual ghost as the disease vector. The prescription itself is entirely pharmaceutical with no magical or ritual components to counter the activity of ghosts. More detailed information appears in the following recipe (IGI 3: 9) in a series of primary and secondary clauses, affirming that the patient has been ‘seized’ by the ‘Hand of a Ghost’; it is important to note that the primary symptom is that the patient has been

39 IGI 2: 199’–202’ šumma amēlu ināšu šilluma šamhā, ‘if a man’s eyes have grown bulky with a film.’ The verb šamāhu usually means to be ‘lush’ or ‘luxuriant’ in a positive sense (also ‘prosperous’), which would hardly apply to a diseased or filmy eye, but one synonym list (Malku-šarru 4: 209) gives the term kubburu ‘thick’ as a synonym for šamhu, which could apply to a condition of the eyes.

40 IGI 2: 204’ šumma amēlu ināšu marsā namrā, ‘if a man’s eyes are sick and shiny.’ This incipit could possibly mark another subdivision of prescriptions.

41 IGI 2: 207’ šumma amēlu lamassāt ināšu šillu malā, ‘if the man’s eyes pupils [are full] of a film,’ and IGI 2: 209’ šumma inu amēlu šillu širihta mali, ‘if a man’s eye is full of a film (and) has inflammation.’

42 IGI 3: 1 šumma amēlu ināšu dalhā, a similar symptom of eye disease occurs in BAM 522 6’, šumma amēlu ināšu dāna širi dalhā, ‘if blood oozed from a man’s eyes (and) they are ‘troubled’ (i.e. “blurred”),’ providing a physical explanation for the meaning of dalhu.

43 IGI 3: 2 enāma ināšu burṣa iddanaggalā šugidimmakku, ‘when his eyes repeatedly see a flash of light, Hand of a Ghost.’

44 The term ŚU.GIDIM.MA (‘hand of a ghost’) is given in logographic form suggesting that the phrase might represent a disease label rather than the actual presence of a ghost. If a ghost was personally involved in causing the patient’s illness, somewhere within the IGI texts one would expect to find an incantation or ritual against ghosts; this does not appear to be the case. A similar problem occurs in prescription incipits in BAM 520 (IGI Tablet 4?) 19’ and 25’, šumma amēlu mukīl reš lemutti iṣbassu, ‘if a Supporter-of-evil seized a man’, which looks at first like the personal involvement of a mukīl-reš-lemutti-demon, also known from incantation literature (see Farber 1974); in this latter case, the demonic name is given syllabically, not as the usual logogram SAG.HUL.HA.ZA. However, there is no other symptom mentioned other than the ‘supporter-of-evil’, suggesting that this term served as a label for some kind of medical syndrome which required no further elaboration, without any associated incantations aimed at countering a personal demonic attack (see BAM 520 11’, No. IV.8 (p. 147).
attacked by this condition, with the eye symptoms themselves only occurring in the secondary clauses. These affirm that this Hand-of-the-Ghost pathology manifests itself in front of the patient’s eyes (ina pāni inīšu) like a lamp, a distant lightning-flash, or like a ‘goat’ (probably referring to the goat-star Lyra). There is no clear suggestion of a ghost personally presenting itself to the patient, but a pathology which causes the patient to see light in various intensities, presumably at night. This type of disease attribution occurs elsewhere in IGI Tablet 3, in unfortunately broken contexts, in which one finds references to the Hand of Šulpaea (IGI 3: 62’) and Hand of Ištar (IGI 3: 63’ and 66’); the hands of these gods are rarely found in other therapeutic texts, but are more typical of the Diagnostic Handbook and occasional Šumma ālu omens. These particular attributions to the hands of these gods may also have been impersonal, since Šulpaea’s name is glossed with a remark identifying this god with the destructive storm god Adad, indicating an environmental influence on the symptoms. In any case, the atypical nature of these attributions suggests that they represent citations from another genre, most likely being the Diagnostic Handbook.

The next legible incipit in Tablet 3 also provides a diagnostic remark, that the patient is blinded by ‘sun-heat’ (a type of fever, ṣētu); a more detailed description of how sun-heat affects the eyes is not given, except that the eye is ‘inflamed’ (hamiṭ). The following prescription follows suit with a simple symptom that the patient’s eyesight (digil inīšu) is diminished, without specifying a cause, but the complex nature of the prescription itself suggests some kind of topical cause for poor vision. More details are to found

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45 IGI 3: 9 šumma amēla ŠU.GIDIM.MA isbassuma ina pāni inīšu kīma nūri lū kīma berqi rūqi ... lū kīma enzi istanakkan amēlu šū šugidimmakku isbassu, ‘if “Hand of the Ghost” afflicts a man and appears in front of man’s eyes like a lamp-light, like distant lightning ..., or like a goat, Hand of the Ghost has seized him.’

46 Marten Stol (personal communication) refers to a general pattern in Nineveh tablets of initial treatments reflecting asûtu while subsequent treatments respond to āšipūtu or ‘supernatural’ clauses (as in the Diagnostic Handbook). The point is that attributing symptoms to a ‘supernatural’ clause (like ghosts) may reflect what the patient sees or thinks but does not alter the pathology of the symptoms, which are essentially the same as those attributed to natural causes.

47 The ‘hands’ of various deities also occur in the Diagnostic Handbook entry for eyes, see Section VI of the Edition. Regarding the interpretation of such phrases within medical texts, see the discussion in Geller 2015a: 201–203, which disagrees with Heeßel 2007, and Böck 2014: 47, as well as with a recent opinion expressed in Heeßel 2018.


49 Citations from the Diagnostic Handbook within therapeutic recipes are known (see Stol 1991). Since the Diagnostic Handbook belonged to the bailiwick of the exorcist (āšipūtu), such personal attributions of disease to the activities of gods are not out of place within that particular genre, although such references might be relics from prototype symptom-lists from the Old Babylonian period (see George 2013: 85–89).

50 IGI 3: 49’ šumma amēlu ināšu lā inaṭṭalā amēlu šū sēta hamiṭ, ‘if a man’s eyes cannot see: that man is inflamed with sun heat.’

51 IGI 3: 51’ šumma amēlu digil inīšu maṭi, ‘if a man’s eyesight is diminished.’
in the next available symptom (unfortunately damaged), which refers to something to
miss with the ‘hole’ or ‘perforations’ (or perhaps simply ‘cavity’) of the eye(lids), result-
ing (in a secondary clause) in the patient being unable to sleep (presumably because of
eye pain), and a third general observation that the eyes are abnormal (lit. ‘heavy’,
\textit{ikabbitā}) in regard to their anatomical structures (\textit{minātē}).\footnote{IGI 3: 68’ \textit{šumma amēlu šīli inīšu ...}-ma lā ṣallal eli minātēšina ikabbitā, ‘if the perforations of a man’s eyes ..., and he cannot sleep, the (eyes) are ‘heavy’ in regard to their components.’} A similar description (\textit{iii 70’})
refers to the ‘perforations’ (or cavity) of the eye(lids) as ‘elongated’ or ‘taut’ (\textit{saddā}),
resulting in the patient not being able to rise from bed,\footnote{IGI 3: 70’ \textit{šumma amēlu šīli inīšu šaddāma mayyāla lā inašši}, ‘if perforations of a man’s eye(lids) are
lengthened, and he cannot ‘lift his bed’ (get out of bed).’} which indicates a far more ex-
tensive pathology than an ophthalmic problem. It is also possible that these symptoms are
not primarily caused by an eye disorder \textit{per se} but rather reflect a condition in which the
patient feels like his eye sockets are stretched or drawn tight, perhaps because of severe
headaches which deprive the patient of sleep or cause extreme lethargy.

The next recipes in sequence refer to day and night blindness respectively,\footnote{IGI 3: 73’–74’ \textit{šumma amēlu úma kalāma lā immar múša kalāma immar šīn-lurmā šumma amēlu úma kalāma immar múša kalāma lā immar šīn-lurmā}, ‘if a man cannot see during the whole day, (but) sees
during the night: (it is) a day blindness. If a man sees during the whole day, (but) cannot see during the
night: (it is) a night blindness.’ Also, IGI 3: 75’ and 81’ \textit{šumma amēlu ināšu sillūrmā}, ‘if a man’s eyes (have) a
day/night blindness.’} which have two exceptional features. First, the prescription which follows from the sym-
ptom-incipit is not actually a medical recipe but consists of a medical procedure and incanta-
tion, without the usual labels of DÙ.DÙ.BI or KÌD.KÌD.BI and ÉN. However, the present
reconstruction of IGI Tablet 3 assumes that the incantation and medical application ele-
ments are afterwards repeated with their appropriate labels (ÉN and DÙ.DÙ.BI, see IGI
3: 85’–90’). Second, it may not be coincidental that this particular prescription, unique
in both form and content, has a parallel in in the Babylonian Talmud (Gittin 69a); the
Talmud text is not similar in all respects, but it is similar enough to warrant comparison.
Whereas the Akkadian prescription calls for children to be assembled to recite some-
ting (now lost), the Talmud has children beating potsherds behind the patient and re-
citing the phrase, ‘be off, dog, depart, rooster!’ In the Akkadian text, both the mašmaššu-
exorcist and patient lift up seven loaves of bread and respectively recite the same phrase
in dialogue form, ‘accept (the bread)’, addressing each other as one with a ‘shining eye’
or one with a ‘staring eye’ (i.e. sighted and blind). By contrast, the Talmud passage has
seven pieces of meat (rather than loaves of bread) which are to be deposited at the pa-
tient’s doorstep, to be consumed at the local garbage dump with an appropriate recita-
tion for the night blindness to be removed. Nevertheless, IGI 3: 87’–88’ gives an alterna-
tive ritual with seven lobes of animal lung to be eaten by the patient at his doorstep,
which rounds out the comparison. This is not the only eye-disease prescription with a
\textit{Nachleben}: IGI 2: 105’–106’ contains a fragmentary reference to piercing the eye of a
raven with a needle to see which plant the mother raven brings to heal its young, which has an almost exact parallel in the Syriac Book of Medicines, already noted by R. Campbell Thompson. The Syriac Book of Medicines reads as follows:

... inšunu ina šili tutakkap ... šammi ša āribu ana Šehrišu ilqā
... you prick their eyes with a needle ... the plants which the raven took to its young.

As Thompson long ago noted, this matches up well with IGI 2: 105’–106’:

The legendary healing knowledge of the mother bird may have circulated widely, since Celsus also remarks that the blood of a pigeon, dove, or swallow is an ideal medicament, because the vision of these birds, when injured from without, returns after an interval to its original state, most speedily in the case of a swallow. This also has given rise to the fable that old birds restore vision by a herb, when it returns spontaneously (Loeb Celsus, translation Spencer 1989: II 227).

The end of IGI Tablet 3 is fragmentary and no further symptoms can be recovered. BAM 520 may possibly represent IGI Tablet 4, but in any case, this tablet preserves some unusual symptom notations. In the first example (BAM 520 i 13’–14’), if the patient sees flashes of light, he should simply recite an incantation-like phrase and he will immediately recover: ‘I belong to Enlil and Ninlil, I belong to Ištar and Nanaya.’ Since there is no additional recipe with this inscription, it appears to belong either to folklore or magic. A second prescription (ibid. 19’–24’) is aimed at a patient seized by a ‘supporter-of-evil’-demon, which is a symptom in itself; no additional information was required. In this instance, the prescription calls for a ‘man or woman’ (an unusual combination in prescriptions) to go up to the roof and perform some type of flour ritual. Another prescription immediately follows this one (ibid. 25’–27’), which also gives the ‘supporter-of-evil’ (demon) as the primary symptom, but a second clause is added which gives further symptoms, that the patient suffers from fever, groans loudly, and sweats profusely; this combination of symptoms is not repeated in other tablets of IGI.

Another key source for eye symptoms can be found in texts comprising the medical series UGU, which appears to be a separate compendium of medical recipes (beginning with the head) which parallels other medical treatises devoted to specific anatomically-
based diseases. The relevant symptoms (from BAM 480, see p. 151) describe a collection of eye-symptoms drawn from individual IGI recipes, such as that the eyes ‘blink’ (iṣap-parā) and present blurred and clouded vision and dimness (birratu, ipītu, išītu), excessive tears, as well as the metaphoric ‘brambles’ and worms mentioned in other IGI recipes. The pattern appears to be that the text of UGU assembles a large number of separate recipes designed to treat a variety of head and eye ailments, all collected within a conglomerate single symptom notation. The eye symptoms in this text, however, are all secondary, following upon primary clauses describing fever in the cranium (or brain) and temples, etc., and the eye symptoms in UGU tend to be general, such as the eyes being inflamed or giving off excessive tears. It seems clear that UGU is not intended specifically for ophthalmic conditions, but in these instances for perceived diseases affecting the head in general.

The final crucial source for eye disease symptoms is the Diagnostic Handbook itself (see Section VI), and the descriptions of eye disease in this compendium follows the same pattern as noted with other pathologies, namely that symptom descriptions show a different character and vocabulary than those usually found in the therapeutic corpus (see Geller 2005: 11, 19). The differences are striking. In the Diagnostic Handbook, much more attention is paid to individual eyes, whether on the right or left, as presenting the primary symptoms, with those referring to both eyes being secondary. The Diagnostic Handbook usually focuses upon colour as a major criterion of disease, in this case describing the eye as ‘dark’ (tarkat),57 ‘dark-red’ (duʾʾumu),58 ‘black’ (ṣalmu),59 giving off a yellowish secretion (kalû),60 or full of red silt (qadūtu).61 Other eye descriptions are unique to the Diagnostic Handbook, such as the eyes ‘moving in circles’ (ilawwi), squinting (kapṣat),62 or sunken (maqtā).63 Some symptoms are standard, such as the eyes being ‘full of blood’ (dāma malâ),64 or giving off tears (dimāti ittanaddâ),65 or even that the eyes are simply ‘sick’ (marṣā), but in this latter case, an additional secondary symptom explains the general sense, e.g. that the eye is held fast (kalât) and cannot be raised (lā ınaššī).66 In at least one instance, the eyes are described as ‘staring’ (balṣā),67 which is

57 See VI Diagnostic Medical Omens ...: 11ff.’
58 See VI Diagnostic Medical Omens ...: 129ff.’
59 See VI Diagnostic Medical Omens ...: 124ff.’
60 See VI Diagnostic Medical Omens ...: 7ff.’
61 See VI Diagnostic Medical Omens ...: 71ff.’
62 See VI Diagnostic Medical Omens ...: 54ff.’
63 See VI Diagnostic Medical Omens ...: 93ff.’
64 See VI Diagnostic Medical Omens ...: 71ff.’
65 See VI Diagnostic Medical Omens ...: 84ff.’, along with ibakkâ, ‘cry’.
66 See VI Diagnostic Medical Omens ...: 59’.
67 See VI Diagnostic Medical Omens ...: 89f.’
the same term appearing in a baroque medical ritual for day or night blindness, in which the ritual actor is described as ‘staring of eyes’ (bašā), probably no coincidence.68

In general, one can easily notice that descriptions of eye-disease symptoms in the Diagnostic Handbook are much richer and more detailed than in the therapeutic texts, employing a very different choice of technical terms than in recipes, and this supports an earlier observation that the Diagnostic Handbook and therapeutic texts originated in very different scholarly ateliers.

1.2 Comparative material

Eye disease in the sole Hippocratic treatise devoted to ophthalmology, On Sight, provides some useful comparative data. One ailment is ‘eyelids thicker than normal’ (Loeb Hippocrates IX.5), or scabby and itchy eyelids (ibid. 6), which might resemble the IGI symptoms of pustules on the eyelids (IGI 2: 108’ff.). Other conditions appearing in this short treatise are night blindness (nyctalopia, Loeb Hippocrates IX 385.7), poor vision (ibid. 8), and references to the pupils of the eye being ‘blue’ or ‘aquamarine’ (ibid. 379.1), which might indicate a kind of film covering the eyes, similar to Akk. ṣillu. It is not possible to diagnose cataract, trachoma, papilloma, or even conjunctivitis, based upon the symptoms described in On Sight (pace Craik 2015: 260).

In contrast to the rather poor quality of the Hippocratic data, the Roman writer Celsus has much more detailed information to offer on the topic of ophthalmology, and because of the cosmopolitan nature of Rome in the first century, it is not impossible that some of Celsus’ observations come from wider afield, both in areas of diagnosis and therapy. For instance, Celsus reports on conditions such as dimness of vision associated with pain in the head and bloodshot eyes (Loeb Celsus I 139 = II 8.18), or with a disease which he refers to by its Greek name kephalai (ibid. 363 = IV.2.2).69 Of particular interest to us is Book VI of Celsus, which offers a rich variety of treatments (mostly salves and ointments) against eye ailments, many of which can be identified in IGI. It is clear from Celsus, however, that these remedies were not inherited from earlier Hippocratic medicine (ibid. VI.6.E).

According to Hippocrates, the oldest authority, the treatment of the eyes includes bloodletting, medicaments, the bath and wine, but gave little explanation of the proper times and reasons for these remedies, things of the highest importance in the art of medicine (Loeb Celsus, II 189).

68 It is possible that this medical ritual (see below) originated in āšipūtu rather than in classic asūtu.
69 The symptoms of the acute disease kephalai are all known from recipes as ‘hot shivering’ (horror calidus), paralysis, blurred vision, an altered mental state (mentis alienatio), vomiting, nosebleed, and with the body becoming cold and weak.
The primary disease-symptom is *lippitudo* (*Gr. ophthalmia*), characterised by excessive tears and mucous and swelling of the eyelids, which can take a variety of forms, such as pain and dryness, ulcerations, sleeplessness, as well as ruptures and inflammation (Loeb Celsus VI.6.B–E). The symptoms described by Celsus resemble those in Akkadian eye-disease prescriptions.

Dioscorides offers significant comparative data on ophthalmic disease, both in terms of identifying ailments and the use of eye ointments as a treatment. As John Riddle points out, in the first two books alone, Dioscorides named twenty-eight different ophthalmological actions, e.g. diseases of the eyes, swollen eyes, pain of the eyes, itchy eyes, crossed eyes (our strabismus), scabs on the eyes, hardening of the eyes, fungus growth on eyelids, wet humours of eyes (emphysema?), misting over of the eyes, sharpening of the eyesight, black eye, and corrosion of the eyelids (Riddle 1985: 49). Many of the descriptions of eye conditions in this list are reminiscent of IGI symptoms affecting the eyes, such as darkening or filmy eyes, but there is no mention in this list of bloodshot eyes or jaundice.

Parallel to the symptoms in IGI can also be found in the Syriac Book of Medicine, which preserve the following symptoms of the eye. Nos. 1–8 refer to diseases of the head.

No. 9. *lk'b'dyn*, ‘for eye-disease.’ This statement corresponds to the frequent Akkadian symptom, ‘if a man’s eyes are sick’ (*šumma amēlu ināšu marṣā*).

No. 10. *ltmr'd'yn lyn*, ‘for eyelashes which enter the eyes.’ Cf. IGI 2: 98’, *ana ... kappi inīšu šūsi*, ‘to remove his eyelash’.

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70 Inflammation of the eye was distinguished by Methodists from inflammation of the liver or womb, which required different choices of remedies. Eye inflammation was treated by Methodists with poppy-juice, which was also favoured by Celsus, although oil as an eye treatment was considered as troublesome (see Tecusan 2004: 699).

71 Perhaps similar to *kurāru*-pustules on the eyelids in IGI 2: 108.

72 R. Campbell Thompson attempted to relate the Syriac Book of Medicine to Akkadian medicine in the notes to his translations of Akkadian medical texts (see Thompson 1924 and 1926 on eye disease texts), but he did not see general structural similarities in the third part of Budge’s monumental 1913 study, which has no parallels with Galenic medicine (as in earlier sections of the S. B. M.).

73 The list of prescription incipits from the Syriac Book of Medicine are known from two late (19th century) manuscripts published in Budge 1913 and Gottheil 1899. Fortunately, the section which Gottheil edited covers diseases of the eyes, and hence its relevance for the present study. We follow Gottheil’s numbering of the prescriptions. I am grateful to Stefanie Rudolf for corrected readings.

74 Syriac *k'b* ‘grief, pain, disease’ is roughly equivalent to Akk. *mursu* also on the pattern of *k'b krs*’ for a digestive disease and *k'b rl*’ for ‘baldness’; Syriac *k'b* also corresponds to Akk. *marṣu*, ‘suffering, sore, sick’.
No. 11. ūn’ d’yr’ w’l’ dmk’, ‘for an eye which is awake (or: watches) and does not sleep.’ Cf. IGI 1: 36’, if a man’s eyes are full of blood and ‘he cannot sleep day and night’ (ūrra u mūṣa lā īṣallalma), as well as IGI 3: 68’, lā īṣallal, ‘he (or his eye) does not sleep’.

No. 12. ūn’ d’yt bhyn bsr’, ‘for eyes which have flesh in them.’ Cf. IGI 2: 16, ina īnišu lipištu, if there is ‘a fleshy substance in (a man’s) eyes,’ as well as a similar symptom (ibid. 19), īnišu šīra ālika mālā, ‘if a man’s eyes are full of loose flesh.’

No. 13. lmn’ ds’r’ dy’yn bry’n’, ‘for whatever of hair growing in the eyes.’ A similar symptom is found in IGI 2: 17, ina īnišu šārtu āšāt, if ‘a hair protrudes from (a man’s) eyes.’

No. 14. ūn’ dnplyn tlpyhyn, ‘for eyes the eyelashes of which fall out.’

No. 15. ūn’ dntnṭrn mn tlq’ wqrywt’, ‘for eyes which refrain from snow and cold.’

No. 16. ūn’ dp’š bhyn ḥl’, ‘for eyes in which dust remains behind.’

No. 17. lk’b ‘yn’ ybyš’ ūn’ dkyb’ w’kln, ‘for dry eye-disease for eyes which are sick and hurt.’

No. 18. ūn’ d’kln, ‘for eyes which hurt.’

No. 19. ūn’ dlqy’ dkyb’ w’lqhn, ‘for eyes of children which are sick and do not open’. In a non-pedriatic symptom in IGI 2: 117’, a patient’s eyes are ill and ma’dūti lā ipetti, ‘he cannot open them for many days.’

No. 20. ūn’ swmqt’, ‘for red eyes.’ See IGI 1: 37’, ‘if the interior of a man’s eyes are red’ (šumma libbi īnišu sām).

No. 21. lmḥwt’ w’sydwt’ d’yn’, ‘for a blow of fluid’ and giving off (fluid) of the eyes.’

75 Although ‘snow’ and frost do not appear in IGI as symptoms, the pair of terms šùrûppû and hurdāšu for ‘chills’ and ‘shivers’ are commonplace in medical and magical texts, with the former word cognate to šurīpu, ‘ice’.

76 This refers to a topos in eye-disease texts, in which specks of dust from the street, or algae, or a kernel of barley remains in the eye and needs to be washed out by tears; see IGI 1: 187’–189’.

77 Syr. ‘kl is a calque on Akk. akālu, ‘to consume’, but in medical contexts ‘to be in pain’. Budge (1913: 660) translates this entry as, ‘for the pain of eyes which are dry; for eyes which are weak and are being eaten away’; Budge separates the symptoms of dry eyes and ‘weak’ and painful eyes into two separate prescriptions, which appear as a single entry in Gottheil 1899: 191, 199.

78 Budge translates, ‘For eyes which have gangrene,’ but cf. CAD U/W 64, ‘outbreak (of disease)’.

79 In a non-canonical LB eye-disease tablet (Fincke 2009: 93), a pediatric eye-disease clause is inserted into a collection of prescriptions meant for adults.

80 The eye being ‘struck’ (mahûs) or damaged occurs in eye symptoms of the Diagnostic Handbook (see Section VI Diagnostic Medical Omens …: 55’, and 57’.

81 Syr. my ‘ṣydwt’ refers to an eye complaint (see S.B.M. 75:9). The term (< šd, to ‘pour’) in a medical context is a calque on Akk. nadû, which refers in medical texts to an organ ‘throwing off’ liquids (blood, pus, tears, etc.). The usual expression in eye prescriptions is that the eyes throw off tears (dimta it-tanaddâ), see BAM 521 5’. 
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No. 22. lcyn’ dâm’n, ‘for eyes which produce tears,’ see IGI 1: 79’, dimātu ina libbi inišu ittasā, ‘tears come out from the middle of his eyes’.

No. 23. lzwq’ d’yn’, ‘for inflammation of the eyes.’

No. 24. lnqwš’ d’yn’, ‘for pulsating (lit. knocking) of the eyes.’

No. 25. lk’b’ rwb’ d’yn’, ‘for acute (lit. amplified) diseases of the eye.’

No. 26. lwby’n wlrwh’ d’yn’, ‘for swelling and wind of the eye,’ cf. BAM 518 6’, if a man’s eyes are ‘swollen and affected by wind’ (nuppuhāma šāra leqā).83

No. 27. lyrq’n d’yn’, ‘for yellowness (jaundice) of the eye,’ for which see IGI 2: 115’–16’, ‘if a man’s eyes are ‘full of yellowness’ (or jaundice, amurriqāna malā).’

No. 28. lhšwkn’ d’yn’, for darkening of the eyes,84 which is similar to the symptom IGI 2: 61’, ‘if a man’s eyes are ‘dark’ or ‘cloudy’ (arpā).’

No. 29. lfmtn’ d’yn’, for obscuring of the eyes,86 which corresponds to the condition in IGI 2: 54’, šumma ina ini […] iteneṭṭā, ‘if in the eye (the pupils?) become progressively darkened.’

No. 30. lcyn’ dnḥty’n clyhyn my’ ḥly’ w’wkm’, ‘for eyes into which a bright87 or black liquid88 descends.’

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82 The meaning of Syr. zwq’ is uncertain but it could be cognate to Akk. šīq, ‘blast’ (of wind), since the idea of wind blowing foreign objects into the eye is a motif of IGI. See the incantation incipit in IGI 1: 163’, ina šamē šāru iziqamma ina in amēli simmē ištakan, ‘Incantation: The wind blew in the sky and thus caused lesions in a man’s eye.’

83 An incantation (IGI 1: 174’) effectively explains this as, šāru ša in amēli uddupu ina inišu littaṣi, ‘may the wind which has inflated the man’s eye depart from his eye(s)’

84 This may be a hapax (Budge 1913: 557:18).

85 This condition might be caused by a ‘film’ (ṣillu) which frequently covers the eyes in IGI prescriptions (see IGI 2: 117’, 121’, 139’, etc.).

86 The two terms hšwkn’ and ‘mtn’ are synonyms (‘darkening’) for limited vision, but the latter term would correspond to a film obscuring vision.

87 Although Aramaic ḥły denotes ‘sweet’, Akk. helû for ‘bright’ (referring to the colour of urine) is more appropriate in this context, see CAD H 169 (courtesy M. Stol).

88 This may be a calque on Akk. adamatu, ‘black blood’, which can emanate from the mouth or lungs, see CAD A/1, 94.
No. 33. ḫwr’ dcyn’, ‘for whiteness in the eyes,’ probably referring to a white spot in the eye, corresponding to IGI 2: 124, ana ḫuṣa ša muḫḫi ṭamāṣat intîšū nasaḥî, ‘in order to remove the white (spot) from the surface of the pupil of his eyes.’

A further study of the Syriac Book of Medicine in relation to earlier Babylonian medicine is an obvious desideratum, but even this preliminary survey of symptoms suffices to show how similar these medical genres can be.

1.3 Materia Medica

Medical recipes appear to be largely adapted to the particular medical problem they are designed to address, which means that materia medica ought in theory to be specific to each condition being treated. On the other hand, it is also clear that certain standard drugs appear frequently in recipes and in a fixed sequence, and this is sometimes reflected as well in drug lists.

The first question is what were the typical drugs used in eye treatments? The usual recipe ingredients were either simplicia (a single drug for a single disease), or compound recipes with a combination of minerals and plants, as well as other organic ingredients (often Drekapotheke); some of these were ordinary kitchen-like substances, others more exotic requiring complicated procedures for extraction. The simplicia can either be quite common medical ingredients, such as ‘white plant’ (IGI 1: 34’, 44’), flour (IGI 2: 52’), crumbled bread (IGI 2: 67’), alum (IGI 1: 35’),91 fox-grape (IGI 2: 63’, 86’), pomegranate peel (IGI 2: 115’), or even bat guano (IGI 1: 44’, IGI 2: 92’, 141’ probably a Deckname). More exotic simplicia include a kind of paste (dāmātu),92, antimony mixed with sheep bone-marrows (IGI 2: 70’, also IGI 3: 46’), or copper patina (or dust)93 pulverised in gazelle fat (IGI 2: 147’). Other exotic simplicia are based upon animal organs, e.g. turtle gall bladder pounded in oil and copper (IGI 2: 71’), blood from a pig’s belly (IGI 1: 48’), black snake fat (IGI 3: 68’), or a lizard’s head similarly pounded in either oil (IGI 2: 73’) or coals (IGI 2: 74’). Other animal organs include lamb ribs (IGI 2: 75’) and mixture of cow and pigeon brains (IGI 2: 77’–78’), or eagle brains in mother’s milk (IGI 2: 205’). IGI Tablet 3 (IGI 3: 37’–40’) contains a series of simplicia to treat what is probably a Hand-of-the-

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89 cf. Akk. pūšu, see CAD P 539–40, but as a symptom this differs from the description of the eye, pūš ṭišu, ‘white of the eye’ (ibid. 541).

90 See Geller 2005: 2–3. This particular aspect of therapy has not yet been fully researched, partly because the list Irianna remains unpublished.

91 A frequent ingredient in mouth-disease remedies

92 See the note to IGI 1: 42’. This paste, represented by the logogram ŠIM.BI.SIG:SIG:, is not generally well attested outside of lexical lists.

93 Akk. šuḥtu, also found as a simplicium in IGI 1: 16’, IGI 2: 147’, § V.1 (BAM 480) 44 and 60. Often šuḥtu is a substance in which ingredients are mixed, e.g. IGI 2: 103’–104’, 154’.
Ghost ailment, and each alternative recipe is based upon a single mineral ingredient: a ‘red stone’, ‘discharge’-stone,94 a black-coloured glass, as well as pulverised lapis, sardonyx, galena, and obsidium-stones.

Ordinary ingredients found in IGI 1: 10’–11’ include ‘horned’ alkali (salicornia), sprouted grain, and kasū-sap to use in bandages for the eyes, while the eyes are then daubed with two mineral substances, ashar and tuškû, mixed in fat and ghee. Substances like kasū occur fairly regularly in eye recipes, often together with sahlû, but these two drugs are quite standard in all kinds of medical prescriptions and may not have played a distinctive role in treating eye ailments. Other drugs include kammu, thought to be a fungus but was an important tanning agent.

One of the unusual features of eye recipes is the relatively frequent presence of metal-based ingredients, especially copper and lead, as well as minerals such as kohl or antimony. This may not be coincidental, considering the fact that lead played a major role in eye-treatments in Roman medicine. Among such ingredients is šuhtu or copper dust / patina (IGI 1: 12’–16’; 2: 51’, 61’–64’, 71’, 95’, 101’–104’, 147’, 154’, 157’–158’; 3: 53’, BAM 439 6’, BAM 480 44, 56, 60, 67), or a lead-spoon-salve (IGI 2: 166’; 3: 31’, 54’, 93’, 105’, BAM 480 71).

Ophthalmic materia medica rarely employ certain common drugs in eye recipes in comparison with other medical genres, such as kidney and rectal disease; examples of popular drugs are tarmuš, imhur-līm and imhur-ešrā, which hardly occur in IGI. Similarly, the frequent use of ostrich shell in internal medicine is so far lacking, although replaced by a single reference to raven egg (pel āribi, see IGI 2: 79’). Occasionally unique drugs appear in eye prescriptions, such as mirqu-powder (IGI 3: 41’), which might be a type of glass or mineral (CAD M/2, 108). Eye disease recipes did not attract the widespread use of Dreckapotheke in comparison with treatments for other ailments, although one single manuscript (Ms. NK = BAM 518: 4’) defies this pattern by recommending the use of the ‘bowl of a human skull’ (kalli gulgul amēli). Otherwise, the few sporadic references to ox or sheep dung (kabūt alpi / Šeriš / immeri) or gazelle droppings (piqan šabiti) are atypical, with two of these references appearing in the same line of text (IGI 3: 72’). Of particular interest, however, is the use of the term muhhu, which in some instances clearly indicates the ‘brain’ of certain animals (muhhu ša summati zikari, ‘brain of a male pidgeon’, IGI 2: 77’; muhhu ša rimti, ‘brain of a wild cow’, IGI 2: 77’; muhhu ša eri, ‘brain of an eagle’, IGI 2: 205’), but in another case muhhu is bone marrow (muhhu ša ešemti kuriti immeri, ‘marrow of a short sheep’s bone’, IGI 3: 46’). It seems clear from

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94 This is probably a calculus or bladder stone which was re-used as a medical ingredient (see KADP 4 57, ed. Geller 2015b: 42, 44), also known from the Talmud (b. Gittin 69b). The calculus (mūṣu-stone) is recorded elsewhere in the drug list Irianna III 171 as medicinal (see MSL 10, 70: 32, cf. CAD P 107 s.v. pappaltu).
these references that Mesopotamian anatomy had no concept of the brain as a functioning sensory organ or associated it with cognition, a later discovery which remained disputed well into Late Antiquity.

1.4 Treatments

In contrast to internal diseases (e.g. suṭṭu or digestive diseases, urinary-tract and rectal disease, and gynaecology), which usually call for potions and ingested substances, eye-disease tends to rely upon externally applied treatments. The predominant ophthalmic therapeutic applications consist of bandages or poultices, and daubing the eyes with various substances, often mixed with fats, oils, ghee, or animal, which served as a medium for the drugs. Apart from daubing, drugs could be blown into the patient’s eyes through a reed or copper tube (IGI 1: 56’, etc.). The various means of treatments can be found in the synopses of prescriptions at the beginning of each edition of IGI tablets in the present volume.95

1.5 Comparative material

Some, but by no means all, treatments find similar applications in the short Hippocratic Corpus, On Sight, a predominantly surgical manual which may have been composed by a non-Greek author, judging by its clumsy Greek (see Craik 2015). The Hippocratic text recommends purging the body, in addition to salves and poultices, with a reliance upon a copper substance identified as copper sulphate,96 all of which resemble treatments recommended in the IGI tablets (see Craik 2015: 259–261). Here is an example from the Hippocratic treatise On Sight (Loeb Hippocrates IX = Potter 2010: 383, 6):

Grind a lump of flower of copper against a whetstone, next rub off the eyelid with it, and then grind some scale of copper as fine as you can. Then add strained juice of unripe grapes, grind fine and pour what is left into a red copper vessel.

All of the elements in this recipe have equivalents (copper patina, ‘fox-vine’, and the use of a copper tangussu-kettle), which is hardly coincidental. Otherwise, there is only a brief reference to applying poultices and salves against pain and swelling (Loeb Hippocrates IX = Potter 2010: 385–86.9), and the treatise ends with an abrupt statement, that ‘if there is no flux, it helps to apply ointments together with a dry medication.’

95 These synopses were composed by S. Panayotov.
96 See Loeb Hippocrates IX = Potter 2010: 383, translating ‘flower of copper,’ Gr. anthos xalkou.
Eye surgery is more difficult to identify among ancient sources, since the famous example of inserting a needle into the eye to remove a cataract is known only from Hammurapi’s Law Code (Attinger 2008: 50), but is not prescribed in any known medical treatises for eye disease, and therefore subject to serious doubt. There is little in common with the methods advocated in the Hippocratic treatise *On Sight*, which recommends the use of cauterisation of blood vessels and scraping of the eyelids, in addition to general bloodletting and cutting of the scalp (see Craik 2015: 260).

The Latin medical compendium attributed to Celsus also offers much more in the way of comparative prescription data than does the Hippocratic treatise, with Celsus’ rich descriptions of eye salves and treatments. Pharmacological treatments in Celsus are applied externally as compresses, to be spread either on linen or on wool,97 and of special interest are the salves (*collyria*),98 which Celsus notes come in many varieties and blends (Celsus VI.6.2). Unlike in Mesopotamia, these salves mentioned by Celsus are all associated with the names of Greek healers, such as Philo, Dionysius, Cleon, Attalus, Theodotus, and Eupelides, a famous oculist (Celsus VI.6.3–7).99 The recipes cannot be effectively compared with Akkadian ones because of difficulties in identifying the respective *materia medica*, but nevertheless some general similarities can be noted. Celsus’ drug regime regularly contains a mixture of organic (often gums) and metallic substances (usually copper and tin but also zinc as well as antimony). Eye salves similarly tend to mix plant and mineral substances which may have been applied with a lead-based ointment or a lead spoon (*itqur abārī*).100 Another parallel might be Celsus’ recommended recipe of rubbing the eye with the liver of a goat for night blindness (Celsus VI.6.38), which may reflect the various uses of goat milk and goat kidney in IGI recipes. The salient fact is that Celsus’ medical work has never been compared with Akkadian medicine, although these were both ancient systems of treatment which clearly had some approaches in common.

1.6 Medical incantations: etiology, not magic

Before discussing details of the IGI medical incantations, it is worth considering the general role and function of ‘medical incantations’ within medical therapy in general. As

97 This is reminiscent of Akk. instructions that linen is to be used in the summer and wool in the winter, also known from the Babylonian Talmud (b. Gittin 69b).
98 See Loeb Celsus = Spencer 1989: I 154, noting that collyrium was administered in the form of ‘a glutinous paste which was rolled and formed into sticks shaped like vermicelli (*collyra*).’ This shape explains the reason for identifying Akk. *passu*, ‘gaming piece’, with collyrium, since this might represent the form in which the salve was administered.
99 Also mentioned are salves attributed to one Nileus, Philalethus (Celsus VI.6.10–12), Andrias (ibid. VI.6.15B) and to Hermon (ibid. VI.6.24).
100 See Thompson 1924: 16, suggesting an association between this ingredient and collyrium.
has been previously noted (Geller 2007c), incantations within medical recipes differ considerably in form and contact from formal incantations in Sumerian and Akkadian, which usually have a defined structure. Standard exorcistic incantations traditionally refer to the interference of a demon, ghost, or witchcraft, creating a situation featured in a dialogue between gods conveying the best method of dealing magically with the problem at hand, with the understanding that the exorcist himself is involved in this process; he is the recipient of a divine magical or ritual remedy which can resolve the problem or neutralise the demonic forces. The magic then usually relies upon a formal adjuration of the demons while invoking the names of powerful deities, asserting that the demon or ghost depart from its victim. It is fair to point out that virtually none of these characteristic features of exorcistic incantations are to be found within ‘medical incantations’, such as those preserved in IGI. In fact, the main similarity between incantations within therapeutic medicine and exorcistic incantations is the label ÉN (‘incantation’), which appears before and often after a ‘medical incantation’ (also as TU₆,ÉN), designating this part of the medical work as a non-recipe text with a purpose other than providing drugs and treatments. These labels alone are the principal shared features with exorcistic incantations, along with the fact that the recitations in both genres may be recited by the healer or patient.

In effect, it is technically incorrect to refer to these Akkadian medical incantations as ‘magic’, which is itself a problematic term and concept. There is no term for ‘magic’ in Mesopotamia, and even Greeks and Romans borrowed this term from the Persians; Fritz Graf defines magic ‘as the art of the magos, magus’ (Graf 1997: 20), which is uncanny in terms of Mesopotamian terminology. The closest one comes to this concept is mašmaššūtu or āšipūtu, the job description of the ‘exorcist’ (mašmaššu or āšipu), which is the same type of Teufelskreis which Graf attributes to the Greek and Latin terms. The term šiptu for ‘incantation’ or ‘spell’ (equivalent to the logogram ÉN) belongs to this same semantic field. The problem is that as time progressed, many concepts and ideas within scholastic circles developed and changed while at the same time adhering to traditional vocabulary and terminology, and instead of inventing neologisms, Babylonian scholars were content to give new meanings to conventional terms. A good example of this is the term šiknu, which was adapted to mean ‘properties’ of plants or stones rather than merely their appearance.101 The term šiptu within the context of medical therapy could have also adopted a more suitable connotation of ‘etiology’ rather than ‘spell’, since the ÉN passages within the prescriptions generally attempt to explain the origins or characteristics of a particular disease. This alteration in meaning may be reflected in a medical commentary from the noted Uruk scholar Anu-ikṣur, expounding a medical recipe for a stiff neck, with one cause of the symptoms being a ghost shouting into the

101 E.g. in texts dealing with the nature of plants and stones, etc. (e.g. Šammu šikinšu and Abnu šikinšu). For the argument that Babylonians (like other non-Greek thinkers) lacked the term for and concept of ‘nature’, see Rochberg 2016.