

Research article

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An Old Uigur medical fragment in Syriac script

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Abstract: The Museum of Asian Art in Berlin holds a single-folio fragment (shelf-mark M 152) of an Old Uigur medical text written in the Syriac script. It is the only known manuscript in the entire collection of Old Uigur texts of the Church of the East that deals with medicine. The present article provides a new edition of the fragment including a transliteration, transcription, English translation, commentary and glossary.

Keywords: Old Uigur, Church of the East, Syriac script, medicine

Introduction

In addition to the sizeable Buddhist and Manichaean population of the Turfan region, followers of Christianity, i.e. the Church of the East, contributed to the local cultural and religious life during the time of the West Uigur Kingdom (850–1250), traditionally referred to as the Uigur Kingdom of Kocho. The Christian communities existed in the region approximately until the end of the Mongol-led Yuan Dynasty (1279–1368) in the 14th century.¹ Their religious centres and monasteries have been identified in Bulayik (Xipang) and Kocho. Literary works produced by the local Christian communities span from the 9th to the 14th centuries, with the majority being in Syriac and Sogdian and only a few in Old Uigur.² The proportions of these languages suggest a relatively small group of followers with a Turkic background (Hage 1987, 46–7). According to Zieme (2015, 7), most of the Christian texts in Old Uigur probably date to the 13th–14th centuries.

The majority of the Turfan documents were discovered during the four campaigns of the German Turfan Expedition to Asia between 1902 and 1914. The monastery and its library at Bulayik were excavated during the second and third expeditions (1904–1907), yielding more than a thousand Christian documents in Syriac, Sogdian and Old Uigur.³ Smaller quantities of Christian texts were also found at Astana, Kocho, Kurutka and Toyok (Hunter 2012, 79). The Old Uigur subset of the corpus comes from Bulayik, Kocho and Kurutka. These texts are now kept and curated at the Museum of Asian Art in Berlin and the Berlin Brandenburg Academy of Sciences and Humanities in Berlin.

In addition to the Old Uigur Church of the East texts known from the Turfan region, there are a few important fragments from Inner Mongolia. These texts were discovered in Kharakhoto by Petr Kuz'mich Kozlov during his expedition to Mongolia and Sichuan between 1907 and 1909. They are stored at the Institute of Oriental Manuscripts of the Russian Academy of Sciences in St. Petersburg.

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- 1 The existence of Turkic-speaking Christian communities outside of the Turfan region is well documented by tombstone inscriptions in Kazakhstan, Kyrgyzstan, Xinjiang, Inner Mongolia, Quanzhou, and Yangzhou. The inscriptions are dated between the 10th and 14th centuries. See further Chwolson (1890; 1897), Dzhumagulov (1971), Klein (2000; 2002), Lieu et al. (2012) and Franzmann (2018).
 - 2 See the proportions of texts from Bulayik by their language: approximately 450 Syriac, 550 Sogdian in Syriac script, 50 Sogdian in Sogdian script, and 50 Old Uigur (Hunter 2012, 80).
 - 3 Apart from Syriac, Sogdian and Old Uigur, some fragments in Early New Persian and a Psalter written in Middle Persian (Pahlavi) were also found (Hunter 2012, 79).

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Further fragments were discovered in the 1980s and are now curated at the Inner Mongolia Institute of Cultural Relics and Archaeology in Hohhot (Zieme 2015, 26).

The entire corpus of Old Uigur Christian texts, with the exception of the fragment M 152 and the Old Uigur glosses to a liturgical text preserved in Taipei, has been published by Zieme (2015).⁴ The corpus includes religious materials such as a credo, the legend of the Magi, prayers and confessions, a letter of petition giving insight into monastic life, the martyrdom of St. George, the apocryphal acts of Paul, a wedding benediction, an ecumenical text, and some sermons. The edition includes transliterations and/or transcriptions of the fragments, a German translation and several indexes.

The medical lore of Turfan

The medical lore of the Uigur kingdom of Kocho is best known from the text edition *Zur Heilkunde der Uiguren* by Rachmati (1930; 1932). Further texts related to medicine have successively been published by Rachmati (1936, 33–8), Gabain (1954, 57–60, 67–8), Maue and Sertkaya (1986; 1991), Maue (1996, 114–34) and Zieme (1999).⁵ Recent contributions to Old Uigur medicine are Zieme (2007) and Maue (2008). Knüppel (2013) provides a complete catalogue of the Old Uigur medical texts curated in Germany. The available sources suggest that the medical lore of the ancient Uigurs developed under the strong influence of Indian medicine, especially the Ayurvedic tradition (see also Zieme 2007, 309).⁶ Knüppel (2013, 14–16) presents a list of 65 medical texts, many of which are translations or sometimes bilingual editions of standard Indian works. Thirteen texts are from Ravigupta's *Siddhasāra*, nine from Vāgbhaṭa's *Aṣṭāṅgaḥṛdayasaṃhitā*, five from Pandita Vararuci's *Yogaśataka*, four from the *Suvarṇabhāṣottamasūtra*, two from the *Padmacintāmaṇidhāraṇīsūtra*, and 32 are of unknown origin. Some manuscripts suggest that Chinese medicine also have had an influence on the development of the Old Uigur medical lore, see Zieme (2007, 309–10) and Kara, Zieme and Tugusheva (2022).

Our knowledge of the forms of medicine practised, studied and eventually spread by the Christian communities of the Turfan region is extremely limited, as only a very small number of medical sources have come down to us. There is a Syriac pharmaceutical fragment SyrHT 1 (T II B 17 № 4) on medicines against hair loss, growth of unwanted hair, sores or scabs on the scalp, and other related problems (Maróth 1984). We know that another fragment (SyrHT 388, T II B 66) can be joined with SyrHT 1 as two fragments of the same folio of the same book (Hunter and Dickens 2014, 342). A complete edition of both pieces with extensive commentary is now available (Lin 2020). A unique Early New Persian pharmaceutical fragment in Syriac script in two parts (E37 = M 7340, T II Toyoq and n175, T II B 69/T II B 14[b]) contains recipes for three kinds of medicinal oil. According to Sims-Williams (2011, 363), it 'is similar in many points to the prescriptions or recipes in the first part of the Syriac "Book of Medicines"'; see also Kessel (2019, 448) and Budge (1913). Although the humoral theory of the Ancient Greeks and the four fundamental fluids determining human health do not appear in the Christian medical fragments from Turfan, the available fragments provide some insight into the medical tradition of the Christian communities and evidence the presence of the ancient Greek medicine of Hippocrates and Galen in the Turfan region.

Description of the fragment

Like many other Christian texts, this single-folio fragment was discovered in Kocho (Dakianusshahri) during the first German Turfan Expedition to Asia in 1902. It is now kept at the Museum of Asian Art

⁴ For previous works on Christian Old Uigur fragments, see also Zieme (1974).

⁵ See also the summary of available text editions by Sertkaya (1999).

⁶ A Sogdian medical text from Toyoq (So14822, T II T 35) also represents the same tradition; see Bo (2021).

in Berlin where it bears the shelf-mark M 152.⁷ The age of the fragment cannot be determined with certainty, but it was probably written between the 13th and 14th centuries and thus represents Late Old Uigur. It is the only known manuscript in the entire collection of Old Uigur texts of the Church of the East that deals with medicine.

The paper of the fragment is very thin and greyish-beige in colour. The text is written in black ink. Unusually for Syriac texts, the paper is of landscape, *pothi* or *pustaka*,⁸ format; however, the folio does not show any traces of a string-hole. The sides of the folio appear upside-down. No other known Christian Old Uigur text is written on landscape format paper. Another example of the rare use of *pothi* in a Christian context is a Sogdian prayer (E19) in Syriac script that ends with a Syriac prayer (Sims-Williams 2012, 62–3; Hunter and Dickens 2014, 485; Sims-Williams 2019, 44–45).⁹

There are significant losses to both the left and right ends of the folio. The fragment exhibits numerous holes and splits, and the writing is blurred by damage and wear in several places. It measures 6×20.5 cm and contains six lines on each side. The original dimensions of the folio cannot be reconstructed with certainty. Other *pothi* manuscripts from Turfan, such as the Manichaean fragment U 95 (T III D 260,4) with dimensions of 6×21.8 cm (Wilkens 2000, 330), suggest that approximately one centimetre is missing from the folio, chiefly from the right side. No single line of the text is complete. The order of the two sides cannot be determined. The present order is based on little textual evidence. There are two plus signs (+) on line 5 of the recto side, indicating an addition in the margin below.¹⁰

Most of the Christian manuscripts from the Turfan region are written in the East Syriac Estrangela variant of the Syriac script, with some letter forms occasionally resembling the Serta script. The internal variation of the script is described by Galatello (2023) in her monograph study of the Syriac script used in the Turfan region.¹¹ However, a palaeographic classification of the Old Uigur corpus has yet to be made. For the time being, we can conclude that the variant used in the fragment M 152 differs from the one commonly used in the Old Uigur texts of the Church of the East. A striking feature of the variant used in M 152 is the writing of the ligature *lāmadh-ālah*. In some cases the long strokes of the two letters cross each other to form an X; see e.g. the word ܠܡܕܗܐ ܐܠܗܐ <pwł'qw> (v3 and v4). The same form of the ligature is attested, for example, in the liturgical (Hudra K) fragment SyrHT 33 (T II B 1; Hunter and Dickens 2014, 46–7).¹² The letter *ālah* has two different forms in the fragment, the three-stroke form of the Estrangela type and the vertical form typical of Serta (see Galatello 2023, 61 and Hunter 2022, 263).

Pointing as a method of indicating vocalization in Syriac script is only sporadically attested in Syriac texts from the Turfan region (see Hunter and Coakley 2017, 8–11). No fully vocalized fragments are known, and misplaced dots are common throughout the entire corpus (Hunter and Dickens 2014, 12). Similarly, Old Uigur fragments in Syriac script are typically non-vocalized. A notable exception is the fragment M 152, which exhibits sporadic use of pointing. The vowel diacritic *'assaqa* is

7 Indicators of the find sites have not been assigned to the M (for Manichaean) fragments catalogued by Friedrich W. K. Müller, although this information was available when the fragments arrived in Berlin in 1903 (Durkin-Meisterernst 2004).

8 On *pothi* manuscripts including examples from Central Asia, see Ciotti (2023).

9 The folio measuring 6.5×19.5 cm can be reconstructed from the fragments n428, n456, and n457; for a facsimile of the folio, see Sims-Williams (2019, Plate I). The fragment MIK III 111 (T II B 37) containing a liturgy from Hudra Q is another unconventional fragment with a horizontally oriented text (Dickens 2013, 8; Hunter and Dickens 2014, 354–5).

10 For further examples of marginal addition and the use of the plus sign, see Sims-Williams (2011, 356).

11 Galatello (2023, 133) concludes that ‘the Turfan fragments provide evidence not only for the use of forms generally associated with different Syriac scripts to render different letters, but also for the use of different forms to render the same letter within the same fragment.’ On Syriac palaeography at Turfan, see also Hunter and Coakley (2017, 4–11) and Hunter (2022).

12 See the image of the fragment at http://idp.bbaw.de/database/oo_loader.a4d?pm=SyrHT 33.

used to write the sound /i/ as in ܝܬܘܪܡܝܬ <yyⁱtwrm> *yitürm*[iš] (r1), and the *zlama qašya* for the sound /e/ as in ܝܝܓܠܫܪܝܬ <yy^egl's'r> *yegläsär* (r4).¹³ Full stops and horizontal colons are used throughout the fragment to indicate the end of syntactic units. Longer empty spaces (r2, r4, v2, v4, v6) separate the recipes from one another.

The fragment is first mentioned by Müller (1904, 107). Sertkaya (1999, 137), Knüppel (2013, 67)¹⁴ and Zieme (2015, 22, 23, 31, 322) provide valuable information about the manuscript. It was first edited and translated into Turkish by Ölmez (1999).

Transliteration

(recto)

01] x'rt 'wl s'ry' twyzlwyq x'rt 'w[l] pyr xwllw [] c[y]' yyⁱtwrm[
02 'dwr : (empty) : twqwzync : qymnyg pyr xwllw ' [] c x[] s'r . 'wygswz
03] qlyq ['] š'š'nyp '[š] syngm's'r x'twrwx[] wnc x[] s'r . '[
04 'r . (empty) ['] wyngy 'wynqy p'lx' yy^egl's'r pylqwlwq pwls'r . pw[
05] l' x'rt 'wl s'ry' twyzlwyq . qwyz t'gr' . kyn'r + ((pw yyqlygq['] g'yq 'ytyn yyⁱtwrmy[])) 'wyn-
g'dwr . '[
06 q]ymnyng ym' s[] xwl [g] x'rt 'wyns'r pw s[] '[

(verso)

01]' x'rt 'w[l] yg[] ml'myš qyr'[q
02]' p's 'yqyn ['] wy]ng'dwr : (empty) : x'rt 'ymy pw 'erwr : [
03]ly 'wng s'b [p]wl'qw yynngwly pwls'r 'mrw kšy tyl'ns'r [] č []
04 (empty) tyny '' [] wš's'r . pwl'qw 'tl' l[] p twyzlw[y]q x'rt [']wl
05] 'wyn'r pw ['] yqlyqk' 'wyč qwyn ''m pyrm'q[] q . tyrq 'wyngdw[r
06 (empty) : 'yqynty . qymnyng 'yt 'wyz . '[] . čyšmy[š] pylqwlwq []

Transcription

(recto)

01] kart ol sarıg tözlüg kart o[l] bir kolu [] yetürm[iš
02 keräk öñädür : (empty) : tokuzınč : kimniñ bir kolu [] sar . ögsüz
03 bolsar ya]glıg aš ašanıp aš sinmäsär *katuruk* [] unč [] sar . [
04]ar (empty) . öñi öñi bağlka yegläsär bilgülük bolsar . bu[laku
05 at]lıg kart ol sarıg tözlüg . köz tag(a)ra . kınar ((bo yigligkä [] gäy(i)k etin yetürmi[š keräk]))¹⁵
öñädür [
06 k]imniñ y(ä)mä [] kol [] kart ünsär [] bo []

(verso)

01] kart ol [] ämlämiš kerä[k
02] baš igi{n} öñädür : (empty) : kart emi bo erür : [
03] oñ [] bulagu yenñülü bolsar amru k(i)ši tilänsär [
04 (empty) tını ä [] buš{a}sar . bulagu atl(i)g l[eš]p tözlüg kart [ol
05] ünär bo igligkä üç kün äm bermäk [kerä]k terk öñädür [
06 (empty) : ekinti . kimniñ etöz . [] . čišmiš [] bilgülük [bolsar

¹³ On Syriac vocalization, see also Dickens (2013, 11–12).

¹⁴ Knüppel (2013, 67) misleadingly describes it as a 'hochformatiges Blatt'.

¹⁵ Addition in the margin below.

Commentary

r1 kart: The fragment discusses various types of diseases referred to as *kart*. The word *kart* is a cover term for various kinds of ulcers, abscesses, furuncles or abnormal swellings that have led to tissue disintegration and the production of pus or serous fluid; see also Károly (2005). The construction ... *atlıg (...) kart* ‘the ulcer called ...’ (r5, v4) points to a classification of different kinds of *karts*, as well as a corresponding nomenclature.¹⁶ Since the descriptions are cursory and the medical terms are missing from the fragment – except in one case (see under **v3 pwl’qw**) – it is not possible to further specify which diseases are specifically meant by the word *kart*.

sarıg tözlüg: This phrase means ‘originating from the bile’ and indicates that the disease in question results from an imbalance of bile as one of the fundamental substances of the human body. The same phrase appears in r5 as well.

kolu: The most frequently attested meaning of this word is ‘a period of time; ten seconds’ as we see e.g. in *eki yüz altı yigirmi kolu*¹⁷ *ärtmištä* ‘when two hundred sixteen times ten seconds have passed’ (Rachmati 1936, 19). The second meaning of *kolu* is ‘a certain amount of something’ (Wilkens 2021, 390). Contextual analysis suggests that *bir kolu* (r1, r2) should mean ‘a piece of, a bit of something’.

yetürm[iš keräk öñ]ädür: The passage ‘... must be fed, (then) he will recover’ is partially illegible due to damage, but it can be reconstructed with certainty using both internal and external textual evidence. For the construction {-mXš keräk/käräk} in medical texts, see *yaglıg aš yetürmiš käräk* ‘fatty food must be given to eat’ (Rachmati 1932, 24). The word *öñädür* ‘will recover one’s health’ indicates the expected result of the treatment; see also v2.

r2 tokuzıñč: The ordinal numbers *tokuzıñč* ‘ninth’, with unusual vocalization, and *ekinti* ‘second’ (v6) indicate that the descriptions were organized in numbered sections. The fragment U 9218 (T II Y 27) in Old Uigur script identified by Zieme (2007) as a translation of *Siddhasāra* 11.19–12.1, exhibits similar structures; see e.g. *bir udumbar atlıg örmän kart ol ... ekinti äsri atlıg* ‘the first is a swelling (type of *kart*) called *udumbara* ... the second is called *äsri*’ (Rachmati 1932, 22).

]c x[]s’r: This passage remains unclear, but it seems to be identical with **]wnc x[]s’r** in r3. The final segment of both is the conditional in {-sAr}.

ögsüz [bolsar: The verb is completely illegible, but it can be postulated on the basis of analogy to *bilgölük bolsar* ‘if it manifests’ (r4).

r3 ya]gılg aš ašanıp: The first word is partially legible and open to various interpretations. I cautiously suggest emending it to *yaglıg* ‘fatty’. The phrase *yaglıg aš* is attested in Old Uigur medical texts; see e.g. Rachmati (1932, 24).

xatwrwx: This word remains unclear. It may be a medicinal substance. Ölmez (1999, 818) reads it as *katuru* (← *katur-* ‘mix’) without considering the otherwise legible Sogdian *khaph* at the end of the word.

r4 öñi öñi: This is the start of another recipe after a long empty space. The two words are identical, but written differently, i.e. <[?]wyngy ’wynqy>.

bağl: This is most likely a metathetic variant of the word *balıg* ‘wounded’ (Wilkens 2021, 140).

r5 tagara: Uncertain reading. It may be the name of the plant ‘musk larkspur (*Delphinium brunonianum*)’, a borrowing from Sanskrit; see also *tagar* id. (Wilkens 2021, 660).

¹⁶ This structure and classification of disease under the generic label *kart* reminds us of chapter 12.1 of *Siddhasāra*, which discusses various skin diseases classified as subtypes of *kuṣṭha* ‘a skin disease’ (Emmerick 1980, 79).

¹⁷ Here it is used as an equivalent of Sogdian *rwta* ‘ten seconds’ (Henning 1948, 146, 152, 153).

v2 baš igi{n} öjädür: The final <n> of *igin* is grammatically incorrect. The verb *öjäd-* is intransitive and thus cannot govern the accusative case. Correct case forms attested in texts could be the locative as in *igintä öjädürlär* ‘they recover from their illness’ or the dative as in *isigkä öjädür* ‘he recovers from the fever’.

v3 pwl'qw: This word remains unclear. I tentatively argue that it may be a variant of the word *bulak* ‘scrofula’, and can be read as *bulagu*; see Kyrgyz *bulak* id. (Yudahin 1965, 157) and Mongolian *bulag* id. (Lessing 1960, 133). For a similar alternation in Old Turkic (*_AgU# ~ _Ak#*), see *karnak ~ karnagu* ‘a man with a big belly’ (Erdal 1991, 163). See also *bulagu athg l[eš]p tözlüg kart* ‘an ulcer called *bulagu* that originates from phlegm’ (v4). The letters <bw> at the end of r4 may also stand for *bulagu*.

yenjüli: This word remains unclear. It may be a formation based on *yeñil* ‘light; easy’.

v4 lešp: Although the passage *l[eš]p (tözlüg)* ‘(originating from) the phlegm’ is partially illegible, it is possible to reconstruct the word *leşp* ‘phlegm’ as one of the three *doşas*.¹⁸ This word provides direct evidence that the fragment M 152 represents Indian medical lore as we see it in medical texts of the Buddhist Uigurs; see e.g. *yel sarıg lešp ančulayu ämlämiš kārāk* ‘(the imbalance of) wind, bile and phlegm must be cured in this way’ (Rachmati 1932, 24).

tını ä[b]uś{a}sar: This passage is partially illegible, but is most likely related to the phrase *tın buš-* ‘gasp, breathe heavily’ (Wilkens 2021, 714).

v6 ekinti: This indicates the number of the recipe or the section, see **r2 tokuzinč** for the same function.

Translation

(recto) (1) ... It is an ulcer. It is an ulcer that originates from bile. A bit of ... must be given to eat. (2) (Then) he will recover. • **The ninth.** If he who ... a bit of ... and becomes unconscious, (3) if he was given fatty food to eat, but it does not get digested, if he ... *katuruk* ... (4) ... • If someone becomes ill with various kinds of wounds and they manifest, (5) it is the ulcer called *bulagu* that originates from bile. The eyes will long for musk larkspur. A person with this disease must get deer meat to eat. He will recover. • ... (6) ... If ulcers also occur on the arm of someone, this ... (verso) (1) ... it is an ulcer ... it must be cured. ... (2) ... he will recover from headache. • **This is the remedy for ulcer.** (3) ... if the right ... *bulagu* becomes soft and he continuously searches for women ... • (4) If he breathes heavily, it is the ulcer called *bulagu* that originates from phlegm. ... (5) ... will rise. Medicine must be given to this sick person for three days. He will recover rapidly. (6) • ... **The second.** If he whose body ... is swollen and it manifests ...

Conclusion

Despite the fact that the medical fragment M 152 provides only a cursory insight into the medical lore of the Christian Uigurs of the Turfan region, its significance cannot be underestimated. The variant of the Syriac script used in the fragment and the landscape format paper on which the text was written make the fragment a rarity among the Old Uigur texts of the Church of the East. Regarding medicine, the fragment is a unique piece in the collection of medical texts of the Christian communities in the Turfan region. Medical texts in Syriac, Sogdian, and Early New Persian clearly attest to the presence of the ancient Greek medicine of Hippocrates and Galen in the Christian communities. However, the content of the fragment M 152, in particular the word *leşp* ‘phlegm’ (← Tocharian B

¹⁸ The third *doşa*, i.e. *yel* ‘wind’ does not appear in the fragment.

lešp id. going back to Sanskrit *śleṣman* id.), seems to represent the Indian Ayurvedic tradition, which was also studied and practised by the Buddhist Ugurs.¹⁹ This leads us to the question of how the Christian Ugurs were integrated into the different communities – Christian non-Ugurs and non-Christian Ugurs – and how they combined the different knowledge traditions they received from both sides. As a working hypothesis, I would tentatively suggest that the Ugurs who converted to Christianity preserved their ties to the “other” Ugurs and continued to conduct the non-religious aspects of their lives, including healing techniques and medical therapies, according to the “old” traditions.

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¹⁹ Two poorly preserved Christian Sogdian pharmacological fragments in Syriac script (E38 = n303, E39 = SyrHT 343) may also show the influence of the Ayurvedic tradition; see Sims-Williams (2019, 90–94).

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Facsimiles

The following images of fragment M 152 are based on the digital photos from the Depositum der Berlin-Brandenburgischen Akademie der Wissenschaften in der Staatsbibliothek zu Berlin - Preussischer Kulturbesitz, Orientabteilung. The originals are available in the Digital Turfan Archive²⁰ and in the International Dunhuang Project: Die Seidenstraße online.²¹

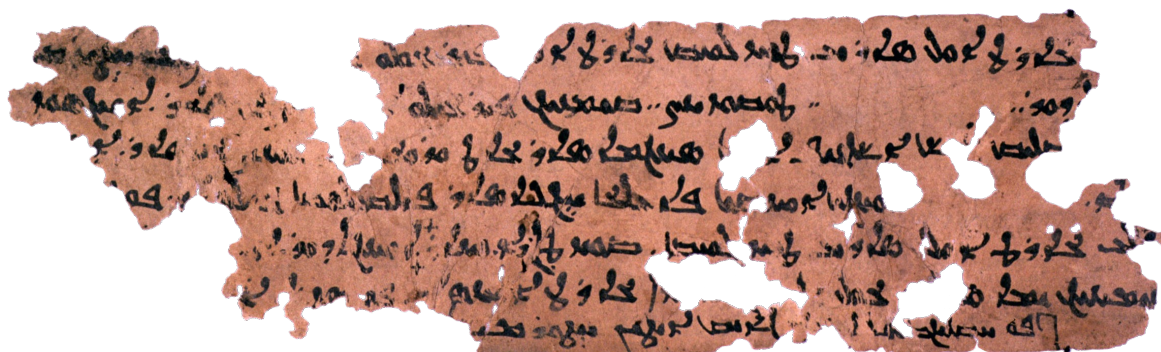


Figure 1: *M 152 recto*

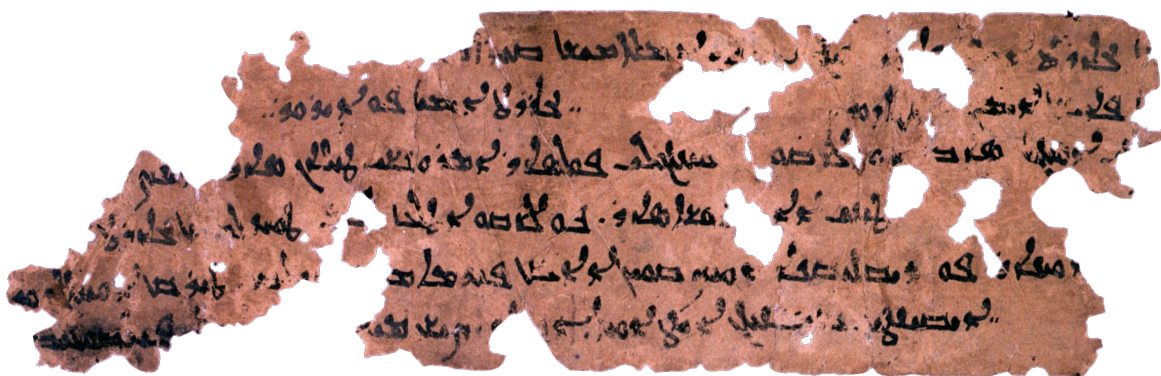


Figure 2: *M 152 verso*

²⁰ See the Depositum der Berlin-Brandenburgischen Akademie der Wissenschaften In der Staatsbibliothek zu Berlin – Preussischer Kulturbesitz Orientabteilung at https://turfan.bbaw.de/dta/m/dta_m_index.htm.

²¹ See the German IDP website at <http://idp.bbaw.de>. High quality digital photos of the fragment are available at http://idp.bbaw.de/database/oo_loader.a4d?pm=M 152.

Glossary

amru “continuously” v3

aš “food” r3, r3

ašan- “take food, eat” r3

atlig “named” v4

[*at*]*lig* r5

äm “remedy, medicine” v5

ämlä- “cure, treat” v1

bagl “wounded” r4

baš “head” v2

ber- “give” v5

bil- “know” r4, v6

bir “one” r1, r2

bo “this” r5, r6, v2, v5

bol- “be, become” r4, v3

bulagu “?” v4

bu[*lagu*] r4

[*b*]*ulagu* v3

buš- “gasp, breathe heavily”

[*b*]*uš-* v4

čiš- “become swollen” v6

ekinti “second” v6

em “remedy, medicine” v2

er- “be” v2

et “meat, flesh” r5

etöz “body” v6

gäyik “deer” r5

ig “disease” v2

iglig “sick, ill” v5

kart “ulcer” r1, r1, r5, r6, v1, v2, v4

katuruk “?” r3

keräk “necessary, must”

kerä[*k*] v1

[*kerä*]*k* v5

kın- “long for” r5

kim “who” r2, v6

[*k*]*im* r6

kiši “female, woman” v3

kol “arm” r6

kolu “measure, quantity” r1, r2

köz “eye” r5

kün “day” v5

lešp “phlegm”

[*leš*]*p* v4

ol “that” r1, r5, v1

o[*l*] r1

oη “right” v3

ögsüz “unconscious” r2

öjäd- “recover, get better” r5, v2, v5

[*öη*]*äd-* r2

öηi öηi “various” r4

sarig “bile” r1, r5

siη- “be digested” r3

tagara “musk larkspur (*Delphinium brunonianum*)” r5

terk “fast, rapidly” v5

tın “breath” v4

tilän- “wish, seek for” v3

tokuzinč “ninth” r2

tözlüg “originating in” r1, r5, v4

üč “three” v5

ün- “rise, grow” r6, v5

yaglig “fatty”

[*ya*]*glig* r3

yämä “also, too” r6

yeglä- “become sick” r4

yenηnüli “light (?)” v3

yetür- “feed, give to eat” r1, r5

yiglig “sick, ill” r5